APPENDIX B

U. S. NUCLEAR REGULATORY COMMISSION

REGION IV

NRC Inspection Report: 50-445/84-31

Docket: 50-445 Construction Permit: CPPR-126

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: August 1-31, 1984

Inspectors: for D M Hunnicutt 2/11/85
D. L. Kelley, Senior Resident Reactor Inspector (SRRI)(paragraphs 2, 3, 4, 5 and 6) Date

for D M Hunnicutt 2/11/85
W. F. Smith, Resident Reactor Inspector (RRI) (paragraphs 2, 3, 5 and 6) Date

Approved: D M Hunnicutt 2/11/85
D. M. Hunnicutt, Team Leader, RIV Task Force Date

Inspection Summary

Inspection conducted: August 1-31, 1984 (Report: 50-445/84-31)

Areas Inspected: Routine, announced inspection of: (1) Preoperational Test Results Evaluation; (2) Operational Quality Assurance/Quality Control; (3) Control Room Design Review Status; (4) Preoperational Test Witnessing; and (5) Plant Tours. The inspection involved 573 inspector-hours by two NRC inspectors and two NRC contract personnel.

Results: Within the five areas inspected, four violations were identified in two areas (failure to follow procedures with six examples - paragraphs 3.c and 3.g; failure to provide adequate procedures with three examples - paragraphs 3.c, 3.d, and 3.h; failure to provide adequate "Q" material storage segregation, paragraph 3.c; and failure to establish requirements for control and calibration of M&TE, paragraph 3.j).

DETAILS

1. Persons Contacted

(*2) B. R. Clements, Vice President, Nuclear Operations
(*2) D. N. Chapman, Manager, Quality Assurance
R. G. Spangler, Manager, Quality Assurance Services
D. L. Anderson, Supervisor, Quality Assurance Audits
J. Kuykendall, Manager, Nuclear Operations
(*2) R. T. Jenkins, Superintendent, Operations Support
H. Cheatham, Technical Support Engineer
D. A. Lowrie, Q-List Coordinator
(*2) R. D. Calder, Manager, TUGCO Nuclear Engineering
(*1)(*2) R. A. Jones, Manager, Plant Operations
R. B. Seidel, Operations Superintendent
(*1)(*2) L. G. Barnes, Operations Supervisor
(*2) M. R. Blevins, Maintenance Superintendent
D. Lystad, Mechanical Maintenance Foreman
M. Mitchum, Computer M&TE Supervisor
D. G. Hosiner, Maintenance Services Planner
G. E. Jergins, Mechanical Maintenance Engineer
P. VanHekken, Maintenance Services Senior Technician
J. B. Bodine, Electrical Maintenance Supervisor
C. W. Smith, Mechanical Maintenance Supervisor
T. Smith, Electrical Maintenance Foreman
K. Stenberg, Maintenance Technician
S. Peck, Maintenance Technician
J. Corbell, Maintenance Training Coordinator
R. J. Alston, Maintenance Technician
T. Beaudin, Shift Supervisor
M. D. Deen, Shift Supervisor
S. R. Ali, TNE QA Staff Engineer
V. Massengail, TNE Computer Specialist
J. Allen, Operations Engineer
M. Strange, TNE Supervising Engineer, Support & Civil
(*2) W. Taylor, Instrumentation and Control Engineer
(*1)(*2) D. Braswell, Engineering Superintendent
(*2) E. Alarcon, Results Engineer
M. Bozeman, Results Engineering Supervisor
F. Nunn, Surveillance Test Coordinator
M. L. Lucas, Results Engineer
G. M. McGrath, Results Engineering Supervisor
(*1)(*2) R. R. Wistrand, Administrative Superintendent
M. L. Gilmore, Document Control Coordinator
C. Boyd, Document Supervisor (Brown & Root, Inc.)
J. L. Brackney, Records Supervisor

J. Moorefield, Procedures Clerk
A. Riley, Records Clerk
T. Seidl, Warehouse Supervisor
J. Helms, Records Clerk
L. Holland, Office Assistant
T. Summers, Records Management Specialist
P. Smith, Administrative Supervisor
D. R. Stepp, Receipt Inspector
R. Coon, Purchasing Coordinator
(*1)(*2) D. E. Deviney, Operations QA Supervisor
(*1) C. Killough, Quality Surveillance Supervisor
L. A. Lamb, Jr., Senior QA Technician/Procurement Specialist
(*2) J. T. Maxwell, Quality Control Supervisor
(*2) G. S. Keeley, Principal Engineer, TUGCO Nuclear Operations
S. M. Franks, Startup Special Projects

(*1) Attended Meeting on August 20, 1984
(*2) Attended Exit Meeting on August 24, 1984

2. Preoperational Test Results Evaluation

With the assistance of supplemental inspectors provided by EG&G Idaho, Inc., under contract with the NRC, completed test packages which have been approved by the Joint Test Group (JTG) were reviewed. Attributes inspected included assuring the test results were being adequately evaluated, to assure test data met acceptance criteria, and that deviations were properly identified and resolved. An evaluation was performed on the adequacy of the applicant's administrative practices with respect to test execution and data evaluation.

The following completed test data packages were inspected:

1CP-PT-37-02, "Condensate Storage and Transfer System"

1CP-PT-37-02, "Condensate Storage and Transfer System ReDo"

1CP-PT-49-02, "Sealwater and Letdown Flow Performance"

1CP-PT-49-02, RT-1, "Sealwater and Letdown Flow Performance, Retest-1"

1CP-PT-49-02, RT-2, "Sealwater and Letdown Flow Performance, Retest-2"

1CP-PT-55-01, "Reactor Coolant System Cold Hydrostatic Test"

1CP-PT-55-10, "Pressurizer Pressure Control System

1CP-PT-64-09 "Safeguards Test Cabinets Direct Actuation Operational Test"

1CP-PT-64-09, RT-1, "Safeguards Test Cabinets Direct Actuation Operational Test, Retest-1"

1CP-PT-74-02, "Incore TC and RTD Cross Calibration"

1CP-PT-91-01, "Loose Parts Monitoring System"

The inspector had specific comments on the following completed test packages:

1CP-PT-37-02

During the test, the total discharge head (TDH) requirements for the condensate transfer pump were reduced by a change in the test procedure. The original requirements were for the pump to develop a TDH of 200 feet (+5%, -0%) at a flow of 200 gallons per minute (gpm). These requirements were changed to 200 feet, (+10 feet, -10 feet) at 200 gpm. The test was accepted with a TDH of 195 feet in the recirculation mode and 198 feet in the condensate system feed mode. The justification given for the reduction of TDH requirements was unclear, and the question of degradation of system performance was not addressed in the completed test package. The NRC inspector was unable to determine whether adequate system performance was satisfactorily verified. This item is unresolved pending further review during a subsequent inspection (445/8431-01).

1CP-PT-37-02 ReDo:

Verification of proper operation of the Condensate Transfer Pump Low Suction Pressure Alarm (AP) 1-XA-2490 was deleted by change No.6 from the test procedure when it failed to trip. The change stated that the actuation signal for this alarm was pump over-current and not low suction pressure. The test verified that the pump will trip on low suction pressure, as indicated on the test pressure qage, but there was no annunciator in the control room indicating the event. When this part of the test was done on November 1, 1982, PA 1-XA-2490 did indicate a low suction pressure trip. The reason that this feature no longer exists should be explained in the test record for the repeated test. This is an unresolved item pending further review during a subsequent inspection (445/8431-02).

1CP-PT-55-01

Paragraph 7.3.38 of the test procedure requires the weld inspection documentation package to be attached to the test procedure. The NRC

inspector reviewed this package and found no documentation of specific welds inspected, but rather, several one-line system diagrams highlighted (but not signed) to show the boundaries that might have been subjected to test pressure, a computerized line list by system, and a signoff sheet indicating that acceptance criteria of the test had been met. This package does not define what welds were inspected. This is an unresolved item pending further review during a subsequent inspection (445/8431-03).

No violations or deviations were identified.

3. Review of the Operations Quality Assurance Program

a. Quality Assurance (QA)/Quality Control (QC) Administration

The purpose of this portion of the inspection was to determine whether the applicant had: (1) defined the scope and applicability of the QA program; (2) established appropriate controls for preparation, review, and approval of quality related procedures; and (3) established a mechanism for reviewing and evaluating the QA program.

The inspectors reviewed the applicant's written program for administration and control of quality related activities as described in:

- The licensee's Corporate Quality Assurance Program
- Proposed Technical Specifications, Section 6, "Administrative Controls" (Final Draft)
- Final Safety Analysis Report (FSAR), Chapter 13, "Conduct of Operations" and Chapter 17.2,"Quality Assurance During the Operations Phase"
- Comanche Peak Steam Electric Station (CPSES) "Operations Administrative Control and Quality Assurance Plan" (OAC/QAP)
- CPSES Operations Quality Assurance Procedure QPM-003, Revision 1, "Review of Procedures, Instructions and Plans"
- QPM-006, Revision 0, "Quality Assurance Trending"
- QPM-011, Revision 0, "Preparation, Review, Approval and Revision of Quality Instructions"

- CPSES Station Administrative Procedure STA-101, Revision 1, "CPSES Organization"
- STA-201, Revision 8, "Preparation Responsibility and Content of Station Manuals"
- STA-202, Revision 9, "Preparation, Review, Approval and Revision of Station Procedures"
- STA-204, Revision 1, "Temporary Procedures"
- STA-205, Revision 3, "Temporary Changes to Procedures"
- STA-209, Revision 1, "Preparation, Review, Approval and Revision of Station Instructions"
- STA-401, Revision 6, "Station Operations Review Committee" (SORC)
- STA-404, Revision 1, "Control of Deficiencies"
- STA-405, Revision 6, "Control of Non-conforming Materials"
- STA-406, Revision 2, "Corrective Action"
- STA-412, Revision 2, "Quality Control Inspection Program"
- STA-707, Revision 1, "Safety Evaluations"
- SORC Meeting Minutes - 1984
- Selected corrective action requests (CARs)
- Selected deficiency reports (DRs)
- Selected nonconformance reports (NCRs)
- Safety evaluations associated with procedures and procedure changes
- Selected procedure/revision approval forms (STA-202-1)
- Selected procedure revision forms (STA-202-2)
- Selected quality assurance section procedure/instruction review sheets (QPM-003-1)

o Selected results engineering procedure review records

The NRC inspector conducted a review of the applicant's quality programs for CPSES and held interviews with key personnel. The written program for control of operational activities at CPSES was generally mature and settled. Many operational programs like the operational modification control program were being tried and tested so that they could be revised well before licensing. Revisions to the written program were being developed in an orderly and systematic fashion.

