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November 13, 1996

C. Lance Terry
Group Vice President

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)
DOCKET NOS. 50-445 AND 50-446
PROPOSED ENGINEERING SELF-ASSESSMENT

Gentlemen:

NRC Inspection Procedure (IP) 40501, "Licensee Self-Assessments Related to Team Inspections", provides guidance to allow the NRC to evaluate a licensee's self-assessment effort as an alternative to an NRC full scope engineering inspection. In accordance with this guidance, TU Electric proposes to conduct a self-assessment of the engineering activities and programs at Comanche Peak Steam Electric Station.

The objective of the assessment is to evaluate engineering activities using the guidance of NRC IP 37550, "Engineering," to identify strengths, weaknesses, and areas for further improvement. Based on our discussions with the NRC Region IV staff, we understand that the staff concurs with the self-assessment option as an alternative to a full scope engineering inspection.

Attachment 1 provides the objectives, scope, general approach, schedule, level of effort, and a list of team members for TU Electric's self-assessment. Attachment 2 contains the resumes for the assessment team members. The enclosure to this letter is the Nuclear Engineering Department Self-Assessment Guide Program Guidelines.

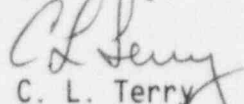
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We appreciate the opportunity to participate in the self-assessment program. If you have any questions, or require additional information, please contact the Self-Assessment Team Leader, William Guldemon at 817-897-8739 or Jim Muffett at 817-897-6956.

Sincerely,


C. L. Terry

GLM/glm
Attachments
Enclosure

c - Mr. L. J. Callan, Region IV
Mr. J. I. Tapia, Region IV
Mr. C. A. Vandeburgh, Region IV
Resident Inspectors, (CPSES)

ENGINEERING SELF-ASSESSMENT PLAN

1. OBJECTIVE

The objective of the assessment is to evaluate engineering activities using the guidance of NRC Inspection Procedure (IP) 37550, "Engineering." This guidance will be used to evaluate the effectiveness of Comanche Peak Steam Electric Station (CPSES) engineering processes and products. This evaluation will be accomplished by a horizontal review and a vertical review of systems supported by these processes. The objectives of the TU Electric team are to:

- Assess engineering activity effectiveness both routine and emergent.
- Identify and document strengths, weaknesses, and areas for improvement.
- Enhance engineering self-assessment capabilities.

2. SCOPE

TU Electric will use NRC IP 37550, "Engineering" in accordance with the guidance provided in NRC IP 40501, "Licensee Self-Assessments Related to Team Inspections" and INPO 90-015, "Performance Objectives and Criteria for Operating and Near-term Operating License Plants" to implement the engineering self-assessment at CPSES. The guidance from these procedures has been used to develop the Nuclear Engineering Department Self-Assessment Guide Program Guidelines included in the enclosure to this letter.

3. APPROACH

The assessment is to be accomplished by performing both a vertical slice of plant systems and horizontal review of engineering processes. The horizontal review will evaluate engineering processes and programs such as resolution of operational issues, design change processes, configuration management, calculations, safety evaluations, and procedures. The vertical slice will evaluate the quality of selected engineering activities and products through an in-depth review of 4 systems, including 2 safety related and 2 non-safety related, risk significant systems.

This approach will provide the objective evidence necessary to determine the overall effectiveness of the engineering organization. Detailed checklists will be used as guidance during the self-assessment and will provide documentation of the objective evidence collected. The assessment team will meet regularly to share results and compare findings.

Overview of Assessment Process

1. Perform horizontal and vertical review
2. Evaluate and integrate the horizontal and vertical reviews
3. Identify strengths, deficiencies, and areas for improvement
4. Document these findings utilizing the CPSES corrective action program

A. Horizontal Review of Programs and Processes

The horizontal review will consist of evaluating engineering effectiveness in the following areas:

1. Operations Support Activities

Three to five recent operations related issues requiring engineering assistance or evaluation will be reviewed. Engineering performance for each of these issues will include the technical quality of activities related to these issues such as:

- Interface with client
- Client's expectations
- Direct field support activities
- Technical evaluations
- Safety evaluations
- Drawing and design database maintenance
- Rad/Environmental analysis
- Reactor Engineering support for reactivity management
- Surveillance testing

Issues to be evaluated will be selected from activities which are in progress or which have occurred over the previous 12 months. Client organizations may include Shift Operations, Operations Procedure Group, Operations Radwaste, Operations Work Control, Chemistry, and Radiation Protection.

