1-6

Draft
E/F

SUMMARY REPORT
FOR
REGIONAL EVALUATION
OF
TEXAS UTILITIES ELECTRIC COMPANY
COMANCHE PEAK S.E.S.

DOCKET 50-445

PREPARED BY
U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

MARCH 27, 1984

A. PROJECT HISTORY

1. Chronological Project Milestones

The application for construction permits for Comanche Peak Steam Electric Station (CPSES), Units 1 and 2 were docketed on July 20, 1973. An LWA was granted to the licensee on October 17, 1974, and ground breaking occured on October 18, 1974. The construction permits (Nos. CPPR-126 and CPPR-127) were issued on December 19, 1974.

There has been no change in principle contractors. Unit 1 is presently in preoperational testing. Precore hot functional testing began on February 20, 1983, and was completed on June 10, 1983. The licensee's present projected fuel load date is February 1984. Texas Utilities Electric Company (TUEC) was granted a license to receive and store fuel (SNM-1912) on April 26, 1983, and began receiving fuel on May 4, 1983. The process ~~will continue over the next several months until all of the 193 fuel elements and associated inserts are received. Sixty-six fuel assemblies for Unit 1 have been received and are stored in the new fuel storage assembly in the fuel building~~ was completed on .

2. Principle Contractors

Gibbs & Hill, Inc. (G&H) is the architect-engineer, and Brown & Root, Inc. is the constructor. Construction management is being performed by Texas Utilities Services, Inc., a wholly owned subsidiary of the owner, Texas Utilities. The nuclear steam supply system vendor is Westinghouse Electric Corporation.

B. QUALITY ASSURANCE ORGANIZATION STRUCTURE

The licensees present QA organization is shown in Exhibit 1. The present structure has <u>not</u> appreciably changed from the original description in the SAR. The licensee has recently completed review of the QA program pursuant to 10 CFR 50.55(c). No changes in the QA program were identified.

C. SALP REVIEW

Three SALP reviews have been conducted to evaluate TUEC's performance. The SALP periods were:

August 1, 1979-July 31, 1980 (Reports 50-445/80-25 and 50-446/80-25)
July 1, 1980-June 30, 1981 (Reports 50-445/81-20 and 50-446/81-20)
October 1, 1981-September 30, 1982 (Report 50-445/82-24 and 50-446/82-12)

1983??

(I would consider this letter UNSAT if 1983 was left out!)

During the period of August 1, 1979, through July 31, 1980, the licensee was evaluated in the following functional areas:

Functional Area	Increase	No Change	Decrease
Quality Assurance, Management and Training		X	
Substructure & Foundations			complete →
Concrete		X	
Liner (Containment & Others)			complete →
Safety-Related Structures		X	
Piping & Hangers (Reactor Coolant & Others)		X	
Safety-Related Components (Vessel, Internals & HVAC)		X	
Electrical Equipment		X	
Electrical (Tray & Wire)		X	
Instrumentation		X	
Fire Protection		X	
Preservice Inspection		X	
Reporting		X	

During the period of July 1, 1980, through June 30, 1981, the licensee was evaluated in the following functional areas:

Functional Areas	Category
Soils and Foundations	NA } THIS SHOULD BE EXPLAINED WITH A FOOTNOTE.
Containment and Other Safety-Related Structures	NA
Piping Systems and Supports	1
Safety-Related Components	1
Support Systems	2
Electrical Power Supply and Distribution	1
Instrumentation and Control Systems	1
Licensing Activities	2

During the period of October 1, 1981, through September 30, 1982, the licensee was evaluated in the following functional areas:

Functional Area	Performance Category 1982
A. Plant Operations - Preoperational Testing	3
B. Construction Activities -	
Soils and Foundation	Not evaluated
Containment & Other Safety-Related Structures	2

(continued)

Functional Area	Performance Category 1982
(continued from previous page)	
Piping Systems and Supports (includes welding, NDE, and preservice inspection)	2
Safety-Related Components (includes vessel, internals, pumps, etc.)	1
Support Systems (includes HVAC, radwaste, fire protection)	Not evaluated
Electrical Power Supply and Distribution	1
Instrument and Control Systems	1
Vendor Procurement Cycle Controls	3
Licensing Activities	1

D. ESCALATED ENFORCEMENT HISTORY

1. An Immediate Action Letter

An Immediate Action Letter was issued on September 7, 1979, confirming a licensee decision not to place concrete in the wall to dome transition area of the Unit 2 containment building until such time as a proper engineering evaluation could be made of the omission and subsequent addition in another location of a group of reinforcing steel shear ties.

2. Civil Penalty

A civil penalty (EA-83-64) of $40,000 was proposed against the licensee for alleged violation of 10 CFR 50, Appendix B, Criterion I. This was based on the Secretary of Labor Final Decision and Order in Atchison vs. Brown & Root, Inc., 82-ERA-9; June 10, 1983.

E. INDEPENDENT DESIGN HISTORY

Discussions with the licensee are in progress. No final decision has been reached. The licensee has contracted the Cygna Corporation to review the Comanche Peak design.

F. NRC INDEPENDENT MEASUREMENTS INSPECTION

The NRC performed an independent measurements inspection at the Comanche Peak site April 25-May 6, 1983. The report on the results of the examination are contained in NRC Inspection Report 445/83-15 and 446/83-09. Two violations were identified during this inspection.

