## APPENDIX

## U. S. NUCLEAR REGULATORY COMMISSION REGION IV

# SYSTEMATIC ASSESSMENT OF LICENSEE PERFORMANCE

Report: 50-445/81-20 50-446/81-20

Cockets: 50-445 & 50-446 - Category A2

Licansae: Texas Utilities Generating Company 2001 Bryan Tower Dallas, Texas 75201

Facility Name: Comanche Peak, Units 1 and 2 Appraisal Period: July 1, 1980, to June 30, 1981 Appraisal Completion Date: September 1, 1981 Licansee Meeting: October 9, 1981

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## I. Introduction

Systematic Assessment of Licensee Performance (SALP) is an integrated NRC staff effort to collect available observations and data on an annual basis and evaluate licensee performance utilizing these data and observations as a basis. The integrated systematic assessment is intended to be sufficiently diagnostic to provide a rational basis for allocating NRC resources and to provide meaningful guidance to licensee management.

## II. Criteria

The assessment of licensee performance is implemented through the use of seven evaluation criteria. These criteria are applied to each functional area that is applicable to the facility activities (construction, preoperation or operation) for the categorization of licensee performance in these areas.

One or more of the following evaluation criteria are used to assess each applicable functional area.

- 1. Management involvement in assuring quality
- 2. Approach to resolution of technical issues from safety standpoint
- 3. Responsiveness to NRC initiatives
- 4. Enforcement history
- 5. Reporting and analysis of reportable events
- 6. Staffing (including management)
- . Training effectiveness and qualification

Attributes associated with the above evaluation criteria form the guidance for the SALP Board for categorization of each functional area in one of three categories. Performance categories are defined as follows:

<u>Category 1</u>. A combination of attributes which demonstrates achievement of superior safety performance; i.e., licensee management attention and involvement are aggressive and oriented toward nuclear safety; licensee resources are ample and effectively used such that a high level of performance with respect to operational safety or construction is being achieved. Reduced NRC attention may be appropriate.

Category 2. A combination of attributes which demonstrates achievement of satisfactory safety performance; licensee management attention and involvement are evident and are concerned with nuclear safety; licensee resources are adequate and are reasonably effective such that satisfactory performance with respect to operational safety or construction is being achieved. NRC attention should be maintained at normal levels.

Category 3. A combination of attributes which demonstrates achievement of only minimally satisfactory safety performance; licensee management attention or involvement is acceptable and considers nuclear safety, but weaknesses are evident; licensee resources appear to be strained or not effectively used such that minimally satisfactory performance with respect to operational safety or construction is being achieved. Both NRC and licensee attention should be increased.

#### III. Summary of Results

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Functional Areas		Category
1.	Soils and Foundations	NA
2.	Containment and other Safety-Related Structures	AF
3.	Piping Systems and Supports	1
4.	Safety-Related Components	1
5.	Support Systems	2
6.	Electrical Power Supply and Distribution	1
7.	Instrumentation and Control Systems	1
8.	Licansing Activities	2

## IV. Performance Analyses

The SALP Board obtained assessment data applicable to the appraisal period of July 1, 1980, to June 30, 1981. The data for the Comanche Peak Steam Electric Station (CPSES) was tabulated and analyzed and a performance analysis was developed for each of six functional areas.

The SALP Board met on September 1, 1981, to review the performance analyses and supporting data and develop the SALP Board Report.

#### Functional Area Analysis

1. Soils and Foundations

All activities completed.

#### 2. Containment and Other Safety-Related Structures

Very limited activities during assessment period.

#### 3. Piping Systems and Supports

Three violations issued to the licensee in the review period were concerned with malfunction in this general area. Two of three involved vendor furnished support/restraint components. The first was based on an allegation to the effect that a group of moment restraints could not have been properly examined in the vendor's facility by the vendor. Our examination at the site substantiated the allegation and the components were sent back to the vendor for rework and reinspection.