There was evidence of substantial involvement by Texas Utilities Generating Company (TUGCO) upper management in CPSES operational activities. This evidence was found in the distribution of key reports, the detailed nature of such reports, and the questions and responses by upper managers to information contained in the reports. Several of these managers, though normally stationed at the Dallas corporate headquarters, spend large fractions of their time at CPSES. The TUGCO President was on the station each Saturday morning for staff meetings and briefings on progress of construction, testing and preparation for operations. Additionally, the contractor inspectors conducted a general inspection of all plant areas, including containment, auxiliary building, turbine building and yard areas. There was heavy emphasis on housekeeping and cleanliness in Unit 1. Areas were brightly lighted, freshly painted,and were free of dust, debris and graffiti. The overall appearance of the Unit reflected substantial pride in the station on all levels of personnel.

The review of the QA/QC program administration for operations revealed five specific weaknesses:

(1) Safety Evaluations Associated with Procedures

The applicant's process for developing and revising procedures had several apparent deficiencies when compared to the requirements of 10 CFR 50.59, a section of NRC regulations that will apply after issuance of the facility operating license. For example:

(a) STA-707 specified how safety evaluations were to be performed, documented, approved and reviewed for procedures, procedure changes and facility modifications. The applicability section of STA-707 restricted the preparation of safety evaluations for procedures by stating, "Prior to the receipt of an operating license, this procedure becomes effective when issued only for Surveillance Test Procedures and Design Modifications." As

a result, many other procedures had been prepared, issued and revised without an accompanying safety evaluation and determination of whether or not an unreviewed safety question existed as defined in 10 CFR 50.59. Categories of procedures not having safety evaluations included all System Operating Procedures (SOPs), all Abnormal Conditions Procedures (ABNs), all but one Integrated Plant Operating Procedures (IPOs), all E and F series procedures in the Emergency Response Guideline Manual, and all but one Station Administrative Procedures (STAs).

(b) Revision 9 to STA-202, which was effective on August 2, 1984, added requirements to perform safety evaluations on all safety-related procedures and revisions thereto. However, this would not ensure compliance with 10 CFR 50.59, which requires such evaluations of changes to procedures as described in the FSAR (emphasis added) which may include non-safety related procedures.

(c) Safety evaluations for 25 surveillance procedures, 1 IPO and 1 STA were reviewed by the NRC inspector and were found to be inadequate, in that the safety evaluations lacked the written basis for the unreviewed safety question determination required by 10 CFR 50.59. The evaluations merely contained a statement of the conclusion that an unreviewed safety question did not exist.

(d) STA-205, section 4.1.4, stated, "All temporary procedure changes implemented in accordance with this procedure . . . do not require safety evaluations due to the intent of the procedure not changing and quality assurance requirements not being diminished." Little guidance could be found in the applicant's written program suggesting how personnel might determine if a procedure's intent were changed. 10 CFR 50.59 makes no reference to the intent of a procedure, nor does it delete the requirements for an unreviewed safety question determination for temporary changes.

Although the above weaknesses with regard to safety evaluations for procedures have no strict regulatory significance until the issuance of the CPSES facility operating license (because 10 CFR 50.59 will not apply until that time), the applicant would be in instant non-compliance, if the license were issued with the weaknesses left uncorrected.

(2) Station Operating Review Committee (SORC) Activities

SORC activities were described in STA-401 and in proposed Technical Specifications (TS) Section 6.5.1. Although, the TS will not be effective until issuance of the facility license, interviews with SORC members and a review of SORC records revealed the following weaknesses:

(a) The SORC had developed a practice of conducting the majority of its TS required reviews as individual members outside of the committee meetings. For instance, the Engineering Superintendent, a SORC member, approved safety evaluations on behalf of the SORC outside of the committee meetings. Coincidentally, this approval was part of his normal job as Engineering Superintendent. Effectively, he was acting as a SORC subcommittee of one for review of safety evaluations. STA-401 did not describe this de facto subcommittee, nor did it describe the SORC's oversight and control of this subcommittee. SORC meeting minutes stated that the SORC reviewed lists of safety evaluations approved since the last regular SORC meeting. The lists merely contained the surveillance procedure numbers for which safety evaluations had been prepared. The lists did not contain any other information about the safety evaluation, nor did the SORC appear to have reviewed the safety evaluations, while in session, which will be a TS requirement upon licensing.

(b) SORC review of procedures and procedure changes was conducted in a fashion somewhat similar to (a) above, although these documents were routed individually to SORC members for review, comment, or concurrence using Form STA-202-1. A review of these forms and associated comment sheets showed that many procedures received considerable review and comment and were at times subjected to multiple submittals and revision prior to approval. This entire process, including final SORC approval, took place outside of committee meetings except in rare instances when substantial staff disagreement necessitated SORC deliberation as a group. The SORC meeting minutes reflected that the SORC as a collective body reviewed lists of procedures and instructions approved since the last regular meeting. These lists consisted of procedure and instruction numbers and titles. There did not appear to be any mechanism to ensure that all SORC members were made aware of comments and resolutions of comments made by the other SORC members. The current method of SORC review and approval of procedures is such that a given procedure could have changes that the first member who

approved it had never seen. Thus he won't recognize the impact on his area of responsibility until the procedure is published and implemented.

(c) Interviews with SORC members revealed that many members had a poor understanding of the applicability and requirements of 10 CFR 50.59 and of the meaning of an unreviewed safety question.

(3) Limited Scope for the Operations Administrative Control and Quality Assurance Plan (OAC/QAP)

The OAC/QAP was written to describe quality-related program controls applicable to Texas Utilities Generating Company (TUGCO) Nuclear Operations. Included within TUGCO Nuclear Operations was the CPSES plant organization, however, several different TUGCO corporate organizations that were outside of Nuclear Operations performed nuclear quality-related activities. Included were TUGCO Nuclear Engineering (TNE), Dallas QA, Nuclear Fuels, Licensing and Purchasing. These organizations were governed by the FSAR, and by the Corporate Quality Assurance Program which was a brief and general document. The limited scope of the OAC/QAP was particularly awkward in the case of design control in that the OAC/QAP section 8.1 placed requirements on the predecessor organization to the TNE, Texas Utilities Services, Inc., even though that organization was outside the scope of the plan, as well as TNE.

Another factor potentially leading to confusion about the scope and applicability of OAC/QAP requirements involved the terms "safety related," "important to safety" and "quality related". These terms were not defined in the OAC/QAP but were used throughout the plan in such a manner that they could be interpreted differently. Interviews with the Operations Quality Assurance Supervisor indicated that he had a clear notion of how these terms differed and were to be applied to CPSES. However, his conception had not been explicitly stated in the OAC/QAP and thus could not be consistently reflected in other portions of the licensee's written program. Thus, there is a need for an expansion or change in scope of the OAC/QAP. This matter is an open item pending further review in a subsequent inspection (445/8431-04).

(4) Instructions and Procedures

The applicant had developed two principal categories of documents to control activities, instructions and procedures. Interviews with applicant personnel revealed that instructions were intended

to apply to activities that were narrow in scope and did not affect other departments. For instance, steps necessary to calibrate a radiation detection instrument might be described in an instruction. Instructions had simpler review and approval processes than procedures. Significantly, SORC review and approval of instructions was not required by STA-209, "Preparation Review, Approval and Revision of Station Instructions".

In practice this concept did not prove to be simple, because some instructions affected more than one department and were then required to receive cross departmental review and concurrence. STA-209 was internally inconsistant in that paragraph 4.1 stated, "Instructions shall be unique to a particular department or section," while paragraph 4.2.4 required concurrence from another department or section when affected by the instruction. This ambiguous distinction between procedures and instructions was considered a program weakness.

(5) QA Stop Work and Resolution of Disputes

The applicant's written program clearly stated those personnel within operations QA who possessed stop work authority. However, the stop work process, including notification, controls and approval for restart, was not described. Interviews revealed that upper level personnel had a clear picture on how specific internal letters would be used to control stop work or to resolve disputes. However, interviews with lower level personnel presented a less clear picture on how such processes might take place. The lack of a written description of the stop work process was considered a program weakness.

b. QA Audit and Surveillance Programs

The purpose of this portion of the inspection was to determine whether the applicant had developed a program to audit operational activities for conformance with regulatory requirements and commitments, including regulatory guides and industry standards.