G. GENERIC CORRESPONDENCE

TUEC has established procedures providing specific instructions to the nuclear project support group personnel who are responsible for coordination and review of IE Circulars, Bulletins, and generic letters. In each case, a TUEC-appointed coordinator is given responsibility for assigning the cognizant responsible person to review and track all actions and provide documentation. When required, the coordinator shall draft a response to the NRC which will be reviewed by the plant manager - nuclear, licensing engineering supervisor - nuclear, and project support manager - nuclear. The response shall be signed by the vice president - nuclear operations and shall include an affidavit. A permanent record of actions taken is maintained. The licensees' response to NRC has been satisfactory.

H. LICENSEE AND CONTRACTOR INITIATED STOP WORK ACTION

There have been 46 stop work orders issued by the licensee and his contractors. See Exhibit 2 for a summary of the stop work orders.

I. CONSTRUCTION DEFICIENCY REPORTS (10 CFR 50.55e)

The licensee has reported 42 significant construction deficiencies. See Exhibit 3 for a summary of these reports.

J. PART 21 NOTIFICATIONS

Of 18 Part 21 reports received by NRC, 5 are being generated as 10 CFR 50.55e items and are being tracked by the licensee. They appear in Exhibit 3 of this report. There is a followup investigation being conducted by the Resident Reactor Inspector to determine the status of the remaining 11 Part 21 reports. Two of the Part 21 reports were deemed unreportable after investigating the potential problems.

Insert Comment on TDI

K. NRC INSPECTION ACTIVITIES

1. Construction Inspection

The routine MC 2512 inspection program is approximately 97% complete for Unit 1 and Common, however, an augmented program has been implemented to correspond to licensee final completion inspection. This special program is the key to actual activities of completion and will be on-going until final construction completion.

2. Construction Appraisal Team

a. The Construction Appraisal Team (CAT) performed an inspection of CPSES on January 24-February 4, 1983. Four violations were identified. Details of the inspection are contained in NRC Inspection Reports 445/83-18 and 446/83-12.

b. On June 27-September 16, 1983, a followup inspection to CAT inspection was performed by the Region IV staff. No new violations or deviations were identified. Details of this inspection are contained in NRC Inspection Report 445/83-28 and 446/83-14.

3. Special Inspection

A special inspection to evaluate the licensee's turnover/access control process was conducted of the Fuel Building on May 23-June 10, 1983. Two violations were identified. The details of the inspection are contained in NRC Inspection Report 445/83-23.

4. Preoperational Testing and Operational Preparedness

MC 2513 is directed toward inspection of activities involved in preoperational testing and operational preparedness. These inspection activities may be summarized as follows:

	% Complete	
Preoperational Test Procedure Review	95	
Preoperational Test Witnessing	50	
Preoperational Test Results Evaluation	25	
Operation Staffing	0	
Quality Assurance	80	
Operating Staff Training	75	
Technical Specification Review	100	(Proof & Review copy)
Operational Procedure Review	0	
Radiation Protection	50	
Radwaste	50	
Environmental Monitoring	50	
Emergency Planning	50	
Security	50	

5. Startup Testing

Inspection activities established in MC 2514 define the inspection program for the startup testing phase. Since this program generally starts with fuel loading, the program, except for procedure review, has not begun. The program includes:

QA/QC
Technical Specification Review (complete for "Proof & Review" copy)
Startup Procedure Review
Initial Fuel Load
Precritical Checks
Power Ascension Testing
Initial Criticality/Low Power Testing
Data Review

6. TMI Open Items

Most of the TMI lessons-learned issues were specifically addressed during the FSAR review and appear in "The Safety Evaluation Report," NUREG-0737 and its supplements. These items are being tracked and verified during preoperational testing (MC 2513). The individual items will be inspected and closed out in accordance with the temporary instruction.

7. Allegations

Five allegations specific to CPSES have been received during the last two years, in part due to the public licensing hearings. Several of the investigations of these allegations are on-going at this time.

8. NRR Confirmatory Items (To be verified by Region IV program)

SER Section	Description of Item
5.3.1.2/5.3.1.3	Fracture-toughness properties of Unit 2
5.3.2/5.3.3	Reactor vessel materials (SSER #1 5.3.1.2, 5.3.1.3, 5.3.2, and 5.3.3)
7.3.2.2	Steam generator reference leg temperature compensation and low-low steam generator level setpoint per IE Bulletin 79-21
7.5.4	Confirmation of procedure review per IE Bulletin 79-27
9.1.4	Handling of heavy loads in conformance with the guidelines of NUREG-0612 (SSER) #1 9.1.4)
10.4.5	Protection against flooding of safety-related compartments from a failure in the circulating water expansion joint
9.4.4	Verification that auxiliary building post-LOCA radiation levels will be low enough to permit manual operation of exhaust damper CPX-VADPOC-83

(continued)

SER Section	Description of Item
(continued from previous page)	
22	TMI Action Plan
I.C.2	Shift and relief turnover procedures (SSER #1)
I.C.5	Procedures for feedback of operating experience to plant staff (SSER #1)
I.G.1	Special low-power testing and training
II.B.1	Reactor coolant system vents
II.D.1	Performance testing of BWR and PWR relief and safety valves (SSER #1)
II.E.1.1	Recommendation GL-3: Verification by test of the capability of the turbine-driven AFW pump to operate for 2 hours without AC power
II.E.4.2	Containment isolation dependability
II.K.2.13	Thermal mechanical report - effect of high-pressure injection on vesel integrity for small-break LOCA accident with no auxiliary feedwater (SSER #1)
II.K.2.17	Potential for voiding in the reactor coolant system during transients (SSER #1)
II.K.3.1	Installation and testing of automatic PORV isolation system (SSER #1)
II.K.3.2	Report on overall safety effect of PORV isolation system (SSER #1)
II.K.3.5	Automatic trip of reactor coolant pumps during LOCA
(continued)	

