

**TU**ELECTRIC

Log # TXX-93102  
File # 10010  
913.1  
917.1  
917.2  
Ref. # 10CFR50.34(b)

William J. Cahill, Jr.  
Group Vice President

February 26, 1993

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

SUBJECT: COMANCHE PEAK STEAM ELECTRIC STATION (CPSES)  
DOCKET NOS. 50-445 AND 50-446  
ADVANCE FSAR SUBMITTAL CONCERNING CHANGES  
IN ORGANIZATIONAL STRUCTURE

REF: TU Electric letter TXX-93046 from William J. Cahill, Jr.  
to the NRC dated January 22, 1993

Gentlemen:

As stated in the referenced letter, TU Electric has recently implemented changes to the TU Electric corporate and the CPSES site organizational structure. These changes in part, are being made to operate and support the operation of two units at CPSES. All previously assigned responsibilities and duties have been reassigned to appropriate positions within the new organizational structure in a manner that assures that the individual in each position has the authority and experience needed to properly perform the assigned functions.

The attachment to this letter provides an advance CPSES FSAR submittal for FSAR Sections 13.1, 17.1 and 17.2 to facilitate the NRC staff review of the organizational changes. Other FSAR sections and License Basis Documents may need to be updated to be consistent with these changes. These additional revisions will be completed at a future time.

The attachment is organized as follows:

1. A description/justification of the changes.
2. A copy of the "marked up" FSAR pages.

9303030047 930226  
PDR ADOCK 05000445  
K PDR

D029

TX-93012  
Page 2 of 2

The attached material will be incorporated in a future CPSES FSAR amendment. If you have any questions regarding this submittal, please contact Mr. Richard S. Berk at (214) 812-8952.

Sincerely,

*William J. Cahill, Jr.*

William J. Cahill, Jr.

By: *Roger D. Walker*

Roger D. Walker  
Manager of Regulatory Affairs

RSB  
Attachment

c - Mr. J. L. Milhoan, Region IV  
Resident Inspectors, CPSES (2)  
Mr. T. A. Bergman, NRR  
Mr. B. E. Holian, NRR

Prefix Page  
(as amended)

Group Description

- 13.1-1                      4      Updates the descriptions of the TU Electric corporate and CPSES site organizational structures.  
Update :  
Section 13.1 has been updated to reflect the current TU Electric corporate organizational structure which now includes the following divisions: Operations; Production; Bulk Power and Technical Support; Finance and Corporate Support. The title of the nuclear group within the Production Division, has been has been changed from "Nuclear Engineering and Operations (NEO)" to "Nuclear Production". The CPSES site organizational structure (Nuclear Production Group) has been updated to indicate the following organizations: Nuclear Engineering and Support; Nuclear Operations; Regulatory Affairs; and Nuclear Overview.  
Change Request Number : SA-92-839.  
Commitment Register Number :  
Related SER : 13.1      SSER :25    13.1  
SER/SSER Impact : Yes  
Section 13.1 should be updated to reflect the current organizational structure.
- 13.1-2                      4      See Sheet No(s) :03  
Updates the Nuclear Production Group's management and technical support organization descriptions.  
Update :  
Section 13.1.1.1.1 and 13.1.1.1.3 have been updated to indicate that the "Engineering and Construction" organization no longer exists in the current organizational structure. These responsibilities have been assumed by the "Nuclear Engineering and Support" organization.  
Section 13.1.1.1.2 has been revised to more accurately reflect to the division of responsibilities for the Initial Test Program. The Nuclear Operations organization (i.e. Manager, Startup) was responsible for the preoperational test program. The Nuclear Engineering and Support organization (i.e., Manager, Maintenance Engineering) is responsible for the initial startup test program.  
Change Request Number : SA-92-839.  
Commitment Register Number :  
Related SER : 13.1      SSER :25    13.1  
SER/SSER Impact : No
- 13.1-3                      4      See Sheet No(s) :04 thru 15  
Updates the Nuclear Production Group's management and technical support organization descriptions to

Prefix Page  
(as amended)Group Description

reflect the new organization structure. All previously assigned responsibilities and duties have been reassigned to appropriate positions within the new organization structure in a manner that assures that the individual in each position has the authority and experience needed to properly perform the assigned functions. Those positions associated with construction activities have been deleted as part of the destaffing and transition to dual operating units.

Update :

Section 13.1.1.2 has been updated to reflect the position title change from "Group Vice President, Nuclear Engineering and Operations" to

"Group Vice President, Nuclear Production."

Section 13.1.1.2.1 has been updated to reflect the following changes:

The position title "Vice President, Nuclear Operations" has been changed to "Vice President of Nuclear Operations" who has assumed the responsibilities of the Plant Manager.

The positions of Plant Manager; Manager, Startup; and Manager, Plans and Projects have been deleted. The Manager, Nuclear Training now reports to the Director of Nuclear Overview.

The Manager, Operations; Manager, Maintenance; Radiation Protection Manager; Manager, Work Control; and the Manager, Plant Support now report directly to the Vice President of Nuclear Operations.

Section 13.1.1.2.2 has been updated to reflect the following changes:

The organization title "Engineering and Construction" has been renamed "Nuclear Engineering and Support."

The position of "Vice President of Nuclear Engineering and Support" has been added which assumes the responsibilities of the Chief Engineer - Department of Engineering and the Vice President, Support Services.

The positions of Senior Vice President; Unit 2 Project Manager; Manager, Material Management; Chief Engineer; Manager, Unit 2 Engineering; Manager, Plant Engineering; and Vice President, Support Services no longer exist in the new organizational structure and have been deleted.

The position title "Manager of Design Engineering" has been changed to "Manager of Technical Support and Design Engineering" who reports directly to the Vice President of Nuclear Engineering and Support. The Manager of Technical Support and Design Engineering has assumed additional responsibilities

Prefix Page  
(as amended)Group Description

Site Facility, Environmental, Project, Maintenance, Procurement and System Engineering.

The position title of "Director of Reactor Engineering" has been changed to "Manager of Reactor Engineering" who reports directly to the Vice President of Nuclear Engineering and Support.

The description of responsibilities for the Manager, Administrative Services has been removed from Section 13.1.1.2.2 because this position does not perform a safety function and does not need to be in the FSAR.

The description for the Nuclear Engineering organization (old Section 13.1.1.2.3) has been deleted. These responsibilities have been reassigned to the Manager of Regulatory Affairs, the Director of Nuclear Overview and the Manager of Reactor Engineering.

Section 13.1.1.2.3 has been reassigned to the Regulatory Affairs organization. The Manager of Regulatory Affairs now reports directly to the Group Vice President, Nuclear Production.

Section 13.1.1.2.4 has been reassigned to the Nuclear Overview organization with the following changes:

The Director of Nuclear Overview now reports directly to the Group Vice President, Nuclear Production.

The responsibility of the Director of Nuclear Overview to provide "Corporate Health Physics support" has been revised to "Health Physics review" since the Corporate Health Physics group has been dissolved.

The Manager, Nuclear Training now reports to the Director of Nuclear Overview.

The Manager, ISEG reviews plant activities and makes recommendations to the Director of Nuclear Overview.

The position of Manager, Construction Quality Control no longer exists in the new organizational structure and has been deleted.

The position title of "Plant Analysis Manager" has been changed to "Manager, Plant Analysis."

The Support organization no longer exists in the new organizational structure. The responsibilities described for the Vice President, Support (old Section 13.1.1.2.4) have been assumed by the Vice President of Nuclear Engineering and Support.

Change Request Number : SA-92-839.

Commitment Register Number :

Related SER : 13.1 SSER :25 13.1

SER/SSER Impact : Yes

Section 13.1 should be updated to reflect the

Prefix Page  
(as amended)Group   Description

current organizational structure.

13.1-15

- 4   See Sheet No(s) :16 thru 21  
Updates Nuclear Production's operating organization description.  
Update :  
Section 13.1.2 has been updated to reflect the current management and additional support organizations as described in revised Section 13.1.1.2.1.  
Sections 13.1.2.1.2 and 13.1.2.1.5 have been updated to reflect that the Shift Operations Managers and the Chemistry Manager now reports to the Manager, Operations. The position title "Chemistry and Environmental Manager" has been changed to "Chemistry Manager." Environmental responsibilities have been reassigned to the Civil/Site Facility/Environmental Engineering staff which reports to the Manager of Technical Support and Design Engineering.  
Section 13.1.2.1.3 has been updated to indicate the position title change from "Instrumentation and Control Manager" to "I&C Maintenance Manager" and provide a description for the new Construction/Operations Maintenance Support Group (COSG).  
Change Request Number : SA-92-839.  
Commitment Register Number :  
Related SER : 13.1   SSER :25   13.1  
SER/SSER Impact : Yes  
Section 13.1 should be updated to reflect the current organizational structure.

Table 13.1-1

- 4   See Sheet No(s) :01 and 02  
Update Table to reflect the new position titles in the current CPSES organizational structure.  
Update :  
The position title indicated on the Table have been updated as follows to reflect the CPSES organization structure described in Section 13.1.  
The position title "Plant Manager" has been changed to "Vice President of Nuclear Operation." The Plant Manager position has been deleted and its responsibilities have been assumed by the Vice President of Nuclear Operations.  
The position title "Instrumentation & Controls Manager" has been changed to "I&C Maintenance Manager."  
The position title "Manager, Plant Engineering" has been changed to "Manager of Technical Support and Design Engineering." The position of Manager, Plant

Prefix Page  
(as amended)Group   Description

Engineering has been deleted and its responsibilities assumed by the Manager of Technical Support and Design Engineering. The position titles "Chemistry and Environmental Manager," "Chemistry and Environmental Supervisor," and "Chemistry and Environmental Technician" have been changed to "Chemistry Manager," "Chemistry Supervisor," and "Chemistry Technician," respectively. The Environmental responsibilities have been assumed by the Manager of Technical Support and Design Engineering. The position of "Manager, Startup" has been deleted as part of the destaffing and transition to dual operating units. The activities associated with power ascension testing are being performed under the Manager, Maintenance Engineering who reports to the Manager of Technical Support and Design Engineering.

Change Request Number : SA-92-839.  
Commitment Register Number :  
Related SER : 13.1   SSER :25   13.1  
SER/SSER Impact : No

Figure 13.1-1

- 4 Updates description of the TU Electric corporate organizational structure.  
Update :  
See Description for p. 13.1-1.  
Change Request Number : SA-92-839.  
Commitment Register Number :  
Related SER : 13.1   SSER :25   13.1  
SER/SSER Impact : Yes  
Section 13.1 should be updated to reflect the current organizational structure.

Figure 13.1-2

- 4 Updates the Nuclear Production Group organizational description.  
Update :  
See Descriptions for pp. 3 thru 21.  
Change Request Number : SA-92-839.  
Commitment Register Number :  
Related SER : 13.1   SSER :25   13.1  
SER/SSER Impact : No

Figure 13.1-3

- 4 Updates description of the Station Organization.  
Update :  
See Description for pp. 13.1-15 thru 21.  
Change Request Number : SA-92-839.  
Commitment Register Number :  
Related SER : 13.1   SSER :25   13.1  
SER/SSER Impact : No

Prefix Page  
(as amended)Group Description

- 13.1A-1                      4    See Sheet No(s) :02 thru 54  
                                  Section 13.1A has been updated to reflect the  
                                  personnel changes in the Nuclear Production Group as  
                                  a result of the reorganization described in Section  
                                  13.1.  
                                  Change Request Number        : SA-92-839.  
                                  Commitment Register Number :  
                                  Related SER : 13.1        SSER :25    13.1  
                                  SER/SSER Impact                : No
- 17.1-1                      2    Section 17.1, Quality Assurance During Design and  
                                  Construction, has been deleted in its entirety.  
                                  Revision                        :  
                                  FSAR Section 17.1, Quality Assurance During Design  
                                  and Construction, has been deleted in its entirety  
                                  to reflect the transition from construction to  
                                  operations phase for CPSES Unit 2. Section 17.2 has  
                                  been updated to reflect the current CPSES  
                                  organizational structure.  
                                  Change Request Number        : SA-92-839.  
                                  Commitment Register Number :  
                                  Related SER : 17.1        SSER :22    17.1  
                                  SER/SSER Impact                : Yes  
                                  Section 17 should be updated to reflect the current  
                                  organizational structure.
- 17.2-1                      4    See Sheet No(s) :thru 09, 12 thru 15, 26, 36 thru 38,  
                                  Updated description of the CPSES organizational  
                                  structure to provide consistency with the Section  
                                  13.1 organizational updates.  
                                  Update                         :  
                                  Section 17.2 has been updated to provide consistency  
                                  with the organizational changes described in FSAR  
                                  Section 13.1.  
                                  Section 17.2.1 has been updated as follows:  
                                  "NEO" has been changed to "Nuclear Productions  
                                  Group."  
                                  The position title "Group Vice President, Nuclear  
                                  Engineering and Operations" has been changed to  
                                  "Group Vice President, Nuclear Production."  
                                  The position of "Senior Vice President" has been  
                                  deleted.  
                                  The new position of "Vice President of  
                                  Nuclear Engineering and Support" has been added with  
                                  overall responsibility for implementation of the QA  
                                  program for the "Nuclear Engineering and Support"  
                                  function at CPSES.  
                                  The position title "Vice President, Nuclear  
                                  Operations" has been changed to "Vice President of  
                                  Nuclear Operations" with his updated duties and  
                                  responsibilities as described in Section 13.1.

Prefix Page  
(as amended)Group   Description

The position of "Plant Manager" has been deleted with its responsibilities assumed by the Vice President of Nuclear Operations.  
The duties and responsibilities of the Director of Nuclear Overview has been updated to include Nuclear Training.

The Nuclear Overview Department now provides the function of "Health Physics review" since the Corporate Health Physics group has been dissolved. The position title of "Plant Analysis Manager" has been changed to "Manager, Plant Analysis."

Section 17.2.3 has been updated as follows:

The Vice President of Nuclear Operations shall have the responsibility for approving and controlling the implementation of station design modifications.

The Vice President of Nuclear Engineering and Support shall have the overall responsibility for developing procedures to maintain and control the design control process; he has absorbed the responsibilities of fuel-related design control process.

The position of "Chief Engineer" has been deleted and those responsibilities assumed by the Vice President of Nuclear Engineering and Support.

Section 17.2.18 has been updated to reflect the current organizational structure.

Change Request Number : SA-92-839.