The inspectors reviewed the licensee's written description of the QA audit program as described in:

- Proposed Technical Specifications, Section 6.5.2.8 (final draft)
- FSAR, Section 17.2.18
- Dallas Quality Procedure DQP-CS-4, Revision 10, "Procedure to Establish and Apply a System of Pre-Award Evaluations, Audits and Surveillances"

- DQP-CS-7, Revision 5, "Corrective Action"
- Dallas Quality Instruction DQI-CS-4.6, Revision 7, "Conduct of Internal, Prime and Subcontractor Audits"
- DQI-CS-4.2, Revision 2, "Audits of Technical Specifications Compliance"
- Operations Review Committee Manual
- Current Audit Plans and Schedules
- Selected Audit Reports, Deficiencies, Checklists and Responses
- CPSES Station Administrative Procedure STA-402, Revision 5, "Station Quality Surveillance Program"
- Selected Quality Surveillance Checklists, Schedules, Worksheets, Reports and Responses

A significant strength in the applicant's operations quality program was the Quality Surveillance. This program has been under development and evolution for several years and emphasized direct observation of activities as well as programmatic and records examinations. Surveillance checklists and worksheets provided detailed guidance to the QA Technicians conducting surveillances. Surveillance reports contained detailed descriptions of the results of the surveillance and were widely distributed to key station and corporate managers. This program went well beyond TS and regulatory requirements and should greatly enhance the applicant's oversight and control of CPSES operational activities.

A review of the applicant's written program revealed that the applicant had established and begun to implement an operational quality assurance audit program. Audit plan and schedules reflected an increased emphasis on operational audits with a phased program to ensure adequate audit coverage for all required TS Section 6.5.2.8 audits by the time of facility licensing.

A review of completed audit files for audits of operational activities conducted in 1984 showed audit checklists to be clear and detailed and the corresponding reports contained generally noteworthy deficiencies and comments. Responses to deficiencies appeared to be thorough and timely. Two isolated administrative weaknesses were observed in a review of ten audit reports and three complete audit files:

(a) The audit plan was missing from the file for audit TUG-51. A copy of this plan was retrieved from other applicant files within one day.

(b) In the same audit, the auditor failed to document sample sizes selected for checklist attributes requiring sampling. Sample sizes were documented in all other checklists examined. Review results and interviews conducted by the inspector reflected QA management's emphasis on record completeness and on the need for sample data as an input to their QA trending program, thus detection of this isolated documentation failure is of no generic significance.

c. Maintenance

The objective of this portion of the inspection was to ascertain whether the applicant had developed a program to control maintenance activities that conformed to regulatory requirements, commitments, industry guides, and standards. Particular attention was directed toward procedures and methods of handling safety related maintenance actions. Both preventive and corrective maintenance procedures and methods were reviewed. The inspection included reviews of procedures and records, personnel interviews, a maintenance drill, facility inspections and reviews of in-progress maintenance work. Personnel contacted included representation from all levels of the maintenance organization.

The inspectors reviewed the applicant's written description of the maintenance program as described in the following documents:

- CPSES Operations Administrative Control and Quality Assurance Plan
- CPSES FSAR, Chapter 17
- MDA-101, Revision 0, "Maintenance Department Organization and Responsibilities"
- MDA-102, Revision 0, "Conduct of Maintenance"
- MDA-103, Revision 4, "MAR Processing - Maintenance Department"
- MDA-105, Revision 0, "Control of Maintenance Contractors"
- MDA-201, Revision 3, "Electrical and Mechanical Maintenance Procedures and Instructions"

- MDA-301, Revision 4, "Preventive Maintenance Program"
- EDA-305, Revision 0, "Control of Protective Relay Settings"
- STA-602, Revision 0, "Temporary Modifications and Bypassing of Safety Functions"
- STA-605, Revision 3, "Clearance and Safety Tagging"
- STA-606, Revision 3, "Maintenance Action Requests"
- STA-607, Revision 5, "Housekeeping Control"
- STA-612, Revision 0, "Cleanness Control"

The following observations were made by the NRC inspectors in the area of maintenance:

(1) A maintenance drill was conducted that included a coordinated effort between two NRC inspectors to examine activities in the areas of maintenance, maintenance planning, documentation, records, procurement and quality control inspections. The drill was designed to exercise both Electrical and Mechanical Maintenance Departments in addition to personnel within the Technical Support, Procurement, and Quality Control Departments. A containment spray heat exchanger outlet valve was simulated to have failed to properly stroke during operation and subsequent investigation would reveal damaged motor insulation. Measuring the motor winding resistance to ground would indicate zero resistance; and the valve stem was also simulated to be badly scored with extruded packing. The walk through involved discovery by the Shift Supervisor and initiation of all necessary documentation to accomplish the investigation and repair. Documentation developed included the following:

- Preparation of an electrical Maintenance Action Request (MAR).
- Preparation of a supplemental mechanical MAR.
- Preparation of Quality Control inspection reports.
- Use of procedures needed to troubleshoot and repair.
- Reference to drawings.

- Use of Clearances.
- Use of MAR addendums.
- Entries in the MAR log.
- Requisition on Purchasing Department (form PUR-001-1).
- Reference to suppliers quality assurance requirements and certificate of conformance.
- Use of nameplate data form.
- Preparation of a component items QA code classification evaluation (EDA-103-1).

The following items were appended to the drill MAR that was prepared for NRC inspector review:

- Quality Control inspection report
- EMI-807, Revision 0, "MOV's/MOD's Limit and Torque Switch Adjustments"
- EMI-203, Revision 0, "Cable Termination and Splices"
- ELM-201, Revision 0, "Megger and Hi-Pot Testing"
- Motor Operated Valve 1-HV-4777 drawing 2323-E1-0049, sheet 12, Revision /

Only Maintenance Department related items observed by the inspectors are addressed in this section of the report. Items relating to Procurement will be addressed in section 3.f of this report.

When the NRC inspector reviewed the drill MAR, the following deficiencies were noted:

- The specification for motor horsepower listed on the controlled drawing was different from the indicated horsepower on the motor nameplate.
- The MAR did not reference appropriate vendor technical manuals for removal and reinstallation of the motor. A check of the document library indicated that these manuals were available.

- o The MAR package did not reference any torque specifications for installation of the motor on the operator.

- o The MAR required the use of a new quality related gasket. No specifications were referenced, nor was any documentation prepared to obtain the required gasket.

(2) In addition to the drill MAR, the following completed actual MARs were reviewed:

84-2017	Safety Related
84-1677	Voided
84-1516	Safety Related
84-1403	Safety Related
84-1427	Non-safety
84-0976	Safety Related
84-0978	Safety Related
84-2019	Safety Related
84-1752	Non-safety
84-1025	Safety Related

During the review, the following significant deficiencies were noted with MAR 84-1403:

- o The copy of safety related procedure, ELM-302, Revision 0, "480V Air Circuit Breaker Inspection", that was appended to the MAR, had pen and ink changes to the closing coil settings in Section 6.0, "Acceptance Criteria". A controlled copy of ELM-302, Revision 0, sighted in the vault did not reflect these changes. The changes appeared to have been made to make the procedure match the information on the data sheet used to record the voltages (Attachment 2 to ELM-302). A Review of the Temporary Change Log indicated that the temporary change procedure, STA-205, Revision 2 was not used to make the change. This failure to use STA-205 was noted by plant Quality Control personnel and a Discrepancy Report was issued. However, the corrective action on the Discrepancy Report was inadequate in that it recommended no corrective action since the

procedure was being changed to an instruction. Also, there was no apparent technical consideration given to the disparity between the approved voltage setting and the value found on the data sheet. This change is an example of failure to follow procedures and is in violation of 10 CFR 50, Appendix B, Criteria V, and FSAR Section 17.2.5 (445/8431-05a).

- o The trip coil and close coil voltages on Attachment 2 of ELM-302 appended to the same MAR appeared to have been reversed when they were entered causing one of them to be outside the acceptance criteria. This inconsistency went undetected in the review process by both the electrical supervisor and Results Engineering personnel. This oversight is a second example of failure to follow procedure (445/8431-05b).

- o The CPSES Protective Relay Settings (480V Safeguard Buses) Section 8.2 appended to the same MAR had pen and ink changes to the instantaneous trip settings with no apparent authority or basis. These changes are a third example of failure to follow procedure (445/8431-05c).

Two minor deficiencies were noted:

- o Cross-outs were not initialed on Startup Work Authorization #21269 that was appended to MAR 84-2017.

- o The classication section of MAR 84-1516 was not filled out. (i.e. emergency, 25 hour, regular, etc.).

Correction of the above minor MAR deficiencies shall be considered an unresolved item pending review during a subsequent inspection (445/8431-06).

(3) Direct observation of safety related maintenance in progress was performed by the NRC inspectors in the following areas:

(a) Disassembly of a Unit 2 Auxiliary Feed Pump

(b) Cleaning and preparation of Unit 1 reactor vessel head bolts.

(c) Cleaning and preparation of steam generator manway cover bolts

Maintenance personnel appeared to be knowledgeable and well trained. They were utilizing procedures and were following established maintenance standards. Quality Control personnel were on station and appeared to be performing required inspections. Measuring and test equipment, straps, hoists and

tools appeared to be proper for the intended functions and within calibration intervals.

(4) During a walk through of the maintenance building, the NRC inspector noted that non-quality and quality related material were both stored together in "Q" material-hold areas. This includes two specific areas; one area in the maintenance shop that contained diesel engine heads and another area adjacent to the tool crib. This practice is not in accordance with FSAR, Section 17.2.8, and is in violation of 10 CFR 50, Appendix B, Criterion VIII. (445/8431-07).

(5) During a review of the Maintenance Program described by CPSES procedures and instructions three deficiencies were noted:

- STA-606, Revision 3, "Maintenance Action Requests" and MDA-103, Revision 4, "MAR Processing - Maintenance Department" did not require the same level of supervisory review for a change to the MAR as was required for the original MAR.

  Note 2 under paragraph 4.1.5.2 of MDA-103,and the note under paragraph 4.2.2.3 of STA-606 both state, "If at any time prior to or during performance of the work, it becomes necessary to revise the work instructions on safety-related MARs, the responsible section shall make the change and notify QC so they can initial the change and revise applicable Inspection Reports."