SER Section	Description of Item
(continued from previous page)	
II.K.3.11	Justification of use of certain PORVs (SSER #1)
II.K.3.30	Revised small-break LOCA methods to show compliance with 10 CFR 50, Appendix K
II.K.3.31	Plant-specific calculations to show compliance with 10 CFR 50.46

SSER Section	Description of Item
3.9.6	Periodic leak testing of pressure isolation valves
9.5	Documentation of applicant's commitments on fire protection

L. CONSTRUCTION STATUS

The active systems have largely been completed sufficiently to conduct preoperational tests. Pipe support design and installation remain as major pacing effort at this time. Also, there is a considerable effort in the area of attaining separation in the electrical area. (IEEE 384)

There is also a considerable effort directed to engineering design review of site changes. In conjunction with this effort, site QA is verifying that the changes have been inspected and that proper documentation is available.

M. PREOPERATIONAL TEST RESULTS

The licensee's startup group has determined that the plant will be safe for fuel load when the following systems have been prerequisite/preoperational tested. Not all systems are required to be preoperational tested per NRC Regulatory Guide 1.68, Revision 2.

System	Description	Preoperational *% Complete
01	125 V DC Class 1E Power Systems	50
02	6.9 KV/480v Class IE AC Distribution Systems	85
03	Startup Power Systems	100

(continued)

System	Description	Preoperational *% Complete
04	Service Water System	0 (Retest)
06	Fire Protection/Detection Systems	25
07	Control Room - HVAC System	60
08	Battery Rooms - HVAC System	60
11	Component Cooling Water System	0 (Retest)
12	Communication System	100
22	Sampling System	80
24	Primary Plant Ventilation System	75
29	Diesel Generator and Auxiliaries System	90
31	Safety Chill Water System	100
32	Auxiliary Building - HVAC	100
34	Main Steam System	90
36	Safeguards Building - HVAC System	90
37	Auxiliary Feedwater System	90
39	Diesel Generator - HVAC System	100
40	Fuel Handling and Vessel Servicing Systems	55
41	Liquid Waste Processing System	10
42	Fuel Building - HVAC System	100
44	Steam Generator Blowdown System	50
45	Containment Ventilation System	85
46	Containment Hydrogen Purge System	65
47	Fuel Pool Cooling and Cleanup System	100
48	Containment Spray System	90
49	Chemical and Volume Control System	80
55	Reactor Coolant System	65 (Retest)
56	Boron Recycle System	90
57	Safety Injection System	80
58	Residual Heat Removal System	50 (Retest)
60	Solid Waste Processing System	45
61	Gaseous Waste Processing System	0
64	Reactor Protection System	40
65	Containment Atmosphere Monitoring System	0
66	Nuclear Instrumentation System	0
67	Hydrogen Recombiner System	100
68	Rod Control System	0
70	Radiation Monitoring System	20
73	Protection and Surveillance Package (N-16)	0
74	Movable Incore and Flux Mapping System	90
75	Structural Integrity and Leak Rate Testing	90
78	ERF Computer (SPDS) System	0
80	Seismic Monitoring System	50
81	Cranes and Hoists	50
82	Meteorological Monitoring System	0
91	Loose Parts Monitoring System	100

* 90% indicates the physical testing is complete with the remaining 10% allowed for review and acceptance of test results.

The preoperational test program is 66% complete.

There are, as of October 24, 1983, 16 preoperational tests either in draft waiting review and approval or being drafted. The tests are listed below with their scheduled approval dates:

1CP-PT-01-07	Class IE Emergency DC Lighting (including individual battery pack lighting)	10/24/83
1CP-PT-04-01	Station Service Water	12/06/83
1CP-PT-06-04	Charcoal Filter Deluge	10/03/83
1CP-PT-11-01	Component Cooling Water System Operational Test	01/23/84
1CP-PT-34-01	Main Steam Isolation Valves	10/03/83
1CP-PT-44-03	HELB Mitigation for SG Blowdown Isolation Valve Test	11/14/83
1CP-PT-49-08	Boron Dilution Mitigation	02/06/83
XCP-PT-60-02	Radwaste Solidification System	02/23/83
1CP-PT-64-01	RPS Time Response Measurement	12/19/83
1CP-PT-64-03	Turbine Runback Control	10/31/83
1CP-PT-64-04	Reactor Plant System Setpoint Verification	07/29/83
1CP-PT-64-08	RPS Time Response Summary	11/14/83
1CP-PT-64-10	Safeguards Actuation Relay Test	12/05/83
1CP-PT-66-02	Source & Intermediate Range None Test	01/09/84
1CP-PT-70-02	Report Process System	10/24/83
1CP-PT-74-04	No Title	10/31/83

N. CONCLUSION

The licensee has officially scheduled fuel load for Unit 1 in February of 1984. The assessment of the regional office, based on work to be done and the past progress rate, estimates that fuel load can take place no sooner than June of 1984.

The licensee's Quality Assurance program for design, construction, preoperational, and startup programs appears adequate to assure the necessary confidence level for these programs are attained.

