E -7

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TEXAS 76012

II 7.c.(1)

FACSIMILE TRANSMITTAL

DATE/TIME 12-16-85

PRIORITY:
IMMEDIATELY ____
1 HOUR ✓
2-4 HOURS ____

MESSAGE TO S. Phillips

MESSAGE FROM S. Johnson

NUMBER OF PAGES 6 PLUS TRANSMITTAL SHEET

TELECOPY NUMBER ____ VERIFICATION NUMBER ____

CONTACT ____

SPECIAL INSTRUCTIONS/ATTACHMENTS(S)

Here is the input to your report on Protective Coatings. Review and comment if any.

766 input
48 hr. inspection
16 hr. documentation

TRANSMITTED & VERIFIED BY:

NAME DATE

DISPOSITION:
RETURN TO ORIGINATOR ____
PLACE IN MAIL ____
OTHER ____

Protective Coatings

The purpose of this inspection is to determine if the implementation of the protective coatings program since declassification is an adequate program to assure good workmanship quality which enhances integrity of the coating systems.

Procedures/Specification

The NRC inspector reviewed protective coatings procedures and specifications utilized at CPSES to determine if the procedures/ specifications contained adequate technical criteria and instructions to assure accomplishment of important activities.

The coatings procedures have been condense considerably but have more consistency and clarity.

Procedures contained all pertinent inspection attributes and tolerances. The specification basically referenced the procedures or manufacturer's recommendations.

Procedures reviewed by the NRC inspector described the following:

- Qualification and training of personnel who implement the program to ensure quality and workmanship.
- Reinspection of concrete and steel with missing or discrepant documentation.
- Test methods and instructions
- Methods for records to be completed, reviewed, tracked and maintained.
- Adequate inspection attributes
- Hold points
- Acceptance criteria for repair

Procedures reviewed that used coating systems which deviated slightly in milage thickness were approved by the manufacturer.

In summary the review of the protective coatings procedures after the TRT review indicates a more comprehensive instruction which is condense but contains adequate technical criteria and is more stringent than the old procedures in some cases.

No violations or deviations were identified.

Procedures Reviewed

CP-CS-14.2, "Engineering Verification of Protective Coatings Applied to

Steel Surfaces," revision 1, dated 9-25-85

CP-EE-14.3, "Engineering Verification of Protective Coatings Applied to Concrete Surfaces," revision 2, dated 10-22-85

CP-EE-14.7, "Engineering Verification of Concrete Coatings with Missing or Discrepant Documentation," revision 1, dated 10-31-85

CP-EE-14.8, "Engineering Verification of Steel Coatings With Missing or Discrepant Documentation," revision 1, dated 10-31-85

CCP-40, "Protective Coating of Concrete Surfaces," revision 9, dated 6-17-85

CCP-30, "Application of Protective Coatings to Carbon Steel Surfaces Inside Containment," revision 14, dated 6-17-85

CP-EE-14.4, "Completion, Issuance and Control of Engineering Verification Travelers," revision 0, dated 6-13-85

CP-EE-11.1, "Qualification and Training of Coating Field Engineers," revision 0, dated 6-13-85

CP-EE-14.7, "Elcometer Adhesion Testing," revision 0, dated 6-13-85

CP-EE-14.0, "Engineering Verification of Containment Coating Work," revision 0, dated 6-13-85

CP-EE-14.5, "Coating Deficiency Reporting," revision 0, dated 6-13-85

CP-EP-6.2, "Review and Approval of Engineering Procedures for Verification of Protective Coating Work Inside Containment," revision 0, dated 7-01-85

Specification 2323-85-01, "Protective Coatings," revision 4, dated 6-7-85

CP-CP-14.6, "Engineering Verification of Coating Storage and Handling," revision 0, dated 6-13-85

Observation

The NRC inspector observed completed work and work in progress in Unit 2 containment building. The areas observed were the following:

(1) Pressurizer Room #1 (in process final inspection)

(2) Steam Generator Compartments Room 26 and 29 (surface preparation)

(3) Elevation Shaft room 30 (surface preparation)

(4) Room 31, Concrete and Steel liner, approximate azimuth 127 to azimuth 151 54', El 986' to El 905' (final inspection and surface preparation in process)

(5) Fabrication Shop (In process final on miscellaneous steel)

(6) Paint Storage Building

Most of the work observed by the NRC inspector was surface preparation of steel and concrete in process. There was some completed concrete application in room 21 and some in process final application on the steel liner. The NRC inspector observed final application of miscellaneous structural steel at the fabrication shop.

Application and preparation methods observed by the NRC inspector indicated good standard industry practices.

The coating field inspectors were present at the place of the activity or in the immediate vicinity. They were notified by the Craft at various hold points. Craft and field coating engineers observed and interviewed by the NRC inspector appeared to be knowledgeable of what they were doing. It also appears that a good working relationship between coating field engineers and craft personnel exist.

The NRC inspector also observed the paint storage warehouse for proper storage. Temperature control was maintained properly. Shelf lifes of coatings were also controlled and maintained properly.

No violation or deviations were identified.

Procedure

Protective Coatings Paper Flow Group (PFG)

The purpose of the PFG is to establish a method of initiating, preparing, issuing, tracking, logging, and controlling protective coatings travelers and associated supporting documentation for the verification of coatings activities.

The NRC inspector reviewed protective coatings travelers to determine if the records were adequate, complete, legible, easily retrievable and documented in accordance to site procedures. In addition, the NRC inspector compared the completed and in process travelers to the PFG tracking system to determine if the tracking system was accurate. The computer printout is used for the tracking system, listing the traveler number, package number, unit, area code/room number, any outstanding coating deficiency reports and the traveler status.

Records reviewed were legible, easily retrievable and complete in accordance to site coatings procedures. Review of Unit 2 coatings record tracking system by the NRC inspector indicated that the system at DPSES now, is a very reliable and accurate tracking system. The tracking system is updated on a daily basis.

The NRC inspector also reviewed in process travelers in the field. There was one minor isolated discrepancy note in traveler 2-21-0,

however, it was brought to the attention of the foreman to be corrected. The discrepancy was a signature in the wrong block. All other travelers reviewed indicated no discrepancies.

Work packages reviewed:

- 2-21-I
- 2-21-J
- 2-21-H
- 2-21-E
- 2-21-G
- 2-21-D
- 2-21-N
- 2-21-B
- 2-21-AJ
- 2-21-A

* Note: Work packages contained more than one traveler inside.

No violations or deviations were identified.

Training

Coating Field Engineers are qualified in accordance to site procedure CP-QA-14.1, revision 0. ANSI 45.2.6 is no longer applicable since the declassification of protective coatings. However, a beginning coating Field Engineer must have the following qualification requirements:

- Minimum of one and one half (1 1/2) years experience in the inspection and documentation of protective coatings per ANSI 45.2.6 and/or equivalent.
- Shall be physically capable of performing the assigned tasks.
- Shall have natural or corrected near distance visual activity such that they are capable of reading J-1 letters on a standard Jaeger No. 1 Chart.

These inspectors are given classroom instruction on all coating procedures, and a proficiency test for all instrumentation used to perform the inspections. The Coatings Field Supervisor evaluates the proficiency of the inspection on the use of the instruments.

The NRC inspector reviewed approximately eight Coatings Field Engineering records. Coating Field Engineers records reviewed indicated that they were qualified in accordance to site procedures.

Majority of the Coating Field Engineers qualification records reviewed by the NRC inspector indicated that they had been qualified or certified to ANSI 45.2.6 before declassification of Protective Coatings.

The NRC inspector did not review craft (painters) qualifications because during the NRC's review, they stated that the crafts qualifications were adequate.

No violations or deviations were identified.

Calibration

The NRC inspector reviewed calibration records of two Elcometer Adhesion testers and four DFT gauges. Records indicated that the instruments were calibrated at their proper intervals. No discrepancies were noted.

The NRC inspector reviewed two procedures, one for the calibration of the Elcometer adhesion tester and the other for calibration of DFT gauges. Both instruments were calibrated to an accuracy of +/- 10%. The coatings field engineers procedures for minimum adhesion readings for the Elcometer Adhesion tester were more conservative than required.

Documents reviewed

- Procedures

  TEI-15, "Calibration of DFT Gauges," revision 5, dated 3-11-85
  TEI-23, "Calibration of Adhesion Testers," revision 2, dated 2-27-84

- Calibrated testers

  MSTE #[illegible]
  MSTE #[illegible]

- DFT Gauges

  MSTE #[illegible]
  MSTE #[illegible]
  MSTE #[illegible]
  MSTE #[illegible]

No violations or deviations were identified.

Action Required of TUEC (NUREG-0797 Supplement No. 9)

The NRC inspector reviewed the status of actions required by TUEC related to the IRT findings in NUREG-0797, Supplement No. 9, page M-17.

(1) Quality Test Program

The NRC inspector reviewed the data collected for the Elcometer calibration correction to the data for adhesion tests covering miscellaneous steel items in Unit 1 & 2. The data is complete but has not been finalized into report form for submittal to NRC for review.

(2) Traceability

This category deals with NCR's which provide "use as is" dispositions for discrepant coatings materials with inadequate technical justification for the disposition.

The action required for this category has been completed by the licensee and submitted to Mr. Vince S. Noonan, Director of Nuclear Reactor Regulation, dated November 18, 1985, letter TXX-8613 for review.

(3) Coatings Procedures

The TRT found deficiencies in procedures and instruction for coating work and related inspection activities during the construction phase, which rendered them inappropriate or inadequate for determining satisfactory accomplishment of important activities. The TRT also found that the procedure review and approval system was inadequate to detect and correct these deficiencies.

The NRC inspector's review of this category indicates that TULC has revised their coating procedures for the construction phase of Unit 2 and reinspection activities of Unit 1 to include inspection attributes for determining satisfactory accomplishment of important activities. CP-EP-6.2 has been established to assure that procedures and instructions are reviewed and approved by technically qualified individuals to assure consistency and clarity.

Letter TXX-4613, dated November 18, 1985, was submitted to Mr. Vince Noonan, Director of Nuclear Reactor Regulation outlining the coatings surveillance program for operations.

(b) Coatings Exempt Log

TRT requested an updated estimate of additional items to be entered on the exempt log. Unit 2 exempt log is current and up to date. However, Unit 2 will not have as much entered on the exempt log, because if the coating is deficient, it will be reworked or repaired. Unit 1's estimate will be completely entered on the exempt log when the Backfit Test Program [illegible] is complete.

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however, it was brought to the attention of the foreman to be corrected. The discrepancy was a signature in the wrong block. All other travelers reviewed indicated no discrepancies.

Work packages reviewed:

- 2-21-F
- 2-21-I
- 2-21-H
- 2-21-E
- 2-21-G
- 2-21-D
- 2-21-N
- 2-21-B
- 2-21-AJ
- 2-21-L

Note: Work packages contained more than one traveler inside.

~~No violations or deviations were identified.~~

The NRC inspector reviewed 8 training records for who were trained and

Coating Field Engineers are qualified in accordance to site procedure CP-EP-14.1, revision 0. ANSI 45.2.6 is no longer applicable since the declassification of protective coatings, Regardless, a beginning coating Field Engineer must still meet the following qualification requirements:

- Minimum of one and one half (1 1/2) years experience in the inspection and documentation of protective coatings work at a nuclear facility
- Shall be physically capable of performing the assigned tasks.
- Shall have natural or corrected near distance visual activity such that they are capable of reading J-1 letters on a standard Jaeger's Chart.

These inspectors are given classroom instruction on all coatings procedures, and a proficiency test for all instrumentation used to perform the inspections. The Coatings Field Supervisor evaluates the proficiency of the inspection on the use of the instruments.

The NRC inspector reviewed approximately eight Coatings Field Engineering records. Coating Field Engineers records reviewed indicated that they were qualified in accordance to site procedures.

However, the majority of the Coating Field Engineers qualification records reviewed by the NRC inspector indicated that they had been qualified or certified to ANSI 45.2.6 before declassification of Protective Coatings.

The NRC inspector did not review craft (painters) qualification because during the TRT's review, they stated that the crafts qualifications were adequate.

~~No violations or deviations were identified.~~

Q. Operation

The NRC inspector reviewed calibration records of two Elcometer adhesion testers and four DFT gauges. Records indicated that the instruments were calibrated at their proper intervals. No discrepancies were noted.

The NRC inspector reviewed two procedures, ~~one for the calibration of the Elcometer Adhesion tester and the other for calibration of DFT gauges.~~ Both instruments were calibrated to an accuracy of +/- 10%. The coatings field engineer's procedures for minimum adhesion readings for the Elcometer Adhesion Tester is more conservative than required.

Documents reviewed

. Procedures

IEI-15, "Calibration of DFT Gauges," revision 5, dated 3-11-82 and
IEI-35, "Calibration of Adhesion Testers," revision 2, dated 2-27-84

~~Adhesion Tester~~

(M&TE #2741 and
M&TE #2904)

~~DFT Gauges~~

(M&TE #4332,
M&TE #4333,
M&TE #2809, and
M&TE #2923)

No violations or deviations were identified.

2. Action Required of TUEC (NUREG-0797 Supplement No. 9)

The NRC inspector reviewed the status of actions required by TUEC related to the TRT findings in NUREG-0797, Supplement No. 9, page M-13.

(1) ~~Backfit Test Program~~ -

The NRC inspector reviewed the data collected for the Elcometer calibration correction to the data for adhesion tests covering miscellaneous steel items in Unit 1 & 2. The data is complete but has not been finalized into report form for submittal to NRC for review.

(2) ~~Traceability~~ -

This category deals with NCR's which provide "use as is" dispositions for discrepant coatings materials with inadequate technical justification for the disposition.

The action required for this category has been completed by the licensee and submitted to Mr. Vince S. Noonan, Director of Nuclear Reactor Regulation (dated November 18, 1985) in letter (TXX-4613) ~~for review~~.

(3) ~~Coatings Procedures~~ -

The TRT found deficiencies in procedures and instruction for coating work and related inspection activities, during the construction phase which rendered them inappropriate or inadequate for determining satisfactory accomplishment of important activities. The TRT also found that the procedure review and approval system was inadequate to detect and correct these deficiencies.

The NRC inspector's review of this category indicates that TUGCO has revised their coating procedures for the construction phase of Unit 2 and reinspection activities for Unit 1 to include inspection attributes for determining satisfactory accomplishment of important activities. CP-EP-6.2 has been established to assure that procedures and instructions are reviewed and approved by technically qualified individuals to assure consistency and clarity.

TUGCO Letter TXX-4613, dated November 10, 1988, was submitted to Mr. Vince Noonan, Director of Nuclear Reactor Regulation outlining the coating surveillance program for operations.

(4) Coatings Exempt Log

The TRT requested an updated estimate of the number of additional items to be entered on the exempt log. Unit 2 exempt log is current and up to date. However, Unit 2 will not have many items entering the exempt log because coatings deficiencies will be reworked or repaired. Unit 1's estimate will be complete and entered on the exempt log when the Hackett Test Program data is complete, an estimate will be entered into the exempt log.

No violations or deviations were identified.

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FILE NAME : REPORT.14
HVAC AUDIT

DECEMBER 28, 1985

There are no problems with the audit trail from hardware to documentation. More work can be performed on this audit in the area of assembly, weld, and component documentation.

During the audit, HVAC components in Unit 2 were inspected for identification markings which were a permanent part of the component. These markings or (identification from a drawing) drawing component identifications were then used to identify unique documents which traced the component markings to test reports and other documentation which described how that component was manufactured.

The CPSES does not have Safety Class 1, Seismic Category I HVAC components. The highest classification is Safety Class 2, Seismic Category I.

The components inspected during this audit are part of the Reactor Containment Boundary. They are passive components which serve to contain any radioactive materials which can become airborne during abnormal reactor operations.

The following identifies the contents and backup material in attached REPORT.101:

1. Appendix A documents and identifies the areas in the HVAC systems where the CPRT effort and Inspection Module [illegible] overlapped. The overlap is in the inspection of As Installed Equipment. The equipment is:

   Seismic Support for Ductwork
   Ductwork
   Isolation Dampers
   Fans and Motors
   Filters

2. Appendix B documents the Safety Classifications and Seismic Categories of the HVAC system. All components and equipment are of Safety Class 2, Seismic Category I or less.