  This practice could permit modification of a MAR that would need a welding and burning permit not previously required, or change clearance requirements, without being rerouted through the Shift Supervisor; or change the radiological considerations without being rerouted through health physics supervisory personnel. Also this practice is not consistent with Section 6.5.3.1 of the Technical Specifications, nor does it satisfy the intent of 10 CFR 50, Appendix B, Criterion VI.

- Troubleshooting guidance contained in MDA-103, Revision 4, sections 3.12 and 4.4, were inadequate.

  Section 4.4 stated that "if a procedure or instruction exists, that procedure or instruction shall be used where applicable . ." It did not address what the requirements were if a cedure or instruction did not exist to perform the troubleshooting. This guidance could include preparation of work instructions, reference to vendor technical manuals, industry standards and codes, use of

specifications, drawings, or use of previous MARs on the same or similar equipment.

The lack of a requirement to have written procedures to perform troubleshooting appears to deviate from the FSAR which commits to ANSI 18.7 - 1976, sections 5.2.7 and 5.2.7.1 which in turn require maintenance to be preplanned and approved procedures to be available for repair of safety related equipment.

- Procedure STA-602, Revision 0,"Temporary Modifications and Bypassing of Safety Functions," did not require that temporary modifications to safety related equipment be controlled by approved procedures as required by CPSES Quality Assurance Manual, section 5.3, paragraph 2.1.

  STA-602 did not require that the proposed change be reviewed to ensure it did not involve an unreviewed safety question. 10 CFR 50.59 does not take exception to the need for an unreviewed safety question determination simply because modifications are temporary.

  The procedure did require an independent verification of installation and removal of temporary modifications as required by ANSI 18.7 - 1976, but did not address an analysis of the effect of the modification on the system and plant.

The above described deficiencies are indicative of inadequate procedures. The failure to provide adequate procedures in accordance with ANSI N18.7-1976 and TS 6.5.3.1 is a violation of 10 CFR 50, Appendix B, Criterion V (445/8431-08a).

d. Design Changes and Modifications

The purpose of this portion of the inspection was to determine whether the applicant had a program to control design changes and modifications during the facility's operational phase that was in conformance with regulatory requirements and commitments and industry guides and standards.

The inspectors reviewed applicant's program for control of design changes and modifications as described in:

- CPSES Operations Administative Control and Quality Assurance Plan

- STA-403, Revision 2, "Identification of Safety Related Equipment"
- STA-602, Revision 0, "Temporary Modifications and Bypassing of Safety Functions"
- STA-701, Revision 1, "Station Modification Control"
- STA-707, Revision 1,"Safety Evaluations"
- Engineering Department Administrative Procedure EDA-101, Revision 1, "Engineering Department Organization and Responsibilities"
- EDA-203, Revision 0, "Design Verification"
- EDA-205, Revision 2, "Modification Implementation"
- EDA-305, Revision 0, "Control of Protective Relay Settings"
- Nuclear Operations Engineering Procedure NOE-201, Revision 2, "Design Modification Control"
- NOE-201-1, Revision 1, "Design Modification Proposal"
- NOE-201-3, Revision 1, "Design Development"
- NOE-201-4, Revision 1, "Design Verification"
- NOE-201-7, Revision 0, "Design Calculation Preparation and Review"
- NOE-201-9, Revision 1, "Design Modification Tracking"
- NOE-203-1, Revision 1, "Preparation and Revision of Q-List"
- NOE-203, Revision 1, "Control of Quality Related Lists"
- Selected Operational Modification Packages (all in process, none closed out)
- Selected TUGCO Nuclear Engineering (TNE) procedures related to operational phase design changes.

A review of records and interviews revealed that the applicant had begun to process modifications to CPSES Unit 1 under the controls of the operational modification program. This practice was helpful

since it permitted staff familiarization with the modification program prior to facility licensing.

Three different organizations participated in operational design development and implementation:

- o CPSES Engineering Department, using station and engineering department administrative procedures (STAs and EDAs respectively).

- o Nuclear Operations Technical Support Engineering, using Nuclear Operations Engineering Procedures (NOEs).

- o TNE, using TNE procedures.

The latter two organizations were corporate engineering groups, but were physically located at the station.

The CPSES Engineering Department's responsibilities for modifications were primarily limited to initiation of modification requests and installation of completed modification packages. Technical Support Engineering had developed procedures for development and control of detailed design packages, but was limited in staff so that it performed detail design work primarily on minor modifications. Major modifications were normally sent by Technical Support Engineering to TNE, with possible assistance from a contract engineering firm. TNE was staffed with about 170 engineers, draftsmen and support personnel and retained responsibility for design support for construction activities at CPSES.

The NRC inspectors conducted a review of TUGCO's operational design change program. Their progress in developing and controlling a Q-list describing quality and safety levels for CPSES equipment appeared to be adequate. The list had been developed to both the system and component level, and a major effort was underway to refine the computerized Q-list to the part level. Information on the Q-list included:

- o General information including component tag number, unit, system, description and reference documents

- o Safety Class

- o Component Function Mode

- o Critical Safety Functions

- o Basic QA Requirements Level

- o In-Service Testing Requirements
- o NPRDS Report Code
- o Sustantiation for decisions made or opinions rendered for each of the items listed above
- o Documentation of all references and resources used to make decisions

Controls were established to ensure the list remained accurate as the facility was modified. Detailed training was conducted for numerous users of the list. A feedback system was available to allow plant personnel to initiate changes to the Q-list.

Three weaknesses were identified in the operational design control program, as described below:

(1) Although the station Engineering Department was responsible for implementation of completed modification packages, the STAs and EDAs did not address prerequisites for turnover of installed modifications to Plant Operations. Such prerequisites included:

(a) Drawing Update
(b) Procedure Revision
(c) Training
(d) Test Deficiency Resolution
(e) Spare Parts Considerations

Interviews revealed that station managers were aware of the need to consider these prerequisites, but no action had been taken as of the end of the inspection. This matter is an unresolved item pending further review during a subsequent inspection (445/8431-09).

(2) Similarly, the STAs and EDAs did not address procedures to be accomplished when performing emergency modifications. However, NOE-201 did address processing of emergency modifications by Technical Support Engineering, but lacked a complete description of the contents of a "limited final design package". For instance, no mention was made of a requirement to perform a safety evaluation of the emergency modification or for the Stations Operations Review Committee (SORC) to verify the absence of an unreviewed safety question prior to installation. This is a second example of inadequate procedures and is a violation Criterion V of Appendix B to 10 CFR 50 (445/8431-08b).

(3) The intended practice for processing of nonsafety related modifications was not fully described in the NOEs. Interviews revealed differing views among Technical Support personnel as to

how nonsafety-related modifications should be processed. One manager felt that all nonsafety-related modifications would be processed identically to safety related modifications while another felt that certain aspects of design control could be relaxed for nonsafety-related modifications.

e. Surveillance Testing and Calibration Control

The purpose of this portion of the inspection was to ascertain whether the applicant had developed programs for the control and evaluation of surveillance testing, calibration, and inspection as required by the Technical Specifications (TS) and for the calibration of quality-related instrumentation not specifically addressed by a TS surveillance. The applicant's surveillance and calibration programs were described in the following station procedures:

- STA-101, Revision 1, "CPSES Organization"
- STA-406, Revision 2, "Corrective Action"
- STA-504, Revision 1, "Problem Report"
- STA-608, Revision 5, "Control of Measuring and Test Equipment"
- STA-702, Revision 3, "Surveillance Test Program"
- STA-703, Revision 0, "Inservice Inspection Program"
- STA-707, Revision 1, "Safety Evaluations"
- TRA-305, Revision 2, "Results Engineering Section Training Program"
- MDA-305, Revision 1, "Inservice Inspection Program"

During the review of the surveillance and calibration program the following deficiences were noted:

- There was no master surveillance schedule reflecting the status of all planned in-plant surveillance testing as required by the FSAR, section 13.5.2.2.5.

  The program for scheduling surveillance testing at CPSES was fragmented with no one individual or department totally responsible for all scheduling. Surveillances with periodicities of greater than 7 days were the scheduling

responsibility of the Results Engineering Department. That department had a comprehensive computerized schedule that was made up from the Master Surveillance Test List (MSTL) which was a listing of all surveillances required by the TS. Surveillances which had periodicities of 7 days or less were required to be scheduled by departments responsible. STA-702, Revision 3, required a method for scheduling and ensuring completion of mode change limiting tests as well as a weekly or more frequent test. Department procedures did not specify how this was to be accomplished nor what methods for scheduling were to be used.

- Operations department had no schedule for surveillances.

- Instrumentation and Control had no schedule for mode change limiting surveillance testing.

- Changes to surveillance requirements were not being requested in writing to the Results Engineer as required by STA-702, Revision 3, Surveillance Test Program, paragraph 4.2.3. There was no form or attachment to the procedure which would facilitate requesting changes in writing.

A few isolated minor administrative problems were noted during the review of completed surveillances stored in the vault:

- Surveillances conducted on source checks in 1982 and 1983 were not always reviewed by Results Engineering. The problem was corrected by using a red stamp as an interim fix and then by a procedure revision in early 1984.

- A surveillance of safety-related station batteries conducted on March 21, 1984, on battery CP1-EPBTED-01 had no Maintenance Action Request number filled in.

- The above surveillance of safety-related batteries was initialed as reviewed on 3/27/84 but not signed as being reviewed by a qualified Results Engineer until approximately 4 months later.

- Acceptance criteria for battery surveillances was generally listed on data sheets, Attachments 3, 5, and 7 to EMP-701, Revision 0. Attachment 7 did not have acceptance criteria for battery specific gravity on the data sheet. The procedure did contain the acceptance criteria in the text.