EXHIBIT 3

REPORTABLE SIGNIFICANT DEFICIENCIES

NUMBER	DATE	SUBJECT	DISPOSITION
--	02/04/75	Unit 1 Reactor Building Excavation	Fractured rock removed and replaced with dental concrete and grout.
--	07/24/75	Unit 1 Reactor Cavity Mat (Cold Joint)	Concrete removed; new joint prepared.
--	04/09/76	Unit 1 Containment Mase Mat Coring	Concrete integrity determined acceptable through coring and core holes filled with grout or mortar.
--	09/20/76	SSI Dam Filter "A" Material	Removed nonconforming Filter "A" material other than conforming portions of the dam. Reconstructed dam.
77-4	05/06/77	Weld Defects in Polar Crane Brackets	Rework all similar welds and perform random UT inspection on all other welds.
77-C	07/19/77	Westinghouse AR Relays	All affected contact cartridges replaced with approved relays and torque requirements place on holddown screens.
77-D	09/29/77	Westinghouse Operation of Safeguard Actuation Block/Reset Circuitry	Deficiency identified and corrected prior to receipt at CPSES.
77-B	08/23/77	Design Deficiency in Fuel Building Crane System	Place hold on drawings issued to contractor and redesign support structure to incorporate correct seismic loadings.
79-5	05/22/79	Pipe Wall Thickness May Not Meet ASME Code Stress Requirements	Determine wall thickness by documentation review and/or UT inspection. All Class 1 piping with less than minimum wall will be repaired. All other piping greater than .010" below minimum will be repaired.

NUMBER	DATE	SUBJECT	DISPOSITION
79-6	06/19/79	Electrical Cable Tray Hangers without Full Penetration Welds	After review of 404 cable tray hangers assigned to CB&I 210 are to be reworked per engineering direction.
79-8	11/07/79	Installation of Drilled in Expansion Anchors	Revise procedures to reflect correct installation requirements, identify affected supports, rework as required.
79-9	11/15/79	Installation and Inspection of Welded Conduit Supports	Develop typical engineering drawings and provide additional information on construction travelers. Develop inspection procedures and reinspect supports to provide documentation.
79-10	11/20/79	Class V Pipe Supports	Revise FSAR to delineate requirements for supports, revise specification to clarify quality requirements, develop and implement construction & inspection procedures, reinspect, and rework as necessary.
79-13	12/13/79	Concrete Honeycombs Unit 2 Steam Generator Compartments	Determine defective areas and repair.
80-02	02/22/80	Discs for SW Control Valves	Return to vendor for repair/rework.
80-03	02/29/80	Welded Connection of Control Boards	Review as-built weld configuration and rework as necessary.
80-05	07/02/80	2" Architectural Concrete in Floor Slabs	NCR-M-82-01667 issued against nonconforming bolts.
80-09	09/26/80	Diesel Generator Pipe Supports	Establish compliance to requirements by engineering evaluation. Inspection and rework is required.

NUMBER	DATE	SUBJECT	DISPOSITION
80-10	10/01/80	Hilti Kwik Bolt Installation	Indoctrinate personnel, rework affected supports, and initiate a sampling program of UT examination for Hilti-bolt installation.
81-A	02/17/81	Westinghouse Gate Valves	Modify valves as per Westinghouse Field Change Notices and perform stroking during startup testing.
81-B	03/24/81	Bahnson HVAC Anchor Bolts	Revise Bahnson Procedures to require information on anchor bolts and as-built drawings; reinspect previous installations and document as as-built drawings for post installation design verification. Rework as necessary.
81-03	03/30/81	HVAC Cooling System	Replace existing HVAC system with system meeting new design requirements.
81-06	06/04/81	Seismic Design Criteria for Instrumentation Supports	Evaluate engineering documentation and revise, if necessary, survey-completed installations and rework as required.
81-07	11/19/81	Orifice Plates (BIF) Outside ISA Standard RF3.2 Tolerances	Scrap existing orifice plates and procure new plates from a new supplier with an approved quality program.
82-A	01/22/82	Borg Warner Valves May Not Close Properly if Installed Between 22½° and 157½°	Rework/repair.
82-02	02/25/82	Papco HVAC Fire Damper	Dampers will be cleaned & lubricated, blade locks secure with additional fasteners, damaged closure springs replaced based on testing additional springs added, and large horizontal dampers replaced with multipanel dampers.

NUMBER	DATE	SUBJECT	DISPOSITION
82-06	07/12/82	Linear Indications Diesel Generator	The existing auxiliary skids will be scrapped. The replacement structures will be fabricated at the jobsite. Completion should be no later than September 1984.
82-07	08/12/82	Governor Drive Coupling, Diesel Generator (Part 21 Report of 6/23/82)	Existing drive element to be replaced with new element or more suitable material (neoprene).
82-09	08/18/82	Solid State Protection System Undetectable Failure (Westinghouse 10 CFR 21)	Modify test procedure.
82-15	12/01/82	DeLaval Piston Skirt Castings (10 CFR 21 Report of 10/28/82)	Piston skirt castings will be replaced with castings provided by the supplier. Replacements should be received no later than May 1984.
83-01	01/20/83	Fractured Tack Weld in Check Valve	Valves redesigned to change tack weld to fillet weld. Disassemble valves supplied prior to design change. Inspect valves supplied after design change to ensure correct weld.
83-02	01/25/83	Westinghouse Gate Valves	Modify valves in accordance with manufacturer's recommendations.
83-07	03/10/83	New Fuel Storage Racks	Approved anchor design issued and racks reworked.
83-08	03/24/83	Valves Without Proper Weld Documentation	Scrap existing brackets and replace.
83-09	04/20/83	DS-416 Reactor Trip Switchgear	Replace.