3. Appendix C documents the field audit of the components on the inside and outside of five penetrations which are part of the Reactor Containment Boundary.

4. Appendix D documents the Audit Trail from the Unit 2 Reactor Containment to the Unit 2 Document Control Center. A total of seventeen items are traced to their respective documents.

The remaining audit items are pipe and weld identification which was documented in the field. The Unit 2 DCC computer was down on the last day, 12/28/85, I was on site, so these items could not be traced.

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FILE NAME: REPORT.10
HVAC AUDIT

DECEMBER 28, 1985

APPENDIX A

The audit began with a review of Inspection Module 50100, from the Inspection and Enforcement Manual. The NRC is also performing and audit of the work being performed as a result of the CPRT. A review of this audit was performed using the following documents;

ERC QA/QC-RT-859
ERC QA/QC-RT-981
QI-023 Rev 1
QI-024 (This document was not available as of 12/23/85)
QI-035 Rev 0
QI-036 Rev 0
QI-039 Rev 0
QI-040 Rev 0

The review was undertaken to determine how much of the work performed by the CPRT audit could be applied toward credit in the performance of IP module 50100.

Specific statements of audit instructions in the module were identified and documented. A search for similar statements in the ERC Instructions was then made to determine where credit for the module audit can be taken from the NRC audit of the CPRT. The following table identifies where the two aunits overlap.

I E MANUAL

50100-024c In this paragraph the following table identifies where the procedure overlaps the NRC audit.

Manual Parag Item	Locat	Config	Ident	CPRT Audit Items
c.1	yes	yes	no	QI-035, Rev 0, 5.1.A, 5.2
c.2	yes	yes	yes	QI-039, Rev 0, 5.1
c.3	yes	yes	yes	QI-023, Rev 1, 5.1, 5.2, 5.3
c.9	yes	yes	yes	QI-023, Rev 1, 5.1, 5.2, 5.3
c.12	yes	yes	yes	QI-023, Rev 1, 5.1, 5.2, 5.3

APPENDIX B

The following statements are from the FSAR, and are used in this audit to establish which HVAC items or components are Safety Class 1 and Seismic Category 1.

A. Control Room HVAC and filtration systems equipment rooms

1. page 9.4-2, The system is equipped with four modular air-conditioning units. Each pair of air-conditioning units is powered from an independent Class 1E bus and is physically separated by a dividing fire wall...
2. page 9.4-3, All dampers are set to fail in the safe position or are provided with separate, bottled air supplies for emergency operation.
3. page 9.4-3, All control valves and dampers are equipped with manual operators at accessible locations ...
4. page 9.4-3, System components and ductwork are of seismic Category I and ANS Safety Class 3 design ...

B. Spent Fuel Pool Area Ventilation System

1. page 9.4-13, emergency fan coil units are located in the spent fuel pool cooling pump room ...
2. page 9.4-13, emergency fan coil units are supplied with chilled water from the safety-related chilled water system.
3. page 9.4-14, Each emergency fan coil unit is interconnected with the same Class 1E bus as the equipment it serves.
4. page 9.4-17, The Fuel Building air exhaust ductwork is ANS Safety Class 3 and seismic Category I.
5. page 9.4-17, The emergency fan coil units, which are located in the safety related pump rooms, are seismic Category I and ANS Safety Class 3.

C. Auxiliary Building and Radwaste Area

1. page 9.4-18, The ductwork layout is arranged so that in areas where airborne radioactivity may be present, airflow is directed from areas of lower potential radioactivity toward areas of higher potential radioactivity.
2. page 9.4-19, Each emergency fan coil unit is interconnected so that it starts with the equipment it serves.
3. page 9.4-21, The exhaust system is seismic Category I up to the fan discharge.
4. page 9.4-21, The air supply system is seismic Category I except for the fans and the dampers which are seismic Category II.

D. Engineered Safety Features Ventilation System

1. page 9.4-27, At least one ESF exhaust fan is automatically energized from its Class 1E bus following a LOCA; ...
2. page 9.4-27, ... each of the pump compartments is equipped with emergency fan coil units ... which is powered from the same Class 1E buss as the equipment it serves.

3. The auxiliary cooling units are supplied with chilled water from the safety-related chilled water system ...
4. page 9.4-29, The exhaust system, cooling units, and safety features chilled water system are of seismic Category I and ANS Safety Class 3 design.

E. Containment Ventilation Systems

Containment Recirculation and Cooling System	CRCS
Control Rod Drive Mechanism Ventilation System	CRDMVS
Neutron Detector Well Cooling System	NDWCS
Containment Process Filtration	CPF

1. page 9.4A-1, CRCS Post DBA cooling is provided by the Containment Spray System.
2. page 9.4A-4, CRCS Containment Recirculation fans are provided with a connection to the Class 1E Buses ...
3. page 9.4A-4, CRCS Monitors consist of air temperature, humidity, and pressure...
4. page 9.4A-10, The systems inside the Containment are seismic Category II.
5. page 9.4A-10, Penetrations are ANS Safety Class 2 and Seismic Category I.
6. page 9.4A-10, Exhaust air is passed through iodine adsorber beds prior to its discharge.

F. Diesel Generator Building Ventilation System

1. page 9.4C-1, The system is seismic Category I and ANS Safety Class 3.
2. page 9.4C-1, The fans in each diesel generator compartment start automatically on receipt of diesel generator start signal.
3. page 9.4C-2, Fans are powered from the same safety-related electrical bus as the diesel that is being ventilated.

G. Uninterruptable Power Supply and Distribution Rooms Air Conditioning Systems

1. page 9.4C-9, The air conditioning system is comprised of two 100% capacity self-contained air-conditioning units located in adjacent rooms that are physically separated by a dividing fire wall.
2. page 9.4C-9, The redundant A/C units are powered from independent Class 1E buses.
3. page 9.4C-1, The UPS and Distribution Room A/C system is ANS Safety Class 3 and Seismic Category I.

H. From Appendix 17A of the FSAR, the following statements in TABLE 17A-1 are made for components of Safety Class 2 (there are no Safety Class 1 components listed for HVAC, however, the HVAC panels in the control room are Safety Class 1E):

Items 8, 22f, and 22g. Piping and valves of all systems penetrating the containment are Safety Class 2, Seismic Category I. The QA requirements are: (NOTE 26) Meets quality assurance requirements as set forth in Gibbs & Hill spec. 2323-GS-903, Rev

1, QA for Procurement of Materials and Equipment, which satisfies requirements of 10CFR50, Appendix B, and (NOTE A) an Operations QA Program will be implemented which satisfies applicable requirements of Regulatory Guide 1.33, Rev. 2, "Quality Assurance Program Requirements (Operations). Other requirements include (NOTE 13b) Generic Analysis dynamic method and (NOTE 13d) testing method will be used for seismic qualification (see Section 3.7).

Item 9b, Hydrogen Purge System Exhaust filter units are Safety Class 3, Seismic Category I. See NOTES 26 and A. Also the method of testing (NOTE 13c) used fro seismic qualification is the Static method or equivalent static method using dynamic load factors.
Item 9b, Hydrogen Purge System Exhaust ductwork, supports & dampers outside containment are Safety Class 3, Seismic Category I. Meets quality assurance provisions of Brown & Roots' Quality Assurance Program (see FSAR Section 17.1.1.3), which satisfies requirements of 10CRF50, Appendix B. Also see NOTE A and NOTES 13c and 13d.

Item 17, Diesel Generator Combustion Air Intake and Exhaust System Piping and Valves outside Scope of Diesel Gen Mfr. are Safety Class 3 and Seismic Category I. (NOTE 13a) Seismic qualification is by the Individual Analysis dynamic method. See NOTES 26, A, and 13c. The Supports for Class 3 piping are also Safety Class 3, Seismic Category I. This is to meet pertinent portions of the QA criteria set forth in 10CFR50, Appendix B as defined by the specification. Component supports are designed in accordance with ASME B&PV Code, Section III, Class 3 but fabricated to AISC-1970. See also NOTES 13a and A.

Item 23c, Control Room HVAC panels are Safety Class 1E, Seismic Category I. See NOTES 26, A, 13c, and 13d.

I. NUREG-0797

NUREG-0797, Supplement No. 8, SER, Civil, Structural, and Misc, page K-137, "FSAR volume IV, Section 3.2, Classification of structures, Components and Systems, states that part of the containment ventilation system is seismic Category I; however, FSAR Volume XIV, Section 17.0, Appendix 17A, list of Quality Assured Items, states that the containment ventilation system is seismic Category II and nonsafety related with the exception of the containment purge exhaust ductwork, supports, debris screen, and isolation valves, which are seismic Category I. Only the isolation valves, which are safety and code class 2, are safety related and seismic Category I.

The TRT determined that the entire containment ventilation system is nonsafety related, except for the isolation valves referenced above. None of these nonsafety-related systems is necessary for the safe shutdown of the reactor or to prevent or mitigate the consequences of accidents or malfunctions in the reactor coolant pressure boundary.

APPENDIX C

Two drawings were used for the audit; 2323-M2-0301 Rev. CP-4, and 2323-M2-0502 Rev.1. Drawing number M2-0502 was used to locate the Unit 2 Containment Penetrations. From Drawing 2323-M2-0301, Rev CP-4, the containment penetration numbers for the main air ducts are as follows:

PENETRATION NUMBER	LINE NUMBER	FUNCTION
M III - 18	12-VA-2-01-151-2	H2 PURGE SUPPLY
M III - 19	12-VA-2-13-151R-2	H2 PURGE EXHAUST
M V - 1	48-VA-2-902-152-2	CONT PURGE SUPPLY
M V - 2	48-VA-2-901-152-2	CONT PURGE EXHAUST
M V - 14	18-VA-2-900-152-2	CONT PRESS RELIEF

These Unit 2 penetrations and their attached valves and pipes were inspected on 12/26/85 and 12/27/85. The valves and pipes identified here are part the containment boundary; i.e. they are the first barriers on the inside and outside of the containment penetration. The following information was recorded during that inspection.

Visually verified

*

PENETRATION	INSIDE CONT	OUTSIDE CONT
M III 18	Could not reach these valves as the scaffolding had been removed. From the DWG. 2HV 5543 2HV 5563	These numbers are from a valve. 9144-03-07-03 2HV 5542 These numbers are from a pipe. VAXAB 03 M III 18 These numbers are from a valve. 2VA 001 GF 074 Serial no. H 2012-1 Lot no. These numbers are from a pipe. The main pipe HT F81200 MR 31486 These numbers are from a pipe. 3/4 inch pipe HT 405447 MR 16154 These numbers are from a pipe. Weld-o-let 12-6x3/4 3M 501 ? 1F 37 BH ?
M III 19	These numbers are from a valve.	

9144-03-07-03
14759-1A
These numbers are from a valve.
9144-03-07-03
14759-1B
These numbers are from a Y pipe.
HT 26278
MR 092555
These numbers are from the drawing.
2HV 5541
2HV 5562
12 VA-2-13-151R-2

These numbers are from a valve.
14759-1C
9144-03-07-03
This number is from the drawing.
2HV 5540
These numbers are from a valve.
VA-X-AB-004A
AF 083 Serial no.
H2012-1 Lot no.
This number is from the drawing.
2VA 002

M U 2

These numbers are from a valve.
48-9134-05-07-03
14759-3C
This number is from the drawing.
2HV 5539

These numbers are from a valve.
14759-3D
48-9134-05-07-03
This number is from the drawing.
2HV 5538

M U 14

These numbers are from a valve.
14759-2A
2HV 5549

These numbers are from a valve.
14759-2B
2HV 5548
These numbers are from a valve.
2VA 005
AD 213 Serial no.
H1820-1 Lot no.

M U 1

These numbers are from a valve.
2HV 5537
14759-3A

These numbers are from a valve.
2HV 5536
14759-3B
These numbers are from a valve.
TB 307
AD 219 Serial no.
H1826-1 Lot no.
This number is from the drawing.
2VA 003

APPENDIX D

This appendix is the audit paper trail from the Construction Document Control Center. The valve numbers and Penetration number were entered into the computer. With these numbers, the computer identified the Receiving Inspection Report Numbers (RIR). The computer also identified some of these values as non-Q. The RIR was then retrieved from the files and inspected for content and number cross referencing. One valve number (2HV 5548) was not listed by the computer. The serial number for this valve 14759-2B, was entered into the computer to identify the RIR.

PENETRATION NO.	VALVE	RIR	P.O.	SERIAL NO.
M III 18	2HV 5543	12191	CP 0086	14759-1B
	2HV 5563	12191	CP 0086	14759-1E
	2HV 5542	12191	CP 0086	14759-1F
	2VA 001	9579	CP 0020A.1	AF 074
		H 2012-1 Lot no.		
M III 19	2HV 5541	12191	CP 0086	14759-1A
	2HV 5562	12191	CP 0086	14759-1B
	2HV5540	12191	CP 0086	14759-1C
	2VA 002	9579	CP 0020A.1	AF 083
		H2012-1 Lot no.		
M U 2	2HV 5539	12191	CP 0086	14759-3C
	2HV 5538	12191	CP 0086	14759-3D
M U 14	2HV 5549	12191	CP 0086	14759-2A
	2HV 5548	12191	CP 0086	14759-2B
	2VA 005	08565	CP 0020A.1	AD 213
		H1826-1 Lot no.		
M U 1	2HV 5537	12191	CP 0086	14759-3A
	2HV 5536	12191	CP 0086	14759-3B
	2VA 003	08509	CP 0020A.1	AD 219
		H1826-1 Lot no.		

For selected pipes;

M III 18		08565	CP 0074	802252/14

The computer was down so I could not cross the Heat numbers to the RIR's for the pipes.

The RIR package contents consisted of the following;

RIR-8509, PO-CP 0020A.1, Lot Number-H1826-1

Page 1 - Certified to conformance
1. Fluid flow +/- 15% of published values
2. No visible leakage

Page 2 - Wall thickness inspection

Page 3 - Final acceptance plan
Manufacturers data report
Final acceptance plan

Serial nos & traceability report
Wall Thickness
Certs Reference list

Page 4 - Requirements check list
4 inspection categories

Page 5 - Cleaning, Assembly, Hyd-o, Tagging, Packing, Shipping

Page 6 - Code conformance

Page 7 - Valve serial no. list/ body, bonnet, etc.

RIR-9579, PO-CP 0020A.1, Lot Number -H2012-1, is similar to the above listing for RIR-8509

RIR 8565, M III 18

This package looks complete, the receiving check-list does not have non-conformances, 70368--037.

RIR 12191, RIR 13110, RIR 13186, RIR 13187

These RIR packages contained the following;

Receiving Check-List
Drawings
QA check-list
Doc. Package
Drawings
Order Spec Sheet
Material Traceability List
Body Mill Test Report (MTR)
Disc MTR
Stem MTR
Disc Pin MTR
Gasket Retainer MTR
Gasket Retainer Bolts Certs
Filler Metal Test Report
Manufacturers Cert Material Test Report
Cert of Compliance
Liquid Penetration TR
Weld Repair Report
Body Radiographic Report
Wall Thickness Measurement Report
Final TR
Cleaning Cert
Cycle TR
ASME Data Report
Assembly Shop Traveler

#7a.16)

E -5

FILE NAME: REPORT.16
HVAC Summary
Reference: Report.14, IE Modules 50100

JANUARY 13, 1986

The HVAC system at CPSES is not classified as Safety Related. The highest classification is Safety Class 2, Seismic Category I. This classification is assigned to the HVAC system valves and penetrations which are part of the Reactor Building Containment Boundary. Inspection Module Procedure 50100 - 24c, item 3, configuration, identification, and damage.