Commitment Register Number :

Related SER : 17.2      SSER :22   17.2

SER/SSER Impact : Yes

Section 17 should be updated to reflect the current organizational structure.

Figure 17.2-1

4 Provides Figure to reflect current organizational structure.

Update :

Figure 17.2-1 was deleted in a previous amendment and a reference added to see Figure 17.1-6 for the organizational structure information. However, since Section 17.1 has been deleted in its entirety,

Figure 17.1-6 has been renumbered to Figure 17.2-1 and updated to reflect the current organizational structure as described in Section 13.1.

Change Request Number : SA-92-839.

Commitment Register Number :

Related SER : 17.2      SSER :22   17.2

SER/SSER Impact : No

Figure 17.2-2

4 Updates Figure to reflect current organizational structure.

Update :

Prefix Page  
(as amended)Group Description

Figure 17.2-2 has been updated to reflect the current organizational structure as described in Section 13.1.

Change Request Number : SA-92-839.

Commitment Register Number :

Related SER : 17.2 SSER :22 17.2

SER/SSER Impact : No

TABLE OF CONTENTS

13.0 CONDUCT OF OPERATIONS

| <u>Section</u>          | <u>Title</u>  | <u>Page</u>        |
|-------------------------|---|--------------------|
| 13.1                    | <u>ORGANIZATIONAL STRUCTURE OF APPLICANTS</u>                                     | 13.1-1             |
| 13.1.1                  | MANAGEMENT AND TECHNICAL SUPPORT ORGANIZATION                                     | 13.1-1             |
| 13.1.1.1                | <u>Design and Operating Responsibilities</u>                                      | 13.1-1             |
| 13.1.1.1.1              | Design and Construction Activities  | 13.1-2             |
| 13.1.1.1.2              | Initial Test Program  | 13.1-2             |
| 13.1.1.1.3              | Technical Support for Nuclear Operations  | 13.1-3             |
| 13.1.1.2                | <u>Organizational Arrangement</u>   | 13.1-3             |
| 13.1.1.2.1              | Organization - Nuclear Operations   | 13.1-5             |
| 13.1.1.2.2              | Organization - <sup>Nuclear</sup> Engineering and <sup>Support</sup> Construction | 13.1-7             |
| 13.1.1.2.3              | Organization - <sup>Regulatory Affairs</sup> <del>Nuclear Engineering</del>       | 13.1-9             |
| 13.1.1.2.4              | Organization - <sup>Nuclear Overview</sup> <del>Support</del>                     | 13.1-13            |
| 13.1.1.3                | <u>Qualification of Management and Technical Support Personnel</u>                | 13.1-14            |
| 13.1.2                  | OPERATING ORGANIZATION  | 13.1-14            |
| 13.1.2.1                | <sup>Nuclear</sup> <del>Plant</del> Operations Organization                       | 13.1-14            |
| 13.1.2.1.1              | Personnel Functions, Responsibilities, and Authorities                            | 13.1-14            |
| 13.1.2.1.2              | Operations Department   | 13.1-15            |
| 13.1.2.1.3              | Maintenance Department  | 13.1-17            |
| <del>13.1.2.1.4</del>   | <del>Instrumentation and Controls (I&amp;C) Section</del>                         | <del>13.1-18</del> |
| 13.1.2.1.5 <sup>4</sup> | Radiation Protection  | 13.1-18            |
| <del>13.1.2.1.6</del>   | <del>Chemistry and Environmental</del>  | <del>13.1-19</del> |
| 13.1.2.1.7 <sup>5</sup> | Work Control  | 13.1-19            |
| <del>13.1.2.2</del>     | <del>Nuclear Operations Support Organization</del>                                | <del>13.1-19</del> |
| <del>13.1.2.2.1</del>   | <del>Technical Support</del>  | <del>13.1-19</del> |
| 13.1.2.2.2 <sup>6</sup> | Plant Support   | 13.1-20            |
| <del>13.1.2.2.3</del>   | <del>Emergency Planning</del>   | <del>13.1-21</del> |
| 13.1.2.2.4 <sup>2</sup> | <u>Supervisory Succession</u>   | 13.1-21            |
| 13.1.2.2.5 <sup>3</sup> | <u>Shift Crew Composition</u>   | 13.1-21            |
| 13.1.3                  | QUALIFICATION REQUIREMENTS FOR PLANT PERSONNEL                                    | 13.1-24            |

### 13.0 CONDUCTION OF OPERATIONS

#### 13.1 ORGANIZATIONAL STRUCTURE OF APPLICANTS

Texas Utilities Electric Company (TU Electric) is a subsidiary of Texas Utilities Company (TUCO). TU Electric includes the following divisions: <sup>Production; Bulk Power and Technical Support;</sup> ~~Operations; Operations & Market Support; Engineering Bulk Power; Production; Finance, Accounting & Regulation; Corporate Services.~~ These relationships are shown in Figure 13.1-1.

The Production Division of TU Electric has corporate responsibility for the design, construction and operation of CPSES, which includes the functions of procurement, fuel management and quality assurance. Within the Production Division, the fossil group is responsible for the operation and related activities associated with the fossil fueled plants. The nuclear group, designated as <sup>the</sup> ~~Nuclear Engineering and Operations Group (NEO)~~ <sup>Production Group</sup>, has been delegated to furnish design, engineering, construction, licensing, operation and fuel management support to CPSES. <sup>Nuclear Production</sup> ~~The NEO Group~~ <sup>Nuclear Support</sup> has been split into the following organizations: <sup>Regulatory Affairs</sup> ~~Nuclear Engineering~~ <sup>Nuclear Overview</sup> ~~and Support Services.~~

##### 13.1.1 MANAGEMENT AND TECHNICAL SUPPORT ORGANIZATION

Project management and technical support for CPSES are the responsibility of TU Electric.

##### 13.1.1.1 Design and Operating Responsibilities

The design and operating responsibilities are divided into three categories: design and construction activities, pre-operational activities and technical support for operation. <sup>Nuclear Production</sup> ~~The NEO~~ organizations are responsible for these activities as discussed below.

13.1.1.1.1 Design and Construction Activities

62

The following responsibilities are assigned to <sup>Nuclear</sup> Engineering and <sup>Support</sup> Construction:

62

- Site-related engineering work - meteorology, geology, seismology, hydrology, demography, and environmental effects
- Design of plant and ancillary systems
- Review and approval of plant design features
- Site layout in respect to environmental effects and security provisions

62

- Development of technical information for safety analysis reports, environmental reports and license applications
- Material and components specification review and approval
- Procurement of materials and equipment
- Management and review of construction activities
- Management of CPSES engineering and construction contractors

79

13.1.1.1.2 Initial Test Program

79

Nuclear Operations <sup>was</sup> ~~is~~ responsible for the <sup>preoperational</sup> ~~initial~~ test program.

77

These activities <sup>were</sup> ~~are~~ the responsibility of the Manager, Start-up, and ~~the Performance and Test Manager.~~ The specific responsibilities are

79

~~discussed in Section 13.1.2.2.~~ A description of the CPSES initial test program is presented in Section 14.2.

Nuclear Engineering and Support is responsible for the initial startup test program. These activities are the responsibility of the Manager, Maintenance Engineering.

Technical services and backup support for Nuclear Operations are furnished by Nuclear Engineering<sup>and</sup> Support ~~and Engineering and Construction~~. Personnel are available who are competent in technical matters related to plant safety and other engineering and scientific support aspects. In the event Nuclear Operations needs assistance with specific problems, the services of qualified individuals will be engaged as appropriate.

The special capabilities that are available are:

- Nuclear, mechanical, structural, electrical, thermal-hydraulic, metallurgical and materials, chemistry, and instruments and controls engineering
- Nuclear Safety
- Plant Chemistry
- Health Physics
- Fueling and refueling operations support
- Maintenance support
- Licensing
- Industrial Safety

#### 13.1.1.2 Organizational Arrangement

, Production

Executive Vice President, - The TU Electric Executive Vice President, Production has the overall corporate responsibility for the design, construction and operation of CPSES. He provides guidance to the Group Vice

83  
60

President, Nuclear ~~Engineering and Operations~~ (NEO). The ~~NEO~~ Group  
is shown in Figure 13.1-2.

83

*Production*  
Group Vice President, Nuclear ~~Engineering and Operations~~ - The  
responsibilities of the Group Vice President, Nuclear ~~Engineering and~~  
~~Operations~~ are:

60

- Direct the engineering, construction, start-up, testing, operation and maintenance of CPSES.

62

- Provide the Quality Assurance Program and associated audit services applicable to all nuclear activities.

64

- Provide engineering services, technical and administrative services, nuclear fuel services, and licensing services to Nuclear Operations.

85

- Provide technical direction and guidance to the NEO Vice Presidents.

62

- Establish and maintain the Operations Review Committee in accordance with the CPSES Technical Specifications.

77

- Responsible for the overall safe operation and control over onsite activities necessary for the safe operation and maintenance of CPSES.

- Maintain the independence and credibility of the Program. | 60
- Ensure adequate responses are provided to employees with concerns. | 60

#### 13.1.1.2.1 Organization - Nuclear Operations | 62

~~Vice President~~<sup>of</sup> ~~Nuclear Operations~~ - The responsibilities of the Vice President<sup>of</sup> ~~Nuclear Operations~~ are: | 60

- Ensure CPSES operation and maintenance activities are conducted in compliance with federal, state, and local laws, regulations, licenses, codes, and within established corporate and ~~NEO~~<sup>Nuclear Production</sup> policies, plans, and procedures. | 62
- Provide direction and guidance to the ~~Plant Manager; the Manager, Nuclear Training; the Manager, Start up; and the Manager, Plans and Projects.~~ ~~Manager, Operations; Manager, Maintenance; and the Radiation Protection Manager; Manager, Work Control; Manager, Plant Support.~~ | 85
- Ensures the safe and reliable operation of the plant and overall responsibility for security of the plant. The CPSES operating organization is discussed in Section 13.1.2 and illustrated in Figure 13.1-3. Organizations which support plant operations are discussed below. | 77  
| 62

Insert A →

~~Plant Manager~~ The responsibilities of the ~~Plant Manager~~ are: | 77  
| 77

~~Direct CPSES operation and maintenance activities in accordance with applicable federal, state, and local laws, regulations, licenses, codes and within established corporate and Nuclear Engineering and Operations policies, plans and procedures.~~

## INSERT A

Manager, Operations - The Manager, Operations reports directly to the Vice President of Nuclear Operations and is responsible for

- Operation of CPSES.
- Management and training of Operations Department personnel.
- Coordinates the generation of power and changes in operating modes.
- Participates in power ascension test program and refueling efforts.

Manager, Maintenance - The Manager, Maintenance reports directly to the Vice President of Nuclear Operations and is responsible for

- Maintenance activities associated with mechanical and electrical equipment, instrumentation and controls.
- Implementing the preventative maintenance activities during routine operation and refueling outages and activities associated with the power ascension test program are conducted in accordance with approved procedures and instructions, regulatory requirements and applicable policies and directives.

Radiation Protection Manager - The Radiation Protection Manager reports directly to the Vice President of Nuclear Operations and is responsible for

- CPSES Radiation Protection program.
- Supervision of Radiation Protection Supervisors.
- Transportation of radioactive material.
- Implementation of station policy of maintaining operational radiation exposures "as low as reasonable achievable".

Manager, Work Control - The Manager, Work Control reports directly to the Vice President of Nuclear Operations and is responsible for

- Expediting the work process.
- Identifying and correcting inefficiencies.
- Assisting the maintenance organization in minimizing the work backlog.

Manager, Plant Support - The Manager, Plant Support reports directly to the Vice President of Nuclear Operations and is responsible for

- Station security.
- Safety services.
- Fire Protection.
- Emergency Planning.

## CPSES/FSAR

- 77     Manager, Nuclear Training - The responsibilities of the Manager,  
Nuclear Training are:
- 60     - Direct the analysis, design, development, implementation,  
evaluation, and revision of nuclear training programs in order to  
provide personnel with the requisite skills and knowledge for  
effectively performing functions important to the operation and  
maintenance of CPSES.

81

85

- 83     ~~Manager, Plans and Projects~~ - ~~The responsibilities of the Manager,~~  
~~Plans and Projects are:~~

- 79     ~~Direct project support for CPSES operation and maintenance~~  
~~activities in the areas of project management, construction~~  
~~management, integrated schedule development, outage planning, and~~  
~~outage management.~~

- 78     ~~Provide cost, planning, and scheduling support to all NEO~~  
~~departments.~~

- 77     ~~Manager, Start-up~~ - ~~The Manager, Start-up reports to the Vice~~  
~~President, Nuclear Operations and is responsible for preoperational,~~  
~~acceptance and prerequisite testing.~~

77

13.1.1.2.2 Organization - Nuclear Engineering and Support Construction

|  |    |
|--|----|
| <del>Senior Vice President</del> - The responsibilities of the Senior Vice President are:  | 77 |
| <del>Provide support to the NEO group in the design, specification, procurement, and review/evaluation of plant systems, apparatus, and materials associated with CPSES.</del> | 64 |
| <del>Provide project and site construction management for backfit and betterment projects.</del>   | 60 |
| <del>Provide engineering design and drafting services for specifications and design documents.</del>   | 60 |
| <del>Provide for external construction personnel and services, as needed.</del>  | 60 |
| <del>Provide warehouse support services for CPSES.</del>   | 77 |
| <del>Provide site facilities and support services for CPSES.</del>   | 76 |
| <del>Provide direction and guidance to the Vice President, Nuclear Operations; Chief Engineer; the Manager, Materials Management; and the Unit 2 Project Manager.</del>        | 81 |
| <del>Direct management of CPSES engineering and construction contractors.</del>  | 60 |
| <del>Unit 2 Project Manager</del> - The responsibilities of the Unit 2 Project Manager are:  | 79 |
| <del>Assure that project completion and startup testing activities meet the requirements of the Unit 2 integrated schedule, budget, and Initial Test Program.</del>            | 79 |

81 ~~Responsible for construction activities for Unit 2.~~

68

77

79 ~~Manager, Materials Management~~ The responsibilities of the Manager, Materials Management are:

79 ~~Responsible for the management of procurement, contracting, warehousing, and material control activities and interface with Design Engineering Organization, Nuclear Operations, TU Electric Administration, Quality Assurance and any other organization involved with materials utilized in the construction, operations and maintenance of CPSES:~~

81

78 Vice President of Nuclear Engineering and Support  
~~Chief Engineer Department of Engineering~~ - The responsibilities of the Vice President of Nuclear Engineering and Support  
~~the Chief Engineer Department of Engineering~~ are:

79 - Total engineering responsibility for Comanche Peak Design Nuclear and Support Engineering Organization.