NUMBER	DATE	SUBJECT	DISPOSITION
83-10	05/06/83	Letdown Heat Exchangers	The mounting configuration will be reworked in accordance with the supplier's recommendation. The rework will be completed no later than September 1, 1983.
83-11	05/24/83	CCW System Class V Piping (10 CFR 21 Report of 5/23/83)	Controls added to existing level transmitters and nonsafety-related components upgraded.
83-15	06/14/83	Cable Tray Bolting Support Material	Mild steel bolting material is acceptable for regular cable tray support clamps. Heavy duty cable tray supports clamp material and torque will be verified by site QC.
83-17	07/11/83	Piping Configuration & Relief Valve Settings Spent Fuel Pool Cooling	System modifications will consist primarily of pressure relief valve rework and/or piping reroutes to overt excessive back-pressure.
83-18	07/29/83	Reactor Containment Building Cooling System	The capacity of the cooling system will be increased by reduction of the chilled water temperature and the installation of additional chilled water cooling coils.
83-20	10/20/83	Broken Tack Weld in Westinghouse Supplied 480V Switchgear	Brackets with defective or suspect welds will be replaced.
83-21	11/29/83	Calibration Techniques	To correct the temperature deviation, a revised setpoint (1829 PSIG) will be incorporated into the CPSES I&C Equipment List for pressurizer pressure safety injection. In addition, TUGCO (Operations) I&C will change the bistable setpoints for transmitters PB-455D, PB-456D, PB-457D and PB-458D to correspond to the revised SI actuation setpoint.

NUMBER	DATE	SUBJECT	DISPOSITION
			Regarding the electrical leakage path, the supplier has advised the issue does not warrant immediate corrective action. The transmitters will be replaced or reworked per the manufacturer's recommendations. These modifications will be completed no later than June 1, 1984.
83-22	12/20/83	FSAR Requirements for Control Room Ventilation	Corrective actions will consist of: relocation of chlorine sensors and modifications to provide adequate calibration; reversing power supplies for two chlorine detectors; providing seismic supports for detector power supplies; and, realigning detectors with proper trains for respective control room inlet dampers. Engineering will be completed no later than March 30, 1984. Construction activities should be completed no later than 30 days prior to fuel load.
84-02	01/13/83	Linear Indications in Diesel Generator Welds (Push Rods)	The defective push rods will be removed and scrapped. Replacements have been requisitioned for installation before operation of Unit 1.
84-04	01/16/84	Insulation Degradation on Westinghouse (General Electric) Transformers	The transformers will be returned to the supplier (Westinghouse) for repair by the manufacturer. Repair will consist of: replacing the insulation with material more resistant to abrasion; treating the insulation with hard bonding material; incorporating improved mechanical wedging for the center leg; and hi-pot production tests at 4000V (vs. 2500V) for assurance of dielectric integrity.

NUMBER	DATE	SUBJECT	DISPOSITION
			Reinstallation of the transformers will be completed no later than 30 days prior to fuel load.

Draft

Subject: NTOL Input

1. Chronological

LWA issued October 17, 1974

Ground Break on October 18, 1974

2. NRC Independent Measurements Inspection

The NDE van has been here but the report has not been released. Until we get the report, I don't want to talk about it. on site 25 days - during 83

3. Licensee and Contractor Initiated Stop Work Action

~~Attached is a preliminary list of~~ Contractor Stop Works, ~~a more complete list will be supplied in update letter.~~

4. Construction Deficiency List

~~Attached list provided~~

Data is being compiled - will be added as an addendum to this

5. NRC Inspection Activities

The routine MC 2512 inspection program is essentially complete for Unit 1 and Common however, an augmented program has been implemented to correspond to licensee final completions inspection. This special program is the key to actual activities of completion and will be on-going until final construction completion.

6. Numerous allegations specific to Comanche Peak SES have been received during the last two years, in part due to the public licensing hearings. Several of the investigations of these allegations is on-going at this time.

7. Construction Status

FOIA-87-847 B/11

The active systems have largely been completed sufficiently to conduct pre-operational tests. Pipe suupport design and installation remain as major pacing efforts at this time. Also there is s considerable effort in the area attaining separation in the electrical area (IEEE 384).

Construction Status Cont/

There is also a considerable effort directed to engineering design review of site changes. In conjunction with this effort, site QA is verifying that the changes have been inspecte and that proper documentation is available.

STOP WORK NOTICES

STOP WORK NOTICE NO.	ISSUED TO	ISSUED DATE	SUBJECT	START WORK APPROVAL DATE	DISPOSITION
1	---	---	NOT IN FILE	-----	----
2	Dodd	7/26/75	All Category 1 Concrete Placement	8/1/75	Testing lab to implement their quality program to correct deficiencies and prevent recurrence
3	Dodd	9/3/75	Work on containment liner preclude for radiography	9/4/75	Perform MT examination in lieu of RT on reactor cavity containment lines.
4	Dodd	4/28/76	Off-Loading of volume control tank. Spin #TCX-CSATUC-01, P. O. #546-CAP-212825-BN	4/29/76	Obtain acceptable purchase order
5	Dodd	7/23/76	On site miscellaneous steel fabrication of Safety Related Items	8/3/76	Revise inspection procedure
6	Dodd	7/23/76	On site miscellaneous steel installation of safety related items	7/29/76	Revise inspection procedure
7	Dodd	8/2/76	On site miscellaneous steel fabrication of safety related items	8/2/76	Revise inspection procedure