4

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TEXAS 76011

76(3)

FACSIMILE TRANSMITTAL

DATE/TIME: 1-22-86

PRIORITY:
Immediately X
1 Hour ____
2-4 Hours ____

MESSAGE TO: S. PHILLIPS

MESSAGE FROM: P. MICHAUD

NUMBER OF PAGES: 2 PLUS TRANSMITTAL SHEET

TELECOPY NUMBER: 817-897-3112 VERIFICATION NUMBER: ____

CONTACT: ____

SPECIAL INSTRUCTIONS/ATTACHMENT(S):

Transmitted & Verified by:

NAME ____ DATE ____

DISPOSITION:
Return to Originator ____
Place in Mail ____
Other ____

E-6

#7 b(1)

I/P 50090
Safety Related Pipe Supports and Restraint Syste

Section 021 - QA Implementing Procedures
Reviewed selected portions of the CPSES QA Manual and the CPSES ASME Quality Assurance Procedures/Instructions for conformance with the requirements of this section and found no items of non-compliance. Did not review design and procurement documents QA procedures per item c of this sectio

Ref. 1. CPSES QA Manual (Brown & Root, In
a. Sec. 16.0, Rev. 16 Nonconforming Items
* b. Sec. 19.0, Rev. 8 QA Audits
* c. App. 1.0, Rev. 3 Evaluating and Reporting of Defects, Noncompliances, and Deficiencies.

2. ASME QA Procedures/Instructions (Brown & Root, Inc - CPSES)
* a. CP-QAP-2.1, Rev. 12 Personnel Training and Qualification
b. CP-QAP-11.1, Rev. 8 Fabrication and Installation Inspection of Component Supports and Piping
c. CP-QAP-11.1-28, Rev. 34 Fabrication and Installation Inspection of ASME Component supports (Class 1, 2 and 3

* indicates only selected portions of these documents were reviewed

Section 022 – Work Procedures

Did not review work procedures specifically, only completed work packages and in-process work packages which will be detailed in another section

Section 023 – Observation of Work and Work Activities

Interviewed three individuals performing installation of an anchor support for containment spray piping in the Safeguards Bldg. Witnessed welding of the support (including preheat) and Torquing of baseplate anchor bolts. Reviewed the work package being used, including drawings. No deficiencies were noted.

Interviewed two individuals installing HILTI anchor bolts in containment. Witnessed entire installation and reviewed work package – no deficiencies noted. This was a non-safety related item, though, and cannot be included under this module.

Inspected a total of 24 pipe supports ~~in~~ the Safety Injection system piping. Of these, Two were large bore spring hangers, One small bore snubber, one large bore snubber, ~~two~~ equipment snubbers, eleven small bore restraints, and seven large bore restraints. Several discrepancies were noted. However, QC has not performed their inspection of these supports, and hence installation can not be considered complete so no findings can be filed at this time. The discrepancies found were generally insufficient clearance or a departure from the design drawing. The basic design of the support systems examined appeared to be adequate. Those supports found to have items of concern will be examined later, after work package completion, to determine whether a nonconforming condition does exist.

Section 024 - Review of Records

Reviewed seven safety related pipe support documentation packages, including records of materials, welding, QC inspection,

reinspection. The items of nonconformance were generally for dimensions slightly out of tolerance (i.e. Hilti bolt min. spacing). All NCR's appeared to be dispositioned properly.

comment – Although I had some reservations concerning the number of NCR's and the time/process involved in dispositioning item, a check of their background indicated all NCR's I examined were in fact justified.

The remainder of this module will be completed [redacted] later.

If you have any questions or need further information – please call me at 860-8243

Paul

#7 b.(2)

1

The NRC inspector
Inspected a total of 24 pipe supports in the Safety Injection system piping. Of these, Two were large bore spring hangers, one small bore snubber, one large bore snubber, two equipment snubbers, eleven small bore restraints, and seven large bore restraints. Several discrepancies were noted on the following supports: However, QC has not performed their inspection of these supports, and hence installation can not be considered complete so no finding can be filed at this time. The discrepancies found were generally insufficient clearance or a departure from the design drawing. The basic design of the support systems examined appeared to be adequate. Those supports found to have items of concern will be examined later, after work package completion to determine whether a nonconforming condition does exist.

Note 1 * See P. Mischaud numbers

~~tion 024~~ – Review of Records

Note 2

The NRC inspector
Reviewed seven safety related pipe support documentation packages (support numbers) including records of materials, welding, QC inspection, & Nonconformance Reports ...

Note 2 See numbers or f.o.t. * *

New ¶

reinspection as follows: The items of nonconformance were generally for dimensions slightly out of tolerance (i.e. Hilti bolt min. spacing). All NCR's appeared to be dispositioned properly.

comment – Although I had some reservations concerning the number of NCR's and the time process involved in dispositioning them, a check of their background indicated all NCR's examined were in fact justified.

The remainder of this module will be completed ~~in [illegible]~~ later.

If you have any questions or need further information — please call me at 860-8243

Dave

No violation, or deviations were identified

Supports with design changes or discrepancies which must be re-examined once design package and work on them is complete:

Note 1. Please place these numbers after the sentence "on the following supports:"

See page 18 *

H-SI-2-SB-020-1-2 ✓ 3-2
-3- ✓
-5- ✓
-6- ✓
-8- ✓
-10- ✓
-11- ✓
-12- ✓

H-SI-2-SB-019-1-2 ✓
-3- ✓
-4- ✓
-5- ✓

SI-2-039-401-522R ✓
SI-2-039-404-522R ✓
SI-2-039-406-522R ✓
SI-2-044-401-522R ✓
SI-2-070-404-522R ✓
SI-2-070-405-522K ✓
SI-2-070-406-522R ✓

Safety Related Pipe Support Documentation Package and VCR review

insert numbers on page 19

** RH-2-SB-029-001-2 ✓
CT-2-038-402-C52R ✓
CS-2-RB-072-702-1 ✓
CC-2-091-713-A63R ✓
MS-2-150-448-C52K ✓
H-CS-2-RB-021-712-1 ✓
H-SI-2-RB-058-701-2

TEA 766
Time charged by P. Michaud
to 50090 for week of 12-9-85

23 Hrs

#1.d. E -8

Dec. CP 85 18.

Observation of Electrical Installation Activities

During this reporting period the NRC inspector observed two safety-related cable termination activities. The first termination activity observed was a termination of a Train A (orange cable) in a junction box in containment; the second was the termination of two Train B (green cables) in a motor control center (MCC) in the green switchgear room.

In-process work observation was performed to verify that: the latest drawings and termination cards are being used; the cables are protected from damage from nearby construction activities; that proper separation is maintained; segregation of power, control and instrument cables is maintained; cable identification is preserved; bending radius is maintained; cable entry point is acceptable; tools requiring calibration are in good repair and properly calibrated; connection tightness is [illegible] terminations are of the correct type and properly located; junction boxes, MCC's and switchgear are free of debris; QC activities are performed at the times specified; nonconformances are identified and resolved in accordance with procedures; and installation and inspection activities are being documented during the in-process work activity. Terminations of two types were observed. One required terminal lugs, the other did not. The attributes specific to the termination type in addition to those attributes common to both were inspected. Cable numbers and termination points were; Cable No. E02199710, termination point junction box (JB) 2C245 in containment and Cable Nos. EG213268, AG213254 termination point

6

CP2-EPMCEB-06 in the green switchgear room. The NRC inspector verified that all pertinent requirements had been met.

No violations or deviations were identified.

McCloskey I' INFORMATION NOTICE
GENERIC LETTER

#7 a. (1)

FILE NAME: REPORT.13 December 20, 1985

This file summarizes the audit of the IE Information Notice and Generic Letter files that TUGCo maintains. The audits were performed to IE Manual Inspection Procedure 92717-02 and 92703-02.03. These TUGCo files are in the care of Dean Palmer, Industry Operating Experience Coordinator.

IE INFORMATION NOTICE AUDIT

IDENT	NOTICE RECEIVED	REV FOR APPLIC-ABILITY	DISTRI-BUTION	CORRECTIVE ACTION	SEE NOTE
85-22	yes	yes	yes	yes	A
85-04	yes	yes	yes	none	
85-56	yes	yes	yes	yes	B
85-33	yes	yes	yes	no	C
85-34	yes	yes	yes	no	D
85-35	yes	yes	no	N/A	E
85-36	yes	yes	yes	none	

NOTES:

A - Revision to maintenance procedures to include verification that the pinion gear is not reversed - by 9-1-85, Bill Dockey, 7-2-85, Maint. Engr.

B - Chemistry layup program defined in TIM - 850907, Bob Delano, ext 5246. Data sheets use to document program:
RHR HEAT EXCH Tubes - Hydrazine & LiOH
Shell - Comp Cooling Water
DIESEL GEN WATER JACKET
Tubes - Cl Service Water
Shell - Sodium Nitrite
SAFETY INJECTION SYS - Dry Open to Atmosphere

C - An NRC CAT inspection at several sites identified that undersized nozzle to shell welded joints in tanks & heat exch existed. Originally sent to R. Baker 5/16/85 for action. As of 7/19/85, no action by Baker. he questions IOER's existence. Plamer sent him another copy 7/19/85.

D - Stress corrosion cracking of PASS, sent to Doug Davis on 5/21/85. reply on 8/25/85, by Maint Eng, Want more verification from Tech Support that these conditions could exist.

E - NRC auditor agrees that the No's are appropriate.

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GENERIC LETTER AUDIT

In this audit, all (about 15) the Generic Letter folders were opened and briefly read to understand the general thrust of the NRC letter. Two folders were reviewed for content, 83-11 and 83-16. Both files contained documentation to show that the letter was reviewed by TUGCo Engineers and was distributed to the appropriate TUGCo personnel. The other audit items identified by Inspection Procedure 92703-02.03 did not apply to these letters.

Generic Letter 83-11 identified an NRC concern that users of Safety Analysis Codes (RETRAN, RELAP, TRAC, etc, ...) must understand and perform code certification prior to performing site specific analysis. Randy Janne, TUGCo Nuclear Fuels, was contacted about the letter. He stated that W & EXXON will perform the Safety Analysis for the first five cycles. TUGCo intends to develop the expertise.

Generic Letter 83-16 discussed the SALEM ATWS. The engineering review included a discussion with training which identified that the SALEM scenario was part of the course work for TUGCo trainees.

The NRC auditor noted that Licensing appears to be the receiver of correspondence from the NRC. They then distribute (unknown how distribution is determined) the material to Ted Jenkins group, Superintendent, Operations Support. The NRC material is then split into two categories, responses not required (Dean Palmer) and rezponses required (Roy Cisneros). These groups then perform an engineering review on the material, determine its significance, determine where it should be distributed and who should provide the response (if required). As a follow up, the appropriate TUGCo personnel are then contacted by phone to determine if the issues have been resolved or whether questions remain. These actions are documented in the files reviewed by the NRC inspector.

#6

E -

V Draft #1
Handwritte

APPENDIX Q

CONSTRUCTION INSPECTION REPORT

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-445/85-~~11~~ 18
50-446/85-~~11~~ 15

Permit: CPPR-126
CPPR-127

Dockets: 50-445
50-446

Category A2

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

Facility Name: Comanche Peak Steam Electric Station (CPSES), Units 1 and 2

Inspection At: Glen Rose, Texas

Inspection Conducted: ~~December~~ 1-31, 1985

Inspectors:

W. S. Phillips, Senior Resident Reactor Inspector (~~SRRI~~), Construction, Region IV CPSES Group (paragraphs 1, 2, 3, 4, 5, 6, 9, 10) — Date

C. E. Johnson, Senior Resident Reactor Inspector, Construction, Region III, South Texas Project (paragraph 7) — Date

P. W. Michaud, Reactor Inspector, Region IV (paragraph 10)

D. L. Kelley, SRRI, Operations, Region IV CPSES Group (paragraph ~~8~~ 11) — Date

D. E. Norman, Reactor Inspector Region IV CPSES Group (paragraph 7) — Date

Single lines please

9

Consultants: EG&G - J. H. McCleskey
Parameter - T. H. Young

Reviewed by: _____
I. Barnes, Group Leader, Region IV CPSES Group Date

Approved: _____
T. F. Westerman, Chief, Region IV CPSES Group Date

Single line please

Inspection Summary

Inspection Conducted: December 1-31, 1985 ((Report 50-445/85-18)

Areas Inspected: Routine, unannounced inspections of Unit 1 which included plant tours, applicant actions on construction deficiencies, applicant actions on previous NRC inspection findings, ~~and storage and handling of QA records~~. The inspection involved ___ inspector-hours onsite by 2 NRC inspectors and 1 consultant.

Results: Within the four areas inspected, no violation or deviation, were identified.

Inspection Conducted: December 1-31, 1985(Report 50-446/85-15)

Areas Inspected: Routine, announced and unannounced inspections of Unit 2 included plant tours; applicant actions on construction deficiencies; previous inspection findings; ~~storage, protection, and~~ of QA records; audit of QA records; welding material control, and ~~e~~ cable tray/equipment walkdown. The inspection involved ___ ~~in~~-hours by 4 NRC inspectors and 1 consultant.

Results: Within the seven areas inspected, no violations or deviations were identified.

DETAILS

Move to next page

1. Persons Contacted

~~Applicant~~

~~TUGCO~~ Personnel

J. Merritt, Assistant Project ~~X~~ General Manager
P. Halstead, Manager, Quality Control (QC)
C. Welch, QC Supervisor
F. Madden, TUGCO Nuclear Engineering (TNE) Mechanical Engineer
L. Hart, Quality Assurance (QA) TNE Electrical
P. Stevens, TNE Electrical Engineer
D. Palmer, Industry Operating Experience Coordinator

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

V

2. Applicant Action on Previous NRC Inspection Findings, Unit 1 and 2

(Open) Unresolved Item, 445/8514-U-02 and 03; 446/8511-U-01 and 02; and 445/8516-U-01; 446/8513-01; Procedures did not address construction deficiency file content; ~~and~~ incomplete and TUGCO commitment to review. QA record files; The NRC inspector continued this inspection by following up on these items during this inspection period. TUGCO ~~was~~ is still working on this item and anticipates completing the review and taking necessary action to improve the current system by March 1, 1985.

(Open) Unresolved Items 445/8516-U-02 and 03; 446/8513-U-02 and 03: IE Bulletin Procedure did not address construction responsibilities, corrective actions, and reopening of IE Bulletin files for 79-14 and 79-28. The NRC inspectors continued this inspection by following up on this item. TUGCO is working on improving the IE Bulletin system and has named a new coordinator. They will consolidate the files and place QA records in the vault. The corrective action on applicable IE Bulletins requiring hardware evaluation, repair and replacement will be reviewed to assure ~~that~~ such action is followed to com

the cognizant construction organization ~~tracks~~ tracks these items to completion.

(Closed) Violation 445/8434-02: Failure to report alleged falsified record per 10CFR 50.55(e). The NRC inspector found that TUGCO had conducted an investigation of this matter to validate the signatures of QC inspectors and found no other similar occurrences. This problem arose when two inspectors participated in an inspection and one inspector left before the inspection was completed and the other inspector signed for him. Notes added by the second inspector were misleading and he received a reprimand. The inspection was a valid inspection of anchor bolts used to secure a stairway in Unit 1 Safeguards Building. ~~Unit~~ Training was conducted to emphasize correct documentation.

No violations or deviations were identified.

3. Applicant Action on 10CFR 50.55(e) Deficiencies

(Closed) ~~Construction Deficiency~~ Construction Deficiency D-1-0181 (CP-85-30): Switch gear Cabinet Terminations by the vendor. The NRC inspector received a request to inspect this item to determine why the terminations were replaced when TUGCO letter TXX-4598 dated October 16, 1985 stated it was not reportable. The inspector reviewed the TUGCO evaluation and found that this item was not reportable because they concluded it would not ~~affect~~ adversely affect the safe operation of the plant. It was replaced because it did not meet TUGCO's standards (Attachment 7 of QI-QP-11.3-22) which may be more stringent

Applicant Action on

4. Inspection and Enforcement (IE) Information Notices

The IE Information are sent to the nuclear industry for information purposes and require no action by the licensees and Applicants with respect to reporting to the NRC but may require action on applicable ~~from no regulation~~ notice technical issues.

The handling of these notices are not covered by NRC regulations; however, the NRC is interested in how the subject notices are handled. The following notices ~~were~~ files were reviewed to determine how TUGCO determines applicability, makes distribution, and takes actions on information:

85-04, 85-22, 85-33, 85-34, 85-35, 85-36, and 85-56. This revision of TUGCO files shows that their system is working satisfactorily as required actions were taken.