The second was by the same vendor regarding a group of seismic restraints that did not receive full penetration welding as specified. These components were reworked onsite by the vendor to satisfy the engineering criteria. Both instances, which occurred within an approximate 2-month period, indicated problems in the vendor component inspection program which have been rectified.

The third item involved a finding that due to the removal of temporary supports, cartain piping and in-line components were in effect unsupported. The licensee reponded to the noncompliance by installing so called 'hard supports' of a temporary nature until such time as the permanent supports are installed. Hard supports are supports that are difficult to remove inadvertently by being bolted to the building, the pipe, or both.

The licansae/contractor ASME Code based installation and quality control program is relatively simple, straigntforward and is generally well implemented. The major weakness has been, and to a degree continues to be, an inability to hire/or retain the services of competent (as distinguished from Code qualification) pipe welders.

The licensee has responded to this problem by radiographing cartain welds in some essential piping systems that ne is not required to radiograph under the Code or NRC regulations. He also has a relatively strong welder training program aimed at improving the competance of the welders he hires.

The licansee's management distrols have been demonstrated to be effective in this are and are assigned to Category 1.

## 4. Safaty-Related Components opcluding Vessels. Internals, and Pumps

During the appraisal period, the major activity in this area was the maintanance and preservation of installed, nonoperational components. Limitad work was also accomplished on the Unit 1 Reactor Vessel Internals. The maintenance and preservation activities in all areas have been diligently pursued by a group of construction and quality personnel specifically assigned to the activity controlled by central dispatchers and easy-to-follow procedures. NRC inspections in this area have revealed no substantive problems. No NRC inspections were made of installation work on the vessel internals during the period due to the limitad work involved.

The licensee's management controls have been demonstrated to be effective in this area and are assigned to the Category 1 level.

## 5. Support Systems including HVAC, Radwaste and Fire Protection

The licensee's application of support systems, other than those involving concrete or piping systems (areas 2 and 3 above), are essentially limited to HVAC, radwaste, and the fire protection system. During the appraisal period, NRC inspections were directed toward review of the licensee's audit program for monitoring the subcontractors installing HVAC and fire protection systems. The subcontractor programs had been evaluated in an early appraisal period and found adequate for the work involved. The licensee's audit program was also found to be effective in monitoring these activities. Supports for the radwaste piping system are included with the licensee's Class 5 support program which has been evaluated as it relates to other Class efforts and found to be effective.

The licensee's management controls in this area are considered to be at the Category 2 level.

## 6. Electrical Power Supply and Distribution

The NRC inspections in this functional area have not identified any substantive problems. The licensee procedures for installation and quality control are relatively simple and straightforward. The licensee currently has a competent force of adequately trained and motivated personnel to carry out the procedural requirements.

Performance analysis in this area is determined to be Catagory 1.

## 7. Instrumentation and Control Systems

Although much effort has been expended in this area by the licensee's labor force, relatively few instruments are fully installed. The licensee's program for installation and quality control in this area is simple, straightforward, and effective. The assigned personnel appear to have been adequately trained and competent to carry out their assigned responsibilities. NRC inspections have not identified any substantive problems in this functional area during the appraisal period.

Assessment of the licensee's attributes in this area revealed a Category 1 level.

#### 8. Licensing Activities

The applicant's ability to respond on schedule is slower than average. In the work leading to the issuance of the SER, the applicant was not able to perform at a rate necessary to meet schedule demands. (Granted, these schedule demands were heavy due to the shortened schedule.) In overall quality of work supmitted, the applicant has performed slightly better than average over this appraisal period. The applicant is well supported by Westinghouse and Gibbs & Hill. The principal need for improvement is in an increased participation in the licensing process by the station operations staff. We expect this to improve as the station approaches fuel loading.

Application of evaluation criteria in this area resulted in a Category 2 level.

## Conclusion

The SALP Board concluded that the licansee has demonstrated an overall combination of attributes exhibiting Category 1 performance during the appraisal period. This evaluation was based upon the three primary areas where the construction efforts, and, therefore, the NRC inspection effort, were directed; i.e., piping, electrical, and instrumentation installations. The Board noted that 1069 of the 1699 inspection-hours were devoted to these three basic areas.