- Provide direction and guidance to the Manager, Plant Engineering; the Manager of <sup>Technical Support and</sup> Design Engineering; the <sup>and</sup> <sup>Manager</sup> Director of Reactor Engineering; the Unit 2 Project Engineering Manager; Manager, Unit 2 Engineering; and the Manager, Administrative Services.

85  
 Insert from  
 P13.1-14

83 <sup>Technical Support and</sup> Manager of <sup>Technical Support and</sup> Design Engineering - The responsibilities of the Manager of Design Engineering ~~are~~ reports directly to the Vice President of Nuclear Engineering and Support and is responsible for

80 - Provide <sup>ing</sup> Operations with timely design engineering services for design modifications, analyses and technical evaluations; maintain Mechanical, Electrical, I&C and Civil <sup>Site Facility/Environmental, Project, Structural Engineering</sup> Engineering Maintenance, Procurement, System, Cost and Scheduling Engineering staffs to accomplish design tasks during normal plant operations and outages; provide Engineering scheduling services; provide site facilities design services.

- <sup>ing</sup>Assure the consistency of design documentation; assure that design activities conducted for Comanche Peak meet the requirements of the design control program; assure that design outputs are consistent with the design basis of the plant; and provide Engineering specialists and CAD services. 80

~~Manager of~~  
~~Director, Reactor Engineering~~ - The responsibilities of the <sup>manager of</sup> ~~Director~~, Reactor Engineering ~~are~~ reports directly to the Vice President of Nuclear Engineering and Support and is responsible for 83

- <sup>log</sup>Provide support to the <sup>Nuclear Production</sup> ~~Nuclear Engineering and Operations~~ Group and to other TU Electric organizations in the areas of Nuclear Fuel Management, Reload Design Engineering, Thermal Hydraulic Analysis, Integrated Risk and Availability Modeling, Nuclear Safety Analysis, Radiation Analysis, Severe Accident Management and Probabilistic Risk Assessment. 83

~~Manager, Unit 2 Engineering~~ - The responsibilities of the ~~Manager~~, Unit 2 Engineering are: 80

- ~~Provide technical support and guidance to the Unit 2 Engineering contractors; review Engineering contractor's procedures for adequacy and fulfillment of commitments; monitor the implementation and completion of Unit 2 Engineering.~~ 80

~~Manager, Plant Engineering~~ - The responsibilities of the ~~Manager~~, Plant Engineering are: 85

- ~~Provide coordinated engineering support to Operations in the areas of systems engineering, station nuclear engineering, technical programs and compliance, design engineering, testing, and preventive/predictive maintenance. The Manager, Plant Engineering, supervises a staff of engineers with experience and training primarily in the areas of electrical, nuclear, or mechanical engineering sufficient for the consistent and effective execution of responsibilities associated with Plant Engineering activities.~~ 85
- 82

~~85~~ ~~Manager, Administrative Services - The responsibilities of the~~  
~~Manager, Administrative Services are:~~

- ~~85~~ ~~- Provide administrative support to CPSES including records management, correspondence control, word processing, document control, site mail services, and control of site libraries.~~
- ~~85~~ ~~- Provide CPSES organizations with cost effective automated solutions to information systems problems.~~
- ~~85~~ ~~- Provide CPSES managers with information needed to run their organizations in a business like fashion.~~

~~74~~ ~~13.1.1.2.3 Organization - Nuclear Engineering~~

~~60~~ ~~Vice President, Nuclear Engineering - The responsibilities of the Vice President, Nuclear Engineering are:~~

~~83~~ ~~- Provide technical services and management in the areas of nuclear licensing and nuclear overview including quality assurance/quality control, and health physics.~~

~~60~~ ~~- Provide corporate management and direction for the Comanche Peak Response Team effort (and other major licensing concerns).~~

~~60~~ ~~- Provide liaison with government regulatory agencies.~~

~~85~~ ~~- Provide direction and guidance to the Manager of Regulatory Affairs and the Director of Nuclear Overview.~~

#### 13.1.1.2.3 Organization - Regulatory Affairs

~~85~~ ~~Manager of Regulatory Affairs - The responsibilities of the Manager of Regulatory Affairs are: reports directly to the Group Vice President, Nuclear Production and is responsible for~~

- ~~60~~ ~~- Providing liaison with governmental agencies and implementing the actions necessary to obtain and maintain the permits, licenses, and approvals needed to construct and operate CPSES.~~

- Provide<sup>ing</sup> technical expertise to evaluate and resolve issues which affect permits and licenses. 60 |
- Assist<sup>ing</sup> corporate management in the development and implementation of positions on licensing issues consistent with ~~NEO~~ policies and procedures. Nuclear Production Group 62 |
- Provide<sup>ing</sup> formal communication to regulatory agencies (e.g., NRC) with any control over CPSES, except for that communication assigned to Environmental Services. 60 |
- Provide<sup>ing</sup> technical direction and guidance to the Manager, Safeteam. 85 |

Manager, Safeteam - The ~~responsibilities of the Manager, Safeteam are:~~ reports to the Manager of Regulatory Affairs and is responsible for 60 |

- Manage<sup>ing</sup> the Safeteam Program for the review and investigation of employee safety concerns. 60 |
- Ensure<sup>ing</sup> both departing employees and employees with concerns are interviewed. 60 |

#### 13.1.1.2.4 Organization - Nuclear Overview

Director of Nuclear Overview - The ~~responsibilities of the Director of Nuclear Overview are:~~ reports directly to the Group Vice President, Nuclear Production and is responsible for 81 |

- Define<sup>ing</sup>, direct<sup>ing</sup>, maintain<sup>ing</sup>, and measure<sup>ing</sup> the effectiveness of the Quality Assurance Program. 60 |
  - Ensure<sup>ing</sup> that Quality Assurance Program requirements are met by conducting audits and surveillances. 60 |
  - Provide<sup>ing</sup> for independent verification of critical attributes associated with safety-related equipment or work activities. 60 |
- [ - Providing technical services and management in areas of nuclear overview including quality assurance / quality control. ]

CPSES/FSAR

- 60 - Provide, when necessary, independent review and concurrence for quality-related activities such as procurement, nonconformance and corrective action, stop-work orders, and other activities as designated in the Quality Assurance Program.
- 81 - Provide administrative and technical direction to the Independent Safety Engineering Group (ISEG).
- 81 - Perform systematic monitoring and assessment of plant operation and maintenance activities, and provide senior management with critical assessments of plant practices and issues that may affect nuclear safety and the operation and maintenance of CPSES.
- 81 - Provide for the review and assessment of reports of nuclear industry operating experience.
- 83 - Provide engineering services to support the Operations Review Committee (ORC)
- Q331.1 - Provide ~~Corporate~~ <sup>review</sup> Health Physics ~~support~~ for those programs necessary for radiological protection of Company personnel and property, the environment and the general public.
- 83 - Provide engineering and administrative support to the corporate office emergency support center.
- 83 - Support the development of appropriate emergency plans for TU Electric in accordance with regulatory guidelines and requirements, and performance of the annual 10CFR50.54<sup>+</sup>(~~h~~) independent review of the Emergency Planning Program.
- 81 - Provide direction and guidance to the Manager, QA; <sup>Manager,</sup> Plant Analysis ~~Manager~~; Manager, Independent Safety Engineering Group (ISEG); Manager, Operations QC; and the Manager, ~~Construction QC~~ <sup>Nuclear Training</sup>.

|   |    |
|---|----|
| <u>Manager, Quality Assurance</u> - The responsibilities of the Manager, Quality Assurance are:   | 60 |
| - Develop, implement, and manage the internal audit program.  | 79 |
| - Ensure that activities at CPSES are conducted in a manner that is conducive to quality results.   | 74 |
| - Keep the Director of Nuclear Overview <sup>and</sup> the Vice President <sup>of</sup> Nuclear Operations <del>and the Plant Manager</del> apprised of the status of Quality Assurance activities.   | 81 |
| - Recommend actions or methods to improve or correct conditions which are adverse to quality.   | 74 |
| - Develop, implement and manage the vendor control program which includes the review of vendor QA programs, review of procurement documents, evaluation of vendor activities, and source and/or receipt inspection.                                       | 81 |
| <del>Manager, Operations Quality Control and Construction Quality Control</del><br>The responsibilities <sup>y</sup> of the Manager, Operations Quality Control <sup>is to:</sup> <del>and</del><br><del>Manager, Construction Quality Control are:</del> | 79 |
| - Direct site related QC activities for CPSES Operations <del>and Construction respectively.</del>  | 79 |
| <u>Manager, Independent Safety Engineering Group (ISEG)</u> - The responsibilities of the Manager, ISEG are:  | 81 |
| - Review plant activities and make recommendations to the <sup>Group</sup> Vice President, Nuclear <sup>Production</sup> Engineering on ways to improve the overall quality and safety of operations.   | 81 |

Insert from →  
p. 13.1-6

~~Manager,~~

Manager,

81 ~~Plant Analysis Manager~~ - The responsibilities of the Plant Analysis <sup>A</sup>  
~~Manager~~ are:

81 - Provide for the systematic monitoring and assessment of plant operations and maintenance activities.

81 - Provide for the review and assessment of reports of nuclear industry operating experiences.

81 - Provide for the trending and analysis of conditions adverse to quality.

62 The Quality Assurance Program is discussed in Chapter 17.

83

83

81

60 ~~13.1.1.2.4 Organization - Support~~

79 ~~Vice President, Support Services~~ - The responsibilities of the Vice  
~~President, Support Services~~ are:

62 - Provide assistance, as required, in various areas of CPSES construction and operations.

60 - Provide direction for prudence audit activities.

60 - Represent TU Electric in committees and task forces established for the nuclear industry.

79 - Provide for the development and implementation of an integrated administrative services program.

85

Relocate  
 to p. 13.1-8  
 under VP of  
 Nuc. Eng. & Sys

|          |   |    |
|----------|---|----|
| 13.1.1.3 | Qualification of Management and Technical Support Personnel | 60 |
|          |   | 60 |

|  |  |    |
|--|--|----|
|  | <i>Nuclear Production</i><br>Resumes of current <del>Nuclear Engineering and Operations (NEO)</del> managerial and technical support personnel are provided in Appendix 13.1A. | 77 |
|--|--|----|

|        |                        |    |
|--------|------------------------|----|
| 13.1.2 | OPERATING ORGANIZATION | 62 |
|--------|------------------------|----|

|  |  |    |
|--|--|----|
|  | The CPSES Operating Organization is divided into two factions: | 62 |
|--|--|----|

- |    |   |    |
|----|---|----|
| 1) | <i>Nuclear</i><br><del>Plant</del> Operations Organization.   | 85 |
| 2) | Management and additional support organizations - The Vice President <sup>of</sup> Nuclear Operations; <del>Manager, Nuclear Training; the Manager, Plans and Projects, and the Manager, Startup</del> are described in Section 13.1.1.2.1. | 85 |

Manager, Operations; Manager, Maintenance; *Radiation Protection Manager; Manager, Work Control; and the Manager, Plant Support*

77 | 13.1.2.1 <sup>Nuclear</sup>  
~~Plant~~ Operations Organization

77 | The ~~Plant Manager~~ reports to the Vice President<sup>of</sup> Nuclear Operations  
85 | ~~and~~ is responsible for the operation and maintenance of the Comanche  
Peak Steam Electric Station (CPSES). Reporting to the<sup>Vice President of Nuclear Operations</sup> ~~Plant Manager~~  
are the Manager, Operations; the Manager, Maintenance; the Manager,  
Work Control; ~~the Chemistry and Environmental Manager;~~ the Radiation  
Protection Manager; <sup>and the</sup> ~~and the~~ Manager, Plant Support. Reporting  
68 | interfaces and relationships are shown on Figures 13.1-2 and 13.1-3.  
77 | Quality Assurance is illustrated on Figure 13.1-2 and discussed in  
Section 13.1.1.2.3 (organization) and Chapter 17 (program).

77 | 13.1.2.1.1 Personnel Functions, Responsibilities, and Authorities

77 | Personnel responsibilities relating to membership on the Station  
Operations Review Committee (SORC) and the Operations Review Committee  
(ORC) are discussed in Section 13.4.

77 | 13.1.2.1.2 Operations Department

77 | The Manager, Operations is responsible for the operation of CPSES and  
the management and training of Operations Department personnel. He  
coordinates the generation of power and changes in plant operating  
modes and participates in the <sup>power ascension</sup> ~~start-up~~ test program and the refueling  
efforts.

Q441.1

77 | Reporting to the Manager, Operations are the ~~Operations Support~~  
~~Manager and the Shift Operations Manager~~ <sup>and the Chemistry Manager</sup>. The ~~Operations Support~~  
<sup>operations</sup> ~~Manager~~ provides technical assistance for the development and  
maintenance of Operations Department procedures to ensure CPSES is  
operated as prescribed in Section 13.5. He is also responsible  
77 | for the operation of the radioactive waste handling systems, for the  
processing and packaging of radioactive waste.

CPSES/FSAR

62 include operating equipment from the Control Room and operating and servicing equipment remote from the Control Room at the direction of Control Room operations personnel.

76 Shift Technical Advisors will be on each shift unless the Shift Supervisor or the individual with a Senior Reactor Operator license meets the qualifications described in Option 1 of the Commission Policy Statement on Engineering Expertise (50 FR 43621, October 28, 1985). They will report to the Shift Supervisors.

77 An individual is responsible to the Operations Support Manager for the operation of the liquid and gaseous waste systems. He supervises the  
75 various liquid and gaseous waste processing activities and serves as an interface between the Operations Department and other CPSES personnel involved in waste or water handling evolutions.

Insert from  
P. 13.1-20

Q422.5

77 13.1.2.1.3 Maintenance Department

83 The Manager, Maintenance is responsible for maintenance activities associated with mechanical and electrical equipment, instrumentation and controls, and for implementing the preventative maintenance program. The Manager, Maintenance ensures that maintenance personnel  
77 are trained and qualified. He ensures that maintenance activities  
68 during routine operation and refueling outages and activities associated with the <sup>power ascension</sup> ~~start-up~~ test program are conducted in accordance with approved procedures and instructions, regulatory requirements,  
77 and applicable policies and directives. The Manager, Maintenance is responsible for developing and maintaining procedures and instructions as described in Section 13.5.