2. Maintenance Support Activities

Three to five recent maintenance related activities or programs requiring engineering assistance will be reviewed. Engineering performance will be considered for activities and programs such as:

- Interface with client
- Clients expectations
- Troubleshooting and testing
- Predictive maintenance
- Work prioritization process and work schedule support
- Emergent work items
- Walkdown reports

Issues to be evaluated will be selected from activities which are in progress or which have occurred over the previous 12 months.

3. Systems Performance Activities

The system health and performance of the selected systems will be reviewed. Engineering performance will be considered for activities such as:

- System Engineer Qualification
- System Walkdown Reports
- System Health Program
- Trending of System Performance
- Operating Experience Usage

4. Design Activities

Several design changes, temporary modifications, maintenance alterations, or ONE form repair design change notices, will be reviewed. Engineering performance will be considered for activities such as:

- Interface with client
- Client's expectations
- Performance indicators
- Engineering personnel design qualification
- Design and configuration control

These activities will be selected from the products of the current processes supporting these activities.

5. Sampling of Licensing Basis Maintenance

Examples as they relate to the engineering activities reviewed as a part of this assessment will include a review of the following documentation provided by engineering to support licensing basis maintenance:

- 10CFR50.59 evaluations
- Licensing Document Change Requests
- Regulatory commitment addition or changes

6. Engineering Work Management

The extent of the engineering backlog will be reviewed and a review of the processes for managing these activities will be conducted to determine the effectiveness of engineering work management including:

- Prioritization
- Planning
- Management of Resources

B. Vertical Review of Selected Systems

The term "vertical slice" refers to the in-depth review of the selected safety systems in multiple functional areas. These areas include operational readiness and design bases. The assessment will focus on engineering issues relative to these functional areas. If a weakness in an area is identified the assessment will be expanded, as necessary, to determine if a programmatic weakness exists.

The Self-Assessment Team will determine if the selected systems are capable of performing the safety functions required by the design bases, licensing requirements, and commitments. The team will also determine if the testing is adequate to demonstrate that the system would perform all of its design bases functions. The vertical review will evaluate engineering

effectiveness relative to system and hardware operation and maintenance as opposed to a review of programmatic requirements.

1. The vertical review will be conducted on the following systems:
 - Emergency Diesel Generator System
 - Station Service Water System
 - Instrument Air System
 - Switchyard
2. The selected systems were chosen based on a combination of the following criteria:
 - a) Probabilistic risk assessment significance
 - b) Maintenance rule category
 - c) System which has undergone recent modifications
 - d) System which has required recent engineering attention
 - e) Number of recent inspection hours spent on the system

The Auxiliary Feed Water system would normally have been selected based on criteria a) through d). However, it is a system that has had a great deal of inspection hours, both internal and external, and therefore was not selected.

3. The review will include the following:
 - a) Design Basis
 - FSAR/USAR compliance review
 - Descriptive phrases regarding tests, calibrations, etc.
 - Configuration descriptions
 - Operating limits
 - Descriptive functional performance statements
 - Design criteria/ design bases documents (ie. 10CFR50.2 and supporting information)
 - Design changes
 - Safety evaluations (10CFR50.59 Evaluations)
 - Technical specification implementation
 - Configuration control

b) Operational Readiness

- Performance Monitoring.
- System Performance (including ONE Forms, LERs, etc.).
- Operability Assessments.
- Surveillance Testing.
- Use of Operating Experience.

4. SCHEDULE

The active on-site assessment is scheduled to begin January 27, 1997. The on site review will be completed by February 7, 1997. A report of the completed assessment will be provided to the NRC Regional Administrator no later than March 31, 1997.

5. LEVEL OF EFFORT

The assessment team will be composed of (10) members, including an industry peer. The level of effort is expected to be approximately 800 man-hours of direct inspection.

6. TEAM QUALIFICATIONS

The team will consist of experienced technical personnel with expertise in their area of assignment and personnel experienced in performance based assessments. Collectively these individuals possess significant engineering experience, knowledge of CPSES systems and processes, and product utilization by client organizations. The evaluation team will be comprised of CPSES personnel and an industry peer. The resumes of the Team Leader, Assistant Team Leader, and the evaluators are included in Attachment 2.