No violations or deviations were identified

5a. Applicant Action on Generic Letters

The Generic letters are also sent to the industry for information purposes and require no response to the NRC. Again the NRC is interested in how the utility evaluates, if applicable, distributes, and ~~corrects technical~~ takes corrective action. The NRC inspector reviewed 15 files ~~for general content~~ and selected Generic Letters 83-11 and 83-16 for a more detailed review. TUGCO licensing receives and distributes these letters to

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the operations support group for their review and action. Review of the files ~~indicates~~ revealed that the TUGCO system does adequately consider Generic Letters and appropriate action was taken on these 12 Generic letters.

No violations or deviations were identified.

B.X. 6 Plant ~~Tours~~ General Inspections / Unit 2

At various times during the inspection period, NRC inspectors conducted ~~general tours~~ unplanned inspections of the reactor building, safeguards building, and the electrical and control building. During the tours, the NRC inspector observed ongoing construction work and discussed various subjects with personnel engaged in work activities. Specific planned inspections are discussed in the following paragraphs.

No violations or deviations were identified.

V

7

6. 8. Protective Coatings, Unit 1 and 2

a. Procedures. The NRC inspector reviewed the coating ~~procedures~~ specifications and procedures for clarity, consistency, technical criteria, and application instructions. These procedures contain better criteria than the old procedures which were reviewed by the NRC Technical Review Team (TRT) in 1984. Personnel training/qualification, concrete/steel reinspection and inspection, testing, documentation and repair are well covered in Specification 2323-AS-31 and in procedures CCP-EP-14.2, 14.3, 14.7, 14.8 & 14.6 ~~covered~~ 14.1, 14.4, 14.9, 14.0, 14.5, 14.6.2; CCP-30 and 40.

b. Observation of work activity - The inspector observed work in progress and completed work as follows: pressurizer room 31, steam generator rooms 26 and 24, elevator shaft room 30, room 21, fabrication Shop and paint storage building.

Most of the work observed was surface preparation however, a final application of the coatings to the steel liner observed in in room 21. The preparation and application was accomplished in accordance with good commercial practices and the crafts and field engineers were knowledgable. Field inspectors were present and were notified by the craft when hold points were ~~applied~~ imposed. Paint storage areas are temperature controlled and material shelf life was closely monitored and controlled.

c. Records Review - The inspector observed the operation of the Protective Coatings Paper Flow Group (PFG).

The purpose of the PFG is to establish a method of initiating, preparing, issuing, tracking, logging, and controlling protective coatings travelers and associated supporting documentation for the verification of coatings activities.

The NRC inspector reviewed protective coatings travelers to determine if the records were adequate, complete, legible, easily retrievable and documented in accordance to site procedures. In addition, the NRC inspector compared the completed and in process travelers to the PFG tracking system to determine if the tracking system was accurate. The computer printout is used for the tracking system, listing the traveler number, package number, unit, area code/room number, any outstanding coating deficiency reports and the traveler status.

Records reviewed were legible, easily retrievable and complete in accordance to site coatings procedures. Review of Unit 2 coatings record tracking system by the NRC inspector indicated that the system at the site now, is a very reliable and accurate tracking system. The tracking system is updated on a daily basis.

The NRC inspector also reviewed in process travelers in the field. There was one minor isolated discrepancy note in traveler 2-21-0.

8.

Heating Ventilation and Air Conditioning (HVAC) Units

a. FSAR, specification, and drawings reviewed

The inspector reviewed the Comanche Peak Steam Electric Station (CPSES) Final Safety Analysis Report (FSAR) to identify the HVAC's design and quality assurance requirements. FSAR Volume IV, Section 3.2, "Classification of Structures, Components and Systems," states that part of the containment ventilation system is seismic Category I; however, FSAR Volume XIV, Section 17.0, Appendix 17A, "List of Quality Assured Items," states that the containment ventilation system (which contains eight subsystems/components) is seismic Category II and nonsafety related with the exception of the containment purge exhaust ductwork, supports, debris screen, and isolation valves, which are seismic Category I. Only the isolation valves, which are safety and code class 2, are safety related and seismic Category I.

The Gibbs & Hill Inc. Specification for HVAC systems is 2323-MS-85 Revision 3. Selected portions of this specification were reviewed to select the hardware to be inspected. Isolation dampers or valves and hydrogen purge systems were inspected.

b. Work Observed

The NRC inspector used drawings nos. 2323-M-2-0301 Revision CP-4 and 2323-M2-0502 Revision 1 to verify the equipment as-installed, i.e., identification, location, and configuration of the hydrogen supply/exhaust, and containment supply/purge/relief systems. The following were inspected:

Containment

PENETRATION NO.	VALVE	RIR	P.O.	SERIAL NO.
M III 18	2HV 5543	12191	CP 0086	14759-1B
	2HV 5563	12191	CP 0086	14759-1E
	2HV 5542	12191	CP 0086	14759-1F
	2VA 001	9579	CP 0020A.1	AF 074
		H 2012-1 Lot no.		
M III 19	2HV 5541	12191	CP 0086	14759-1A
	2HV 5562	12191	CP 0086	14759-1B
	2HV5540	12191	CP 0086	14759-1C
	2VR 002	9579	CP 0020A.1	AF 083
		H2012-1 Lot no.		
M V 2	2HV 5539	12191	CP 0086	14759-3C
	2HV 5538	12191	CP 0086	14759-3D
M V 14	2HV 5549	12191	CP 0086	14759-2A
	2HV 5548	12191	CP 0086	14759-2B
	2VA 005	08565	CP 0020A.1	AD 213
		H1826-1 Lot no.		
M V 1	2HV 5537	12191	CP 0086	14759-3A
	2HV 5536	12191	CP 0086	14759-3B
	2VA 003	08509	CP 0020A.1	AD 219
		H1826-1 Lot no.		

c. Records Reviewed

The NRC inspector reviewed receiving inspection report RAR packages (RIR 12191, RIR 13110, RIR 13186, RIR 13187) which contained the following:

Receiving Check-List,
Drawings
QA check-list, and a
Doc. Package with
Drawings,
Order Spec Sheet,
Material Traceability List,
Body Mill Test Report (MTR),
Disc MTR,
Stem MTR,
Disc Pin MTR,
Gasket Retainer MTR,
Gasket Retainer Bolts Certification (Cert),
Filler Metal Test Report (TR),
Manufacturers Material Test Report,
Cert of Compliance,
Liquid Penetration TR,
Weld Repair Report,
Body Radiographic Report,
Wall Thickness Measurement Report,
Final TR,
Cleaning Cert,
TR
ASME Data Report
Assembly Shop Traveler.

No violations or deviations were identified

2

9

8. Mechanical Penetration, Unit 2

In conjunction with the HVAC inspection, the NRC inspector observed mechanical penetration work which had been completed and reviewed selected records.

a. Work Observed. Penetration Numbers MIII-18, MIII-19 MV-2, MV-14, and MV-1 were located from drawing number 2323-M2-0502 Revision 1 and were properly identified and configured. These penetrations were properly protected and showed no damage.

b. Records Reviewed.

The inspector reviewed RIR package for penetration MIII-18 and found that the package contained the proper documentation.

No violations or deviations were identified.

10
9. Safety Related Pipe Supports and Restraint Systems

a. Procedures ~~Review~~ - The NRC inspector reviewed Brown & Root Inc (B&R) QA Manual ~~numbers~~ Section 16 ~~CP-QAP-16~~, Revision 16; ~~CP-QAP~~ Section 19, Revision 8 (in part); and Appendix 1.0 ~~Revision of the CP QA Manual (in part), and~~ Revision 3 (in part): ASME QA procedures CP-QAP-2.1, Revision 12; 11.1 Revision 8; 11.1-28 Revision 34; and 19.1 Revision 2 (in part) were also reviewed.

b. Observation of Work Activity - The NRC inspector interviewed 3 craftsman who were installing an anchor support for containment spray piping in the Safeguards Building. The welding of the support and torquing of baseplate anchor bolts were witnessed. Work was accomplished in accordance with the work packages.

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10. Electrical Inspection - Kelley

12. Exit Interview ~~paragraph~~

An exit interview was conducted on January — , 1986 with the applicant representatives identified in paragraph 1 of Appendix E. During this interview the NRC inspectors summarized the scope and findings of the inspection. The applicant acknowledged the findings.

#5

E -
Draft 1, Typed
~~Typist gave~~
~~to Shannon Pri~~
~~to 2/4/86~~ no earlier.

APPENDII E

CONSTRUCTION INSPECTION REPORT

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-445/85-18 Permit: CPPR-126
50-446/85-15 CPPR-127

Docket: 50-445 Category A2
50-446

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

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

Inspection At: Glen Rose, Texas

Inspection Conducted: December 1-31, 1985

Inspectors:

C. Phillips, Senior Resident Reactor (RIV) Date
Inspector (SRRI), Construction, Region IV, CPSES Group
(paragraphs 1, 2, 3, 4, 5, 6, 8, 9, 12)

C. E. Johnson, Senior Resident Reactor Date
Inspector (SRRI), Construction, ~~Region~~ IV
South Texas Project
(paragraph 7)

P. W. Michaud, Reactor Inspector, ~~Region~~ IV Date
(paragraph 10)

D. L. Kelley, SRRI, Operations, ~~Region~~ IV, CPSES Group (paragraphs 11) — Date

Consultant: EG&G - J. H. McCleskey

Reviewed by: _____ _____
I. Barnes, Group Leader, RIV CPSES Group — Date

Approved: _____ _____
T. F. Westerman, Chief, ~~Region~~ IV CPSES Group — Date

59hrs

Type in unit 1 from draft.

Inspection Summary

Inspection Conducted: December 1-31, 1985 (Report 50-445/85-15)

Areas Inspected: Routine, unannounced inspections of Unit 2 which included ~~a review of~~ plant ~~status~~ tours and applicant actions on construction deficiencies; previous inspection findings; IE Notices; and Generic Letters; and inspection of Protective coatings; heating ventilation and airconditioning (HVAC); pipe supports; and electrical cable tray/equipment ~~walkdowns~~. The inspection involved 165 inspector-hours onsite by four NRC inspectors and one consultant.

Results: Within the seven areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Applicant Personnel

L. Hart, Quality Assurance (QA) TUGCO Nuclear Energy (TNE) Electrical Engineer

P. Halstead, Manager, Quality Control (QC)

F. Madden, TUGCO Nuclear Engineering (TNE) Mechanical Engineer

J. Merritt, Assistant Project General Manager, TUGCO

D. Palmer, Industry Operating Experience Coordinator

P. Stevens, TNE Electrical Engineer

C. Welch, QA Supervisor, TUGCO

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

2. Applicant Action on Previous NRC Inspection Findings, Unit 1 and 2

(Open) Unresolved Items 445/8514-U-02 and 03; 446/8511-U-01 and 02; and 445/8516-U-01; 446/8513-01: Procedures did not address construction deficiency file content; incomplete QA record files; and TUGCO commitment to review. The NRC inspector continued this inspection by following up on these items during this inspection period. TUGCO is still working on this item and anticipates completing the review and taking necessary action to improve the current system by March 1, 1985.

(OPEN) Unresolved Items 445/8516-U-02 and 03; 446/8513-U-02 and 03: IE Bulletin files for 79-14 and 79-28. The NRC inspectors continued this inspection by following up on this item. TUGCO is working on improving the IE Bulletin system and has named a new coordinator. They will consolidate the file, and place QA records in the vault. The corrective action on applicable IE Bulletins requiring hardware evaluation, repair and replacement will be reviewed to assure that the cognizant construction organization tracks these items to completion.

(Closed) Violation 445/8434-02: Failure to report alleged falsified records per 10 CFR 50.55(e). The NRC inspector found that TUGCO had conducted an investigation of this matter to validate the signatures of QC inspectors and found no other similar occurrences. This problem arose when two inspectors participated in an inspection and one inspector left before the inspection was completed and the other inspector signed for him. Notes added by the second inspector were misleading and he received a reprimand. The inspection was a valid inspection of anchor bolts used to secure a stairway in Unit 1 Safeguards Building. Training was conducted to emphasize correct documentation.

No violations or deviations were identified.

3. Applicant Action on 10 CFR 50.55(e) Deficiencies

(Closed) Construction Deficiency D-1-0181(CP-85-30): Switch gear cabinet terminations by the vendor. The NRC inspector ~~received a request to~~ inspect this item to determine why the terminations were replaced when TUGCO letter TXX-4598 dated October 16, 1985 stated it was not reportable. The inspector reviewed the TUGCO evaluation and found that this item was not reportable because they concluded it would not adversely affect the safe operation of the plant. It was only replaced because it did not meet TUGCO's standards (Attachment 9 of QI-QP-11.3-28) which may be more stringent than the manufacturer's standard.

4. Applicant Action on Inspection and Enforcement ~~(IE)~~ Information Notices (IEN)

The IE Information ~~is~~ are sent to the nuclear industry for information purposes and require no action by the ~~licensees~~ Applicants with respect to reporting to the NRC but ~~may require~~ are encouraged to take action on applicable notice technical issues to prevent similar technical problems. The handling of these notices are not covered by NRC regulations; however, the NRC is interested in how the technical issues in the subject notices are handled. The following notice files were reviewed to determine how TUGCO determines applicability; makes distribution, and takes action on IEN: 85-04, 85-22, 85-33, 85-34, 85-35, 85-36, and 85-56. This review of TUGCO files shows that their established system is working satisfactorily as technical issues were addressed ~~required actions were taken~~.

No violations or deviations were identified.

5. Applicant Action on Generic Letters

The Generic Letters are also sent to the industry for information purposes and require no response to the NRC. Again the NRC is interested in how the utility distributes, evaluates, and, if applicable, takes corrective action. The NRC inspector reviewed 15 files and selected Generic Letters 83-11 and 83-16 for a more detailed review. TUGCO Licensing receives and distributes these letters to the operations support group for their review and action. Review of the files revealed that the TUGCO system does adequately consider Generic Letters and appropriate action was taken on these generic letters.

No violations or deviations were identified.

6. General Plant Inspections of Unit 2

At various times during the inspection period, NRC inspectors conducted unplanned inspections of the reactor building, safeguards building, and the electrical and control building. ~~During the tours,~~ the NRC inspector observed ongoing construction work and discussed various subjects with personnel engaged in work activities. ~~Specific planned inspections are discussed in the following paragraphs.~~

No violations or deviations were identified.

7. Protective coatings, Unit 1 and 2

a. The NRC inspector reviewed the coating specifications and procedures for clarity, consistency, technical criteria, and application instructions for applying coatings. These procedures contain better criteria than the old procedures which were reviewed by the NRC Technical Review Team (TRT) in 1984. Personnel training/qualification, concrete/steel reinspection and inspection, testing, documentation, and repair are well covered in specification 2323-AS-31 and in Procedures CP-EP-14.2, 14.3, 14.7, 14.8, 14.1, 14.4, 14.9, 14.0, 14.5, 14.6, 6.2; CCP-30 and 40.

b. Observation of work activity - The inspector observed work in progress and completed work as follows: pressurizer room 31, steam generator rooms 26 and 29, elevator shaft room 30, room 21, fabrication shop and paint storage building. Most of the work observed was surface preparation, however, a final application of the coating of the steel liner was observed in room 21. The suitable preparation and application of coating was accomplished in accordance with good commercial practices and the crafts and field engineers were knowledgable. Field inspectors were present and were notified by the craft when hold points were imposed. Paint storage areas are temperature controlled and material shelf life was closely monitored and controlled.

c. Records Review - The protective coatings paper flow group (PFG). The purpose of the PFG is to establish a method of initiating, preparing, issuing, tracking, logging, and controlling protective coatings travelers and associated supporting documentation for the verification of coatings activities.

The NRC inspector reviewed protective coatings travelers to determine if the records were adequate, complete, legible, easily retrievable and documented in accordance with site procedures. In addition, the NRC inspector compared the completed and in process travelers to the PFG tracking system to determine if the tracking system was accurate. The computer printout is used for the tracking system, listing the traveler number, package number, unit, area code/room, number, any outstanding coating deficiency reports and the traveler status.