49 Electrical and Mechanical Maintenance

77 The Electrical Maintenance and Mechanical Maintenance Managers are responsible to the Manager, Maintenance for the maintenance of electrical and mechanical plant equipment.

They are responsible for managing their respective areas through the Electrical and Mechanical Maintenance Supervisors who direct the work of the electricians and mechanics.

49

Their duties include preparation of maintenance procedures and instructions, preventive and corrective maintenance planning and scheduling, and ensuring that the maintenance personnel are trained and supervised.

49

#### Instrumentation and Controls (I&C) Section

77

77

##### I+C Maintenance

The ~~Instrumentation and Controls~~ Manager is responsible to the Manager, Maintenance for the supervision of the Instrumentation and Controls personnel. He is responsible for ensuring the proper installation, calibrating, testing, and maintenance of station instrumentation and control systems. In discharging these responsibilities, he ensures that I&C technicians are trained and that safety-related activities are conducted in accordance with applicable procedures, instructions, policies, and regulations. The I&C Supervisors are responsible to the I&C Manager for directing the day-to-day activities of the I&C Technicians.

83

62

Insert

B

#### 13.1.2.1.4

#### Radiation Protection

77

83

Q331

62

The Radiation Protection Manager is responsible for the supervision of Radiation Protection Supervisors, for the transportation of radioactive material, for the CPSES Radiation Protection program (see Section 12.5) and for implementation of the station policy of maintaining operational radiation exposures "as low as reasonably achievable." In discharging these responsibilities, he ensures that his personnel are trained and that safety-related activities are conducted in accordance with applicable procedures, instructions, policies and regulations.

62

Insert **B**

Construction/Operations Maintenance Support Group (COSG)

The COSG Manager is responsible to the Manager, Maintenance for the supervision of the COSG personnel. He is responsible for providing support to other Maintenance work groups such as scaffolding, painting, insulation, and equipment operation; providing housekeeping, fire watch and miscellaneous escort activities; providing outage augmentation personnel to other site groups; providing contract coordination services; maintaining site facilities and site rolling stock, vehicles and heavy equipment. The COSG is the primary organization for the implementation of plant Design Modifications.

75 | An individual is responsible to the Radiation Protection Manager for  
the shipping and receiving of all radioactive material and the  
handling, packaging and storage of radioactive waste. He is  
responsible for implementing the procedures which direct the conduct  
of radiation protection personnel during these operations. He also  
46 | insures that radiation protection personnel are trained in applicable  
DOT and NRC regulations.

Relocate  
p. 13.1-18

83 | ~~13.1.2.1.5 Chemistry & Environmental~~

62 | The Chemistry & Environmental <sup>Manager</sup> ~~Manager~~ is responsible for the  
supervision of chemistry personnel, for monitoring and maintaining  
the station's fluid systems chemistry ~~and for implementing the station~~  
~~environmental monitoring program.~~ In discharging these  
responsibilities, he ensures that his personnel are trained and that  
safety-related activities are conducted in accordance with applicable  
procedures, instructions, policies and regulations.

83 | 13.1.2.1.<sup>5</sup>~~6~~ Work Control

77 | The Manager, Work Control is responsible for expediting the work  
process, identifying and correcting inefficiencies and assisting the  
maintenance organization in minimizing the work backlog.

85 |

85 |

|   |          |
|---|----------|
| 13.1.2.1. <sup>6</sup> <del>7</del> Plant Support   | 85       |
| The Manager, Plant Support is responsible for station security, safety services, fire protection, and emergency planning.   | 85       |
| <u>Station Security</u>   | 62       |
| The Security Manager is responsible for the overall development and implementation of the security program at CPSES as outlined in Section 13.6 and the Security plans. Licensee security supervisors are responsible for security activities which implement the security program. | 77<br>76 |
| <u>Safety Services</u>  | 62       |
| The Safety Services Manager is responsible for industrial safety and fire protection. The Fire Protection Supervisor reports to the Safety Services Manager and is responsible for the fire protection program and for the activities of the CPSES Fire Brigade.                    | 62       |
|   | 82       |

85 | Emergency Planning

77 | The Emergency Planning Manager is responsible for the development of the Emergency Plan and procedures, maintenance of emergency response facilities and equipment, and training of the emergency response organization. The Emergency Planning Manager is also responsible for interfacing with local, state and federal officials to ensure integrated onsite and offsite plans.

85 | 13.1.2.2 Supervisory Succession

77 | Vice President of Nuclear Operations

77 | The ~~Plant Manager~~ is responsible for the operation of CPSES. If the ~~Plant Manager~~ is absent or becomes incapacitated, then, unless otherwise designated, the following members of his staff assume his responsibilities in the order listed:

- 77 | 1. Manager, Operations
- 77 | 2. Manager, Maintenance

During back shift and weekend periods when the station staff is not on site, the Shift Supervisor is responsible for all activities at CPSES.

85 | 13.1.2.3 Shift Crew Composition

The minimum on-duty shift complement for various modes of single and dual unit operation is shown in Table 13.1-2 and is as follows:

A Shift Supervisor shall be onsite at all times when at least one unit is loaded with fuel.

CPSES/FS. ...  
Table 13.1-1  
(Sheet 1 of 2)

Minimum Qualifications for Plant Personnel (3)

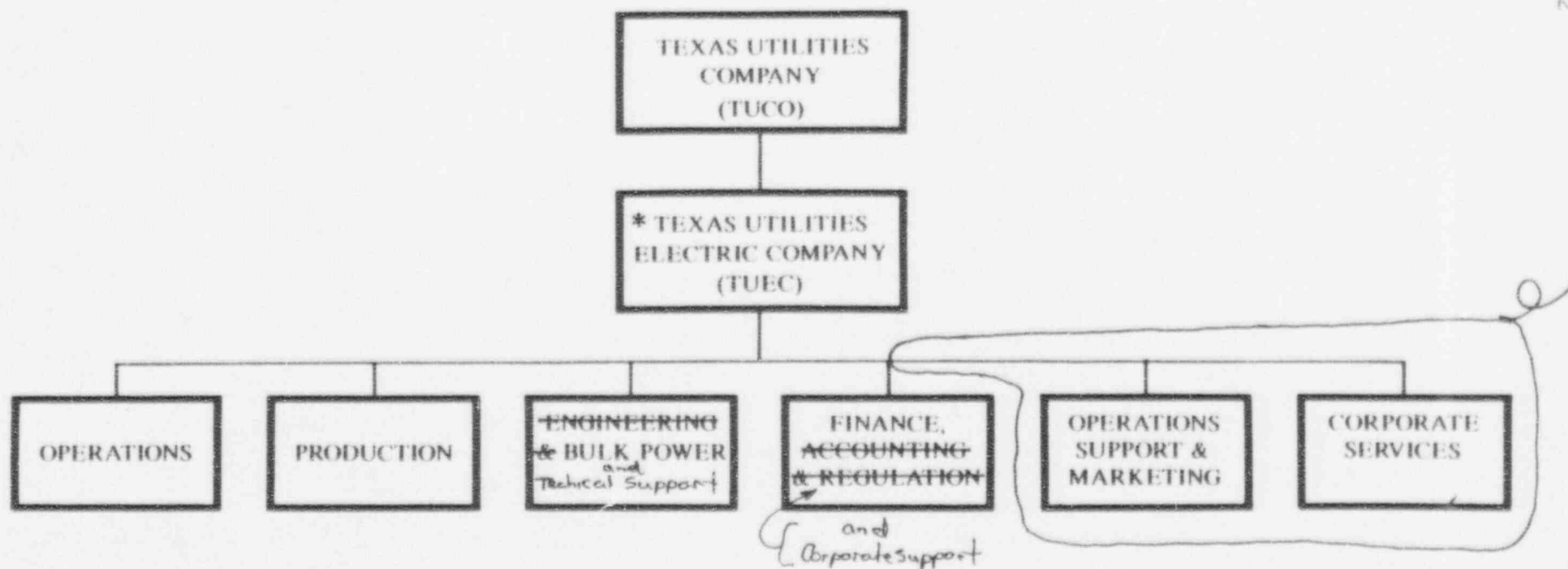
|  | HIGH SCHOOL DIPLOMA OR EQUIVALENT | B.S. IN ENGINEERING OR SCIENCE OR EQUIVALENT | TOTAL POWER PLANT EXPERIENCE | NUCLEAR POWER PLANT EXPERIENCE | OTHER EXP. IN SPECIALTY CRAFT OR DISCIPLINE | TECHNICAL OR ACADEMIC TRAINING ALLOWANCE FOR EXPERIENCE |      | NRC REACTOR OPERATOR LICENSE | NRC SENIOR REACTOR, OPERATOR LICENSE |    |
|--|-----------------------------------|--|------------------------------|--------------------------------|---|---|------|------------------------------|--------------------------------------|----|
|  |                                   |  |                              |                                |   | MIN.  | MAX. |                              |                                      |    |
| Vice President of Nuclear Operations<br><del>PLANT MANAGER</del>   |                                   |  |                              |                                |   |   |      |                              |                                      | 77 |
| MANAGER, OPERATIONS  |                                   | X  | 10                           | 3                              |   |   | 4    |                              | X(1)                                 | 77 |
| MANAGER, MAINTENANCE   |                                   | X(1)   | 8                            | 3                              |   |   | 2    |                              | X                                    | 77 |
| <del>PLANT MAINTENANCE</del><br>INSTRUMENTATION & CONTROLS MANAGER |                                   | X(1)   | 7                            | 1                              |   |   | 2    |                              |                                      | 77 |
| MECHANICAL MAINTENANCE MANAGER                                     |                                   | X  | 5                            | 1                              |   | 2   | 4    |                              |                                      | 62 |
| ELECTRICAL MAINTENANCE MANAGER                                     |                                   | X(1)   |                              |                                | 4   |   |      |                              |                                      | 62 |
| SHIFT OPERATIONS MANAGER   | X                                 | X(1)   |                              |                                | 4   |   |      |                              |                                      | 62 |
| SHIFT SUPERVISOR   | X                                 |  | 4                            | 1                              |   |   | 2    |                              | X                                    | 62 |
| UNIT SUPERVISOR  | X                                 |  | 4                            | 1                              |   |   | 2    |                              | X                                    | 62 |
| REACTOR OPERATOR   | X                                 |  | 4                            | 1                              |   |   | 2    |                              | X                                    | 77 |
| AUXILIARY OPERATOR   | X                                 |  | 2                            | 1                              |   |   |      | X                            |                                      | 62 |
| MECHANIC   |                                   |  |                              |                                |   |   |      |                              |                                      | 62 |
| ELECTRICIAN  |                                   |  |                              |                                | 3   | 3   |      |                              |                                      | 62 |

LPSES/FSAR

Table 13.1-1  
(Sheet 2)

| INSTRUMENT AND CONTROL TECHNICIAN   | HIGH SCHOOL DIPLOMA<br>OR EQUIVALENT | B.S. IN ENGINEERING<br>OR SCIENCE OR<br>EQUIVALENT | TOTAL POWER PLANT<br>EXPERIENCE | NUCLEAR POWER PLANT<br>EXPERIENCE | OTHER EXP. IN<br>SPECIALTY CRAFT OR<br>DISCIPLINE | TECHNICAL OR ACADEMIC<br>TRAINING ALLOWANCE<br>FOR EXPERIENCE | MIN. | MAX. | NRC REACTOR OPERATOR<br>LICENSE | NRC SENIOR REACTOR<br>OPERATOR LICENSE |    |
|---|--------------------------------------|--|---------------------------------|-----------------------------------|---|---|------|------|---------------------------------|--|----|
|   |                                      |  |                                 |                                   |   |   |      |      |                                 |  |    |
| MANAGER, PLANT SUPPORT  |                                      | X(1)   | 5                               | 1                                 |   |   |      | 2    |                                 |  | 62 |
| MANAGER <sup>of Technical Support and Design Engineering</sup><br>PLANT ENGINEERING |                                      | X  | 6                               | 2                                 |   |   |      | 4    |                                 |  | 85 |
| RADIATION PROTECTION MANAGER  |                                      | X  | 5                               | 2                                 |   | 2   |      | 4    |                                 |  | 62 |
| CHEMISTRY AND ENVIRONMENTAL MANAGER   |                                      | X  | 5                               | 1                                 |   | 2   |      | 4    |                                 |  | 62 |
| CHEMISTRY AND ENVIRONMENTAL SUPERVISOR  | X                                    |  |                                 |                                   | 4   | 2   |      | 4    |                                 |  | 62 |
| CHEMISTRY AND ENVIRONMENTAL STAFF   |                                      | X  |                                 |                                   |   |   |      |      |                                 |  | 62 |
| CHEMIST   |                                      |  |                                 |                                   |   |   |      |      |                                 |  | 62 |
| RADIATION PROTECTION TECHNICIAN   |                                      |  |                                 |                                   | 2   |   |      | 1(2) |                                 |  | 62 |
| CHEMISTRY AND ENVIRONMENTAL TECHNICIAN  |                                      |  |                                 |                                   | 2   |   |      | 1(2) |                                 |  | 62 |
| DIRECTOR OF NUCLEAR OVERVIEW  | X                                    |  |                                 | 2                                 | 6   | 1   |      | 4    |                                 |  | 81 |
| MANAGER, STARTUP  |                                      | X(1)   | 8                               | 2                                 |   |   |      |      |                                 |  | 85 |

NOTE: (1) Desirable, but not mandatory  
(2) Recommended in addition to experience requirement  
(3) Source Regulatory Guide 1.8