Team Members:

William Guldemon
Bill Wells
Robert Cockrel
David Goodwin
Ijaz Ahmad
Lee Slaughter
Lynn Wojcik
Steven Ellis
Sailesh Lakdawala
Industry Peer

Team Leader
Assistant Team Leader

(To Be Determined)

**WILLIAM G. GULDEMOND
TEAM LEADER**

Education:

B.S. Chemical Engineering, University of Wisconsin 1973
M.S. Chemical Engineering, University of Massachusetts 1975
DOE Qualified Accident Investigator

Experience:

August 1996 to Present

Various special assignments as directed by the CPSES Operations Manager

June 1995 - July 1996

USNRC SRO Licensing Class

October 1993 - May 1995

System Engineering Manager - Comanche Peak Steam Electric Station (CPSES) Responsible for managing the activities of the forty-person System Engineering Department. This department is responsible for day-to-day monitoring of system performance, interfacing with Operations, Maintenance, Design Engineering, and Licensing to resolve system performance problems and regulatory issues. System Engineering also has programmatic responsibility for minor modifications, temporary modifications, and ASME Section XI pump and valve testing. Collateral duties include membership on the Station Operations Review Committee, and chairman of the Design Modification Review Group.

February 1992 - September 1993

Manager, Independent Safety Engineering Group - Comanche Peak Steam Electric Station (CPSES) Responsible for managing the ISEG to provide evaluations of plant operations, chemistry, radiation protection, engineering, maintenance, material control, and emergency plan exercises and to provide

executive management with recommendation for enhancements in these areas.
Member of the Station Operations Review Committee.

January 1989 - January 1992

Manager, Site Licensing - Comanche Peak Steam Electric Station (CPSES)

Responsible for managing the on-site licensing organization containing approximately twenty technical and five administrative personnel. In this capacity I was responsible for managing licensing compliance issues including all NRC inspections, violation responses, special reports (10CFR50.55(e) and 10CFR.21, 10CFR.73, etc.) open/unresolved item closure, and commitment tracking. During this period CPSES Unit 1 completed construction and preoperational testing, received an operating license and began initial startup testing. Unit 2 construction was restarted following Unit 1 licensing. Collateral duties included participation in transition team activities during the construction to operations transition, intervenor interface, allegation oversight, management of the licensing/compliance portion of the Unit 1 Power Ascension Self-Assessment Program, and membership in the Stations Operations Review Committee.

June 1988 - December 1988

Executive Assistant to the Vice President, Engineering and Construction -

CPSES Responsible to the Vice President, Engineering and Construction for assigned special projects. These projects included conceptual development of a consolidated procurement organization which progressed to the current Materials Management Organization, development of the Non-Appendix B Quality Assurance Program, and investigation of problems encountered during contractor-performed modifications to the Station Service Water System.

May 1986 - May 1988

Chief, Reactor Projects Branch 2-NRC Region III Responsible to the Division Director for management of a Project Branch containing approximately twenty-five technical and ten administrative personnel and covering fifteen of twenty Region III operating reactors. In this capacity I was responsible for inspection program implementation, enforcement, operating plan development, SALP, and personnel selection and development. Collateral duties included emergency response, leading significant team inspections at the LaSalle and Palisades facilities, allegation management, and preparing responses to inquiries from Congress, the Commissioners and intervenors.

May 1984 - May 1986

Chief, Operational Programs Section-NRC Region III Responsible to the Branch Chief for supervision of a technical section with inspection responsibilities in the areas of training, Section XI pump and valve testing, surveillance and calibration, refueling, fire protection including Appendix R, and containment leak rate testing. This section was established concurrent with my appointment and it was my responsibility to make it operational. Collateral duties included operating plan input, SALP, emergency response, enforcement and preparation and review of numerous licensing actions as part of the Regionalization program. In addition I was designated as the primary Region III contact for the Maintenance and Surveillance Program and Systematic Approach to Training initiatives. In executing these latter responsibilities, I participated in two site team maintenance surveys, one at Kewaunee and one at Davis Besse. I also witnessed an INPO site accreditation team visit at Prairie Island and participated in post-accreditation efforts at Dresden and Davis Besse.

September 1984 - March 1985

Chief, Resident Program, Wolf Creek-NRC Region IV In this temporary assignment I was responsible to the Director, Division of Reactor Projects and Safety for supervising the Region IV effort at completing the preoperational and prelicensing inspection program at the Wolf Creek facility. In addition, I was responsible for conducting inspections and acting as liaison with the office of Nuclear Reactor Regulation on licensing issues.