Records reviewed were legible, easily retrievable and complete in accordance with site coatings procedures. Review of Unit 2 coatings records tracking system, by the NRC inspector, indicated that the system at the site is now a very reliable and accurate tracking system. The tracking system is updated on a daily basis.

The NRC inspector also reviewed in process travelers in the field. ~~There was~~ one minor isolated discrepancy, noted in

Revised and discussed with inspector responsible.

traveler 2-21-O., however, ~~it was brought to the attention of the foreman to be corrected. The discrepancy was a signature in the wrong block.~~ the signature which was in the wrong block record prompt attention by when it was brought to the foreman's attention. All other travelers reviewed ~~indicated no discrepancies~~ were correct.

The following ~~Work packages reviewed:~~ work packages which contained more than one traveler were reviewed:

- 2-21-F,
- 2-21-I,
- 2-21-H,
- 2-21-E,
- 2-21-G

- 2-21-O,
- 2-21-N,
- 2-21-B,
- 2-21-AJ, and
- 2-21-L,

Note: ~~Work~~ packages contained more than one traveler inside.

The NRC ~~inspection~~ inspector reviewed 8 training records for coating field engineers who were trained and qualified in accordance with site procedure CP-EP-14.1, Revision 0. ~~(ANSI)~~ American National Standards (ANSI) 45.2.6 is no longer applicable since the approved declassification of protective coatings; however, the majority of the coating field engineers qualification records reviewed by the NRC inspector indicated that they had been qualified or certified to ANSI 45.2.6 before the declassification of protective coatings occurred. Regardless, a beginning coating field engineer must still meet the following qualification requirements:

- Minimum of one and one-half (1 1/2) years experience in the inspection and documentation of protective coatings work at a nuclear facility

- Shall be physically capable of performing the assigned tasks.

- Shall have natural or corrected near distance visual acuity activity such that they are capable of reading J-1 letters on a standard Jaeger's Chart.

These inspectors are given classroom instruction on all coatings procedures, and a proficiency test for all instrumentation used to perform the inspections. The coatings field supervisor evaluates the proficiency of the inspection or's on the use of the instruments.

The NRC inspector did not review craft (painters) qualification because during the TRT's review, they stated that the crafts qualifications were adequate.

(Pg 11) d. Calibration:

The NRC inspector reviewed two procedures, IEI-15, "Calibration of DFT Gauges," Revision 5, dated ~~3-11-82~~ March 11, 1982 and IEI-35, "Calibration of Adhesion Testers," Revision 3, dated ~~2-27-84~~ February 27, 1984. The gauges and adhesion testers ~~Both instruments~~ were calibrated to an accuracy of +/- 10%. The coatings field engineers procedures for

minimum adhesion readings for the Electrometer Adhesion Tester is more conservative than required.

The NRC inspector reviewed calibration records of two electrometer adhesion testers, (M&TE #3741 and M&TE #2904) and four DFT gauges, (M&TE #4332, M&TE #4333, M&TE #2809, and M&TE #2923). Records indicated that the instruments were calibrated at their proper intervals. ~~No discrepancies were noted.~~

e. Action required of TUEC (NUREG-0797) Supplement No. 9). The NRC inspector reviewed the status of actions required by TUEC related to the TRT findings in NUREG-0797, Supplement No. 9, page M-13.

1). Backfit test program - The NRC inspector reviewed the data collected for the Electrometer calibration correction to the data for adhesion tests covering miscellaneous steel items in Unit 1 & 2. The data is complete but has not been finalized into report form for submittal to NRC for review.

2). Traceability - This category deals with nonconformance reports (NCR's) which provide "use as is" dispositions for discrepant coating materials with inadequate technical justification for the disposition.

The action required for this category has been completed by the licensee and submitted for review to ~~Mr. Vince S. Noonan,~~ Director of Nuclear Reactor Regulation in TUGCO letter (TXX-4613) dated November 18, 1985).

3). Coatings procedures. The TRT found deficiencies in procedures and instructions for coating work and related inspection activities, during the construction phase, which rendered them inappropriate or inadequate for determining satisfactory accomplishment of important work activities. The TRT also found that the procedure review and approval system was inadequate to detect and correct these deficiencies.

The NRC inspector's review of this category indicates that TUGCO has revised their coating procedures for the Unit 2 construction phase and the reinspection activities for Unit 1 to include inspection attributes for determining satisfactory accomplishment of important work activities. CP-EP-6.2 has been established to assure that procedures and instructions are reviewed and approved by technically qualified individuals to assure consistency and clarity.

TUGCO letter TXX-4613 outlines the coatings surveillance program for operations.

4). Coating exempt log. The TRT requested an updated estimate of the number of additional items to be entered on the exempt log. Unit 2 exempt log is current and up-to-date. However, Unit 2 will have ~~very little~~ few entries into the exempt log because any deficient coating areas will be reworked or repaired. When the Unit 1 Backfit Test Program data is complete, an estimate will be entered into the exempt log.

No violations or deviations were identified.

8. Heating Ventilation and Air Conditioning (HVAC) Systems, Unit 2.

a. FSAR, specification, and drawings reviewed - The inspector reviewed the Comanche Peak Steam Electric Station (CPSES) Final Safety Analysis Report (FSAR) to identify the HVAC's design and quality assurance requirements. FSAR Volume IV, Section 3.2, "Classification of Structures, Components and Systems," states that part of the containment ventilation system is seismic Category I; however, FSAR Volume XIV, Section 17.0, Appendix 17A, "List of Quality Assured Items," states that the containment ventilation system (which contains eight subsystems/components) is seismic Category II and nonsafety related with the exception of the containment purge exhaust ductwork, support, debris screen, and isolation valves, which are seismic Category I. Only the

isolation valves, which are safety and code class 2, are safety related and seismic Category I.

The Gibbs & Hill Inc. specification for HVAC systems is 2323-MS-85 Revision 3. Selected portions of this specification were reviewed to select the the hardware to be inspected. Isolation dampers or valves and hydrogen purge systems were selected for inspection.

b. Work observed. The NRC inspector used drawings numbers 2323-M-2-0301, Revision CP-4 and 2323-M2-0502, Revision 1 to verify the equipment as-installed, i.e., identification, location, and configuration of the hydrogen supply/exhaust, and containment supply/purge/relief systems. The following were inspected:

CONTAINMENT PENETRATION NO.	VALVE	SERIAL NO.	RIR
M III 18	2HV 5543	14759-1B	12191
	2HV 5563	14759-1B	12191
	2HV 5542	14759-1F	12191
	2VA 001	AF 074	9579
			H 2012-1 Lot no.

M III 19	2HV 5541	14759-1A	12191
	2HV 5562	14759-1B	12191
	2HV 5540	14759-1C	12191
	2VA 002	AF 003	9579
			H 2012-1 Lot no.
M V 2	2HV 5539	14759-3C	12191
	2HV 5538	14759-3D	12191
M V 14	2HV 5549	14759-2A	12191
	2HV 5548	14759-2B	12191
	2VA 005	AD 213	08565
			H 1826-1 Lot no.
M V 1	2HV 5537	14759-3A	12191
	2HV 5536	14759-3B	12191
	2VA 003	AD 219	08509
			H 1826-1 Lot no.

c. Records Received - The NRC inspector reviewed Receiving Inspection Report packages (RIR) which contained (RIR 12191, RIR 13110, RIR 13186, RIR 13187) the following:

Receiving check-list, drawings, QA check-list, and a documentation package with drawings, order spec sheet, material traceability list, body mill test report (MTR), disc MTR, stem MTR, disc pin MTR, gasket retainer MTR, gasket retainer bolts certification (CERT), filler metal test report (TR), manufacturers material ~~test report~~ TR, certificate of compliance, liquid penetration TR, weld

repair report, body radiographics ~~report~~ TR, wall thickness measurement ~~report~~ stat, final TR, cleaning Cert, cycle TR, ASME data report assembly shop traveler.

No violations or deviations were identified.

9. Mechanical Penetrations, Unit 2

In conjunction with the HVAC inspection, the NRC inspector observed mechanical penetration work which had been completed and reviewed selected records.

a. Work observed - Penetration Numbers MIII-18, MIII-19, MV-2, MV-14, and MV-1 were located ~~from~~ using drawing number 2323-M2-0502, Revision 1 and were found to be properly identified and configured. These penetrations were properly protected and showed no damage.

b. Records reviewed - The inspector reviewed RIR package for penetration MIII-1B and found that the package contained the proper documentation.

No violations or deviations were identified.

10. Safety Related Pipe Supports and Restraint Systems

a. Procedures - The NRC inspector reviewed Brown & Root Inc. (B&R) QA manual, Section 16, Revision 16; Section 19, Revision 8 (in part); and Appendix 1.0, Revision 3 (in part). ASME QA procedures CP-QAP-2.1, Revision 12; 11.1, Revision 8; 11.1-28, Revision 34; and 19.1, Revision 2 (in part) were also reviewed.

b. Observation of work activity - The NRC inspector interviewed 3 craftsmen who were installing an anchor support for containment spray piping in the Safeguards building. The welding of the support and torquing of baseplate anchor bolts were witnessed. Work was accomplished in accordance with the work packages.

The NRC inspector inspected a total of 24 pipe supports on the Safety I injection system piping. Of these, two were large bore spring hangers, one small bore snubber, one large bore snubber, two equipment snubbers, eleven small bore restraints, and seven large bore restraints. Several discrepancies were noted on the following supports: ---------- Get input from inspector. However, QC has not performed their inspection of these supports, and hence installation can not be considered complete so no findings ~~can be filed~~ at this time. The discrepancies found were generally insufficient clearance or a departure from the design drawing. The basic design of the support systems examined appeared to be adequate.

Get input from inspector.

The NRC inspector reviewed seven safety related pipe support documentation packages ~~support~~ numbers [redacted] including records of materials, welding, QC inspection, nonconformance reports, and rework and reinspection as follows:

The items of nonconformance were generally for dimensions slightly out of tolerance, (i.e. Hilti bolt minimum spacing). All NCR's appeared to be dispositioned properly.

No violations or deviations were identified.

11. Electrical Inspection

12. Exit Interview

An exit interview was conducted January , 1986, with the applicant representatives identified in paragraph 1 of Appendix E of this report. During this interview, the NRC inspectors summarized the scope and findings of the inspection. The applicant acknowledged the findings.

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APPENDIX C
CONSTRUCTION INSPECTION REPORT

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-445/85-18 Permit: CPPR-126
50-446/85-15 CPPR-127

Category A2

Docket: 50-445
50-446

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

Facility Name: Comanche Peak Steam Electric Station (CPSES) Unit 1 & 2

Inspection At: Glen Rose, Texas

Inspection Conducted: December 1-31, 1985

Inspectors:

M. S. Phillips, Senior Resident Reactor Inspector (SRRI), Construction, Region IV (RIV) CPSES Group (paragraphs 1, 2, 3, 4, 5, 6, 8, 9, 12) — Date

C. E. Johnson, Senior Resident Reactor Inspector (SRRI), Construction, RIV South Texas Project (paragraph 7) — Date

P. H. Michaud Reactor Inspector, RIV (paragraph 10) — Date

D. L. Kelley, SRRI, Operations, RIV, CPSES Group (paragraphs 11) Date

Consultant: EG&G - J. H. McCleskey

Reviewed by: _____ _____
I. Barnes, Group Leader, RIV CPSES Group Date

Approved: _____ _____
T. F. Westerman, Chief, RIV CPSES Group Date

Inspection Summary

Observation of Electrical Installation Activities

During this reporting period the NRC inspector observed two safety-related cable termination activities. The first termination activity observed was a termination of a Train A (orange cable) in a junction box in containment; the second was the termination of two Train B (green cable) in a motor control center (MCC) in the green switchgear room.

In-process work observation was performed to verify that: the latest drawings and termination cards are being used; the cables are protected from damage from nearby construction activities; that proper separation is maintained; segregation of power, control and instrument cables is maintained; cable identification is preserved; bending radius is maintained; cable entry point is acceptable; tools requiring calibration are in good repair and properly calibrated; connection tightness is correct; terminations are of the correct type and properly located; junction boxes, MCC's and switchgear are free of debris; QC activities are performed at the times specified; nonconformances are identified and resolved in accordance with procedures; and installation and inspection activities are being documented during the in-process work activity. Terminations of two types were observed. One required terminal lugs, the other did not. The attributes specific to the termination type in addition to those

attributes common to both were inspected. Cable numbers and termination points were; cable no. E02199710, termination point junction box (JB) 2C245 in containment and cable nos. EG213168, AG213254 termination point.

CP2-EPMCEB-06 in the green switchgear room. the NRC inspector verified that all pertinent requirements had been met.

No violations or deviations were identified.

Inspection conducted: December 1-31, 1985 (Report 50-445/85-18)

Areas Inspected: Routine, unannounced inspections of Unit 1 which included applicant actions on construction deficiencies, applicant actions on previous NRC inspection findings, IE Notices, Generic Letters, and TRT coatings. The inspection involved 59 inspector-hours onsite by two NRC inspectors and one consultant.

Results: Within the four areas inspected, no violation or deviation was identified.

Inspection Conducted: December 1-31, 1985 (Report 50-446/85-15)

Areas Inspected: Routine, announced and unannounced inspections of Unit 2 which included plant tours and applicant actions on construction deficiencies; previous inspection findings; IE Notices;

and Generic Letters; and inspection of protective coatings; heating ventilation and air-conditioning (HVAC); pipe supports; and electrical cable tray/equipment. The inspection involved 168 inspector-hours onsite by four NRC inspectors and one consultant.

Results: Within the seven areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Applicant Personnel

L. Hart, Quality Assurance (QA) TUGCO Nuclear Energy (TNE) Electrical Engineer

P. Halstead, Manager, Quality Control (QC)

F. Madden, TUGCO Nuclear Engineering (TNE) Mechanical Engineer

J. Merritt, Assistant Project General Manager, TUGCO

D. Palmer, Industry Operating Experience Coordinator

P. Stevens, TNE Electrical Engineer

C. Welch, QA Supervisor, TUGCO

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

2. Applicant Action on Previous NRC Inspection Findings, Unit 1 and 2

(Open) Unresolved Items 445/8514-U-02 and 03; 446/8511-U-01 and 02; and 445/8516-U-01; 446/8513-01: Procedures did not address construction deficiency file content; incomplete QA record files; and TUGCO commitment to review this matter. The NRC inspector continued the previous inspection by following up on each of these items during this inspection period. TUGCO is still working on these items and anticipates completing the review and taking necessary action to improve the current system by March 1, 1985.

(Open) Unresolved Items 445/8516-U-02 and 03; 446/8513-U-02 and 03: IE Bulletin files for 79-14 and 79-28. The NRC inspectors continued the previous inspection by following up on each of these items. TUGCO is working on improving the IE Bulletin system and has named a new coordinator. They will consolidate the files, and place QA records in the vault. The corrective action on applicable IE Bulletins requiring hardware evaluation, repair and replacement and verification will be reviewed to

assure that the cognizant construction organization tracks these actions to completion.

No violations or deviations were identified.

3. Applicant Action on 10 CFR 50.55(e) Deficiencies

(Closed) Construction Deficiency D-1-0181(CP-85-30): Switch gear cabinet terminations by the vendor. The NRC inspector inspected this item to determine why the terminations were replaced when TUGCO letter TXX-4598 dated October 16, 1985 stated it was not reportable. The inspector reviewed the TUGCO evaluation and found that this item was not reportable because they concluded it would not adversely affect the safe operation of the plant. It was only replaced because it did not meet TUGCO's standards (Attachment 9 of QI-QP-11.3-28) which may be more stringent than the manufacturer's standard.

4. Applicant Action on Inspection and Enforcement Information Notices (IEN)

The IE Information notices are sent to the nuclear industry for information purposes and require no action by the licensees and applicants with respect to reporting to the NRC but are encouraged to take action on applicable notice technical issues

to prevent similar technical problems. The handling of these notices are not covered by NRC regulations; however, the NRC is interested in how the technical issues in the subject notices are handled. The following notice files were reviewed to determine how TUGCO determined applicability; make distribution, and took action on IEN 85-04, 85-22, 85-33, 85-34, 85-35, 85-36, and 85-56. This review of TUGCO files shows that their established system is working satisfactorily as technical issues were addressed.