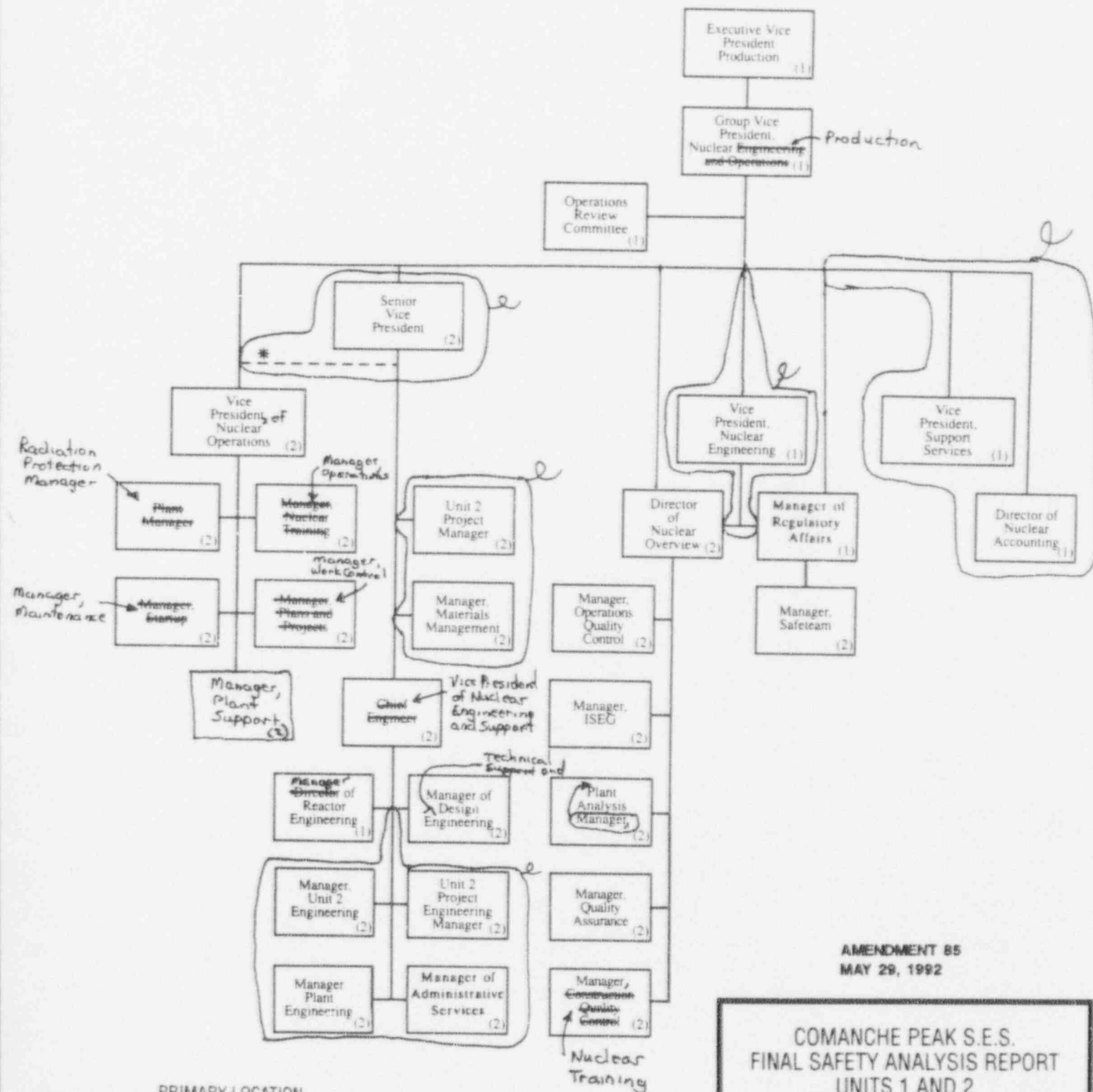
\* LEAD APPLICANT

COMANCHE PEAK S.E.S.  
FINAL SAFETY ANALYSIS REPORT  
UNITS 1 and 2

TEXAS UTILITIES COMPANY

FIGURE 13.1-1

AMENDMENT 88--  
DECEMBER 13, 1994



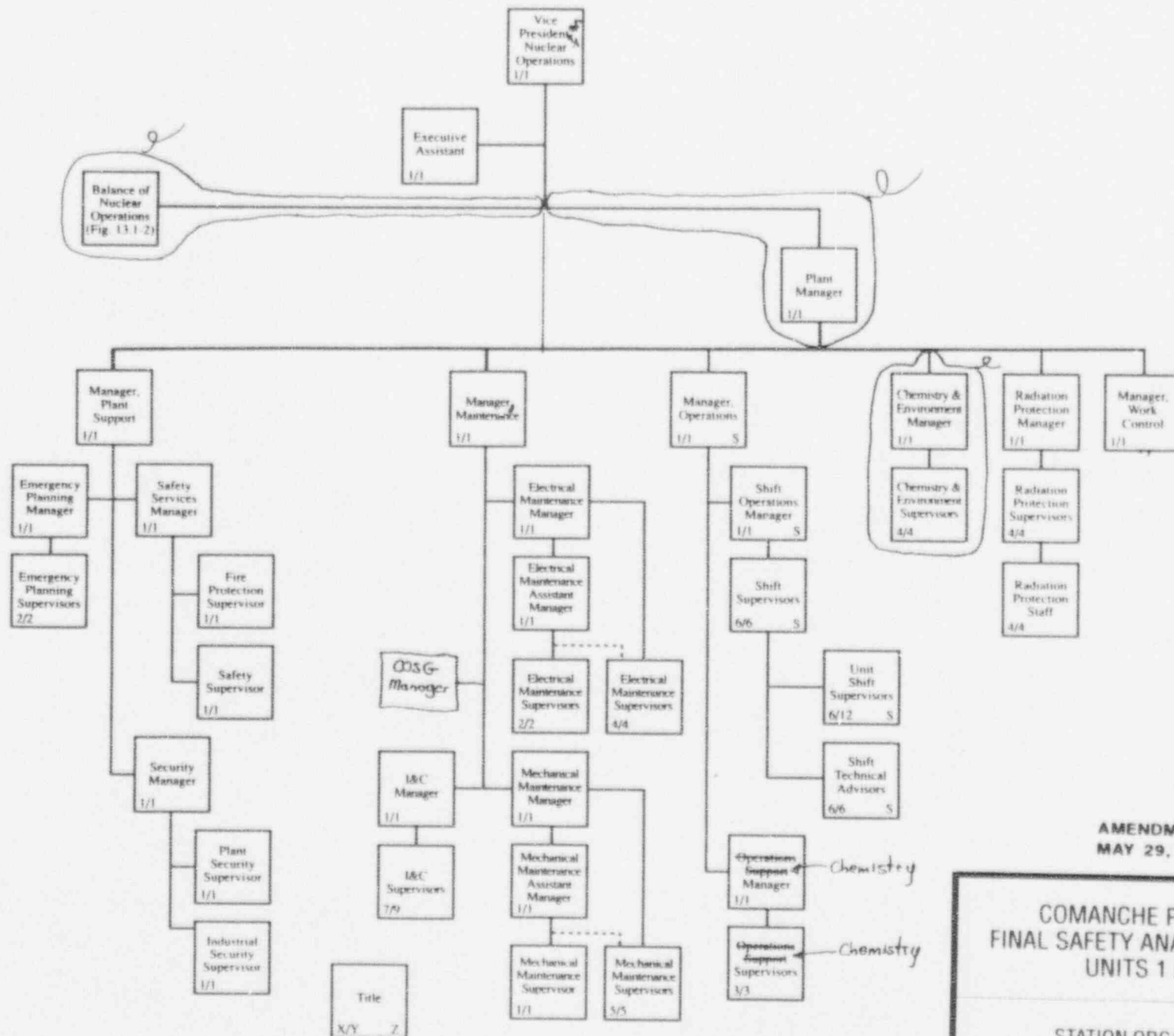
PRIMARY LOCATION  
(1) Corporate Office  
(2) CPSES  
\* In matters regarding Unit 2, the Vice President, Nuclear Operations reports to the Senior Vice President

AMENDMENT 85  
MAY 29, 1992

COMANCHE PEAK S.E.S.  
FINAL SAFETY ANALYSIS REPORT  
UNITS 1 AND 2

NUCLEAR ENGINEERING  
AND OPERATIONS (NEO) GROUP

FIGURE 13.1-2



X = ESTIMATED NUMBER FOR ONE UNIT  
Y = ESTIMATED NUMBER FOR TWO UNITS  
Z = LICENSE REQUIRED  
R = REACTOR OPERATOR LICENSE  
S = SENIOR REACTOR OPERATOR LICENSE

AMENDMENT 85  
MAY 29, 1992

# COMANCHE PEAK S.E.S. FINAL SAFETY ANALYSIS REPORT UNITS 1 AND 2

STATION ORGANIZATION

FIGURE 13.1-3

Resumes of the following key TU Electric CPSES personnel are provided: 85

|                                |   |    |  |
|--------------------------------|---|----|--|
| John W. Audas                  | Safe Team Manager   | 82 |  |
| W. G. Guldemon                 | Manager, ISEG   | 85 |  |
|                                |   | 85 |  |
| Dudley M. Bozeman              | Chemistry and Environmental Manager   | 77 |  |
| <del>H. D. Bruner</del>        | <del>Senior Vice President</del>  | 77 |  |
| Randy C. Byrd                  | Manager, Operations Quality Control   | 81 |  |
| William J. Cahill, Jr.         | Group Vice President, Nuclear Production  | 83 |  |
|                                | <del>Engineering and Operations</del>   | 83 |  |
|                                | <del>Vice President, Nuclear Engineering</del>  |    |  |
|                                | <del>(acting)</del>   | 83 |  |
| <del>Richard Daly</del>        | <del>Manager, Startup (Unit 2)</del>  | 83 |  |
| Doug L. Davis                  | <sup>Manager,</sup><br>Plant Analysis Manager   | 83 |  |
| Joseph W. Donahue              | Manager, Operations   | 77 |  |
| Rafael Flores                  | Shift Operations Manager  | 83 |  |
| <del>Joe B. George</del>       | <del>Vice President, Support</del>  | 77 |  |
| C. Lance Terry                 | <del>Vice President of Nuclear Engineering and Support</del><br><del>Chief Engineer</del> | 85 |  |
| Ausaf Husain                   | <sup>Manager of</sup><br><del>Director,</del> Reactor Engineering                         | 77 |  |
| James J. Kelley, Jr.           | <sup>Vice President of Nuclear Operations</sup><br><del>Plant Manager</del>               | 77 |  |
| <del>Charles W. Killough</del> | <del>Procurement QA Manager</del>   | 79 |  |
| Bobby T. Lancaster             | Manager, Plant Support  | 77 |  |
| David M. McAfee                | Manager, Quality Assurance  | 77 |  |
| J. F. McMahon                  | Manager, Nuclear Training   | 77 |  |
| David R. Moore                 | Manager, <sup>Maintenance</sup><br><del>Work Control</del>                                | 77 |  |
| James W. Muffett               | Manager of <sup>Technical Support and</sup><br>Design Engineering                         | 83 |  |
| Robert J. Prince               | Radiation Protection Manager  | 77 |  |
| <del>Carl W. Rau</del>         | <del>Unit 2 Project Manager</del>   | 79 |  |
| <del>Austin B. Scott</del>     | <del>Vice President, Nuclear Operations</del>   | 77 |  |
| <del>Peter B. Stevens</del>    | <del>Manager, Plant Engineering</del>   | 82 |  |

CPSES/FSAR

|    |                                 |  |   |
|----|---------------------------------|--|---|
| 83 | <del>David W. Stonestreet</del> | <del>Manager, Plans and Projects</del>                     | 1 |
| 85 | Michael R. Blevins              | Director of Nuclear Overview                               |   |
| 77 | Roger D. Walker                 | Manager of <del>Nuclear Licensing</del> Regulatory Affairs | 1 |
| 82 |                                 |  |   |
| 77 | <del>Billie W. Wieland</del>    | <del>Manager, Maintenance</del>                            |   |
|    | R.D. Bird                       | Manager, Work Control                                      |   |
|    | D.C. Koss                       | Shift Operations Manager                                   |   |

Dudley M. Bozeman - Chemistry ~~and Environmental~~ Manager

62 |

Education:

B.S. - U. S. Naval Academy, 1976

59

59

Experience:

59

1976 - U. S. Navy. Qualified Engineering Officer of the Watch, Engineering Duty Officer, and Command Duty Officer. Served on nuclear powered cruisers, USS Virginia and USS Long Beach. Participated in complex overhaul.

59

1981 - Texas Utilities Generating Company as Engineer in Results Engineering. Responsible for technical support for I&C (Instrumentation and Controls), the station surveillance test program and the station regulatory reporting program.

59

1983 - Texas Utilities Generating Company as Results Engineering Supervisor. Responsible for technical support for I&C and electrical systems and for regulatory compliance functions.

59

1986 - Assigned to position of Chemistry and Environmental Engineer.

59

1987 - Assigned as Chemistry and Environmental Manager, CPSES.

62

|   |  |    |
|---|--|----|
| <u>William J. Cahill Jr.</u> - Group Vice-President, Nuclear <sup>Production</sup> <del>Engineering</del><br><del>and Operations</del> <del>Vice President Nuclear Engineering (Acting)</del>   |  | 83 |
| Education:  |  | 76 |
| Bachelor of Science Mechanical Engineering - Polytechnic<br>Institute of Brooklyn, 1949.  |  | 76 |
| Experience:   |  | 76 |
| 1949 - <u>Instructor</u>  |  | 76 |
| Part-time instructor of thermodynamics and heat power<br>engineering at Polytechnic Institute of Brooklyn.  |  | 76 |
| 1949 - <u>Assistant Engineer - Consolidated Edison</u>  |  | 83 |
| Assigned to steam power plant engineering jobs, including<br>coal-oil conversions, fuel oil supply and storage systems,<br>combustion control system and the steam generator<br>associated with an 1,800 psi, 1,000 F/1,000 F 200 coal-<br>fired generating unit. |  | 76 |
| 1954 - <u>Consultant to General Electric</u>  |  | 83 |
| On loan to Knolls Atomic Power Laboratory located in<br>Schenectady, New York to participate in the design and<br>operation of the prototype nuclear power plants for the<br>submarines Seawolf and Triton.   |  | 76 |
| 1956 - <u>Engineer - Consolidated Edison</u>  |  | 83 |
| Resumed duties in engineering of power plant systems,<br>including ash handling facilities for a 400 MW coal-fired<br>generating unit and preliminary engineering for the 275 MW<br>Indian Point Nuclear Unit.  |  | 76 |

Douglas L. Davis - <sup>Manager,</sup> ~~Plant Analysis Manager~~

83

Education:

BSME - Texas A & M University - 1978

83

83

Experience:

1978 - Employed by Texas Utilities Generating Company as an Associate Mechanical Engineer. Assigned to the Maintenance Engineering Section at CPSES.