During the review of the calibration program, one deficiency was noted in that the calibration program for the Meter and Relay group was not implemented in accordance with station procedures. Meter and Relay process instrumentation comprising about 1462 line items

were in the process of being loaded into the MODS computer system. Scheduling and overdue-for calibration information was not presently available for this equipment from the MODS system. A manual system was being maintained to provide this information but was not described by plant procedures.

Correction of deficiencies described above in the control of surveillance testing and calibration as required by the license is considered an open item pending review during a subsequent inspection (445/8431-10).

f. Procurement Control

The purpose of this portion of the inspection was to determine whether the applicant had developed a program to control procurement activities in conformance with regulatory requirements, commitments, and industry guides and standards.

The inspectors reviewed the applicant's written program for control of procurement activities as described in:

- CPSES FSAR Section 13.5.2.2.6 Material Control Procedures
- CPSES Operations Administrative Control and Quality Assurance Plan
- PUR-001, Revision 7, "Requisition of Direct Charge Items"
- PUR-002, Revision 6, "Requisition of Stores Items"
- PUR-004, Revision 1, "Refurbishable Stores Items"
- PUR-005, Revision 0, "Requisition of Petty Cash Items"
- PUR-006, Revision 0, "Transfer of Material, Parts or Components from CPSES Construction to Operations Stores Inventory/Capital Equipment"
- EDA-103, Revision 1, "Assignment of Quality Assurance Procurement Codes"
- DQP-CS-2, Revision 6, "Procurement"
- DQP-CS-4, Revision 10, "Procedure to Establish and Apply A System of Pre-award Evaluations, Audits, and Surveillances"
- DQI-CS-4.2, Revision 3, "Generating and Maintaining the TUGCO Approved Vendors List"

- o DQI-CS-4.3, Revision 4, "Vendor Performance Evaluation System"
- o DQI-CS-4.4, Revision 5, "Conduct of Vendor Pre-Award Surveys"
- o DQI-CS-4.5, Revision 7, "Conduct of Vendor Audits"
- o DQP-CS-12, Revision 1, "Vendor Evaluation Methods"

Procurement activities affected several departments at CPSES. To assist in gaining a clear perception of procurement procedures, activities, and compliance with applicable instructions, a situational walkthrough was initiated by the inspectors as part of the maintenance drill described in paragraph 3.c.(1) above.

During preparation and processing of the MAR drill documentation, responsible personnel were interviewed concerning their responsiblities, duties, and applicable procedural techniques. Qualification records and training were also reviewed for the persons performing the simulation. While conducting the simulation, the following observations were made in the area of procurement:

(1) PUR-001, paragraph 4.2, states. "A routing slip should be prepared and attached to the requisition. . ." A routing slip was not attached to the drill requisition. It was noted that the requisitions included the appropriate routing as a part of the printed matter, which was executed correctly per procedure. PUR-001 requires revision to reflect the method in use.

(2) The CPSES Purchasing Manual Procedure Index listed the title of PUR-004, Revision 0, as "Repairable Stores Items," whereas the procedure title was "Refurbishable Stores Items".

(3) PUR-001 did not directly make reference to the requirements of 10 CFR 21, "Reporting of Defects and Noncompliance." It was noted, however, that the QA reviewer attached a list of "Supplier's Quality Assurance Requirements" to the simulated requisition. This list was apparently prepared informally, since no form number appeared on the document. The list included the following supplier requirements:

   (a) Supplier has documented QA program per 10 CFR 50 Appendix B.

   (b) Purchaser shall be granted right of access to supplier's plant and records.

(c) Supplier agrees to stop work for QA or QC deficiencies.

(d) Provisions of 10 CFR 21 shall apply if appropriate.

(e) Documentation required for shelf-life limited materials.

(f) Supplier to identify special storage and handling requirements.

(g) Strict compliance with purchase order required, and "Supplier's Certificate of Conformance" must be completed.

(h) Documentation to be shipped with or before material.

(i) Other documentation.

(j) Provision for inspection hold points.

PUR-001, paragraph 4.2.3, and PUR-002, paragraph 4.4.4, suggested the inclusion, by the QA reviewer, of items similar to the above list on the requisitioning document [Stock Action Request (SAR) or Requisition on Purchasing Department respectively], but did not promulgate the de ailed listing of the attachment that was used on the simula' requisition.

(4) Nameplate data was used to prepare the req sition, and showed the electrical operator as a 7.8 HP motor. Drawing 2323-E1-0049, CP-1, "Motor Operated Valve 1-HV-4777 Containment Spray Header Heat Exchanger 02 Outlet" reflected a horsepower rating for the motor of 7.9. This fact was noted by the site QA inspector assigned to review the requisition after processing and review by the requisitioner and Results Engineer. Results Engineering was notified of the discrepancy, and substantive action was initiated to detect and correct other possible drawing errors associated with Limitorque operators.

(5) Training and qualification records were reviewed for four persons in the Administrative Department that had either purchasing or procurement responsibilities. It was noted that no formal classroom training had been required for, or received by, these personnel in procurement or warehousing activities, but that the training conducted was a self-administered reading program of the applicable procedures. It was also noted that the latest revision of applicable purchasing, warehousing and station procedures reviewed, as reflected by training records, was January 1984. Several revisions had been issued to

applicable procedures since that last review. Several supervisory review signatures which were required to be in the training records were missing.

Correction of deficiencies identified in paragraphs 3.f.(1)-(5) of this report in procurement control are considered an unresolved item pending further review during a subsequent inspection (445/8431-11).

(6) Administrative controls were in place and adequate for such items as:

- o Initiation of procurement documents
- o Review and approval requirements for original and change documents
- o Making changes to procurement documents
- o Basis for designating quality classification

(7) Administrative controls were in place and were adequate for such items as the following for bidders/suppliers:

- o Qualifying procedures for vendors
- o Provisions for purchaser right of access
- o Maintenance of approved bidder's list
- o Maintenance of supplier qualification and audit records

g. Receipt, Storage, and Handling of Equipment and Materials

The purpose of this portion of the inspection was to determine whether the applicant had developed and implemented a program to control the receipt, storage, and handling of safety-related equipment and materials in conformance with regulatory requirements, commitments, and industry guides and standards.

The inspector reviewed the applicant written program for control of safety-related material receipt, storage, and handling as described in:

- o CPSES FSAR, section 17.2. under Control of Purchased Material, Equipment, and Services; Identification and

Control of Material, Parts, and Components; and Inspection.

- o CPSES Operations Administrative Control and Quality Assurance Plan, sections 11.1, 11.2, 11.2; Receipt Inspection and Material Acceptance; Identification and Material Control; Storage Handling, and Issue.

- o WHS-001, Revision 9, "Receiving and Inspection of Materials, Parts, and Components".

- o WHS-002, "Handling and Storage".

- o WHS-003, Revision 4, "Issues and Returns".

- o WHS-004, Revision 0, "Packing and Shipping of Materials, Parts and Components".

- o WHS-006, Revision 0, "Control of Cleaning, Preservatives, and Packaging".

The NRC inspector interviewed the Warehouse Supervisor and other personnel responsible for material receipt, storage, and handling, and observed an actual receipt inspection for safety related electronic components. Numerous purchase order files were reviewed for completeness and accuracy. All warehouse facilities were inspected in the presence of the supervisor.

During the conduct of the above inspection, the following observations were made:

(1) The CPSES warehousing manual procedure index listed the title of WHS-006, "Cleaning Preservatives and Packaging" whereas the procedure title was "Control of Cleaning, Preservatives, and Packaging". The same index reflected Revision 8 as the active procedure for WHS-001 when in fact the current procedure was Revision 9.

(2) WHS-001, "Receiving and Inspection of Material, Parts, and Components", and Receipt Inspection Instruction RII-01, "Receipt of Commercial Quality Items and Catalog Items" did not include any requirements for checking that material received was from a qualified vendor by requiring, for example, a comparison of the purchase order vendor with the vendor that actually shipped the material. This comparison was particularly important with electronic components where part numbers from different vendors could be the same.

(3) Segregated storage of quality material appeared to be adequate except in one case where non-conforming material (Purchase Order 179275-2, NCR #84-0037, Exxon-Beacon 325 gear grease; missing shelf-life documentation) was stored with other ready-for-issue material. Only one can of the three can lot was properly marked with an NCR tag. Numerous power supplies awaiting disposition concerning periodic energization were properly tagged as non-conforming, and stored with ready to issue power supplies. The marking appeared adequate to prevent issue, even though the material was stored in ready to issue space.

(4) The only warehouse spares (about 40,000 current line items) undergoing preventive maintenance were a few power supplies that contained electrolytic capacitors that were tagged by the vendor as requiring periodic energization. The tagging was noted by receipt inspectors as non-conforming since the Stock Action Request (SAR) requisitioning document did not reflect the preventive maintenance requirement. Several pumps and pump assemblies were noted by the inspector to be carried in spares, but were not undergoing any preventive maintenance. Other items such as electric motors, items charged with inert gas, and items with space heaters may have been carried as spares and require preventive maintenance in accordance with manufacturers' technical manuals and ANSI N45.2.2-1972, paragraph 6.4.2. It was noted in the review of WHS-002, "Handling and Storage", that the above standard was not referenced, although it was directly applicable.

(5) The "Safety Related OSD Log - 1984" was a master index of over, short, damaged and nonconforming material reports (OS&D's). OS&D's were issued on safety-related, non-conforming material if the problem was relatively minor and could be readily corrected. Due to numerous errors on the part of vendors, many OS&D's were generated each month and the log was an important summary of activity. Upon reviewing the log, it was noted that several entries had strikeovers, omissions, and whiteouts without any initials, dates, or final disposition. The required entries of WHS-001, "Receiving and Inspection of Material, Parts, and Components", paragraph 4.4.4.1.9.2, were not being made in the log. This is a fourth example of failure to follow procedure (445/8431-05d).