May 1982 - May 1984

Senior Resident Inspector, LaSalle County Station In this capacity I planned, supervised, and conducted inspections at the two unit LaSalle site during the Unit 1 startup and power ascension program and the Unit 2 preoperational testing, initial fuel loading, and startup program. Specific accomplishments included support for Unit 2 license issuance, discovery of major surveillance program weaknesses, and preparing for and participation in the Commission meetings for Unit 2 license issuance.

March 1980 - May 1982

Senior Resident Inspector, Point Beach Nuclear Plant In this capacity I planned, supervised, and conducted inspections at the two unit Point Beach facility. This included monitoring steam generator tube leakage programs in both units. As the first permanent Point Beach Senior Resident Inspector, I set up the NRC office and effected initial implementation of the resident inspector program.

February 1979 - February 1980

Westinghouse Electric-Bettis, A1W Shutdown Manager In this position I was responsible for all maintenance and shutdown activities at a Naval Reactors Prototype. I took the plants through four outages and planned a major plant overhaul.

August 1976 - February 1979

Westinghouse Electric-Bettis, A1W Shift Supervisor As a Shift Supervisor I was responsible for all on-shift operations, maintenance, training, and testing activities. During this period I also qualified as Engineer on the A1W Prototype.

November 1975 - August 1976

Westinghouse Electric-Bettis, Staff Training Group Supervisor In this position I was responsible for qualifying new plant operators as instructors and providing continuing training to existing plant operators. This included on-watch and classroom instruction.

July 1974 - November 1975

Westinghouse Electric-Bettis, Nuclear Plant Engineer In this position I was alternately responsible for administering the on-crew training of Navy and Westinghouse students in plant operations and coordination of on-crew maintenance, operations, chemistry, testing, and radiological controls. During this period I completed qualifying as Engineering Officer of the Watch on the A1W Prototype.

BILL W. WELLS
ASST. TEAM LEADER

EDUCATION:

Bachelor of Science (Applied Sciences) - Graduated 1975
Tarleton State University, Stephenville, Texas

Engineering and Quality Assurance - 1982-1984
Columbia Basin College, Pasco, Washington

Master of Business Administration - Graduated 1988
Tarleton State University, Stephenville, Texas

Additional Training:

Codes and Standards, Software Management and QA, Quality Auditing
and Engineering, Root Cause Analysis, ISO-9000
Standards/Applications,

CERTIFICATIONS:

American Society for Quality Control (ASQC) Certified Quality Auditor
ASQC Certified Quality Engineer
ANSI N45.2.23 Certified Lead Auditor
ISO-9000 Certified Quality Systems Lead Auditor

EMPLOYMENT HISTORY:

*January 1990-Present

Senior Nuclear Specialist - Texas Utilities Electric Co.

Currently responsible for performing self-assessments, technical and quality audits, developing quality systems/programs and training programs, and managing the Joint Utility Management Audit Program. Principal behind NP Policy Statement for Self-Assessments. Worked as Assistant to Executive Vice President of Engineering and Operations. Duties included providing interface between departments; reviewing events, allegations and reporting back to VP; developing quality improvement initiatives. After completing this engagement, assigned to evaluating operating experience, and performing audits, assessments, and root cause analyses to ensure effective performance and to identify areas for improvement. Principal architect of departmental quality system and evaluation program.

*August 1988-January 1990

Quality Audit Supervisor - Texas Utilities Electric Co.

Responsible for performing technical/quality audits, scheduling tasks to meet milestones and commitments, and supervising the activities of 20 personnel. Participated on EPRI committee for developing performance audit guidelines and ANSI/ASQC committees to develop quality and self-assessment practices. Developed master audit plans in the QA Dept.

*October 1986 - August 1988

Quality Engineer Supervisor - Nutech Engineers, Inc., Comanche Peak and Duane Arnold

Responsible for performing technical audits and engineering assessments, writing procedures, reviewing contractor work and documentation, reviewing purchase specifications and vendor reports. Supervised the activities of eight engineers.

*September 1981-August 1986

Field Engineer - United Engineers and Constructors, Inc., Richland, Washington (WPPSS)

Performed engineering computation, specifications development, nonconformance report dispositioning, and design review functions for mechanical systems and structural support. Worked with project management, contractors, and vendors to resolve design and construction problems. Support quality systems audits. Promoted to supervisor of program for piping systems and pipe supports.