83

83

1980 - Assigned as a Mechanical Engineer in the Maintenance Engineering Section at CPSES.

83

1982 - Assigned as Supervisor of the Maintenance Engineering Section at CPSES.

83

1985 - Assigned as Manager of the Maintenance Engineering Section at CPSES.

83

1987 - Assigned as Results Engineering Manager at CPSES.

83

1989 - Assigned as Manager, Technical Support At CPSES.

83

1991 - Assigned as Plant Analysis Manager

83

Activities:

83

Member of the American Society of Mechanical Engineers

83

Member of the American Society for Metals

83

Joe B. George - Vice President, Support | 60

Education: | 55

A.D. Arts - Ranger Junior College, 1955 | 55

B.S. Electrical Engineering - Texas Tech University, 1959 | 55

Experience: | 55

1959 - Field Engineer, Texas Electric Service Company (TESCO) | 55

1963 - Odessa Station Distribution Superintendent, TESCO | 55

1968 - Senior Engineer, TESCO | 55

1971 - Manager, Distribution Planning, TESCO | 55

1976 - Engineering Manager, Substation and Underground Design,  
TESCO | 55

1977 - CPSES Nuclear Construction Manager, Texas Utilities  
Services Inc. (TUSI) | 55

1977 - CPSES Project General Manager, TUSI | 55

1980 - Assigned as Vice President, Engineering and Construction  
(CPSES Project General Manager), TUSI. | 60

1984 - Assigned as Vice President, Engineering and Construction  
(CPSES Project General Manager), TUGCO. | 60

1986 - Assigned as Vice President, Support, TUGCO. | 60

Affiliations: | 55

Registered Professional Engineer - Texas | 55

85 | Richard J. Daly, Jr. - Manager, Startup

85 | Education:

85 | Newton Vocational School

85 | US Navy Nuclear Power School

85 | Various US Navy Training Programs including Electrical and

85 | Electronics School and Maintenance and Management School

85 | Experience:

85 | 1950 - U.S. Navy, Various assignments in the US Navy including  
| Commanding Officer of an experimental submarine for Naval Research  
| Laboratory and representative to Newport News Shipbuilding and Dry  
| Dock Co. to supervise refueling of the USS Enterprise CVNS4.

85 | 1972 - Startup Engineer at James A. Fitzpatric Nuclear Station.

85 | 1972 - Senior Startup Engineer at Beaver Valley Power Station.

85 | 1974 - Assistant Startup Manager and subsequently Startup Manager  
| at North Anna Unit 1

85 | 1977 - Startup Manager at North Anna Unit 2.

85 | 1980 - Lead Startup Engineer for Westinghouse Electric Corporation  
| at Angra Nuclear Station in Brazil.

85 | 1981 - Startup Test Group Supervisor at Callaway Nuclear Power  
| Plant.

85 | 1982 - Test Group Manager at Seabrook Station Unit 1.

85 | 1984 - Startup Manager at South Texas Projects Units 1 and 2.

85 | 1988 - Special Advisor to Houston Lighting and Power Co. Plant  
| Superintendent at the South Texas Projects.

CPSES/FSAR

|   |    |
|---|----|
| 1988 - Assistant Construction Manager at Comanche Peak Steam Electric Station | 85 |
| 1989 - Manager, Startup at Comanche Peak Steam Electric Station. (Unit 1)     | 85 |
| 1990 - Startup Manager, Turkey Point  | 85 |
| 1991 - Manager, Startup at Comanch Peak Steam Electric Station. (Unit 2)      | 85 |

60 | Ausaf Husain - <sup>Manager of</sup>~~Director~~, Reactor Engineering

60 | Education:

60 | Ph.D Nuclear Engineering - University of Cincinnati, 1975  
60 | M. Tech, Mechanical & Nuclear Engineering - Indian Institute  
60 | of Technology, Kanpur, India, 1969  
60 | B. Tech, Mechanical Engineering, Kanpur, India, 1967

60 | Experience:

60 | 1967 - Senior Research Assistant, Mechanical Engineering  
Department, Indian Institute of Technology, Kanpur, India.

60 | 1969 - Research Assistant, Chemical & Nuclear Engineering,  
University of Cincinnati.

60 | 1974 - Engineer, Research & Engineering Development Department,  
Yankee Atomic Electric Company. Responsible for the  
development of in-house LOCA analysis capability and  
improved analytical methods to maximize the power output  
at Yankee Rowe.

60 | 1977 - Senior Engineer, Nuclear Engineering & Development  
Department. Discipline coordinator for LOCA discipline.  
Responsible for the development of LOCA analysis  
capability for Main Yankee and first time in-house LOCA  
licensing. Helped to develop general consulting contract  
with Brazilian utility, FURNAS and provided training to  
engineers from FURNAS in LOCA-related areas. Responsible  
for redesigning and analysis of Yankee Rowe Emergency Core  
Cooling System.

77 | James J. Kelley, Jr. - ~~Plant Manager~~ Vice President of Nuclear Operations |

64 | Education:

64 | BS Engineering - U. S. Naval Academy - 1966

64 | Experience:

64 | 1966 - Various assignments as a junior officer in the U. S. Navy, including one year as an instructor at U. S. Naval Academy and 3 1/2 years as a nuclear qualified officer aboard a nuclear powered submarine.

64 | 1971 - Employed by Northeast Utilities at the Millstone Nuclear Station as Unit 2 Startup Engineer.

64 | 1974 - Promoted to Unit 2 Operations Supervisor. Obtained Senior Reactor Operator license. Responsible for operation of Unit 2 for construction completion, startup testing and initial operations.

64 | 1980 - Promoted to Unit 2 Superintendent. Responsible for operation, maintenance and on-site engineering services for a 890 MWe Combustion Engineering pressurized water reactor.

64 | 1985 - Promoted to Station Services Superintendent. Responsible for Security, Health Physics, Chemistry, Computer Services, Quality Assurance/Control, Building Services and Stores at a 3 unit nuclear power station.

77 | 1987 - Employed by TU Electric at CPSES as Plant Manager, (formerly Manager, Plant Operations).

1992 - Employed by TU Electric at CPSES as Vice President of Nuclear Operations |

Charles W. Killough - Procurement QA Manager | 79

Education: | 79

Weatherford Jr. College, Weatherford, TX - 46 Credit hours toward | 79

Associate Degree

Nuclear Concrete Inspection Training | 79

ASME Code Compliance Training (Section III and XI) | 79

Nondestructive Examination Training (PT, MT, RT, UT, ET, VT) | 79

Radioactive Material Handling Training | 79

Experience: | 79

1969 - Stratoflex Inc., Ft. Worth, TX. Design and manufacture | 79  
of hydraulic and pneumatic hose fittings and assemblies  
for industrial and aerospace applications. Positions  
held included Draftsman; Draftsman Checker; and Designer  
in the Research and Development Department.

1975 - Employed by Brown & Root, Inc., as a Sr. Civil Inspector | 79  
responsible for QC inspection of all safety related civil  
activities at CPSES.

1977 - Employed by Brown & Root, Inc., as a Quality Assurance | 79  
Engineer/Supervisor accountable for implementing a Quality  
Surveillance Program during the construction phase of  
CPSES to verify that safety related construction and  
quality control activities were in compliance with station  
procedures.

1979 - Employed by Texas Utilities Generating Company as a Sr. | 79  
Technician, Quality Assurance responsible for the QA  
review of safety related procedures and conducting quality  
surveillances of safety related activities.

CPSES/FSAR

- 79      1984 - Employed by Texas Utilities Generating Company as a Quality Surveillance Supervisor. Duties included responsibility for the implementation of a Quality Surveillance Program for the Initial Startup and Operations phase of CPSES; review of safety related procedures and procurement requisitions; implementation of a Quality Control Receiving Inspection Program. Also functioned as a Level III Inspector in Civil and Receiving Inspection disciplines.
- 79      1986 - Employed by Texas Utilities Generating Company as a Quality Services Supervisor. Duties included review of operating plant procedures and instructions; technical direction of receipt inspections; development of QA/QC procedures; coordination of QA/QC activities for major modifications; and assignment of retention requirements for station Quality Assurance records. Accountable for review and approval of all Operations Deficiency and Nonconformance Reports for adequacy of disposition; for development and implementation of a Quality Assurance Trending Program.
- 79      1987 - Employed by TU Electric as a Supervisor, QA Operations Services. Duties included the development and implementation of programs for Quality Assurance Training, Quality Assurance Trending, Corrective Action and Quality Assurance review of the CPSES Technical Specifications.
- 79      1988 - Employed by TU Electric as Quality Services Manager. Accountable for implementing programs for Quality Assurance Training, Quality Assurance Trending, Deficiency Report Processing and Corrective Action.

1989 - Employed by TU Electric as Procurement QA Manager. Duties include accountability for approval of "Quality Required" procurement packages; development of Verification Plans for purchased items/services; performance and/or coordination of Vendor Audits, Commercial Grade Surveys and Vendor Shop Inspections; Receipt Inspections; Conformatory Testing of purchased items; as well as other interfaces with vendors and CPSES project organizations to assure that applicable procurement requirements are identified and met.

79

Affiliations:

American Society for Quality Control - Certified Quality Engineer

79

79

*Maintenance*

77 | David R. Moore - Manager, ~~Work Control~~

76 | Education:

76 | B. S. - Chemistry - University of South Florida - 1974

76 | MBA - Rensselaer Polytechnic Institute - 1987

76 | Experience:

76 | 1974 - Pathology Associates, Inc. - Supervised 6 technicians in radioisotope testing of medical specimens and application of special analytical techniques.

76 | 1978 - U. S. Navy - Lieutenant, Nuclear Submarine Force - Completed nuclear power training program. Assigned to the USS Nathanael Greene (SSBN 636) as the Main Propulsion Assistant and chemistry/Radiological Controls Officer. Supervised a 16 man division, responsible for mechanical maintenance of the ship's reactor and steam plants, diesel, and other systems as well as plant chemistry and health physics. Qualified Engineering Officer of the Watch (EOOW), Officer of the Deck, and Engineer.

76 | 1982 - Northeast Utilities - Staff Engineer to Vice President, Nuclear Operations - Designed, developed, and developed, and implemented a computerized work order system to control and document plant maintenance. This system is used at four nuclear power plants.

|        |  |    |
|--------|--|----|
| 1983 - | Northeast Utilities, Millstone Unit 3 - Assistant Operations Supervisor - Major involvement in every aspect of plant operations from construction through startup testing and commercial operations. Major duties included: abnormal operating procedures, ERG and SPDS development; surveillance procedures and scheduling system development; staff hiring and training program coordination; shift administration, Appendix R implementation; procedure writing; liaison with NRC, INPO, corporate and plant staff; startup test director; on-shift plant manager. Plant Operations Review Committee member and Duty Officer. Qualified Shift Supervisor and STA. | 76 |
| 1985 - | Millstone Unit 3 - Received USNRC Senior Reactor Operator License.   | 76 |
| 1987 - | TU Electric - Administrative Assistant - Staff support to the Manager, Plant Operations. Primary responsibilities were the reorganization of the work control process, procedure reviews, and Senior Reactor Operator license training.  | 76 |
| 1988 - | Received USNRC Senior Reactor Operator License, CPSES.   | 76 |
| 1988 - | Assigned to Operations Technical Manager, CPSES  | 76 |
| 1989 - | Assigned as Manager, Work Control, CPSES.  | 77 |
| 1992 - | Assigned as Manager, Maintenance   | 1  |

83 | James W. Muffett - Manager of Design Engineering

77 | Education:

77 | BSP - Purdue University - 1972

77 | MSME - University of Idaho - 1978

77 | Experience:

77 | 1972 - Sargent & Lundy Engineers, Employed as a Stress Analyst in Engineering Mechanics Division.

77 | 1975 - Idaho National Engineering Laboratory, employed as Group leader in the Applied Mechanics Branch of EG&G Idaho. Activities focused on "Loss of Fluid Test" Reactor.

77 | 1981 - NUTECH Engineers, Employed as Manager of Mechanical Design and Analysis in the Chicago office.

77 | 1983 - Nuclear Regulatory Commission, employed as Reactor I Inspector and Section Chief of Plant System section in Region III.

77 | 1987 - TU Electric - employed as Manager of Civil Engineering in the CPE organization with responsibility for piping, pipe supports, suspended systems and building structures.

78 | 1989 - TU Electric - assigned as Manager of Project Engineering.

83 | 1991 - TU Electric - assigned as Manager Design Engineering.

77 | Affiliations:

77 | American Nuclear Society

77 | American Society of Mechanical Engineers

77 | Professional Engineer Registrations:

77 | Indiana, Illinois, Minnesota, Texas

|  |    |
|--|----|
| <u>Carl W. Rag</u> - Unit 2 Project Manager  | 79 |
| Education:   | 79 |
| A.A. Civil Engineering - Penn. State University, 1968  | 79 |
| Experience:  | 79 |
| 1968 - U.S. Steel Corporation - Responsible for supervision of surveying crews and other construction activities at a large steel production steel facility.   | 79 |
| 1971 - Bechtel - Numerous nuclear power station work assignments from Civil Field Engineer to Construction Project Manager. This experience includes seven years of field supervision of piping and mechanical construction. In addition, over four years were spent in senior level manager positions requiring overall supervision and management of large construction organizations. | 79 |
| 1989 - Bechtel - Assigned as Unit 2 Project Manager of CPSES. Responsible for all cost and schedule matters and day-to-day management for construction, engineering, quality, startup, and operation during the construction phase.  | 79 |

Austin B. Scott, Jr. - Vice President, Nuclear Operations

57 Education:

57 B. A. Business Administration and Economics - Rice University,  
1955

57 Navy Nuclear Power Training Program, 1961

57 Experience:

57 1955 - Junior officer of destroyer, cruiser and two nuclear  
submarines.

57 1969 - Commanding officer of nuclear submarine.

57 1972 - Staff assistant to Admiral Hyman G. Rickover.

57 1975 - Submarine squadron commander.

57 1977 - Senior staff officer, Atlantic Fleet Submarine Force.  
Responsible for monitoring and auditing compliance with  
the standards of excellence required for the safe  
operation of nuclear submarines.

57 1978 - Chief of staff, Atlantic Fleet Submarine Force. Second-  
in-command to admiral, with responsibility for  
supervision, operation and maintenance of nuclear  
submarine reactors and support facilities.