In regard to the licensee's ongoing interactions with NRR, the consensus of the Board was that the licensee has managed these activities in a Category 2 mode.

#### Board Recommendations

Although the SALP Board concluded that the overall licensee performance was Category 1, they did not recommend to the regional office that the inspection level for construction be changed. Programmatic changes for construction inspection have been made that will effectively reduce inspection activities for all construction sites.

- V. Supporting Data and Summaries
  - 1. Recort Data
    - a. LER Numbers Reviewed

(Not applicable)

Construction Deficiency Reports

The licansee formally reported seven Significant Construction Deficiencies that he or his agents had identified during the appraisal period. These are summarized as follows:

 Engineering failure to consider the thickness of architectural concrete on floors when specifying the embedment depth of anchor bolts.

#### MAJOR CONTRACTS

## VENDOR

1. Pinkerton's Inc.

2. American Steel Building Co.

3. Chicago Bridge & Iron (CB&I)

#### 4. R. W. Hunt

5. Grant Air Conditioning

6. Marathon Metallic Building

7. Grinnell Fire Protection

#### JOB DESCRIPTION

Plant Security

Construct Administrative Office Building

Construct Pipe Fab Shop

Containment Liners

Nuclear/Field Fab Tanks

S. S. Liner Systems for Concrete Tanks

Diesel Generator Fuel Oil Storage

Cable Tray Support Fabrication

Pipe Whip Restraint Supports

Moment Restraints

Temporary Demineralized Water Storage Tank

Welding Structures

Lab & Testing Work for Concrete

HVAC - Construction Administrative Building

Construct Warehouses A, B & C

Construct Training Center for Welding/Qualification

Fire Protection for Warehouses A, B, & C

Fire Protection Maintenance -Adminstrative Buildings & 138KV Startup Transformer

Fire Protection Electrical -Instrumentation Shop

Fire Protection/Vault Areas

Plant Fire Protection System

Halon System Modification TUGCO NOSF

A2-39

8. S. L. McAlester Construction

9. Sabine Steel

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10. Gunn & Briggs

11. Bahnson

12. J. Wallis Storage

13. Southwestern Materials & Supply

14. Natkin Service Company

15. Lone Star Fence

16. Hartford Steam Boiler

17. Dover Elevator

18. Jess Brooks

19. GAPCO

20. Bob Chastain

21. Diamond Electronics

22. Southwest Fabricating & Welding

23. Protective Materials

24. Albert S. Komatsu & Assoc.

#### JOB DESCRIPTION

Security Fencing

Security Fencing

Demin. Water Storage Tanks

Roofing/Insulation Maintenance & Administrative Buildings

Roofing/Main Plant

HVAC/Main Plant

Startup HVAC Test Engineers

Maintenance Building Lockers & Benches

Metal Siding for Chlorine, Turbine & Safeguard Building/Main Plant

HVAC/ARMS Computer Room

Parking Lot Fencing

Switchyard & Plant Fencing

Authorized Nuclear Inspectors

Hydraulic Elevators, Turbine, Auxiliary-Reactor Buildings

Furring, Lathing & Plaster

Spray on Fireproofing

Welding Services & Equipment

Asphalt Paving/TUGCO Parking Lot

Security System

Nuclear/Non-Nuclear Fabrication Piping

Bullet & Penetration Doors

Construct Nuclear Operations Support Facility Offsite (NOSF)

A/E Services - Sorting & Storage Building

25. Overly Door Corporation

26. L & W Paving

27. Brand Industrial (BISCO)

28. JBM Builders, Inc.

29. Cyclone Fence Company

 Wiss, Janney, Elstner & Associates, Inc.