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The Generic letters are also sent to the industry for information purposes and require no response to the NRC. Again the NRC is interested in how the utility distributes, evaluates, and, if applicable, takes corrective action. The NRC inspector reviewed 15 files and selected Generic Letters 83-11 and 83-16 for a more detailed review. TUGCO Licensing receives and distributes these letters to the operations support group for their review and action. Review of the files revealed that the TUGCO system does adequately consider Generic Letters and appropriate action was taken on these generic letters.

No violations or deviations were identified.

6. General Plant Inspections of Unit 2

At various times during the inspection period, NRC inspectors conducted unplanned inspections of the reactor building, safeguards building, and the electrical and control building. The NRC inspector observed ongoing construction work and discussed various subjects with personnel engaged in work activities.

No violations or deviations were identified.

7. Protective coatings, Unit 1 and 2

a. The NRC inspector reviewed the coating specifications and procedures for clarity, consistency, technical criteria, and instructions for applying coatings. These procedures contain better criteria than the old procedures which were reviewed by the NRC Technical Review Team (TRT) in 1984. Personnel training/qualification, concrete/steel reinspection and inspection, testing, documentation, and repair are well covered in specification 2323-AS-31 and in Procedures CP-EP-14.2, 14.3, 14.7, 14.8, 14.1, 14.4, 14.9, 14.0, 14.5, 14.6, 6.2: CCP-30 and 40.

b. Observation of work activity - The inspector observed work in progress and completed work as follows: pressurizer room

31, steam generator rooms 26 and 29, elevator shaft room 30, room 21, fabrication shop and paint storage building. Most of the work observed was surface preparation, however, a final application of the coating of the steel liner was observed in room 21. The surface preparation and application of coating were accomplished in accordance with good commercial practices and the crafts and field engineers were knowledgeable. Field inspectors were present and were notified by the craft when hold points were imposed. Paint storage areas are temperature controlled and material shelf life was closely monitored and controlled.

c. Records Review - The protective coatings paper flow group (PFG). The purpose of the PFG is to establish a method of initiating, preparing, issuing, tracking, logging, and controlling protective coatings travelers and associated supporting documentation for the verification of coatings activities.

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listing the traveler number, package number, unit, area code/room, number, any outstanding coating deficiency reports and the traveler status.

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The NRC inspector reviewed 8 training records for coating field engineers who were trained and qualified in accordance with site procedure CP-EP-14.1, Revision 0. The American National Standards Institute (ANSI) 45.2.6 is no longer

applicable since the approved declassification of protective coatings; however, the majority of the coating field engineers qualification records that were reviewed by the NRC inspector indicated that they had been qualified or certified to ANSI 45.2.6 before the declassification of protective coatings occurred. Regardless, a beginning coating field engineer must still meet the following qualification requirements:

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The NRC inspector did not review craft (painters) qualification because during the TRT's review, they stated that the crafts qualifications were adequate.

d. Calibration. The NRC inspector reviewed two procedures, IEI-15, "Calibration of DFT Gauges," Revision 5, dated March 11, 1982 and IEI-35, "Calibration of Adhesion Testers," Revision 3, dated February, 27, 1984. The gauges and adhesion testers were calibrated to an accuracy of +/- 10%. The coatings field engineers procedures for minimum adhesion readings for the Electometer Adhesion Tester is more conservative than required.

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correction to the data for adhesion tests covering miscellaneous steel items in Unit 1 & 2. The data is complete but has not been finalized into report form for submittal to NRC for review.

2). Traceability - This category deals with nonconformance reports (NCR's) which provide "use as is" dispositions for discrepant coating materials with inadequate technical justification for the disposition.

The action required for this category has been completed by the licensee and submitted for review to the, Director of Nuclear Reactor Regulation in TUGCO letter (TXX-5013) dated November 18, 1985).

3). Coatings procedures. The TRT found deficiencies in procedures and instructions for coatings work and related inspection activities, during the construction phase, which rendered them inappropriate or inadequate for determining satisfactory accomplishment of important work activities. The TRT also found that the procedure review and approval system was inadequate to detect and correct these deficiencies.

The NRC inspector's review of this category indicates that TUGCO has revised their coating procedures for the

Unit 2 construction phase and the reinspection activities for Unit 1 to include inspection attributes for determining satisfactory accomplishment of important work activities. CP-EP-6.2 has been established to assure that procedures and instructions are reviewed and approved by technically qualified individuals to assure consistency and clarity.

TUGCO letter TXX-4613 outlines the coatings surveillance program for operations.

4). Coating exempt log. The TRT requested an updated estimate of the number of additional items to be entered on the exempt log. Unit 2 exempt log is current and up-to-date. However, Unit 2 will have few entries into the exempt log because any deficient coating areas will be reworked or repaired. When the Unit 1 backfit test program data is complete, an estimate will be entered into the exempt log.

No violations or deviations were identified.

8. Heating Ventilation and Air Conditioning (HVAC) Systems, Unit 2.

a. FSAR, specification, and drawings reviewed - The inspector reviewed the Comanche Peak Steam Electric Station (CPSES)

Final Safety Analysis Report (FSAR) to identify the HVAC's design and quality assurance requirements. FSAR Volume IV, Section 3.2, "Classification of Structures, Components and Systems," states that part of the containment ventilation system is seismic Category I; however, FSAR Volume XIV, Section 17.0, Appendix 17A, "List of Quality Assured Items," states that the containment ventilation system (which contains eight subsystems/components) is seismic Category II and nonsafety related with the exception of the containment purge exhaust ductwork, support, debris screen, and isolation valves, which are seismic Category I. Only the isolation valves, which are safety and code class 2, are safety related and seismic Category I.

The Gibbs & Hill Inc. specification for HVAC systems is 2323-MS-85 Revision 3. Selected portions of this specification were reviewed to select the the hardware to be inspected. Isolation dampers or valves and hydrogen purge systems were selected for inspection.

b. Work observed. The NRC inspector used drawings numbers 2323-M-2-0301, Revision CP-4 and 2323-M2-0502, Revision 1 to verify the equipment as-installed, i.e., identification, location, and configuration of the hydrogen supply/exhaust, and containment supply/purge/relief systems. The following were inspected:

CONTAINMENT PENETRATION NO.	VALVE	SERIAL NO.	RIR
M III 18	2HV 5543	14759-1E	12191
	2HV 5563	14759-1B	12191
	2HV 5542	14759-1F	12191
	2VA 001	AF 074	9579
			H 2012-1 Lot no.
M III 19	2HV 5541	14759-1A	12191
	2HV 5562	14759-1B	12191
	2HV 5540	14759-1C	12191
	2VA 002	AF 003	9579
			H 2012-1 Lot no.
M V 2	2HV 5539	14759-3C	12191
	2HV 5538	14759-3D	12191
M V 14	2HV 5549	14759-2A	12191
	2HV 5548	14759-2B	12191
	2VA 005	AD 213	08565
			H 1826-1 Lot no.
M V 1	2HV 5537	14759-3A	12191
	2HV 5536	14759-3B	12191
	2VA 003	AD 219	08509
			H 1826-1 Lot no.

c. Records Received - The NRC inspector reviewed receiving inspection report (RIR) packages (RIR 12191, RIR 13110, RIR 13186, and RIR 13187) which contained the following:

Receiving check-list, drawings, QA check-list, and a documentation package with: drawings, order specification sheet, material traceability list, body mill test report (MTR), disc MTR, stem MTR, disc pin MTR, gasket retainer MTR, gasket retainer bolts certification (Cert), filler metal test report (TR), manufacturer's material TR, certificate of compliance, liquid penetrant TR, weld repair report, body radiographics TR, wall thickness measurement report, final TR, cleaning Cert, cycle TR, ASME data report assembly shop traveler

No violations or deviations were identified.

9. Mechanical Penetrations, Unit 2

In conjunction with the HVAC inspection, the NRC inspector observed mechanical penetration work which had been completed and reviewed selected records.

a. Work observed - Penetration Numbers MIII-18, MIII-19, MV-2, MV-14, and MV-1 were located using drawing number 2323-M2-0502, Revision 1 and were fount to be properly

identified and configured. These penetrations were properly protected and showed no damage.

b. Records reviewed - The inspector reviewed RIR package for penetration MIII-18 and found that the package contained the proper documentation.

No violations or deviations were identified.

10. Safety Related Pipe Supports and Restraint Systems

a. Procedures - The NRC inspector reviewed Brown & Root Inc. (B&R) QA manual, Section 16, Revision 16; Section 19, Revision 8 (in part); and Appendix 1.0, Revision 3 (in part). ASME QA procedures CP-QAP-2.1, Revision 12; 11.1, Revision 8; 11.1-28, Revision 34; and 19.1, Revision 2 (in part) were also reviewed.

b. Observation of work activity - The NRC inspector interviewed 3 craftsmen who were installing an anchor support for containment spray piping in the Safeguards building. The welding of the support and torquing of baseplate anchor bolts were witnessed. Work was accomplished in accordance with the work packages.

The NRC inspector inspected a total of 24 pipe supports on the Safety I injection system piping. Of these, two were large bore spring hangers, one small bore snubber, one large bore snubber, two equipment snubbers, eleven small bore restraints, and seven large bore restraints. Several discrepancies were noted on the following supports: H-SI-2-SB-020-1-2, -3-2, 5-2, 6-2, 8-2, 10-2, 11-2, and 12-2; H-SI-2-5B-019-1-2, 3-2, 4-2, and 5-2; SI-2-039-401-S22R, SI-2-039-404-S22R; SI-2--309-406-S22R; SI-2-044-401-S22R; SI-2-070-404-S22R; SI-2-070-405-S22K; and SI-2-070-406-S22R. However, QC has not performed their inspection of these supports, and hence installation can not be considered complete so there are no findings at this time. The discrepancies found were generally insufficient clearance or a departure from the design drawing. The basic design of the support systems examined appeared to be adequate.

The NRC inspector reviewed seven safety related pipe support documentation packages including records of materials, welding, QC inspection, nonconformance reports, and rework and reinspection as follows: RH-2-5B-024-001-2, CT-2-038-402-C52R, CS-2-RB-072-702-1, CC-2-041-713-A63R, MS-2-150-448-C52K, H-CS-2-RB-021-7120-1, and H-SI-2-RB-0580-701-2.

The items of nonconformance were generally for dimensions slightly out of tolerance, (i.e. Hilti bolt minimum spacing). All NCR's appeared to be dispositioned properly.

No violations or deviations were identified.

11. Electrical Inspection

12. Exit Interview

An exit interview was conducted January 9, 1986, with the applicant representatives identified in paragraph 1 of Appendix E of this report. During this interview, the NRC inspectors summarized the scope and findings of the inspection. The applicant acknowledged the findings.

E. -
2/12/86

#3

DRAFT NO.1, REV.2

APPENDIX C
CONSTRUCTION INSPECTION REPORT

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-445/85-18 Permit: CPPR-126
50-446/85-15 CPPR-127

Category A2

Docket: 50-445
50-446

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

Facility Name: Comanche Peak Steam Electric Station (CPSES) Unit 1 & 2

Inspection At: Glen Rose, Texas

Inspection Conducted: December 1-31, 1985

Inspectors:

H. S. Phillips, Senior Resident Reactor Inspector (SRRI), Construction, Region IV (RIV) CPSES Group (paragraphs 1, 2, 3, 4, 5, 6, 8, 9, 12) — Date

C. E. Johnson, Senior Resident Reactor Inspector (SRRI), Construction, RIV South Texas Project (paragraph 7) — Date

P. W. Michaud, Reactor Inspector, RIV (paragraph 10) — Date

D. L. Kelley, SRRI, Operations, RIV, CPSES Group (paragraphs 11) Date

Consultant: EG&G - J. H. McCleskey

Reviewed by: _____ _____
I. Barnes, Group Leader, RIV CPSES Group Date

Approved: _____ _____
T. F. Westerman, Chief, RIV CPSES Group Date

Inspection Summary

Observation of Electrical Installation Activities

During this reporting period the NRC inspector observed two safety-related cable termination activities. The first termination activity observed was a termination of a Train A (orange cable) in a junction box in containment; the second was the termination of two Train B (green cable) in a motor control center (MCC) in the green switchgear room.

In-process work observation was performed to verify that: the latest drawings and termination cards are being used; the cables are protected from damage from nearby construction activities; that proper separation is maintained; segregation of power, control and instrument cables is maintained; cable identification is preserved; bending radius is maintained; cable entry point is acceptable; tools requiring calibration are in good repair and properly calibrated; connection tightness is correct; terminations are of the correct type and properly located; junction boxes, MCC's and switchgear are free of debris; QC activities are performed at the times specified; nonconformances are identified and resolved in accordance with procedures; and installation and inspection activities are being documented during the in-process work activity. Terminations of two types were observed. One required terminal lugs, the other did not. The attributes specific to the termination type in addition to those

attributes common to both were inspected. Cable numbers and termination points were: cable no. E02199710, termination point junction box (JB) 20245 in containment and cable nos. EG213168, AG213254 termination point.

CP2-EPMCEB-06 in the green switchgear room. the NRC inspector verified that all pertinent requirements had been met.

No violations or deviations were identified.

Inspection conducted: December 1-31, 1985 (Report 50-445/85-18)

Areas Inspected: Routine, unannounced inspections of Unit 1 which included applicant actions on construction deficiencies, applicant actions on previous NRC inspection findings, IE Notices, Generic Letters, and (TRT) coatings. The inspection involved 59 inspector-hours onsite by two NRC inspectors and one consultant.

Results: Within the four areas inspected, no violation or deviation was identified.

Inspection Conducted: December 1-31, 1985 (Report 50-446/85-15)

Areas Inspected: Routine, announced and unannounced inspections of Unit 2 which included plant tours and applicant actions on construction deficiencies; previous inspection findings; IE Notices;

and Generic Letters; and inspection of protective coatings; heating ventilation and air-conditioning (HVAC); pipe supports; and electrical cable tray/equipment. The inspection involved 168 inspector-hours onsite by four NRC inspectors and one consultant.

Results: Within the seven areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Texas Utilities Generating Company (TUGCO) ~~Applicant Personnel~~

L. Hart, Quality Assurance (QA) TUGCO Nuclear Energy (TNE) Electrical Engineer

P. Halstead, Manager, Quality Control (QC)

F. Madden, ~~TUGCO Nuclear Engineering~~ TNE Mechanical Engineer

J. Merritt, Assistant Project General Manager, ~~TUGCO~~

D. Palmer, Industry Operating Experience Coordinator

P. Stevens, TNE Electrical Engineer

C. Welch, QA Supervisor, ~~TUGCO~~

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

2. Applicant Action on Previous NRC Inspection Findings, Unit 1 and 2

(Open) Unresolved Items 445/8514-U-02 and 03; 446/8511-U-01 and 02; and 445/8516-U-01; 446/8513-01: Procedures did not address construction deficiency file content; incomplete QA record files; and TUGCO commitment to review this matter. The NRC inspector continued the previous inspection by following up on each of these items during this inspection period. TUGCO is still working on these items and anticipates completing the review and taking necessary action to improve the current system by March 1, 1985.

(Open) Unresolved Items 445/8516-U-02 and 03; 446/8513-U-02 and 03: IE Bulletin files for 79-14 and 79-28. The NRC inspectors continued the previous inspection by following up on each of these items. TUGCO is working on improving the IE Bulletin system and has named a new coordinator. They will consolidate the files, and place QA records in the vault. The corrective action on applicable IE Bulletins requiring hardware evaluation, repair and replacement and verification will be reviewed to

assure that the cognizant construction organization tracks these actions to completion.

No violations or deviations were identified.