57 1979 - Commander of nuclear submarine group. Senior naval  
officer in Western New England area. Responsible for  
operations and training of ships and crews based in  
Groton-New London, Conn.

- |        |  |    |
|--------|--|----|
| 1981 - | Senior staff officer, Navy Department, Pentagon. Second-in-charge of the Submarine Directorate.  | 57 |
| 1983 - | Commander of submarine force, U. S. Pacific Fleet. Responsible for 50 submarines, six support ships and three submarine bases. Directly involved with supervision, operation and maintenance of nuclear submarine reactors and support facilities. | 57 |
| 1985 - | Joined Texas Utilities Generating Company as Vice President, Nuclear Operations.   | 57 |

82 | Peter B. Stevens - Manager, Plant Engineering

77 | Education:

77 | BSEE - Texas Tech. University - 1973

77 | Experience:

77 | 1969 - Panama Canal Company, Electrical Division, as an Engineering Technician, responsible for budget preparation and execution, power plant inspections and modification tracking.

77 | 1973 - Westinghouse Electric Corporation, Steam Turbine Division, as a Negotiation Engineer, responsible for technical proposal preparation and presentation for Turbine-Generators and Control Systems. Evaluated Technical Specifications for Client requirements and negotiated specific differences.

77 | 1975 - Brown and Love Electric Company, as an Engineering and Construction Manager, responsible for Engineering and Construction of Commercial and Industrial Electrical and Instrumentation and Control Systems.

77 | 1981 - Texas Utilities Services, Inc. as a Senior Engineer at CPSES, responsible for ERF Computer System design and engineering including data acquisition from NSSS and BOP process controls and analog instrumentation.

77 | 1982 - Texas Utilities Generating Company as a Project Discipline Supervisor at CPSES, responsible for providing guidance, direction and coordination to the Electrical, I & C and Special Projects engineering organizations.

|  |    |
|--|----|
| 1986 - TUGCO as the Electrical Engineering Manager at CPSES responsible for management of the Electrical Engineering discipline.                       | 77 |
| 1986 - TUGCO as the Manager of Electrical Engineering at CPSES responsible for the management of the Electrical section of the Engineering Department. | 77 |
| 1989 - TU Electric assigned as Manager of Operation Support Engineering at CPSES.  | 78 |
| 1990 - TU Electric assigned as Manager, Technical Support at CPSES.  | 82 |
| 1991 - TU Electric assigned as Manager, plant Engineering at CPSES.  | 82 |

83 | David W. Stonestreet - Manager, ~~Plans and Projects~~

79 | Education:

79 | Bachelor of Electrical Engineering Technology (Major)

79 | Business Administration (Minor)

79 | Mississippi State University - 1973

79 | Experience:

79 | 1973 - Texas Instruments Incorporated - Employed as an Applications Engineer. Duties consisted of transistor circuit design, component testing and customer interfacing.

79 | 1974 - Self-employed in an electrical contracting business.

79 | 1975 - System Energy Resources Inc., Grand Gulf Nuclear Station (Mississippi Power & Light Co.) - Employed as an Electrical Maintenance Engineer. Duties consisted of formulating maintenance staff plans; preparing electrical and mechanical maintenance procedures; evaluating and recommending equipment spare parts; coordinating records and schedules for maintenance support.

79 | 1977 - System Energy Resources Inc., Grand Gulf Nuclear Station (Mississippi Power & Light Co.) - Assigned to the position of Start-up Test Supervisor. Duties consisted of developing and writing start-up acceptance and pre-operations test procedures for assigned electrical and turbine generator systems; coordinating plant electrical energization activities; providing assistance to the plant maintenance organization; evaluating and reporting assigned system construction and testing status.

- |        |   |    |
|--------|---|----|
| 1979 - | System Energy Resources Inc., Grand Gulf Nuclear Station (Mississippi Power & Light Co.) - Assigned to the position of Start-up Engineer responsible for turbine generator, main stepup transformers, and isophase bus systems. Directed the electrical/electronic checkout of the turbine generator systems; directed the turbine lube oil and electrohydraulic control fluid flushes; implemented system design changes to enhance system operation.              | 79 |
| 1980 - | System Energy Resources Inc., Grand Gulf Nuclear Station (Mississippi Power & Light Co.) - Assigned to the position of Assistant Manager, Nuclear Plant Engineering. Assigned to GE-NED in San Jose, CA as the company resident engineer. Responsible for completion of bulk build and testing of the main control room (PGCC). Responsible for the transition from construction/start-up phase to turnover and acceptance by plant staff of the main control room. | 79 |
| 1981 - | System Energy Resources Inc., Grand Gulf Nuclear Station (Mississippi Power & Light Co.) - Assigned to the position of Punchlist Manager. Responsible for developing the system punchlist during the transition from start-up to plant staff for all Phase 1 systems.   | 79 |
| 1982 - | System Energy Resources Inc., Grand Gulf Nuclear Station (Mississippi Power & Light Co.) - Assigned to the position of Unit 2 Project Engineering Supervisor. Responsible for all project engineering coordination for the restart of Unit 2, established engineering interface among site management, A/E contractor, subcontracts, and NSSS vendor.   | 79 |

- 79      1983 - System Energy Resources Inc., Grand Gulf Nuclear Station (Mississippi Power & Light Co.) - Assigned to the position of Mechanical Superintendent, Nuclear. Responsible for supervising and directing the activities of all mechanical maintenance personnel and laborers. Coordinated mechanical maintenance efforts with related plant work to utilize personnel in the most productive manner.
- 79      1984 - System Energy Resources Inc., Grand Gulf Nuclear Station (Mississippi Power & Light Co.) - Assigned to the position of Manager, Plant outages. Responsible for coordinating all activities pertaining to plant outages. These included coordination of engineering, procurement, scheduling, and installation of plant modifications, betterments and repairs.
- 79      1985 - System Energy Resources Inc., Grand Gulf Nuclear Station (Mississippi Power & Light Co.) - Assigned to the position of Manager, Plant Modification and Construction. Responsible for planning, scheduling and implementing major maintenance and modification activities during both outage and non-outage periods of GGNS.
- 79      1987 - System Energy Resources Inc., Grand Gulf Nuclear Station (Mississippi Power & Light Co.) - Unit 2 Project Manger responsible for establishing and implementing all project major milestones. Responsible for co-ordination of Engineering, construction, Procurement and Start-up activities required for plant completion.
- 79      1988 - System Energy Resources Inc., Grand Gulf Nuclear Station (Mississippi Power & Light Co.) - Assigned to the position of Maintenance Manager. Responsible for conduct of all maintenance activities at CPSES. Member of the Station Operation Review Committee (SORC) and the Emergency Response Team.

CPSES/FSAR

- |                   |   |               |
|-------------------|---|---------------|
| 1989 -            | TU Electric, Comanche Peak Steam Electric Station -<br>Assigned to position of Manager, Outage Planning.<br>Responsible for developing the outage management programs,<br>interfaces, and organizations at CPSES. Also responsible<br>for overview development and revisions to the Design<br>Modification Processes.   | 79            |
| 1990 -            | TU Electric, Comanche Peak Steam Electric Station -<br>Assigned to the position of Outage Manager. Responsible<br>for direct support for CPSES operation and maintenance<br>activities in the areas of project management,<br>construction, integrated schedule development, outage<br>planning, and outage management. | 79            |
| 1991 -            | TU Electric, as Manager, Plans and Projects   | 83            |
| <del>1992 -</del> | <del>TU Electric, as Manager, Unit 2 Completion</del>   | <del>83</del> |

85 | C. Lance Terry - ~~Chief Engineer~~ Vice President of Nuclear Engineering  
and Support |

77 | Education:

77 | B. S. Naval Science - U. S. Naval Academy

77 | M. S. Electrical Engineering - U. S. Naval Postgraduate  
School

77 | U. S. Navy Nuclear Power Training - Officer Course

77 | Experience:

77 | 1960 - U. S. Navy. Twenty (20) years of engineering and  
management experience, 12 years of which was in the U.  
S. Navy Nuclear Power Program.

79 | 1980 - Stone & Webster Engineering Corporation, Boston. Staff  
Assistant in the Quality Assurance Department; Quality  
Assurance Program Administrator; Assistant Chief Engineer,  
Quality Systems Divisions; and Project QA Manager.

77 | 1987 - TU Electric at CPSES assigned as Executive Assistant to  
the Vice-President, Engineering and Construction, assisted  
in development and implementation of programs to resolve  
licensing and quality concerns.

77 | 1987 - TU Electric at CPSES assigned as Project Manager,  
responsible for managing implementation of the programs to  
complete Comanche Peak Unit 1.

77 | 1987 - Manager, Projects, responsible for coordinating the  
control of project work activities, completion of  
system/area work, testing of systems, and turnover to  
operations.

79 | 1990 - Director, Quality Assurance. Responsible for the  
development, implementation, and evaluation of the TU  
Electric Quality Assurance Program for design,  
construction and operations.

1990 - Director of Nuclear Overview. Responsible for the development, implementation, and evaluation of the TU Electric Quality Assurance Program for design, construction and operations. Responsible for providing administrative and technical direction to the Independent Safety Engineering Group (ISEG). Responsible for the review and assessment of reports of nuclear industry operating experience.

81

1991 - Assigned as Chief Engineer. Responsible for providing engineering related technical services in support of CPSES operations.

85

1992 - Assigned as Vice President of Nuclear Engineering and Support.

1

77 | Billie W. Wieland - Manager, Maintenance

77 | Education:

77 | Bachelor of Science in Engineering, U.S. Naval Academy, 1965

77 | Master of Science, U.S. Navy Post Graduate School, 1978

77 | Various U.S. Navy Training Programs including Navy Nuclear  
School, Prototype Training and Submarine School

77 | Experience:

77 | 1967 - U.S. Navy, Various assignments in the U.S. Navy  
including:

77 | Engineering Division Officer of Electrical, Reactor  
Controls, and Auxilary Systems on Navy SSBN submarine  
(1976 - 1969)

77 | Department Head of Weapons and Sonar on Navy SSN submarine  
(1969)

77 | Engineering Division Officer of Main Propulsion System on  
Navy SSN submarine (1969 - 1971)

77 | Department Head of Navigation and Operations on Navy SSBN  
submarine (1974 - 1975)

77 | Ship Superintendent for Submarine Maintenance at Navy  
Shipyard (1974 - 1975)

77 | Project Manager, Submarine Overhaul at Ingalls Shipyard  
(1976 - 1980)

77 | Repair Department Head on a Submarine Tender (Intermediate  
Maintenance/Repair Station) (1980 - 1983)

77 | 1983 - Texas Utilities Generating Company. Maintenance  
Representative for CPSES Corporate Staff

77 | 1986 - TU Electric. Mechanical Maintenance Supervisor at  
CPSES.

77 | 1986 - TU Electric. Instrumentation and Controls Manager at  
CPSES.

1989 - TU Electric. Manager, Maintenance at CPSES.

| 77

Affiliations:

| 77

Instrument Society of America

| 77

Robert D. Bird, Jr. - Manager, Work Control

Education:

ASET - The University of Texas at Arlington - 1973  
BSEE - Texas Tech University - 1976

Experience:

- 1970 - Employed by Texas Electric Service Company as Electrical Distribution Helper while attending CO-OP Training program.
- 1973 - Graduated from the University of Texas at Arlington and transferred to Graham Steam Electric plant as an Electrical Repairman.
- 1976 - Graduated from Texas Tech University and assigned to the Morgan Creek Steam Electric Station as a Junior Engineer Technologist.
- 1978 - Transferred to Comanche Peak Steam Electric Station as an Associate Engineer in the Operations Department.
- 1979 - Completed Westinghouse Initial Operator Training, Phases I, II, and III. Received Westinghouse Senior Reactor Operator Certification.
- 1983 - Assigned to the position of Training Systems Supervisor, CPSES.
- 1985 - Assigned to the position of Electrical Maintenance Manager, CPSES.
- 1990 - Assigned to the position of CPSES Unit 1 Mid-Cycle, First Refueling Outage Manager.
- 1992 - Assigned to the position of Manager, Work Control.

DAVID C. KROSS

RESUME

EDUCATION

- High School Graduate.
- Attended three years at the Pennsylvania State University.
- Completed Military Schools in Basic Electricity and Electronics; Electronics Technician; Nuclear Power Theory and Application.
- Hot License and Senior Reactor Operator Upgrade Schools with Northeast Utilities resulting in a USNRC Senior Reactor Operator License (9 years).
- Hot License School with TU Electric resulting in a USNRC Senior Reactor Operator License (1.5 years).

APPLICATION

- Operation, maintenance and overhaul activities while attached to the U.S.S. Will Rogers.
- Operation, maintenance and startup of Northeast Utilities Millstone Unit 2 Nuclear Power Plant.
- Evaluation, support and supervision of licensing and startup to TU Electric's Comanche Peak Unit 1 Nuclear Power Plant.
- Operational support of Startup and Construction activities of TU Electric's Comanche Peak Unit 2 Nuclear Power Plant.

EXPERIENCE

- Reactor Operator and Electronics Technician maintaining power plant controls and supervisory equipment aboard U.S.S. Will Rogers from 1971 through 1974.
- Plant equipment operator, Millstone Unit 2 from 1974 to 1975.
- Instrument Technician/Specialist, Millstone Unit 2 from 1975 through 1977.
- Assistant Instrument and Controls Supervisor, Millstone Unit 2 from 1977 to 1982.
- Instrument and Controls Supervisor, Millstone Unit 2 from 1982 to 1989.
- Management Duty Officer, Millstone Unit 2 from 1982 to 1989.
- Administrative Assistant to the Plant Manager, Comanche Peak Steam Electric Station from 1989 to 1990.
- Duty Manager, Comanche Peak Steam Electric Station from 1989 to 1993.
- Unit 2 Operations Manager, Comanche Peak Steam Electric Station from 1990 to present.