*September 1978 - September 1981

Field Engineering Technician - Brown & Root, Inc., Houston, Texas

Duties consisted of design and field evaluations of piping, pipe supports, and electrical supports, including embedded items and bolts.

*February 1975 - August 1978

Supervisor - Texas Automated Systems, Decatur, Texas

Started as draftsman and designer of agricultural machinery. Promoted to supervisor over design review and quality control functions.

ROBERT G. COCKREL

EDUCATION:

B.S., Nuclear Engineering, Purdue University, 1975

U.S. Navy Nuclear Power School and Prototype, 1976

Systems Management, University of Southern California

EXPERIENCE:

o Employed by TU Electric - February 1987 to Present o

10/89 to Present - Consulting Mechanical Design Engineer, Comanche Peak Steam Electric Station (CPSES), Glen Rose, TX. Responsibilities include providing engineering leadership and advise on current and emerging engineering issues, serving as a resource to Engineering Managers for resolution of engineering problems, supplying specialty analysis, providing technical management of specified projects, and reviewing and approving selected key documents to control the design basis in response to NUMARC 90-12, NSAC-105, and INPO 88-016. These documents include Design Basis Documents, Technical Specifications, and FSAR change requests. Assigned as a member of the EOF Engineering Team. Currently the Chairman of the Westinghouse Owners Group (WOG) Systems and Equipment Engineering Subcommittee.

02/87 to 10/89 - Primary Plant Systems Supervisor, Comanche Peak Engineering. Accountable for the supervision and technical direction of the mechanical engineering group responsible for the nuclear reactor and support systems. These systems include the NSSS, ECCS, Refueling, Radioactive Waste, HVAC and Essential Water systems. Activities include the development of engineering policies, overview of design and production activities, maintenance of quality assurance programs and preparation of budget estimates. Responsible for 11 utility employees with an annual payroll of approximately \$450,000. Also responsible for the technical direction of 85 contract engineering personnel who were involved in the design validation of the safety related mechanical systems at CPSES.

o Employed by Impell Corp - August 1981 to February 1987 o

10/86 to 02/87 - Assigned to the Regulatory Administrative group at CPSES.

Primary responsibilities involved the development of cost drivers for the Startup Test program at CPSES. This included a review of cost estimates, budget expenditures, and existing schedules.

10/84 to 10/86 - Assigned to the Nuclear Engineering - Mechanical Group at CPSES. Typical technical responsibilities included engineering design and analysis, construction support, review of Startup procedures and test data packages, development of ASME Code procedures, specification development, system and equipment evaluation, performance of safety evaluations and design reviews of field changes. Responsible for the site effort in the design review and quality revalidation of the Transamerica Delaval diesel generators.

08/82 to 10/84 - Assigned to the Startup Test Group at CPSES. Developed, reviewed and conducted various preoperational and acceptance test procedures to assure compliance with the FSAR, applicable regulatory guides, codes and standards, and vendor requirements. Cognizant system test engineer for the containment spray and component cooling water systems, including periods of Hot Functional Testing. Interfaced extensively with Operations and Control Room personnel. Promoted to Lead Senior Engineer.

08/81 to 08/82 - Senior Engineer assigned to the Systems Engineering Division in Walnut Creek, CA. Responsibilities included the evaluation and design of pipe supports for NRC IEB 79-14, including all the necessary analysis, drawings and specifications, and the assessment of systems interactions in evaluating fire protection for safety related equipment per 10CFR50 Appendix R.

o Employed by U.S. Navy - May 1975 to August 1981 o

06/79 to 08/81 - Command Center Watch Officer for Commander Submarine Forces, U.S. Pacific Fleet. Pearl Harbor, HI.

08/76 to 07/79 - Served as the Machinery Division Officer, Electrical Officer, and Radiological Controls Officer aboard the USS Lewis and Clark SSBN 644. Qualified as an Engineer Officer of a nuclear powered submarine.

6/75 to 6/76 - In training at Naval Nuclear Power School and Prototype. Initially qualified as an Engineering Officer of the Watch (EOOW) in May, 1976.