(6) During the tour of the warehouse facility, it was noted that the housekeeping material conditions in the segregated, combustible storage area for "Q" material were unsatisfactory for the following conditions:

- o Two open electrical panels, a terminal connection box and a thermostat, were observed to have no tagging or personnel protection devices. The inspector was advised that water pipes had frozen last winter and that repairs were still not complete.

- o Insulation from the water pipes noted above was adrift in the space.

- o The traveling hoist had not been currently tested or maintained. The inspector was advised that the reason the hoist was not currently tested was because it was inoperative. [see item (8)below.]

(7) Level A storage items did not have any governing instructions or procedures promulgated for temperature and humidity control within specified limits. Numerous stores items were stored in a warehouse section shared by the applicant and Brown and Root, with the segregated area under the control of the licensee. Additionally, none of the items in the Level A storage area were tagged in accordance with the station requirements of WHS-002, Revision 5, "Handling and Storage," paragraph 4.3.1.1. This is a fifth example of failure to follow procedure (445/8431-05e).

(8) "Q" material handling equipment in use at the warehouse (slings, fork lift, hoist) were not in the plant's periodic maintenance and inspection program as required by station instruction WHS-002, paragraph 4.1.5.7. The nylon type sling in use with the fork lift was observed to be badly worn. ANSI N45.2.2-1972, paragraph 7.4, provides applicable guidance. This is a sixth example of failure to follow procedure (445/8431-05f).

(9) The applicant utilized six receipt inspectors at the warehouse that were qualified as Level I or Level II inspectors, including the Warehouse Supervisor. The training of these inspectors had been conducted by site QA. The qualification records of all six inspectors, which were maintained by site QA, were reviewed by the NRC inspector for completeness and accuracy. Five of the records were noted to contain errors of missing certification for final qualification signatures, missing practical factors completion signatures, or other similar administrative errors. The NRC inspector was advised that a QA inspector had recently examined the same files for accuracy and completeness. Correction of errors and omissions in the above qualification

records is considered an open item pending further inspection during a subsequent inspection (445/8431-12).

(10) Based on the small number of items that were not ready for issue (identified by NRC), when contrasted to the large number of items received that are ready for issue, it was apparent that the station had an aggressive program for resolving discrepancies and making material ready for issue as quickly as possible.

h. Quality Records

The purpose of this portion of the inspection was to determine whether the applicant had developed a program for the control of quality records in conformance with regulatory requirements, commitments, industry guides and standards.

The NRC inspector reviewed the applicant's written program for control of quality records as described in:

- Final Draft Technical Specifications, Section 6.10, "Record Retention"
- CPSES FSAR, Section 17.2.17, "Quality Assurance Records"
- CPSES Operations Administrative Control and Quality Assurance Plan, Section 3.8, "Document Control and Records Management"
- STA-302, Revision 4, "Station Records"

During the review of the written program for records control, it was noted that Attachment 5 to STA-302 listed the generic types of records that were to be maintained in the station quality assurance records file. The attachment was simply a verbatim reproduction of Appendix A to ANSI N45.2.9-1974. This generic list of records to be retained did not include some of the items to be retained in accordance with the CPSES Technical Specifications, Section 6.10. Examples are:

- Records of sealed source and fission detector leak test and results
- Records of annual physical inventory of all sealed source material of record
- Records of in-service inspections performed pursuant to the Technical Specifications

o Records of secondary water sampling and water quality

The above list was not all inclusive. In addition, no interpretation of the station equivalent record for the items listed in Appendix A to ANSI N45.2.9-1974 was provided in STA-302 or any other procedures or instructions made available to the inspector. Thus no assistance was available to station personnel to determine which of the station records were to be retained. This is a failure to establish adequate procedures concerning record retention as required by ANSI N45.2.9-1974 and CPSES TS 6.10 is a violation of 10 CFR 50, Appendix B, Criterion V (445/8431-08c).

The NRC inspector conducted an inspection of the vault facilities and the records stored therein and made the following observations:

o A custodian was designated for the record storage facility and access to the stored records was controlled by an approved and posted access list. Visitors required continual escort.

o Records received for storage were transmitted by a formal transmittal document. These records were reviewed for completeness against the transmittal document prior to being placed in storage. If a discrepancy was noted, the sender was notified and the discrepancy corrected before the records were received in storage.

o Several records packages were reviewed to ensure they were stored in designated files and were readily retrievable. The following conditions were noted during this portion of the inspection:

(1) Some logs that were required to be retained and controlled at CPSES were physically located in the vault, but not on the Master Records Index. Examples are: 1) Station Operating Log, period 2300, April 9, 1984 to 2300, June 8, 1984, maintained by the Shift Supervisor, and 2) Control Room Reactor Operator Log, March 16, 1984 to June 1, 1984.

(2) Records were not readily retrievable from the vault if the requestor asked for the records by noun name. The inspector attempted to verify that a sampling of the records required by STA-302 were being retained. This effort was not possible, because the records indices were listed by station form number or other such titles that prevent noun name retrieval. For example, Off-Site Environmental Monitoring Survey Results were filed under a form receipt verification document. The record indices in use by the applicant did not generally reflect the record content, thus retrieval was difficult.

(3) STA-302 defined the "Record File Index" as that index which, ". . .gives the specific record file location for all record types which are stored in the records center. . ." The record file index did not fulfill the function of giving the specific location in the vault, and in fact, no such mapping diagram existed. Storage appeared to be a matter of convention. The custodian interviewed, however, knew exactly where requested records were located.

(4) The checkout method for records consisted of a three-part speedletter, with the person checking out the record signing the letter. It was noted that numerous records had been checked out of the vault by the custodian on duty at the time of the request. Paragraph 4.9.3 of STA-302 states that "No record, after it has been filed in the Records Center, may be removed without the express permission of the Records Supervisor or his designated alternate." It appeared that the intent of this requirement was to minimize the numbers and the time that records were absent from the vault. A large number of records were observed to be checked out for long periods of time by persons other than the Records Supervisor.

(5) The station records vault was observed to have a temperature of 68 degrees Fahrenheit and relative humidity of 62% on the day of the inspection, and the recorder was noted to have exceeded 50% humidity for the duration of the chart (one week total time). ANSI N45.2.9-1974, paragraph 5.4.3, requires film to be stored in accordance with manufacturer's recommendations. Paragraph 6.1.2 of ANSI PH1.43-1979 requires a 30-50% relative humidity range for the type of radiography films stored in the vault, with a recommended value of 30% for archival storage environment for several types of film storage. Numerous films and magnetic tapes were on file in the vault. The Administrative Department requested correction of the problem through correspondence dated 15 August 1983, (TIM-83742), but as noted above, the problem had not been corrected. Additionally, no administrative procedures had been published concerning montitoring of temperature and humidity values or controls, or concerning corrective action for abnormal readings.

(6) Training and qualification of records personnel were found to be adequate, and the records custodian demonstrated an adequate knowledge of policies and procedures that governed this area.

Correction of deficiencies in the station records vault is an unresolved item pending further inspection during a subsequent inspection (445/8431-13).

i. Tests and Experiments

The purpose of this portion of the inspection was to determine whether the applicant had developed a program to control tests and experiments during plant operations that conformed with regulatory requirements, commitments, and industry guides and standards.

The inspector reviewed the applicant's written program for control of testing during operations as described in:

- STA-202, Revision 9, "Preparation, Review, Approval and Revision of Station Procedures".
- STA-204, Revision 1, "Temporary Procedures."
- STA-205, Revision 2, "Temporary Changes to Procedures".
- STA-401, Revision 5, "Station Operations Review Committee".
- STA-403, Revision 2, "Identification of Safety Related Equipment".
- STA-602, Revision 0,"Temporary Modification and Bypassing of Safety Functions".
- STA-707, Revision 1, "Safety Evaluations".
- QPM-003, Revision 1, "Review of Procedures, Instructions, and Plans".
- HPA-124, Revision 2, "ALARA Job Planning Program".
- EDA-105, Revision 2, "Engineering Department Surveillance Test Procedures".
- EDA-106, Revision 0, "Station Performance Testing Program".
- EDA-108, Revision 0, "Control of Contract Testing Activities".

The applicant appeared to have a comprehensive set of written, detailed procedures and instructions for accomplishing specific testing through out the facility. The procedures and instructions covering testing appear to be consistent in content and format among

departments which would facilitate coordination of testing that might affect more than one department.

During the review of the testing program, one minor deficiency was noted. A formal method for handling requests or proposals for conducting plant tests or experiments was not apparent in station procedures. Engineering Department procedure EDA-105 appeared to cover most necessary regulatory and engineering requirements to address a proposal for conducting a test and would require little modification to allow it to accomplish this function.

j. Measuring and Test Equipment (M&TE)

The purpose of this portion of the inspection was to determine whether the applicant had developed and implemented a program to control M&TE that was in conformance with regulatory requirements and commitments, including Regulatory Guides and industry standards.

A written description of the applicant's Measurment and Test Equipment program was encompassed by the following station procedures:

- STA-608, Revision 5, "Control of Measurement and Test Equipment".
- APP-331, Revision 0, "MODS M&TE data input".
- MEI-006,. July 1984, "M&TE Scheduling Maintenance".
- STA-201, Revision 8, "Preparation, Responsibility and Content of Station Manuals".
- STA-202, Revision 9, "Preparation, Review, and Approval and Revision of Station Procedures".

During a review of the applicant's M&TE program the following deficiencies were noted:

(1) STA-608, Revision 5, "Control of Measuring and Test Equipment" was inadequate in that it did not address or reference the following elements of the M&TE program:

- The organization, departments, or sections responsible for station M&TE.
- Responsibility for promulgation and distribution of the supervisory schedules used for M&TE calibration.