31. Tyson Building Corporation

32. Charles F. Williams Co.

33. Jordan Construction Co.

34. Best Fire Protection Systems

35. Component Construction

36. T. R. Osborne, Inc.

37. Big State Waterproofing

38. Ebasco Services, Inc.

#### JOB DESCRIPTION

Rolling Steel Door - SWI

Paving/TUGCO Parking Lot & Project Entrance Gate (Post 8)

Operations Parking Lot

Penetration Seals

Construct Nuclear Operations Support Facility Offsite (NOSF)

Main Plant Security Fencing

Structural Integrity & Integrated Leak Test

TUGCO Operations Administrative Building Annex

Rolling Steel Doors Fuel Building

Rolling Steel Doors/Turbine, Safeguard & Control Buildings

Parking Lot/TUGCO Operations Administrative Building Annex

Fire Protection System (Temporarily suspended.)

Maintenance Annex Building

Dallas Issued/Clearing & Grubbing Microwave Tower Site

Site Preparation at Mt. Creek Power Plant for Microwave Tower Site (Dallas Issued)

Special Roofing Main Plant Buildings

Unit 2 Damage Study

Independent Bounding Study To Assess The Quantity Of Paint Inside Containment That Could Be Declassified

Provide Onsite Piping Stress Analysis & Piping Support Restraints Design & As-Built Verification, Limited Design,

38. Ebasco Services, Inc. (cont.)

JOB DESCRIPTION

Drafting & Calculations For Electrical Conduits & Cable Tray Supports, Complete As-Built Review

Environmental Analysis High Energy Line Breaks

Development Of Criteria For Class 5 Pipe/Train C Conduit Seismic Interaction Study

Damage Study Unit 1, Radiation Monitoring Study, Review of Layout for Extraction Steam, Heater Drain & Feedwater System

Test Determination of Particulate Deposition in Sample Lines of Radiation Monitors

Construction Project Evaluation Program (INPO Audit)

Conceptual Design, Final Analysis & Seismic Qualification Report

Technical Services of Dr. Roland Yow to Provide Input to CPPE Concerning Welding on Embed Channels Mounting Plates

Software to Modify IBM PDQ-7 Program to Provide Pin Power Edit Capabilities for a Rod by Rod Core Power Distribution Readout

Periodic Inspections of Squaw Creek Dam and Safe Shutdown Impoundment Dam

Design Engineering for Squaw Creek Dam, Railroad, Safe Shutdown Impoundment, Pump Station & Pipeline

PVC Flooring

Jobsite Painting

Instrumentation & Control Shops/ Low Volume Waste Control Building

39. Science Applications, Inc.

40. Sargent & Lundy Engineering

 Corporate Consulting & Development Company

42. G. R. P. Consulting, Inc.

43. Freese & Nichols, Inc.

44. Gilson Stanely Floors

45. Richardson Paint

46. Carter-Stephens, Inc.

47. Brown & Root, Inc.

48. Southwest Research Institute

49. Westinghouse Electric

#### JOB DESCRIPTION

Labor Services (Outside scope of original contract).

TESCO Switchyard Foundations

Waste Water Management System

Service for Penetration Seal Takeoff & Design Verification

Technical Services for Penetration Seal Evaluation

Services for Preliminary Design Engineering Services & Procedure Writing for Fire Endurance Test to Qualify a Protective Envelope for Class 1E Electrical Circuits

Model & Conduct Fire Tests on Typical 3-Hour Rated Curtain Fire Damper Installations

Perform Concrete Strength Test Using Schmidt Hammer

Design to Limit Runout Flow of RHR Pumps

Scoping Study Installation of CE HJTC Probe

Study for Compliance With Regulatory Guide 1.97 Rev. 2

Steam Generator Blowdown Flange Analysis

Interface to Support ERF

Setpoint Methodology to Meet Regulatory Guide 1.105 Rev. 2

Additional ERF Signal Changes

Evaluation of Transmitter Error During Loss of Containment Ventilation

Provide Valve Restraint Locations

Analysis of RV Head & Reactor Internals Lifting Devices (NUREG-0612)

49. Westinghouse (cont.)

#### JOB DESCRIPTION

Eddy Current Inspection for 100% Preservice on Steam Generators (Unit 1)

Eddy Current Inspection for 100% Preservice on Steam Generators (Unit 2)