REGISTRATION:

Professional Engineer, State of Texas #68851

Professional Engineer, State of California #22787

DAVID A. GOODWIN

EDUCATION: B.S. Electrical Engineering - University of Virginia, 1982
B.S. Nuclear Engineering - University of Virginia, 1982

EXPERIENCE: 1982 - 1989 TU Electric, Comanche Peak Steam Electric Station Shift Technical Advisor. Responsibilities included preparation and review of Operations Department procedures, review and assessment of Industry Operating Experience Reports.

1989 - 1991 Unit Supervisor/Shift Technical Advisor responsible for the operation of assigned unit and direction of Reactor Operators and Auxiliary Operators for that unit.

1991 - 1995 Shift Manager responsible for the operation of both CPSES Units, and the direction of Unit Supervisors, Reactor Operators and Auxiliary Operators on shift.

1995 - Present Operations Support Manager responsible for all Operations Department Procedures, Radwaste System Operations, and Operations input into the planning and scheduling process used at Comanche Peak Steam Electric Station.

LICENSES: USNRC Reactor Operator License - University of Virginia Research Reactor 1980-1982.

USNRC SRO License CPSES Unit 1 and 2 1984 to present.

IJAZ AHMAD

EDUCATION

Polytechnic Institute of New York-Master of Science, Nuclear Engineering - 1978

University of Engineering of Technology, Lahore, Pakistan - Bachelor of Science, Electrical Engineering-1965

EXPERIENCE

1986 to Present: Supervisor Electrical Systems

Responsible for technical supervision and administrative guidance of Electrical Systems area of Comanche Peak Engineering Organization. The group is responsible for:

1. Preparation and maintenance of Design Basis Documents for Electrical systems and programs
2. Preparation and maintenance of protective device setting, coordination, cable/equipment sizing, load flow, and voltage profile calculation
3. Maintenance of FSAR, Tech Spec, and Licensing Commitments
4. Electrical Engineering Support of Startup, Operations, and other Engineering disciplines.

1984 to 1986: Lead Electrical Engineer

Responsible for technical supervision and administrative guidance of Electrical Engineering group of TUGCO Nuclear Engineering. The responsibilities of the group included:

1. Preparation and review of plant design modification to meet system requirements and licensing commitments.
2. Organize Electrical Engineering support to meet operation, startup, and construction needs.

1980 to 1984: Senior Electrical Engineer

Responsible for technical guidance and supervision of Electrical Engineering group in TUSI organization. The responsibilities of the group included:

1. Preparation and review of electrical specification to meet systems requirements and support plant design modifications
2. Engineering of TMI modification, which included electrical power distribution design for a) 125 V DC System, b) 118 V UPS System, and c) 480 V MCC and SWGR.
3. Design & Engineering of Security, Communication, and Fire Detection Systems.

1976 to 1980: Lead Electrical Design Engineer, Gibbs & Hill, Inc.

Supervision of Electrical Design effort on Comanche Peak Steam Electric Power Station Project at Gibbs and Hill, Inc., New York. The responsibilities included:

1. Establishment of criteria and guidelines for design effort
2. Equipment specification review
3. Physical design for equipment/raceway layouts, lighting, grounding, cathodic protection, security and communications.

1974 to 1978: Electrical Design Engineer, Gibbs & Hill, Inc.

Responsible for physical engineering and development of design guidelines for Comanche Peak Steam Electric Station.

1973 to 1974: Design Engineer, Burns & Roe, Inc.

Responsible for engineering and designing of lighting system of Mistersky Power Station. The effort included:

1. Establishment of criteria for illumination level and calculations to assure it.
2. Selection and procurement of fixtures.

1973: Design Engineer, Sanderson & Porter, Inc.

Worked on precipitators addition project on Armstrong Power Station. Developed as designed drawings to establish precipitator arrangements. Prepared control and wiring diagrams for precipitator auxiliaries, designed distribution system and raceways layout.

1969 to 1972: Electrical Engineers Barza Engineering Company

Worked as systems studies engineer in planning and development section. Was responsible to analyze WAPDA's transmission and grid requirement based on anticipated load growth surveys. Responsibilities include load flow and voltage profile studies of the grid to establish new power plant and transmission line requirements up to 1990 and provide criteria for capacitor installation to improve system losses.

1965 to 1972: Assistant Engineer, NAPDA

Worked as Construction Engineer for 11 kV lines and distribution substations.