STOP WORK NOTICES

STOP WORK NOTICE NO.	ISSUED TO	ISSUED DATE	SUBJECT	START WORK APPROVAL DATE	DISPOSITION
8	Gatchell	8/20/76	Receiving Safety Related Mechanical Equipment that Requires Maintenance	9/16/76	Issue procedure for surveillance of maintenance of mechanical equipment.
9	Gatchell	8/20/76	Receiving Safety Related Electrical Equipment that Requires Maintenance	9/16/76	Issue procedure for surveillance of maintenance of electrical equipment
10	Kinkade	11/18/76	R. W. Hunt Calibration Activities which may be Affected by SSR-C-131	2/15/77	Correct deficiencies and restart work based on resurvey.
11	Scott	11/30/76	B&R QC Calibration activities on equipment which could be used for qualifying and acceptance of safety related work	2/14/77	Correct response to surveillance reports and restart after resurvey.
12	Dodd	11/30/76	B&R QC Calibration activities on equipment which could be used for qualifying and acceptance of safety realted work	2/14/77	Correct response to surveillance reports and restart after resurvey.
13	CPSES	1/24/77	Calibration of Optical field Survey Instruments	1/27/77	Correct response to surveillance reports and restart after resurvey

STOP WORK NOTICES

STOP WORK NOTICE NO.	ISSUED TO	ISSUED DATE	SUBJECT	START WORK APPROVAL DATE	DISPOSITION
14	Dodd	7/12/77	All safety related work by Bostrom Bergen in Fresno	8/10/77	Supplier to correct survey deficiencies and be resurveyed.
15	Dodd	7/21/77	All Safety Realted activities at miscellaneous steel fab shop	7/29/77	Provide current drawings, establis procedure to control drawings and audit and correct files.
16	Dodd	7/28/77	Safety Related Construction activities affected by all DC-DDA/s issued to date. B&R must not issue DC/DDA's	8/1/77	Comply with procedural requirement for DC/DDA's and void or revise and reissue DC/DDA's as required.
17	Douglas	1/17/78	All welding associated with ASME activities	1/25/78	Flowmeters and welding machines to be checked for specified output an the checks documented and traceabl to each machine.
18	Bahnson	4/18/78	All Fabrication or Installation of any Nuclear Safety Related Category I items or assemblies	5/10/78	Satisfactory resolution to Surveillance Discrepancy Reports.
19	Douglas	9/15/78	Safety Related Welding	9/5/78	Revise Welder Conformance Qualific tion Log and update QA records to reflect current qualification stat
20	Douglas/ Merritt	10/17/78	Origination, distribution and all work performed to all project CMC's	10/19/78	Revise TUSI & B&R procedures to ad quately describe the method(s) us for the origination, distribution, use of CMC's. Indoctrinate projec personnel.

STOP WORK NOTICES

STOP WORK NOTICE NO.	ISSUED TO	ISSUED DATE	SUBJECT	START WORK APPROVAL DATE	DISPOSITION
21	Douglas	10/23/78	Welding activities in main loop piping	11/15/78	Evaluate welds for acceptability. Investigate cause of unauthorized repairs and take appropriate management action.
22	Douglas	10/30/78	Manual welding activities associated with the main loop piping	11/30/78	Perform analysis of welding materials.
23	Douglas	2/14/79	Welding - ASME on WPS 88023	2/16/79	Requalify procedure
24	Douglas	2/15/79	Welding - ASME on WPS 88021	2/15/79	Evaluate through wall repairs using partial inserts.
25	Douglas	3/22/79	Welding - ASME on WPS 88023		Closed by SWN-26
26	Douglas	4/13/79	Welding - ASME on WPS 88023	4/16/79	Revise WPS-88023 and associated PQR's per requalification request.
27	Douglas	10/26/79	Installation of Sway Strut Assemblies	2/21/80	Design drawing to be included in traveler package, indoctrinate personnel in assembly, and provide inspection criteria.
28	QA/QC & Welding Engineering	11/23/82	Liquid Penetrant Examinations	2/9/83	Recall all penetrant materials and issue approved penetrant.

STOP WORK NOTICES

ISSUED TO	ISSUED DATE	SUBJECT	START WORK APPROVAL DATE	DISPOSITION
Construction	07/26/75	Category 1 Concrete Pours	08/01/75	Testing lab implemented their quality program to correct deficiencies and prevent recurrence
Chicago Bridge & Iron Co.	09/03/75	Work on containment liner which precludes radiography	09/04/75	Performed MT examination in lieu of RT on reactor cavity containment liner.
Construction	12/19/75	Category 1 Concrete Pours	12/22/75	Provided clarification of discrepancies noted on surveillance report
Construction	12/23/75	Concrete Aggregate	12/30/75	Mixed aggregates from several locations to provide a composite aggregate that met requirements
Construction	02/12/76	Category 1 Concrete Pours	Varied with complexity	Planning implemented in accordance with Reg. Guide 1.55
Construction	04/28/76	Off-Loading of volume control tank	04/29/76	Obtained purchase order
Construction	07/23/76	On site miscellaneous steel fabrication on Safety Related Items	08/03/76	Revised inspection procedure
Construction	07/23/76	On site miscellaneous steel installation of safety related items	07/29/76	Revised inspection procedure