Determine Cause of Reactor Cavity Over-Temperature Condition

Determine Failures in Inverters

Licensing Support to Demonstrate Leak Before Break

Technical Assistance to Complete UV Coil Performance Testing

NSSS System

Cost for Analysis of RCP Rear Tie Rods

Vibration Baseline for R.C. Piping

Stress Analysis of Piping Systems

480V Switchgear Seismic Analysis

Replace RHR Motor Main Lead Boxes & Seismically Qualify

Design & Furnish Changes in Alternate Shutdown System

Engineering & Hardware for Boron Dilution Protection System to Meet Regulatory Guide 1.70 Revision 3

P-4 Interlock Testing Capability

Charging Pump Miniflow (Response to IEB-70-06A)

Design to Accomodate C-E Heated Junction Thermocouple System

Qualified Instrumentation Sensing Core Exit Temperature & Determine Core Cooling Adequacy

49. Westinghouse (cont.)

#### JOB DESCRIPTION

Modification of Over Pressurization System

Cable for Core Exit Thermocouple Upgrade for NUREG-0737 II.F.2

Analysis Transient Scenarios

Shim Installation Report

WEB Program

Analysis for Thermal Expansion During Plant Heatup

Qualification Analysis for NSSS Auxiliary Relay Racks

Dense Packed Spent Fuel Racks

Steamline Break Mass/Energy Release Analysis

Technical Services to Generate Startup Procedure

Piping System Consultant

Control Rod Drive Mechanism Welding Services

Technical Services for Calibration/Instrumentation

Analysis for Spent Fuel Pool #1, SAMU-Trailer, Nozzle Load Analysis, Analysis for RV Head Vent System

P2500/CCM Interface

Preop Testing of P-2500

Software Verification Test

Safeguard Foreign Object Search & Retrieval

Search & Retrieval of Debris from R. V. Annuls

Preservice Inspection, Examination of Welds on HPSI System, Feedwater, Auxiliary

49. Westinghouse (cont.)

#### JOB DESCRIPTION

Feedwater, Regulatory Guide 1.150 Upgrade Unit 2 Preservice Inspection, Investigate Lower RV Head Indication

Evaluations to Determine Overtemp During Hot Functional Testing (Reactor Cavity)

Analysis for DP Indicating Switches

Finite Analysis of Pipe U-Bolt Restraints

U-Bolt Friction Test

Review & Evaluate Mechanical Equipment in Potentially Harsh Environments

Develop Fire Testing Program for Threaded Conduit Sleeves Utilizing ASTM E-119 & ANI PIA/MAERP Test Standard Requirements

Instructure Response Spectra

Seismic Analysis to Support Repacking of Spent Fuel Pool

A/E Design

SAS/ERF Computer System (NUREG-0696)

Excavation & Construction of Water Wells

Water Well

Meteorological UPS

Lightning Protection

Plant Entrance Access Road

Railroad Rail & Accessories

138 & 345 K SY Installation

138 & 345 K SY Installation

50. Brand Industrial (BISCO)

51. Gibbs & Hill, Inc.

52. Quadrex

53. Singer Layne

54. Southwestern Battery Supply

55. Weather Measure Corp.

56. Brown & Blakney

57. W. A. Smith Construction

58. Texas Power & Light

59. Texas Electric Service Co.

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60. Yandell & Miller 61. Combustion Engineering 62. United Engineers & Constr. 63. C. T. Main 64. Tera Corporation 65. Tenera Corporation 66. Southwest Laboratories 67. National Soil Services 68. Black & Veatch 69. Butler Services 70. Piping Design Service 71. Energy Inc. 72. Delian Corporation 73. Evaluation Research 74. J. R. Benjamin Assoc. 75. Wise and Associates 76. Reedy Associates 77. Impell Corporation 78. Project Assistance Corp. 79. ITT Grinnell

JOB DESCRIPTION VAC Design HJTC Proposal Engineering Services Engineering Services Engineering Services Engineering Services On-Site Welding Inspections Conformitory Testing Engineering Services Engineering Services