- o Equipment check-out.
- o Cross department procedures for sharing or use of M&TE.
- o Procedures to ensure M&TE is used by only qualified personnel.
- o Procedures to ensure safety during use and transportation.

The absence of the above program elements in station procedures appeared to deviate from the requirements of the CPSES Operations Administrative Control and Quality Assurance Plan, Revision 3, section 6.5, paragraphs 1.0, 2.1, and 4.0 which required development and implementation of procedures and instructions to establish control and calibration for M&TE. This omission is a violation of 10 CFR 50, Appendix B, Criterion XII (445/8431-14).

(2) The Instrumentation and Control M&TE storage area appeared to be too small for the amount and type of equipment stored. About 360 line items were stored within the area. Precision voltmeters were stored on top of one another, and Heise gages were stored near shelf edges. The potential for equipment damage appeared high.

(3) The instrumentation and control calibration and repair shop was too small for the work being conducted. Dead weight tester weights were overhanging the ends of workbenches.

k. Document Control

The purpose of this portion of the inspection was to determine whether the applicant had developed and implemented document controls that conformed to regulatory requirements, commitments, industry guides and standards.

The NRC inspectors reviewed the applicant's written program for control of documents as described in:

- o FSAR, Chapter 17, Section 17.2.6, "Document Control"
- o CPSES Operations Administrative Control and Quality Assurance Plan (OAC/QAP), Section 3.8, "Document Control and Records Management".

- DCP-3, Revision 18, "CPSES Document Control Program" (Brown & Root, Inc.)
- TNE-AD-4, Revision 6, "Control of Engineering Documents [TUGCO Nuclear Engineering (TNE)]".
- TNE-AD-5, Revision 3, "Identification of Design Deficiencies and Errors".
- TNE-DC-7, Revision 5, "Preparation and Review of Design Drawings".
- TNE-DC-8, Revision 4, "Design Verification of Engineering Documents".
- STA-201, Revision 7, "Preparation Responsibility and Content of Station Manuals".
- STA-202, Revision 8, "Preparation, Review, Approval and Revision of Station Procedures".
- STA-203, Revision 9, "Control of Station Manuals"
- STA-206, Revision 6, "Control of Technical Manuals".
- STA-301, Revision 3, "Document and Correspondence Control".
- STA-306, Revision 5, "Drawing and Specification Control".
- STA-307, Revision 3, "Forms Control".

(1) Facility Drawings:

The NRC inspector verified administrative controls applicable to drawings by reviewing the manner in which drawings were handled, and then randomly selecting several drawings and checking the accuracy of record keeping. Until recently, Brown and Root, Inc. operated the main site Document Control Center (DCC). Management of this DCC was shifted to the applicant with Brown and Root personnel still staffing the operation. This center received material from several sources, such as TNE and Comanche Peak Project Engineering (CPPE), each operating under their own approved procedures for the origination of drawings. The DCC exercised control, receipt, reproduction, distribution, storage, and retrieval responsibilities for several users, including TUGCO Operations' Document Control Center.

TNE was managing the drawing update program for an inventory of approximately sixty to seventy thousand controlled drawings for Unit One and Common (common to both units) drawings. At the time of the inspection, about 4500 drawings were considered "lifetime" drawings of which most were in the inventory of drawings in the Control Room. Of the lifetime drawings, about 80% had no changes outstanding, about 2% had three or more changes outstanding, and about 18% had one or two changes not yet entered. To support plant operations, all outstanding design changes were targeted to be incorporated prior to Unit 1 fuel load for the following drawings:

- Mechanical Flow Diagrams (M1-200 and 300 series)
- Electrical One-Line Diagrams, three-line diagrams, electrical wiring and connection diagrams (E1-001 through E1-200 series)
- Instrument and Control Diagrams (M1-2200 and 2300 series)
- Instrument Equipment List (M1-2400 series)
- Instrument Location Drawings and Tabsheets (M1-2500 and M1-2600 series)
- Safety Related Vendor Drawings

Any drawings identified above with outstanding design changes remaining at fuel load were to be added to the Master Data Base record keeping system for update prior to commercial operation. The inspector was provided with a list of other drawings that would be updated, with completion not until after commercial operation, and drawings that would not be updated at all with the rationale for not updating.

An example of a class of drawings that were not to be updated were piping composite drawings (M1-400 through 800 series) that were duplicative of mechanical flow and isometric diagrams that had been updated. Another example included instrument rack drawing (M1-2800) that had been superceded by photographic, as-built representations (CPPA-244167). The NRC inspector's review of the applicant's update program for facility drawings indicated that the program, when fully implemented, should satisfactorily support fuel load and commercial operation.

Related to drawing updates was the maintenance of timely status of drawings affected by design changes, such as Design Change

Authorizations (DCA), Component Modification Cards (CMC), and Engineering Change Notices (ECN). In April 1984, a Corrective Action Request (CAR-001) was prepared by CPSES QA describing document status held by Operations Document Control Center (DCC) not being the same as TNE. Thus the correct status of design drawings and specifications distributed by Operations DCC was indeterminate. Safe and correct system maintenance on safety-related systems, including valve line-ups being done under direction of control room personnel, was dependent on having current drawing status. A permanent solution to the drawing status problem was implemented by June 1, 1984.

In partial answer to CAR-001, TNE developed for their purposes the TNE Design Change Tracking Group Computer ("George Three"), which was scheduled to be fully implemented by September 14, 1984. At the time of this inspection the system was already in operation, with an input terminal located in TNE spaces, and receiving terminals located in other strategic places including the control room and the Operations DCC.

The NRC inspector selected at random the following drawings to test the drawing control system and determine their current status:

- Flow Diagram, Containment Spray (2323-M1-0232, Revision CP-6 of July 30, 1984.)
- Safety Injection System (2323-M1-0262, Revision CP-5 of July 25, 1984.)
- Main Steam Reheat and Steam Pump System (2323-M1-2202-02, Revision CP-4 of August 3, 1984.)
- Component Cooling Water System (2323-M1-2229-06, Revision CP-2 of July 27, 1984.)
- Demineralized and Reactor Make-up Water System (2323-M1-2241-04, Revision CP-2 of August 15, 1984.)
- 6.9 KV Auxiliaries One Line Diagram - Safeguard Buses (2323-E1-0004, Revision CP-2 of July 14, 1984.)
- Containment and Diesel Generator Safeguard 480V MCC's One Line Diagram (2323-EI-009, Revision CP-1 of June 11, 1984.)

The inspector verified that the computer data base reflected the latest revision to the drawings, that there were no unposted design changes affecting the drawings, and that the drawings in

use in the Control Room were the latest revision. The following specific observations were made during this portion of the inspection:

- The process of up-dating the "George Three" terminal with the latest design changes could require as long as five working days, however all drawings reviewed by the inspector reflected the proper status in the "George Three" terminal.

- Drawing 2323-M1-2241-04 above (Demineralized and Reactor Make-up Water System) was on file in the Operations DCC as an aperture card, but not printed and not distributed to Operations Department users as of August 21, 1984. It had been revised on August 15, 1984. The card was received in the Operations DCC on August 20, 1984, and was to be printed and distributed on August 22, 1984. All other aperture cards were of the proper revision and were distributed.

- On August 15, 1984, all indices (design change logs) previously in use were removed from the Control Room, thus the operator in the Control Room was not able to establish the current revision to selected drawings without calling the Operations DCC. It was noted that the Operations DCC was staffed on the day and swing shift, but not on the grave yard shift. It was also noted that "George Three" terminal was installed in the Control Room and was the only index for design changes available. None of the operators had been formally trained in the use of "George Three", so they could not use it.

- Some safety related equipment drawings for vendor supplied, "skid mounted" equipment (for example, diesel generator auxiliaries drawing #2323-M1-0215, Revision CP-3) were not available in the Control Room. Also, drawings in the Control Room had an empty "box" on the drawing where valves were mounted on the equipment foundation as delivered by the vendor. In some cases, this situation was aggravated by absence of assigned valve numbers to such valves. Efforts were underway to correct this problem.

- All changes to the drawings underwent the same level of review as the original drawing as required by procedure.

- Obsolete or superceded drawings were conspicuously marked.

- TNE-AD-5, Revision 3, "Identification of Design Deficiencies and Errors", addressed the process of identifying design deficiencies (or errors), documenting them on TNE Design Deficiency Reports (TDDRs), and the resolution process. Nonconformances, including discrepancies found between as-built drawings and as constructed facility, were handled as stringently as if they were design changes.

(2) Technical Manuals

STA-206, Revision 6, "Control of Technical Manuals", was the governing document for station technical manuals. To determine the adequacy of technical manual control, the NRC inspector reviewed the procedure, interviewed the supervisor of technical manuals, and randomly selected several technical manuals with numerous revisions. He verified that the status of revisions reflected by the master distribution log and revision records sheet was the same as the status of the copies in use in several of the satellite libraries.

The NRC inspector noted that a copy of a technical manual may be distributed to as many as thirty-five satellite libraries with checkout from most of these libraries on an "honor system". All technical manuals checked in the Control Room were able to be accounted for; however, when the same manuals were checked at the Maintenance (Control Number 005) library, the following conditions were noted:

- Volume 3, Book 1, Diesel Generator Sets (CP-0034-001C) was not in the library and not properly checked out (later located).

- Radioactive Waste Solidification System (CP-0162B-001) was misfiled but later located in the library.

- Three revisions (DCC-00793, -00794, -00841) were filed in the book identified above, but were not reflected on the "Record Revision Sheet" available in the Master Manual Distribution Log.

- Revision DCC-0943 was noted in the Control Room copy (Control Number 003) and the library restricted copy (001) of the manual identified above, but without the revision number stamped on the sheet as required by procedure.