LEE SLAUGHTER

EDUCATION:

U. S. Naval Academy, B. S. Systems Engineering
Graduated June 1977.

EXPERIENCE:

5/93 to Present

TU Electric, CPSES

Senior Engineer in the Procurement Engineering Department. Responsibilities include the generation of commercial grade dedication plans for various safety related electrical and mechanical components. Responsible for completing technical evaluations of alternate replacement items. Acts as the primary point of contact for technical questions related to cable, capacitors, electrical conduit seal assemblies, electrical dedication testing, fuses, GNB battery parts, light emitting diodes, power supplies, resistors, terminal blocks, thermistors, and varistors.

6/85 to 5/93

Portland General Electric Company, Trojan Nuclear Plant

Electrical Supervising Engineer in the Engineering Design Department. Responsible for the supervision of nine to ten engineers in the development of designs for electrical power and I&C modifications, maintenance of the plant design basis, and preparation of engineering evaluations of equipment for material non-conformance questions. (April 89 to Present).

Senior Electrical Engineer in the Engineering Design Department. Project leader for the replacement of the Control Room Annunciator and sequence of events recording systems. The project group included three electrical engineers and three designers. (May 87 to April 89).

Electrical Engineer in the Engineering Design Department. Responsible for all security system modifications and other electrical/I&C modifications to plant systems. (June 85 to May 87).

6/77 to 5/85

United States Navy

Division Director/Instructor Naval Nuclear Power School - taught reactor plant theory and operation to groups of 40 college graduates. Supervised seven other instructors and was responsible for the curriculum, tests, and instructor teaching notes used to teach the Aspects of Reactor Plant Operations subject. (April 83 to May 85).
Department Head - (USS BATFISH - a nuclear powered attack submarine). Responsible for operation, maintenance, repair, testing, and training for four divisions. (Nov. 81 to March 83). Division

Officer - (USS BATFISH). Responsible for operation, maintenance, repair, testing, quality assurance, and training for division of men and equipment. Divisions supervised were the electrical division, interior communications division, and auxiliary machinery division. (April 79 to Nov. 81). **Student - Naval Submarine School; Naval Nuclear Prototype School; Naval Nuclear Power School (final GPA 3.44/4.00 scale) (January 78 to April 79) Engineer - David W. Taylor Naval Ship Research and Development Center, Annapolis, Maryland. Assisted engineers in the submarine acoustic trail, Structureborne Noise Division. (June 77 to December 77).**

REGISTRATION:

Professional Engineer in Electrical Control Systems Engineering registered in the State of Oregon since July 1989. Registered in Professional Engineer in the state of Texas since July 1993.

LYNN A. WOJCIK, P.E.

Education: B. S. Nuclear Engineering, Texas A&M University, 1980
M. E. Nuclear Engineering, Texas A&M University, 1982

Experience: TU Electric, Comanche Peak Steam Electric Station, 14 years
1982 - 1987 Engineer responsible for design and engineering activities associated with the Radiation Monitoring System, radiation shield design, and radiation effects on materials. These activities included the preparation and/or review of design basis documents, equipment specifications, calculations, site and vendor drawings, Technical Specifications, licensing document changes, and procedures.

1987 - 1990 Nuclear Engineering Supervisor responsible for supervision of the activities described above, including Control Room habitability, engineering ALARA reviews, radiation equipment qualification environments, 10CFR50 Appendix I dose assessment, and radiological accident analyses. These activities also included preparation and/or review of 10CFR50.59 safety evaluations.

1990 - Present Nuclear & Mechanical Analysis Engineering Supervisor responsible for supervision of the activities described above, including combustible gas control, systems interaction program, tornado venting, and balance-of-plant thermal/hydraulic analyses.

STEPHEN L. ELLIS, P.E.

Education: BS in Aerospace Engineering, University of Oklahoma, May, 1976.

Licenses: Senior Reactor Operator, Comanche Peak Units 1 and 2, July 16, 1992.

Professional Engineer in the State of Texas

Experience:

April 1994 to Present - I&C Manager, Comanche Peak Steam Electric Station (CPSES) direct the instrument calibration, repair, and maintenance for two unit nuclear plant. Resources include approximately 120 technicians, engineers, and 10 supervisors, Metrology laboratory facilities, and I&C shop.

April 1993 to April 1994 - Work Control Manager, CPSES - managed work control process including daily scheduling, outage scope control, portions of clearance process, work impact evaluation process, and work package handling. Resources included 45 technicians, clerks, and supervisors.

July 1992 to June 1993 - Power Ascension Manager, CPSES - managed initial startup program, acted as Operations interface with the Startup testing organization for integrated safeguards testing performed on Unit 2 during Unit 1 refueling outage.