ISSUED TO	ISSUED DATE	SUBJECT	START WORK APPROVAL DATE	DISPOSITION
Construction	08/02/76	On site miscellaneous steel fabrication of safety related items	08/05/76	Revised inspection procedure
Construction	08/20/76	Receiving Safety Related Mechanical Equipment that Requires Maintenance	09/16/76	Issued procedure for surveillance of maintenance of mechanical equipment
Construction	08/20/76	Receiving Safety Related Electrical Equipment that Requires Maintenance	09/16/76	Issued procedure for surveillance of maintenance of electrical equipment
R. W. Hunt Co.	11/18/76	Calibration Activities	02/15/77	Established and implemented an acceptable program
Construction/ Quality Assurance	11/30/76	Calibration Activities	02/14/77	Established and implemented an acceptable program
Construction	01/24/77	Calibration of Optical Field Survey Instruments	01/27/77	Corrected discrepancies
Engineering	07/01/77	Design change document legibility	None	Discontinued practice of telecopying design changes
Bostrom Bergen Co.	07/12/77	All safety related work by Bostrom Bergen in Fresno	08/10/77	Supplier corrected survey deficiencies and was resurveyed
Construction	07/21/77	All Safety Related activities at miscellaneous steel fab shop	07/29/77	Corrected document control deficiencies

ISSUED TO	ISSUED DATE	SUBJECT	START WORK APPROVAL DATE	DISPOSITION
Construction	07/21/77	Concreting of embedded anchor bolts in Unit 1 Containment	08/01/77	Established accountability of the anchor bolts
Engineering	07/28/77	On site issuance of field design changes	08/01/77	Established appropriate management controls
Construction	07/28/77	Safety Related Construction activities affected by all field design changes issued to date	08/01/77	Implemented procedural requirements
Construction	08/19/77	Installation of safety related piping	09/09/77	Resolved administrative concern
Construction	01/17/78	All welding associated with ASME activities	01/25/78	Flowmeters and welding machines were checked for specified output and the checks documented and traceable to each machine
Bahnson Service Co.	04/18/78	All Fabrication or Installation of any Nuclear Safety Related Category 1 items or assemblies	05/10/78	Resolved surveillance findings
Construction	08/25/78	Welding of stainless steel materials	Case basis	Established program for closer monitoring of welders to assure procedural compliance
Construction	09/05/78	Safety Related Welding	09/19/78	Revised Welder Conformance Qualification Log and updated QA records to reflect welder qualification status

ISSUED TO	ISSUED DATE	SUBJECT	START WORK APPROVAL DATE	DISPOSITION
Construction/ Engineering	10/17/78	Origination, distribution and all work performed to all project CMC's	10/19/78	Revised procedures to adequately describe the method(s) used for the origination, distribution, and use of CMC's. Indoctrinated project personnel
Construction	10/23/78	Unauthorized repairs in Unit 1 main loop piping	11/16/78	Evaluated welds for acceptablity. Investigated cause of unauthorized repairs and took appropriate management actions.
Construction	10/30/78	Manual welding activities associated with the Unit 1 main loop piping	11/30/78	Performed analysis of welding materials with satisfactory results
Construction	02/14/79	Welding - ASME on WPS 88023 - Question on procedure qualification	02/16/79	Requalified procedure
Construction	02/15/79	Welding - ASME on WPS 88021 - Through wall repairs	02/15/79	Corrected discrepancy
Construction	04/13/79	Welding - ASME on WPS 88023 - Question on procedure qualification documentation	04/16/79	Corrected documentation discrepancy
Construction	10/19/79	Housekeeping in safety-related buildings	10/22/79	Accomplished cleanup and established ongoing program

ISSUED TO	ISSUED DATE	SUBJECT	START WORK APPROVAL DATE	DISPOSITION
Construction	10/26/79	Installation of Sway Strut Assemblies	02/21/80	Design drawing to be included in traveler package, indoctrinated personnel in assembly, and provided inspection criteria
Construction	10/29/79	All Class 1E and associated Class 1E cable pulling activities	12/03/79	Cable pulling lubricant tested and determined to be acceptable
Construction	07/09/80	Fabrication and installation of Class V Pipe Supports	07/25/80	Established and implemented an acceptable program
Construction	07/25/80	Procurement, fabrication and installation of secondary restraints for essential lighting and lighting conduit	01/30/81	Established and implemented an acceptable program
Engineering	08/01/80	Design of small bore pipe supports	09/03/80	Established and implemented an acceptable program
Construction	01/20/81	Epoxy grouting of base plates	09/30/81	Acceptable grout selected
Engineering	01/30/81	Field design changes for pipe supports	02/02/81	Established and implemented appropriate procedural controls
MATSCO	01/15/82	Lack of responsiveness to to QA Audit Deficiencies	05/04/82	Resolved deficiencies
BIF	03/03/82	Nuclear QA Program not implemented by supplier	None	Material scrapped and repurchased from alternate source

ISSUED TO	ISSUED DATE	SUBJECT	START WORK APPROVAL DATE	DISPOSITION
PAPCO	07/19/82	Corrective actions from previous audit not implemented	08/12/82	Resolved discrepancies
Chicago Bridge & Iron	08/10/82	Lack of compliance to specification requirements for pipe whip restraints	08/11/82	Established positive corrective action
Quality Control/ Welding Engineering	11/23/82	Liquid Penetrant Examinations	02/09/83	Recalled all penetrant materials and issued approved penetrant
Bahnson Service Co.	03/08/83	Structural Welding; HVAC Supports	04/27/83	Upgraded inspection program and indoctrinated affected personnel
TUGCO Operations	04/15/83	Audit deficiencies with Instrumentation and and Control Activities	04/19/83	Established positive corrective action