A sixteen step checklist was in use in the technical manual update area of the operations DCC to ensure all activities

associated with receipt of a technical manual change were accomplished, including:

- o Determination of libraries affected
- o Distribution of a copy of the manual update to Station Procedures Supervisor for cross-reference check to determine procedural revision necessity
- o Transmittal of the change to "Brown & Root" DCC
- o Addition to Plant Information Management System (PIMS) update covered new equipment
- o Check of the update for new drawings and initiation of appropriate action

A similar checklist wa in use for receipt of new manuals.

An aggressive program to periodically "police" satellite libraries and maintain the manuals and the area in order was in effect as evidenced by the orderliness of the Control Room library. An aggressive program for recovering materials checked out from the "check-out" library was also in operation. The tickler system allowed a checkout to run for about four months before verification occurred that the checkout was still necessary.

Overall efficiency and accuracy of the technical manual program was found to be effective.

4. Control Room Design Review Status

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). As of August 31, 1984, all but 23 pre-licensing HEDs had been closed by the Human Factors Engineering Branch. The remaining 23 HEDs have been or will be verified by the Resident Inspector(s) and documented in the monthly inspection reports. The following is a listing of open HEDs yet to be verified:

3. HED DESCRIPTION

Annunciator alarms are not visually prioritized.

ACTION

Confirmatory on completion of annunciator prioritization.

68. HED DESCRIPTION

No storage space has been allocated for essential material.

ACTION

Confirmatory after installation of portable storage unit and storage of equipment at the remote shutdown panel.

80. HFD DESCRIPTION

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

ACTION

Confirmatory on "J" handle/star/handle pointers being painted white.

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).

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

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

106. HED DESCRIPTION

Labels are missing.

ACTION

Confirmatory on labels on recorders on CV-04, incore panel, and for lights on CV-03.

120. HED DESCRIPTION

Sound powered jack communications are incomplete.

ACTION

Confirmatory on storage of sound powered headset at the remote hot shutdown panel (see no. 68 above).

122. HED DESCRIPTION

The remote shutdown panel is in the process of complete redesign.

ACTION

Confirmatory on completion of hierarchical labeling at remote shutdown panel and transfer panels, labeling of light box, proper paper in recorders, and sound powered headsets at remote shutdown panel (see no. 68 above) and transfer panel.

130. HED DESCRIPTION

Controls have unlabeled switch positions.

ACTION

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

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 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.

214. HED DESCRIPTION

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

ACTION

Confirmatory on 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

Confirmatory on "LOCK" position labels on Hagan controllers.

226. HED DESCRIPTION

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

ACTION

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

267. HED DESCRIPTION

Trend recorders used frosted glass.

ACTION

Confirmatory on replacement of frosted glass on recorders on CB-10.

321. HED DESCRIPTION

Annunciator character sizes are inconsistent.

ACTION

Confirmatory on 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, 5.12, 7.6

345. HED DESCRIPTION

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

ACTION

Confirmatory on revision of point descriptions in P2500 to use CPSES abbreviations.

The following HEDs were visually inspected and the required action is hereby confirmed by the Operations Resident Inspector:

103. HED DESCRIPTION

Use of a temporary label on "sequence of events" recorder.

ACTION COMPLETED

Confirm permanent label attached.

137. HED DESCRIPTION

The SI pump test line valves lack a functional grouping pattern.

ACTION COMPLETED

Confirm relabeling (relabeling was required to avoid confusion).

201. HED DESCRIPTION

Negative values are not indicated as such on vertical and circular scales.

ACTION COMPLETED

Confirm that negative signs (-) are added to negative values on vertical and circular scales.

179. HED DESCRIPTION

Red numbers with black graduation marks and vice versa are used for color coding purposes, making scales difficult to read.

ACTION COMPLETED

Confirm scales have been changed to black numbers and black graduation marks.

269. HED DESCRIPTION

Trend recorder door in control room could swing down when unlatched and strike and obscure components located below them.

ACTION COMPLETED

Confirm installation of rubber bumpers to restrict amount of downward motion of trend recorder doors.

338. HED DESCRIPTION

Safety Train "A" and "B" indicating lights are not easily identifiable.

ACTION COMPLETED

Confirm addition of color coded strips under indicating lights.

No violations or deviations were identified.

5. Preoperational Test Witnessing

Prior to witnessing of the test, the NRC inspectors performed a review of the test procedure. The review was conducted to verify that:

- The procedure provided a clear statement which specified the function it was to perform.

- The acceptance criteria were clearly stated and addressed the appropriate requirements.

- The communications between all persons concerned with the test were addressed.

- The procedure contained appropriate quality control hold points.

- There were provisions for verifications of actions performed with appropriate sign-offs provided for assurance of procedure step performance.

- The performance of the procedure would, when completed, assure that the acceptance criteria were met.

- The procedure was clearly written, properly reviewed and approved in accordance with the licensee's administrative procedures.

The NRC inspectors then observed the applicant's performance of the test. After verifying that the correct revision of the test procedure was in use, the NRC inspector verified, during the test performance, that:

- There were sufficient personnel to perform the test.

- The test steps were performed in the proper sequence to yield valid results.

- Unforeseen equipment and procedure problems were resolved and documented.

- Test personnel observed procedural hold points.

In addition to the major points listed above, the performance of testing personnel was observed to assess:

- The professional manner in which the test was performed.

- The level of familiarity of testing personnel with the purpose of the test and steps of the test procedure, including any complicated areas requiring additional set up time.

- The level of detail contained in the pretest briefings with test personnel and operations support personnel including special assignments and specific on-station time requirements.

The specific preoperational tests that were witnessed and the NRC inspector's observations were:

a. 1CP-PT-29-03, (Redo), "Diesel Generator Load Tests"; 1CP-PT-29-04, RT-1, "Diesel Generator Sequencing and Operational Stability Test"; and 1CP-PT-57-10, Load Group Assignment Test."

The tests identified above were performed in conjunction with one another, therefore they are discussed together. The objectives of the tests were: (1) 1CP-PT-29-04, to verify that the diesel generator would start on an emergency start signal (e.g. Safety Injection signal) and/or loss of offsite power signal and sequence the required loads within the required time without exceeding the diesel generator design limits; (2) 1CP-PT-57-10, to verify that after an emergency start (1CP-PT-29-04), the respective diesel generator supplied power only to the loads of their respective safety trains; (3) 1CP-PT-29-03, to verify that each diesel generator can handle short term and long term loads without impairing its operability.

The NRC inspector witnessed the safety train A and B blackout and black plus safety injection, and the verification of safety train independence and the short and long term load tests. At the completion of each diesel start, the NRC inspector reviewed the Visicorder strip charts to determine correct sequences of operation. Some minor equipment problems were encountered. These were identified on Test Deficiency Reports (TDRs) then were corrected and retested to close out the TDR's.

b. 1CP-PT-64-01, "RPS Time Response Measurement"

The purpose of this test was to demonstrate that the response time of the Reactor Protection System is within the time interval as specified in the Plant Technical Specifications. The NRC inspector noted that this test was properly performed and that the objectives of the test appeared to have been met.

c. 1CP-PT-64-10, "Safeguards Relay Actuation Test"

The purpose of this test was to demonstrate the proper operation of the Engineered Safety Features (ESF) final devices/components by manual manipulation of their respective initiating device (actuating relay). Specifically, this test will verify that a specific output/slave relay contact, in a given train of the Solid State Protection System (SSPS), will actuate its respective ESF device/component. During the performance of this test, the NRC inspector noted that the attributes listed at the beginning of this

section of the report were satisfied.

d. 1CP-PT-66-01, "Nuclear Instrumentation System"

The purpose of this test was to verify that the Nuclear Instrumentation System is functionally capable of providing indication of input signals, generating trip functions for use by the Reactor Protection System, and initiating status functions when trip functions are bypassed or blocked, or system circuits are other than normal. The test was conducted without any significant problems.

e. 1CP-PT-48-02, "Containment Spray System"

The purpose of this test was to demonstrate proper operation of the Containment Spray System. Pump breaker response to initiation of safety signals were demonstrated. Upon actuation of safeguards output relays, Train A and Train B fluid flow response times were determined. Valve interlocks and valve response to spray actuation signals were demonstrated. Chemical eductor flow performance was demonstrated to be acceptable. Additionally, flow rate testing was performed on the chemical additive tank isolation valves.

No violations or deviations were identified.

6. Inspection Items in Progress

The NRC inspectors have started reviews in the following areas:

a. Selected System Operating and Integrated Plant Operating Procedures.

b. Selected Emergency Operating Procedures.

c. Open Safety Evaluation Report (SER) items .

d. Open NUREG 0737 (Clarification of TMI Action Plan Requirements) items.

The reviews commenced near the end of this reporting period. No major problem areas were identified thus far. The continuation and completion of these reviews will be documented in subsequent inspection reports.

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 is 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 was implemented, where required, and additional cleanliness requirements were being adhered to, where required, 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 books. 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 violations or deviations were identified.

8. Plant Status

The following is a status of TUEC (TUGCO) manning levels for operations and plant test activities as of August 1984.

a. Authorized personnel level (including maintenance, operations, administration, quality assurance, and engineering) - 560

b. Number presently onboard - 506

9. Unresolved Items

Unresolved items are matters above which more information is required in order to ascertain whether they are acceptable items, violations or deviations. Seven unresolved items disclosed during the inspection are discussed in paragraphs 2, 3.c, 3.d, 3.f, and 3.h.

10. Exit Interview

An exit interview was conducted on September 7, 1984, with applicant representatives (identified in paragraph 1). During this interview, the SRRI and RRI reviewed the scope and discussed the inspection findings. The applicant acknowledged the findings.