June 1991 to June 1992 - Senior Reactor Operator license class - obtained SRO license.

November 1990 - June 1991 - Independent Safety Engineering Group
Surveillance Manager supervised 10 ISEG engineers and technicians, and set up Operations and Maintenance surveillance group.

June 1989 to November 1990 - Performance & Test Manager - responsible for the closeout of the Unit 1 preoperational test program, performance of the preoperational integrated leak rate test of containment, the initial startup program, integrated Engineered Safety Features testing, station hydrostatic testing program, post work test program, and the 10CFR50 Appendix J local leak rate program.

August 1987 to May 1991 - Unit 1 Test Manager - developed the Prestart Test Program to revalidate the preoperational testing due to significant construction activities on Unit 1 after the initial preoperational test program was completed.

October 1986 to August 1987 - Results Manager - responsible for System Engineering, ASME Section XI In-Service Testing program, regulatory compliance, power ascension testing, post work testing, and the station surveillance program.

December 1982 to October 1986 - system engineer, I&C engineer, systems supervisor, and various engineering functions.

May 1976 to November 1982 - US Navy - Nuclear trained submarine officer, qualified as chief engineer. Jobs included Main Propulsion Assistant, Reactor Controls Officer, Communications Officer, and tactics instructor at a shore based submarine fire control simulator.

SAILESH V. LAKDAWALA

EDUCATION

Worcester Polytechnic Institute, Worcester MA - Master of Mechanical Engineering, 1974
South Gujarat University, Surat, India - Bachelor of Mechanical Engineering, 1970

LICENSES AND REGISTRATION

Professional Engineer - Michigan

DETAILED EXPERIENCE RECORD

Comanche Peak Steam Electric Station, Texas Utilities Generating Company,
Glen Rose, Texas (1990-Present)

Engineering Supervisor responsible to provide technical support in the area of piping stress analysis, pipe support design, fluid transient analysis and structural design for operation and maintenance of CPSES.

Comanche Peak Steam Electric Station, Texas Utilities Generating Company,
Glen Rose, Texas (1986-1990)

Senior Engineer responsible for piping stress analysis and pipe support design of ASME class 2 and 3 piping at CPSES. Performed field walk downs, provided engineering support to the construction department and prepared calculations using various computer programs.

Comanche Peak Steam Electric Station, Texas Utilities Generating Company,
Glen Rose, Texas (April 1981-Sept 1985)

As SUPERVISOR of pipe stress analysis, over 4 years involvement in all phases of piping stress analysis of Class 2 and 3 and nonsafety related piping, using ADLPIPE computer programs and simplified analysis method. Established site stress analysis group to perform computer analysis of small bore piping. This involved establishing technical guidelines and procedures and coordinating with DIS/ADLPIPE and computing company.

Involved in preoperation hot-function testing program, including selection of monitoring points and evaluating test data for meaningful resolution of piping behaviors during test condition.

McGuire Nuclear Power Station (Oct 1979-Mar 1981)

As SENIOR ENGINEER, performed manual pipe stress analysis of small bore pipe (4 inch diameter and smaller). This includes selecting, locating and load-rating restraints and anchors per ASME code Section III and alternate analysis criteria.

Very familiar with computer program "SUPERPIPE". Reviewed and summarized results for complex piping system involving LOCA, transient pressure analysis and seismic anchor movements.

BECHTEL POWER CORPORATION, ANN ARBOR, MI (Jun 1978-Sept 1979)

As MECHANICAL ENGINEER, experienced in piping system analysis and design for power plants. The experience includes:

- * Fluid flow analysis, energy balance, selection and rating of major equipment.
- * Involved with plant design group for layout of piping system and location of equipment.

TOWER IRON WORKS, INC., SEEKONK, MA (Apr 1973-May 1978)

As MECHANICAL ENGINEER, major experience and involvement in design and fabrication of pressure vessels and heat exchanger for petrochemical and power plant. Responsible for thermal and mechanical design, including stress analysis of pressure vessels, heat exchangers and auxiliary boilers, knowledge of ASME code for stress analysis and fabrication requirements. Performed code calculations, nozzle loads and vessel support design considering internal pressure, gravity, thermal, wind and seismic loads. Duties involved developing computer programs for various studies and coordinating efforts of other groups for the successful projects.

ENCLOSURE TO TXX-96508