3. Applicant Action on 10 CFR 50.55(e) Deficiencies

(Closed) Construction Deficiency D-1-0181(CP-85-30): Switch gear cabinet terminations by the vendor. The NRC inspector inspected this item to determine why the terminations were replaced when TUGCO letter TXX-4598 dated October 16, 1985 stated it was not reportable. The inspector reviewed the TUGCO evaluation and found that this item was not reportable because they concluded it would not adversely affect the safe operation of the plant. It was only replaced because it did not meet TUGCO's standards (Attachment 9 of 01-QP-11.3-28) which may be more stringent than the manufacturer's standard.

4. Applicant Action on Inspection and Enforcement Information Notices (IEN)

The IE Information notices are sent to the nuclear industry for information purposes and require no action by the licensees and applicants with respect to reporting to the NRC but, are encouraged to take action on applicable notice technical issues, if applicable.

to prevent similar technical problems. The handling of these notices are not covered by NRC regulations; however, the NRC is interested in how the technical issues in the subject notices are handled. The following notice files were reviewed to determine how TUGCO determined applicability; make distribution, and took action on IEN 85-04, 85-22, 85-33, 85-34, 85-35, 85-36, and 85-56. This review of TUGCO files shows that their established system is working satisfactorily as technical issues were addressed.

No violations or deviations were identified.

5. Applicant Action on Generic Letters

The NRC Generic Letters are also sent to the nuclear industry for information purposes and require no response to the NRC. Again the NRC is interested in how the utility distributes, evaluates, and, if applicable, takes corrective action. The NRC inspector reviewed 13 files and selected Generic Letters 83-11 and 83-16 for a more detailed review. TUGCO Licensing receives and distributes these letters to the operations support group for their review and action. Review of the files revealed that the TUGCO system does adequately consider Generic Letters and appropriate action was taken on these generic letters.

No violations or deviations were identified.

6. General Plant Inspections of Unit 2

At various times during the inspection period, NRC inspectors conducted unplanned inspections of the reactor building, safeguards building, and the electrical and control building. The NRC inspector observed ongoing construction work and discussed various subjects with personnel engaged in work activities.

No violations or deviations were identified.

7. Protective coatings, Unit 1 and 2

a. The NRC inspector reviewed the coating specifications and procedures for clarity, consistency, technical criteria, and instructions for applying coatings. These procedures contain better criteria than the old procedures which were reviewed by the NRC Technical Review Team (TRT) in 1984. Personnel training/qualification, concrete/steel reinspection and inspection, testing, documentation, and repair are well covered in specification 2323-AS-31 and in Procedures CP-EP-14.2, 14.3, 14.7, 14.8, 14.1, 14.4, 14.9, 14.0, 14.5, 14.6, 6.2: CCP-30 and 40.

b. Observation of work activity - The inspector observed work in progress and completed work as follows: pressurizer room

31, steam generator rooms 26 and 29, elevator shaft room 30, room 21, fabrication shop and paint storage building. Most of the work observed was surface preparation, however, a final application of the coating of the steel liner was observed in room 21. The surface preparation and application of coating were accomplished in accordance with good commercial practices and the crafts and field engineers were knowledgeable. Field inspectors were present and were notified by the craft when hold points were imposed. Paint storage areas are temperature controlled and material shelf life was closely monitored and controlled.

c. Records Review - The protective coatings paper flow group (PFG). The purpose of the PFG is to establish a method of initiating, preparing, issuing, tracking, logging, and controlling protective coatings travelers and associated supporting documentation for the verification of coatings activities.

The NRC inspector reviewed protective coatings travelers to determine if the records were adequate, complete, legible, easily retrievable and documented in accordance with site procedures. In addition, the NRC inspector compared the completed and in process travelers to the PFG tracking system to determine if the tracking system was accurate. The computer printout is used for the tracking system.

listing the traveler number, package number, unit, area code/room, number, any outstanding coating deficiency reports and the traveler status.

Records reviewed were legible, easily retrievable and complete in accordance with site coatings procedures. Review of the Unit 2 coating records tracking system, by the NRC inspector, indicated that the system, at the site is now a very reliable and accurate tracking system. The tracking system is updated on a daily basis.

The NRC inspector also reviewed in process travelers in the field. One minor isolated discrepancy was noted on traveler 2-21-O., however, the signature (which was in the wrong block) was received prompt attention when it was brought to the foreman's attention. All other travelers reviewed were correct.

The following work packages which contained more than one traveler were reviewed: 2-21-F, 2-21-O, 2-21-I, 2-21-N, 21-H, 2-21-B, 2-21-E, 2-21-AJ, 2-21-G, and 2-21-L.

The NRC inspector reviewed 8 training records for coating field engineers who were trained and qualified in accordance with site procedure CP-EP-14.1, Revision O. The American National Standards Institute (ANSI) 45.2.6 is no longer

applicable since the approved declassification of protective coatings; however, the majority of the coating field engineers' qualification records that were reviewed by the NRC inspector indicated that they had been qualified or certified to ANSI 45.2.6 before the declassification of protective coatings occurred. Regardless, a beginning coating field engineer must still meet the following qualification requirements:

- Minimum of one and one-half (1 1/2) years experience in the inspection and documentation of protective coatings work at a nuclear facility.

- Shall be physically capable of performing the assigned tasks.

- Shall have natural or corrected near distance visual acuity such that they are capable of reading J-1 letters on a standard Jaeger's Chart.

These inspectors are given classroom instruction on all coatings procedures, and a proficiency test for all instrumentation used to perform the inspections. The coatings field supervisor evaluates the proficiency of the inspector's use of these instruments.

The NRC inspector did not review craft (painters) qualifications because ~~during~~ the TRT's review, ~~they stated that the crafts qualifications were~~ that adequate.

d. Calibration. The NRC inspector reviewed two procedures, IEI-15, "Calibration of DFT Gauges," Revision 5, dated March 11, 1982 and IEI-35, "Calibration of Adhesion Testers," Revision 3, dated February, 27, 1984. The gauges and adhesion testers were calibrated to an accuracy of +/- 10%. The coatings ~~field engineers~~ procedures for minimum adhesion readings for the Electometer Adhesion Tester is more conservative than required.

The NRC inspector reviewed calibration records of two electometer adhesion testers, (M&TE #3741 and M&TE #2904) and four DFT gauges, (M&TE #4332, M&TE #4333, M&TE #2809, and M&TE #2923). Records indicated that the instruments were calibrated at their proper intervals.

e. Action required of TUEC (NUREG-0797) Supplement No. 9). The NRC inspector reviewed the status of actions required ~~by~~ of TUEC related to the TRT findings, ~~in NUREG-0797~~, Supplement No. 9, page M-13.

1). Backfit test program - The NRC inspector reviewed the data collected for the Electometer calibration

correction to the data for adhesion tests covering miscellaneous steel items in Unit 1 & 2. The data is complete but has not been finalized into report form for submittal to NRC for review.

2). Traceability - This category deals with nonconformance reports (NCR's) which provide "use as is" dispositions for discrepant coating materials with inadequate technical justification for the disposition.

The action required for this category has been completed by the licensee and submitted for review to the Director of Nuclear Reactor Regulation in TUGCO letter (TXX-4613) dated November 10, 1983).

3). Coatings procedures. The TRT found deficiencies in procedures and instructions for coatings work and related inspection activities, during the construction phase, which rendered them inappropriate or inadequate for determining satisfactory accomplishment of important work activities. The TRT also found that the procedure review and approval system was inadequate to detect and correct these deficiencies.

The NRC inspector's review of this category indicates that TUGCO has revised their coating procedures for the

Unit 2 construction phase and the reinspection activities for Unit 1 to include inspection attributes for determining satisfactory accomplishment of important work activities. CP-EP-6.2 has been established to assure that procedures and instructions are reviewed and approved by technically qualified individuals to assure consistency and clarity.

TUGCO letter TXX-4613 outlines the coatings surveillance program for operations.

4). Coating exempt log. The IRI requested an updated estimate of the number of additional items to be entered on the exempt log. Unit 2 exempt log is current and up-to-date. However, Unit 2 will have few entries into the exempt log because any deficient coating areas will be reworked or repaired. When the Unit 1 backfit test program data is complete, an estimate will be entered into the exempt log.

No violations or deviations were identified.

B. Heating Ventilation and Air Conditioning (HVAC) Systems, Unit 2.

a. FSAR, specification, and drawings reviewed - The inspector reviewed the Comanche Peak Steam Electric Station (CPSES)

Final Safety Analysis Report (FSAR) to identify the HVAC's design and quality assurance requirements. FSAR Volume IV, Section 3.2, "Classification of Structures, Components and Systems," states that part of the containment ventilation system is seismic Category I; however, FSAR Volume XIV, Section 17.0, Appendix 17A, "List of Quality Assured Items," states that the containment ventilation system (which contains eight subsystems/components) is seismic Category II and nonsafety related with the exception of the containment purge exhaust ductwork, support, debris screen, and isolation valves, which are seismic Category I. Only the isolation valves, which are safety and code class 2, are safety related and seismic Category I.

The Gibbs & Hill Inc. specification for HVAC systems is 2323-MS-85 Revision 3. Selected portions of this specification were reviewed to select the the hardware to be inspected. Isolation dampers or valves and hydrogen purge systems were selected for inspection.

b. Work observed. The NRC inspector used drawings numbers 2323-M-2-0301, Revision CP-4 and 2323-M2-0502, Revision 1 to verify the equipment as-installed, i.e., identification, location, and configuration of the hydrogen supply/exhaust, and containment supply/purge/relief systems. The following were inspected:

CONTAINMENT PENETRATION NO.	VALVE	SERIAL NO.	RIR
M III 18	2HV 5543	14759-1B	12191
	2HV 5563	14759-1B	12191
	2HV 5542	14759-1F	12191
	2VA 001	AF 074	9579
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M III 19	2HV 5541	14759-1A	12191
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	2HV 5540	14759-1C	12191
	2VA 002	AF 003	9579
			H 2012-1 Lot no.
M V 2	2HV 5539	14759-3C	12191
	2HV 5538	14759-3D	12191
M V 14	2HV 5549	14759-2A	12191
	2HV 5548	14759-2B	12191
	2VA 005	AD 213	08565
			H 1826-1 Lot no.
M V 1	2HV 5537	14759-3A	12191
	2HV 5536	14759-3B	12191
	2VA 003	AD 219	08509
			H 1826-1 Lot no.

c. Records Reviewed - The NRC inspector reviewed receiving inspection report (RIR) packages (RIR 12191, RIR 13110, RIR 13186, and RIR 13187) which contained the following:

Receiving check-list, drawings, QA check-list, and a documentation package with: drawings, order specification sheet, material traceability list, body mill test report (MTR), disc MTR, stem MTR, disc pin MTR, gasket retainer MTR, gasket retainer bolts certification (Cert), filler metal test report (TR), manufacturer's material TR, certificate of compliance, liquid penetrant TR, weld repair report, body radiographics TR, wall thickness measurement report, final TR, cleaning Cert, cycle TR, ASME data report assembly shop traveler.

No violations or deviations were identified.

9. Mechanical Penetrations, Unit 2

In conjunction with the HVAC inspection, the NRC inspector observed mechanical penetration work which had been completed and reviewed selected records.

a. Work observed - Penetration Numbers MIII-18, MIII-19, MV-2, MV-14, and MV-1 were located using drawing number 2323-M2-0502, Revision 1 and were found to be properly

identified and configured. These penetrations were properly protected and showed no damage.

b. Records reviewed - The inspector reviewed RIR package for penetration MIII-18 and found that the package contained the proper documentation.

No violations or deviations were identified.

10. Safety Related Pipe Supports and Restraint Systems

a. Procedures - The NRC inspector reviewed Brown & Root Inc. (B&R) QA manual, Section 16, Revision 16; Section 19, Revision 8 (in part); and Appendix 1.0, Revision 3 (in part). ASME QA procedures CP-QAP-2.1, Revision 12; 11.1, Revision 8; 11.1-28, Revision 34; and 19.1, Revision 2 (in part) were also reviewed.

b. Observation of work activity - The NRC inspector interviewed 3 craftsmen who were installing an anchor support for containment spray piping in the Safeguards building. The welding of the support and torquing of baseplate anchor bolts were witnessed. Work was accomplished in accordance with the work packages.

The NRC inspector inspected a total of 24 pipe supports on the Safety I injection system piping. Of these, two were large bore spring hangers, one small bore snubber, one large bore snubber, two equipment snubbers, eleven small bore restraints, and seven large bore restraints. Several discrepancies were noted on the following supports: H-SI-2-SB-020-1-2, -3-2, 5-2, 6-2, 8-2, 10-2, 11-2, and 12-2; H-SI-2-5B-019-1-2, 3-2, 4-2, and 5-2; SI-2-039-401-S22R, SI-2-039-404-S22R; SI-2--309-406-S22R; SI-2-044-401-S22R; SI-2-070-404-S22R; SI-2-070-405-S22R; and SI-2-070-406-S22R. However, QC has not performed their inspection of these supports, and hence, installation can not be considered complete, so there are no findings at this time. The discrepancies found were generally insufficient clearance or a departure from the design drawing. The basic design of the support systems examined appeared to be adequate.

The NRC inspector reviewed seven safety related pipe support documentation packages including records of materials, welding, QC inspection, nonconformance reports, and rework and reinspection as follows: RH-2-5B-024-001-2, CT-2-038-402-C52R, CS-2-RB-072-702-1, CC-2-041-713-A63R, MS-2-150-448-C52K, H-CS-2-RB-021-7120-1, and H-SI-2-RB-0580-701-2.

The items of nonconformance were generally for dimensions that were slightly out of tolerance, (i.e. Hilti bolt minimum spacing). All NCR's appeared to be dispositioned properly.

No violations or deviations were identified.

11. Electrical Inspection

12. Exit Interview

An exit interview was conducted January . 1986, wit the applicant representatives identified in paragraph 1 of Appendix E of this report. During this interview, the NRC inspectors summarized the scope and findings of the inspection. The applicant acknowledged the findings.

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FINAL DRAFT FEB.25
TRANSMITTED TO OPS

APPENDIX C
CONSTRUCTION INSPECTION REPORT

U. S. NUCLEAR REGULATORY COMMISSION
REGION IV

NRC Inspection Report: 50-445/85-18 Permit: CPPR-126
50-446/85-15 CPPR-127

Docket: 50-445 Category A2
50-446

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

Facility Name: Comanche Peak Steam Electric Station (CPSES) Units 1 & 2

Inspection At: Glen Rose, Texas

Inspection Conducted: December 1-31, 1985

Inspectors: _____ _____
[illegible], Senior Resident Reactor Date
Inspector (SRRI), Construction, Region IV
CPSES Group
(paragraphs 1, 2, 3, 4, 5, 6, 8, 9, 12)

_____ _____
C. E. Johnson, SRRI, Construction, Region IV Date
South Texas Project
(paragraph 7)

_____
P. W. Michaud, Reactor Inspector, REGION IV Date
(paragraph 10)

12

D. L. Kelley, SRRI, Operations, Region IV, CPSES Group (paragraphs 11) — Date

Consultant: EG&G - J. H. McCleskey

Reviewed by: _____ _____ _____
I. Barnes, Group Leader, Region IV CPSES Group — Date

Approved: _____ _____
T. F. Westerman, Chief, Region IV CPSES Group — Date

Inspection Summary

Inspection conducted: December 1-31, 1985 (Report 50-445/85-18)

Areas Inspected: Routine, unannounced inspections of Unit 1 which included applicant actions on construction deficiencies, applicant actions on previous NRC inspection findings, IE Notices, Generic Letters, and NRC Technical Review Team (TRT) coatings. The inspection involved 59 inspector-hours onsite by two NRC inspectors and one consultant.

Results: Within the four areas inspected, no violation or deviation was identified.

Inspection Conducted: December 1-31, 1985 (Report 50-446/85-15)

Areas Inspected: Routine, announced and unannounced inspections of Unit 2 which included plant tours and applicant actions on construction deficiencies; applicant actions on previous inspection NRC findings; IE Notices and Generic Letters; and inspection of protective coatings; heating ventilation and air-conditioning (HVAC); pipe supports; and electrical cable tray/equipment. The inspection involved 168 inspector-hours onsite by four NRC inspectors and one consultant.

Results: Within the seven areas inspected, no violations or deviations were identified.