EXHIBIT 3

REPORTABLE SIGNIFICANT DEFICIENCIES

NUMBER	DATE	SUBJECT	DISPOSITION
--	2/4/75	Unit 1 Reactor Building Excavation (Overbreak)	Fractured rock removed and replaced with dental concrete and grout.
--	7/24/75	Unit 1 Reactor Cavity Mat (Cold Joint)	Concrete removed; new joint prepared.
--	4/9/76	Unit 1 Containment Base Mat Coring	Concrete integrity determined acceptable through coring and core holes filled with grout or mortar.
--	9/20/76	SSI Dam Filter "A" Material	Removed nonconforming Filter "A" material and other conforming portions of the dam. Reconstructed dam.
77-4	5/6/77	Weld Defects in Polar Crane Brackets	Rework all similar welds and perform random UT inspection on all other welds.
77-C	7/19/77	Westinghouse AR Relays	All affected contact cartridges replaced with approved relays and torque requirements placed on holddown screens
77-D	9/29/77	Westinghouse Operation of Safeguard Actuation Block/Reset Circuitry	Deficiency identified and corrected prior to receipt at CPSES.
77-B	8/23/77	Design Deficiency in Fuel Building Crane System	Place hold on drawings issued to contractor and redesi support structure to incorporate correct seismic loadings.
79-5	5/22/79	Pipe Wall Thickness May Not Meet ASME Code Stress Requirements	Determine wall thickness by documentation review and/ UT inspection. All Class 1 piping with less than minimum wall will be repaired. All other piping grea than .010" below minimum will be repaired.

REPORTABLE SIGNIFICANT DEFICIENCIES

NUMBER	DATE	SUBJECT	DISPOSITION
79-6	6/19/79	Electrical Cable Tray Hangers without Full Penetration Welds	After review of 404 cable tray hangers assigned to CB& 210 are to be reworked per Engineering direction.
79-8	11/7/79	Installation of Drilled in Expansion Anchors	Revise procedures to reflect correct installation requirements, identify affected supports, rework as required.
79-9	11/15/79	Installation and Inspection of Welded Conduit Supports	Develop typical engineering drawings & provide additic information on construction travelers. Develop inspection procedures and reinspect supports to provide documentation.
79-10	11/20/79	Class V Pipe Supports	Revise FSAR to delineate requirements for supports, revise specification to clarify quality requirements, develop and implement construction & inspection procedures, reinspect, and rework as necessary
79-11	12/13/79	Concrete Honeycombs Unit 2 Steam Generator Compartments	Determine defective areas and repair
80-02	2/22/80	Discs for SW Control Valves	Return to vendor for repair/rework.
80-03	2/29/80	Welded Connection of Control Boards	Review as-built weld configuration and rework as necessary
80-05	7/2/80	Two Inch Architectural Concrete in Floor Slabs	NCR M-81-01667 issued against non-conforming bolts.
80-09	9/26/80	Diesel Generator Pipe Supports	Establish compliance to requirements by engineering evaluation, inspection and rework if required.

REPORTABLE SIGNIFICANT DEFICIENCIES

NUMBER	DATE	SUBJECT	DISPOSITION
80-10	10/1/80	Hilti Kwik Bolt Installation	Indoctrinate personnel, rework affected supports, and initiate a sampling program of UT examination for Hilti-bolt installation
81-A	2/17/81	Westinghouse Gate Valves	Modify valves as per Westinghouse Field Change Notice and perform stroking during startup testing.
81-B	3/24/81	Bahnson HVAC Anchor Bolts	Revise Bahnson Procedures to require information on anchor bolts, as-built drawings, reinspect previous installations and document as as-built dwgs for post installation design verification. Rework as necessary.
81-03	3/30/81	HVAC Cooling System	Replace existing HVAC system with system meeting new design requirements.
81-06	6/4/81	Seismic Design Criteria for Instrumentation Supports	Evaluate engineering documentation and revise, if necessary, survey completed installations and rework as required.
81-07	11/19/81	Orifice Plates (BIF) Outside ISA Standard RP3.2 Tolerances	Scrap existing orifice plates and procure new plates from a new supplier with an approved quality program.
82-A	1/22/82	Borg Warner Valves May Not Close Properly if Installed Between 22½° & 157½°	Rework/repair
82-02	2/25/82	Papco HVAC Fire Damper	Dampers will be cleaned & lubricated, blade locks sec with additional fasteners, damaged closure springs re placed & based on testing additional springs added, & large horizontal dampers replaced with multipanel dm
82-07	8/12/82	Governor Drive Coupling	Existing drive element to be replaced with new eleme of more suitable material (neoprene).

REPORTABLE SIGNIFICANT DEFICIENCIES

NUMBER	DATE	SUBJECT	DISPOSITION
82-09	8/18/82	Solid State Protection System Undetectable Failure (Westinghouse 10CFR21)	Modify test procedure.
83-01	1/20/83	Fractured Tack Weld in Check Valve	Valves redesigned to change tack weld to fillet weld. Disassemble, inspect & repair valves supplied prior to design change. Inspect valves supplied after design change to insure correct weld.
83-02	1/25/83	Westinghouse Gate Valves	Modify valves in accordance with manufacturer's recommendations.
83-07	3/10/83	New Fuel Storage Racks	Approved anchor design issued and racks reworked.
83-08	3/24/83	Valves Without Proper Weld Documentation	Scrap existing brackets and replace
83-09	4/20/83	DS-416 Reactor Trip Switchgear	Replace
83-11	5/24/83	CCW System Class V Piping	Controls added to existing level transmitters and non-safety related components upgraded.