DETAILS

1. Persons Contacted

Texas Utilities Generating Company (TUGCO)

[illegible] Hart, Quality Assurance (QA) [illegible] Electrical Engineer

R. Halstead, Manager, Quality Control (QC)

F. Madden, TNE Mechanical Engineer

J. Merritt, Assistant Project General Manager

D. Palmer, Industry Operating Experience Coordinator

[illegible], TNE Electrical Engineer

[illegible] Welch, QA Supervisor

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

2. Applicant Action on Previous NRC Inspection Findings, Units 1 and 2

a. (Open) Unresolved Items (445/8514-U-02 and 03; 446/8511-U-01 and 02; and 445/8514-U-01; 446/8513-01): Procedures did not address construction deficiency file content, incomplete QA record files, deficiency report corrective action, and TUGCO commitment to review this matter. The NRC inspector continued the previous inspection by following up on each of these items during this inspection period. TUGCO is still working on these items and anticipates completing the review and taking necessary action to improve the current system by [illegible] 1985.

b. (Open) Unresolved Items (445/8516-U-02 and 03, 446/8513-U-02 and 03): IE Bulletin files for 79-14 and 79-28. The NRC inspectors continued the previous inspection by following up on each of these items. TUGCO is working on improving the IE Bulletin system and has named a lead coordinator. They will consolidate the files, and place QA records in the vault. The corrective action on applicable IE bulletins requiring hardware evaluation, repair, replacement and verification will be reviewed to assure that the cognizant construction organization tracks these actions to completion.

No violations or deviations were identified.

3. <u>Applicant Action on 10 CFR 50.55(e) Deficiencies</u>

(Closed) Construction Deficiency D-1-0181 (CP-85-[illegible]): Switch gear cabinet terminations by the vendor. The NRC inspector inspected this item to determine why the terminations were replaced when TUGCO letter TXX-4598 dated October 16, 1985, stated that the deficiency was not reportable. The inspector reviewed the TUGCO evaluation and found that this item was not reportable because they concluded it would not adversely affect the safe operation of the plant. It was only replaced because it [illegible] TUGCO's [illegible] which are more stringent than the manufacturer's standard.

4. <u>Applicant Action on Inspection and Enforcement Information Notices (IEN)</u>

The IE Information Notices are sent to the nuclear industry for information purposes and require no action by the licensees and applicants with respect to reporting to the NRC but they are encouraged to take action on applicable technical issues, if applicable, to prevent similar technical problems. The handling of these notices are not covered by NRC regulations; however, the NRC is interested in how the technical issues in the subject notices are handled. The following notice files were reviewed to

determine how TUGCO determined applicability; make distribution, and took action on IEN 85-04, 85-22, 85-33, 85-34, 85-35, 85-36, and 85-56. This review of TUGCO files shows that their established system is working satisfactorily as technical issues were addressed.

No violations or deviations were identified.

5. Applicant Action on Generic Letters

The NRC Generic Letters are also sent to the nuclear industry for information purposes and require no response to the NRC. Again the NRC is interested in how each utility distributes, evaluates, and, as applicable, takes corrective action. The NRC inspector reviewed 15 files and selected Generic Letters 83-11 and 83-16 for a more detailed review. TUGCO Licensing receives and distributes these letters to the operations support group for their review and action. Review of the files revealed that the TUGCO system does adequately provide Generic Letters and appropriate action was taken on these generic letters.

No violations or deviations were identified.

6. General Plant Inspections of Unit 2

At various times during the inspection period, NRC inspectors conducted inspections of the reactor, safeguards, and the electrical/control building. The NRC inspector observed ongoing construction work and discussed various subjects with personnel engaged in work activities.

No violations or deviations were identified.

7. Protective coatings, Unit 1 and 2

a. The NRC inspector reviewed the coating specifications and procedures for clarity, consistency, technical criteria, and [illegible] in applying coatings. [illegible] contain better criteria than the old procedures which were reviewed by the NRC Technical Review Team (TRT) in 1984. Personnel training/qualification, concrete/steel reinspection and inspection, testing, documentation, and repair are well covered in specification 2323-AS-31 and in Procedures CP-EP 14.2, 14.[illegible], [illegible], 14.0, 14.5, 14.6, [illegible] CCP-30 and 40.

b. The inspector observed work in progress and completed work as follows: pressurizer room 31, steam generator rooms 26 and 29, elevator shaft room 30, room 21, fabrication shop and paint storage building. Most of the work observed was surface preparation, however, a final application of the

coating of the steel liner was observed in room 21. The surface preparation and application of coating were accomplished in accordance with good commercial practices and the crafts and field engineers were knowledgeable. Field inspectors were present and were notified by the craft when hold points were imposed. Paint storage areas are temperature controlled and material shelf life was closely monitored and controlled.

c. Records Review - The protective coatings paper flow group (PFG). The purpose of the PFG is to establish a method of initiating, preparing, issuing, tracking, logging, and controlling protective coatings travelers and assigning documentation for the verification of coatings activities.

The NRC inspector reviewed protective coatings travelers to determine if the records were adequate, complete, legible, easily retrievable and documented in accordance with site procedures. In addition, the NRC inspector compared the completed and in process travelers to the PFG tracking system to determine if the tracking system was accurate. The computer printout is used for the tracking system, listing the traveler number, package number, unit, area code/room, number, and outstanding coating deficiency reports and the traveler status.

Records reviewed were legible, easily retrievable and complete in accordance with site coatings procedures. Review of the Unit 2 coating records tracking system, by the NRC inspector, indicated that the system, at the site is now a very reliable and accurate tracking system. The tracking system is updated on a daily basis.

The NRC inspector also reviewed in process travelers in the field. One minor isolated discrepancy was noted on traveler 2-21-0., however, the signature (which was in the wrong block) was promptly corrected when it was brought to the [illegible]'s attention. All other travelers reviewed were [illegible]

The following work packages which contained more than one traveler were reviewed: 2-21-F, 2-21-O, 2-21-I, 2-21-N, 21-B, 2-21-B, 2-21-E, 2-21-AJ, 2-21-6, and 2-21-L.

The NRC inspector reviewed 8 training records for coating (or field engineers who were trained and qualified in accordance with site procedure CP-QP-14.1, Revision 0. The American National Standards Institute (ANSI) 45.2.6 is no longer applicable since the approved declassification of protective coatings; however, the majority of the coating field engineers qualification records that were reviewed by the NRC inspector indicated that they had been qualified or

certified to ANSI 45.2.6 before the declassification of protective coatings occurred. Regardless, a beginning coating field engi eer must still meet the following qualification requirements:

- Shall have a minimum of one and one-half (1 1/2) years experience in the inspection and documentation of protective coatings work at a nuclear facility

- Shall be physically capable of performing the assigned tasks.

- [illegible] acuity such that they are capable of reading J-1 letters on a standard Jaeger's Chart.

These inspectors are given classroom instruction on all coatings procedures, and a proficiency test for all instrumentation used to perform their inspections. The coatings field engineer evaluates the proficiency of the inspector's use of those instruments.

The NRC inspector did not review craft (painters) qualifications because the TRI reviewed them and they stated that the crafts qualifications were adequate.

d. Calibration. The NRC inspector reviewed two procedures, IEI-15, "Calibration of DFT Gauges," Revision 5, dated March 11, 1982 and IEI-35, "Calibration of Adhesion Testers," Revision 3, dated February, 27, 1983. The gauges and adhesion testers were calibrated to an accuracy of [illegible]. The coating procedures for minimum adhesion readings for the Elcometer Adhesion Tester is more conservative than required.

The NRC inspector reviewed calibration records of two elcometer adhesion testers, (M&E #[illegible] and M&E #2906) and [illegible] DFT gauges (M&E #[illegible], [illegible] #[illegible], M&E #[illegible], [illegible] M&E #[illegible]). [illegible] calibrated at the proper interval.

e. Action required of TUEC (NUREG-0797) Supplement No. 9). On page 9 the NRC inspector reviewed the status of actions required of TUEC related to the IPT findings.

1. [illegible] The NRC inspector reviewed the data collected for the Elcometer calibration correction to the data for adhesion test [illegible] miscellaneous steel items in Unit 1 & 2. The data is complete but has not been formally reported and submitted to NRC for review.

2). Traceability - This category deals with nonconformance reports (NCR's) which provide "use as is" dispositions for discrepant coating materials with inadequate technical justification for the disposition.

The action required for this category has been completed by the licensee and was submitted for review to the Director of Nuclear Reactor Regulation in TUGCO letter (TXX-4613) dated November 18, 1985).

3). Coatings procedures. The TRT found deficiencies in procedures and instructions for coatings work and [illegible] [illegible] for determining satisfactory accomplishment of important work activities. The TRT also found that the procedure review and approval system was [illegible] detect and correct these deficiencies.

[illegible] that TUGCO has revised their coating procedures for the Unit 2 construction phase and the [illegible] activities for Unit 1 to include inspection attributes for determining satisfactory accomplishment of important work activities. CP-EP-6.2 was established to assure that procedures and instructions are reviewed

and approved by technically qualified individuals to assure consistency and clarity.

TUGCO letter TXX-4613 outlines the coatings [illegible]

4). Coating exempt log. The TRT requested an updated estimate of the number of additional items to be entered on the exempt log. Unit 2 exempt log is current and up-to-date. However, Unit 2 will have few entries into the exempt log because any deficient coating items will be reworked or repaired. When the [illegible]

[illegible] were identified.

8. Heating Ventilation and Air Conditioning (HVAC) Systems, Unit [illegible]

a. [illegible] The inspector reviewed the Comanche Peak Steam Electric Station (CPSES) Final Safety Analysis Report (FSAR) to identify the HVAC design and quality assurance requirements. FSAR Volume IV, Section 3.2, "Classification of Structures, Components and Systems," states that part of the containment ventilation system is seismic Category I; however, FSAR Volume XI[illegible],

Section 17.0, Appendix 17A, "List of Quality Assured Items," states that the containment ventilation system (which contains eight subsystems/components) is seismic Category II and nonsafety related with the exception of the containment [illegible] isolation valves, which are seismic Category I. Only the isolation valves, which are safety and code class 2, are safety related and seismic Category I.

The Gibbs & Hill Inc. Specification for HVAC systems is 2323-MS-85 Revision 3. Selected portions of this specification were reviewed to [illegible] [illegible] valves and [illegible] [illegible]

[illegible] observed, the NRC inspector used drawing numbers 2323-M-2-0301, Revision CP-4 and 2323-M2-0302, Revision [illegible] to verify the equipment as installed, i.e., identification, location, and configuration [illegible] the hydrogen [illegible] [illegible] were inspected:

CONTAINMENT PENETRATION	VALVE	SERIAL NO.	RIR

NO.

M III 18	2HV 5543	14759-1B	12191
	2HV 5563	14759-1B	12191
	[illegible]	[illegible]	[illegible]
	2VA 001	AF 024	9579
			H 2012-1 Lot no.
M III 19	2HV 5541	14759-1A	12191
	2HV 5562	14759-1B	12191
	2HV 5540	14759-1C	12191
	2VA 002	AF 007	9579
			H 2012-1 Lot no.
[illegible]	[illegible]	[illegible]	[illegible]
	[illegible]	[illegible]	[illegible]
M V 14	2HV 5545	14759-2A	12191
	2HV 5569	14759-2B	12191
	2VA 005	AD 211	08563
			H 1826-1 Lot no.
M V 1	2HV 5537	14759-1A	12191
	2HV 5570	14759-1B	12191
	2VA 003	AD 212	08509
			H 1826-1 Lot no.

c. Records Review - The NRC inspector reviewed receiving inspection report (RIR) packages (RIR 12191, RIR 13110, RIR 12186, and RIR 13187) which contained the following:

Receiving check-list, drawings, QA check-list, and a documentation package with: drawings, order specification sheet, material traceability list, body mill test report (MTR), disc MTR, stem MTR, disc pin MTR, gasket retainer MTR, gasket retainer bolts certification (Cert.), [illegible] metal test report (TR), manufacturer's material TR, certificate of compliance, liquid penetrant TR, weld repair report, body radiographics TR, wall thickness measurement report, final TR, cleaning Cert., cycle TR, ASME data report assembly shop traveler.

No violations or deviations were identified.

[illegible]

In conjunction with the HVAC inspection, the NRC inspector observed mechanical penetration work which had been completed and reviewed selected records.

[illegible] Penetration Number [illegible] MV-14, and MV-1 were located using drawing number 2323-M2-0502, Revision 1 and were found to be properly identified and configured. These penetrations were properly protected and showed no damage.

b. Records reviewed - The inspector reviewed RIR package for penetration MIII-18 and found that the package contained the proper documentation.

No violations or deviations were identified.

10. <u>Safety Related Pipe Supports and Restraint Systems</u>

a. Procedures - The NRC inspector reviewed Brown & Root Inc. (B&R) QA manual, Section 16, Revision 16; Section 19, Revision 8 (in part); and Appendix 1.C, Revision 3 (in part). ASME QA procedures CP-QAP-[illegible].1, Revision [illegible]; [illegible] Revision [illegible], and [illegible] reviewed.

b. Observation of work activity - The NRC inspector observed 3 craftsmen who were installing an anchor support for containment spray piping in the Safeguards building. The welding of the support and torquing of base plate anchor bolts were witnessed. Work was accomplished in accordance with the work package.

The NRC inspector inspected a total of 24 pipe supports on the Safety Injection system piping. Of these, two were large bore spring hangers, one small bore snubber, one large bore snubber, two equipment snubbers, eleven small bore restraints, and seven

large bore restraints. Several discrepancies were noted on the following supports: H-SI-2-SB-020-1-2, -3-2, 5-2, 6-2, 8-2, 10-2, 11-2, and 12-2; H-SI-2-SB-019-1-2, 3-2, 4-2, and 5-2; SI-2-039-401-S22R, SI-2-039-404-S22R; SI-2--309-406-S22R; [illegible] 404-S22R; SI-2-070-405-S22R [illegible] SI-2-070-406-S22R. However, B&R inspection had not been performed on supports. Since installation was not considered complete, there are no NRC findings at this time. The discrepancies found were generally insufficient clearance or a departure from the design drawing. The basic design of the support systems examined appeared to be adequate.

[illegible] safety related pipe supports [illegible] QC inspection, nonconformance reports, and rework and [illegible] -038-402-C52R, CC-2-RB-[illegible], CC-2-031-[illegible], MS-2-150-449-C52R, H-CS-2-RB-021-[illegible], and H-SI-2-RB-0500-701-2.

[illegible] identified by B&R inspectors were generally for dimensions that were slightly out of tolerance, i.e. Hilti bolt minimum spacing. All NCR's appeared to be dispositioned properly.

No violations or deviations were identified.

11. Observation of Electrical Work Activities

During this reporting period the NRC inspector observed two safety-related cable termination activities. The first termination activity observed was a termination of a Train A (orange cable) in a junction box in containment; the second was the termination of two Train B (green cable) in a motor control center (MCC) in the green switchgear room.

In process work observation was performed to verify that: the latest drawings and termination cards are being used; the cables are protected from damage from nearby construction activities; the proper [illegible] maintained [illegible] separation of power, [illegible] cable identification is preserved; bending radius is maintained; cable entry point is [illegible]; tools requiring calibration are in good repair and properly calibrated; connection tightness is correct; terminations are of the correct type and properly located; junction boxes, MCC's and switchgear are free of debris; QC activities are performed at the times specified; nonconformances are identified and resolved in accordance with procedures; and installation and inspection activities are being documented during the in-process work activity. Terminations of two types were observed. One required terminal lugs, the other did not. The attributes specific to the termination type in addition to those attributes common to both were inspected. Cable numbers

and termination points were; cable no. E02199710, termination point junction box (JB) 2C245 in containment and cable nos. EG213168, AG213254 termination point.

CP2 CPMCTA-08 in the green switchgear room. The NRC inspector verified that all pertinent requirements had been met.

No violations or deviations were identified.

17. Exit Interview

An exit interview was conducted January [illegible], 1986, with the applicant representatives [illegible] [illegible] summarized the scope and findings of the inspection. The [illegible] acknowledged the findings.