CPSES/FSAR  
TABLE OF CONTENTS

17.0 QUALITY ASSURANCE (QA)

| <u>Section</u>        | <u>Title</u>   | <u>Page</u>       |
|-----------------------|--|-------------------|
| 17.0                  | <u>QUALITY ASSURANCE (QA)</u>  | 17.1-1            |
| 17.1                  | <u>QUALITY ASSURANCE DURING DESIGN AND CONSTRUCTION</u>                    | 17.1-2            |
| <del>17.1.1</del>     | <del>ORGANIZATION</del>  | <del>17.1-2</del> |
| <del>17.1.1.1</del>   | <del>TU Electric</del>   | <del>17.1-3</del> |
| <del>17.1.1.1.1</del> | <del>Nuclear Overview Department</del>                                     | <del>17.1-3</del> |
| <del>17.1.1.1.2</del> | <del>Project Management</del>  | <del>17.1-6</del> |
| <del>17.1.1.2</del>   | <del>Engineering Services Contractors</del>                                | <del>17.1-6</del> |
| <del>17.1.1.3</del>   | <del>Brown &amp; Root</del>  | <del>17.1-7</del> |
| <del>17.1.1.4</del>   | <del>Consultants</del>   | <del>17.1-8</del> |
| <del>17.1.1.5</del>   | <del>Organizational Interfaces</del>                                       | <del>17.1-9</del> |
| 17.1.2                | QUALITY ASSURANCE PROGRAM  | 17.1-10           |
| 17.1.3                | DESIGN CONTROL   | 17.1-11           |
| 17.1.3.1              | <u>Design Control for Preparation of Drawings</u>                          | 17.1-12           |
| 17.1.3.2              | <u>Engineering Specifications</u>  | 17.1-13           |
| 17.1.3.3              | <u>Review of Vendor Equipment Drawings, Specifications, and Procedures</u> | 17.1-13           |
| 17.1.3.4              | <u>Engineering Calculations</u>  | 17.1-13           |
| 17.1.3.5              | <u>Design Review and Verification</u>                                      | 17.1-13           |
| 17.1.3.6              | <u>Design and Engineering Surveillance</u>                                 | 17.1-14           |
| 17.1.3.7              | <u>Record Accumulation and Control</u>                                     | 17.1-15           |
| 17.1.4                | PROCUREMENT DOCUMENT CONTROL   | 17.1-15           |
| 17.1.5                | INSTRUCTIONS, PROCEDURES, AND DRAWINGS                                     | 17.1-16           |
| 17.1.6                | DOCUMENT CONTROL   | 17.1-18           |
| 17.1.7                | CONTROL OF PURCHASED MATERIAL, EQUIPMENT AND SERVICES                      | 17.1-19           |
| 17.1.8                | IDENTIFICATION AND CONTROL OF MATERIALS PARTS, AND COMPONENTS              | 17.1-21           |
| 17.1.9                | CONTROL OF SPECIAL PROCESSES   | 17.1-23           |
| 17.1.10               | INSPECTION   | 17.1-25           |

CPSES/FSAR  
TABLE OF CONTENTS

| <u>Section</u>          | <u>Title</u>   | <u>Page</u>        |
|-------------------------|--|--------------------|
| <del>17.1.11</del>      | <del>TEST CONTROL</del>  | <del>17.1-27</del> |
| 17.1.12                 | CONTROL OF MEASURING AND TEST EQUIPMENT                          | 17.1-29            |
| 17.1.13                 | HANDLING, STORAGE, AND SHIPPING                                  | 17.1-30            |
| 17.1.14                 | INSPECTION, TEST, AND OPERATING STATUS                           | 17.1-31            |
| 17.1.15                 | NONCONFORMING MATERIALS, PARTS, OR COMPONENTS                    | 17.1-32            |
| 17.1.16                 | CORRECTIVE ACTION  | 17.1-35            |
| 17.1.17                 | QUALITY ASSURANCE RECORDS  | 17.1-37            |
| <del>17.1.18</del>      | <del>AUDITS</del>  | <del>17.1-38</del> |
| 17.2                    | <u>QUALITY ASSURANCE DURING THE OPERATIONS PHASE</u>             | 17.2-1             |
| 17.2.1                  | ORGANIZATION   | 17.2-1             |
| 17.2.1.1                | <u>Organizational Structure</u>                                  | 17.2-1             |
| 17.2.1.1.1              | Executive Vice-President, Nuclear Production                     | 17.2-1             |
|                         | <del>Engineering and Operations</del>                            |                    |
| 17.2.1.1.2              | Vice President <sup>of</sup> Nuclear Operations                  | 17.2-2             |
| <del>17.2.1.1.3</del>   | <del>Plant Manager</del>   | <del>17.2-3</del>  |
| 17.2.1.1.3 <sup>3</sup> | Director of Nuclear Overview                                     | 17.2-4             |
| 17.2.1.1.4 <sup>4</sup> | Chief Engineer Vice President of Nuclear Engineering and Support | 17.2-6             |
| 17.2.1.2                | <u>Nuclear Overview</u>  | 17.2-6             |
| 17.2.1.3                | <u>Quality Assurance Section</u>                                 | 17.2-7             |
| 17.2.1.4                | <u>Procurement QA Unit</u>                                       | 17.2-8             |
| 17.2.1.5                | <u>Quality Control Section</u>                                   | 17.2-8             |
| 17.2.1.6                | <u>Plant Analysis Section</u>                                    |                    |
| 17.2.1.7                | <u>Independent Safety Engineering Group Section</u>              |                    |
| 17.2.1.8                | <u>Operations Review Committee</u>                               | 17.2-9             |
| 17.2.1.9                | <u>Delegation of Quality Assurance Functions</u>                 | 17.2-9             |
| 17.2.1.10               | <u>Personnel Qualifications</u>                                  | 17.2-9             |
| 17.2.1.10.1             | Director of Nuclear Overview                                     | 17.2-9             |
| 17.2.2                  | QUALITY ASSURANCE PROGRAM  | 17.2-10            |
| 17.2.3                  | DESIGN CONTROL   | 17.2-14            |
| 17.2.4                  | PROCUREMENT DOCUMENT CONTROL                                     | 17.2-17            |
| 17.2.5                  | INSTRUCTIONS, PROCEDURES, AND DRAWINGS                           | 17.2-19            |

LIST OF TABLES

| <u>Table</u>      | <u>Title</u>   |   |
|-------------------|--|---|
| <del>17.1-1</del> | <del>Deleted</del>   | 1 |
| <del>17.1-2</del> | <del>CPSES QA Manual Compliance Matrix</del>                           | 1 |
| 17.2-1            | CPSES QA Manual Compliance Matrix                                      |   |
| 17.2-2            | Regulatory Guides and Industry Standards (3 Sheets)                    |   |
| 17A-1             | List of Quality Assured Structures, Systems and Components (48 Sheets) |   |
| 17A-2             | Quality Assurance Summary  |   |

LIST OF FIGURES

| <u>Figure</u>     | <u>Title</u>   |
|-------------------|--|
| <del>17.1-1</del> | <del>Texas Utilities Company Organization</del>  |
| <del>17.1-2</del> | <del>Deleted</del>   |
| <del>17.1-3</del> | <del>Deleted</del>   |
| <del>17.1-4</del> | <del>Deleted</del>   |
| <del>17.1-5</del> | <del>B&amp;R Quality Assurance Organization Chart</del>  |
| <del>17.1-6</del> | <del>TU Electric Nuclear Engineering and Operations Group</del>  |
| 17.2-1            | TU Electric Nuclear <sup>Production</sup> <del>Engineering and Operations (NEO)</del> Group ( <i>For QA Purposes</i> ) |
| 17.2-2            | TU Electric Nuclear Operations   |
| 17.2-3            | Deleted  |

Section 17.1 has been  
deleted in its entirety

17.2 QUALITY ASSURANCE DURING THE OPERATIONS PHASE

## 17.2.1 ORGANIZATION

17.2.1.1 Organizational Structure

Texas Utilities Electric Company (TU Electric), as the licensee, has overall responsibility for the operation of the Comanche Peak Steam Electric Station (CPSES). Nuclear ~~Engineering and Operations (NEO)~~ <sup>Production Group</sup> has been designated by TU Electric to coordinate the design, construction and operation of CPSES. The organizational structure of TU Electric and ~~NEO~~ <sup>the Nuclear Production Group</sup> are described in Section 13.1.

53

The following paragraphs amplify upon Section 13.1 with regard to establishment and execution of the quality assurance program for the operation of CPSES. Figure 17.2-1 shows the structure and relationships of those elements of ~~NEO~~ <sup>Nuclear Production Group</sup> which function under the control of the QA program. Figure 17.2-2 shows the CPSES Nuclear Operations organizational structure.

53

62

TU Electric may, from time to time, assign responsibility for executing certain portions of the program to qualified consultants and contractors. However, TU Electric, retains ultimate responsibility for the CPSES operations quality assurance program.

53

17.2.1.1.1 Group Vice-President, Nuclear ~~Engineering and Operations~~ <sup>Production</sup>

83

56

The Group Vice-President, Nuclear ~~Engineering and Operations~~ <sup>Production</sup> is responsible for the overall management of company operations, including operation of CPSES, and for the establishment of company policies. He has the overall responsibility for the establishment and execution of the quality assurance program for the operation of CPSES.

83

The Group Vice-President, Nuclear <sup>Production</sup> ~~Engineering and Operations~~ has assigned to the Vice-President <sup>of</sup> Nuclear Operations the overall responsibility for operation of CPSES and for implementation of the quality assurance program for the Nuclear Operations function at CPSES.

83 The Group Vice-President, Nuclear <sup>Production</sup> ~~Engineering and Operations~~ has assigned to the ~~Senior~~ Vice-President <sup>of Nuclear Engineering and Support</sup> the overall responsibility for engineering and <sup>Support</sup> ~~construction~~ of CPSES, and for implementation of the quality assurance program for the <sup>Nuclear</sup> ~~Engineering and~~ <sup>Support</sup> ~~Construction~~ function at CPSES.

83 ~~The Group Vice-President, Nuclear Engineering and Operations has assigned to the Vice-President, Nuclear Engineering the overall responsibility for licensing and quality assurance/quality control, and for implementation of the quality assurance program for the Nuclear Engineering function at CPSES.~~

15 17.2.1.1.2 Vice President <sup>of</sup> Nuclear Operations

83 The Vice President <sup>of</sup> Nuclear Operations is responsible to the Group Vice President, Nuclear <sup>Production</sup> ~~Engineering and Operations~~ for operating activities at CPSES.

71

53 Specific duties and responsibilities of the Vice President <sup>of</sup> Nuclear Operations include the following:

77 1. Technical and administrative direction of the <sup>Manager, Operations</sup> ~~Plant Manager~~.

56

77 2. Technical and administrative direction of the Manager, <sup>Maintenance</sup> ~~Startup~~.

|                       |   |    |
|-----------------------|---|----|
| 3.                    | Technical and administrative direction of the <del>Manager, Plans and Project.</del> <sup>Radiation Protection Manager, Plans and</sup>   | 85 |
| 4.                    | Technical and administrative direction of the <del>Manager, Nuclear</del> <sup>Work</sup> <del>Control Training.</del>  | 77 |
| 6 <del>5</del> .      | Operational and technical support of all Nuclear Plants operated by TU Electric.  | 62 |
| 7 <del>6</del> .      | Technical and administrative direction for the implementation of quality assurance requirements and controls at nuclear plants operated by TU Electric.   | 62 |
| 8 <del>7</del> .      | Overall responsibility for the <del>Initial Startup</del> <sup>Preoperational</sup> Test Program at CPSES.  | 71 |
| <del>17.2.1.1.3</del> | <del>Plant Manager</del>  | 77 |
|                       | <del>The Plant Manager is responsible to the Vice President, Nuclear Operations, for Plant operations activities at CPSES. He is the individual who is directly responsible for the safe, reliable, and efficient operation of CPSES.</del> | 77 |
|                       | <del>Specific duties and responsibilities of the <sup>Vice President of Nuclear Operations</sup> Plant Manager include the following:</del>   | 37 |

5. Technical and administrative direction of the Manager, Plant Support,

15 | X. Management of all operations activities at CPSES.

15 | ~~2. Technical and administrative direction of:~~

77 | ~~a. Manager, Operations~~

77 | ~~b. Manager, Maintenance~~

85 | ~~c. Manager, Plant Support~~

85 | ~~d. Manager, Work Control~~

85 | ~~e. Chemistry and Environmental Manager~~

85 | ~~f. Radiation Protection Manager~~

83 | <sup>10</sup>  
X. Chairmanship of the Station Operations Review Committee.

83 | <sup>11</sup>  
X. Membership on the Operations Review Committee upon appointment  
by the Group Vice President, Nuclear <sup>Production</sup> ~~Engineering and Operations~~.

81 | 17.2.1.1.<sup>3</sup> X Director of Nuclear Overview

81 | The Director of Nuclear Overview reports directly to the <sup>Group</sup> Vice-  
President, Nuclear <sup>Production</sup> ~~Engineering~~ and is responsible to him for assuring  
effective implementation of the Quality Assurance Program. This  
reporting relationship assures that the Director of Nuclear Overview  
has sufficient authority, organizational freedom, and independence  
from undue influence from, or responsibility for, costs and schedules  
such that he can effectively assure implementation of and compliance  
with the CPSES operations quality assurance requirements and controls.

83 | The Director of Nuclear Overview is responsible for submitting the  
Quality Assurance Manual for concurrence and approval to the Group  
Vice President, Nuclear <sup>Production</sup> ~~Engineering and Operations~~. He is  
62 | responsible for the performance of quality assurance activities in  
support of CPSES operation.

|               |   |    |
|---------------|---|----|
| Page 78 OF 91 | The Director of Nuclear Overview communicates directly with <del>NEO</del> <sup>the Nuclear Production Group</sup>  | 81 |
|               | supervisory and management personnel and with appropriate management levels in consultant and contractor quality assurance organizations to identify quality problems; initiate, recommend or provide solutions; and to verify implementation of solutions to quality problems. He also has authority to "stop work" during the operations phase. | 14 |
|               | Specific duties and responsibilities of the Director of Nuclear Overview include the following:   | 81 |
| 1.            | Direction of Nuclear Overview Department personnel.   | 81 |
| 2.            | Technical and administrative direction of:  | 62 |
|               | a. Manager, Operations QC   | 79 |
|               | b. Manager, QA  | 79 |
|               | c. Manager, Independent Safety Engineering Group  | 81 |
|               | d. <sup>Manager,</sup> Plant Analysis <del>Manager</del>  | 81 |
|               | e. Nuclear Training   | 81 |
| 3.            | Verification through audit and surveillance that procedures for the control of quality-related activities comply with quality assurance requirements.   | 62 |
| 4.            | Verification through audit and surveillance of the implementation of the quality assurance program within <del>NEO</del> <sup>the Nuclear Production Group</sup> and evaluation of its effectiveness.   | 62 |
| 5.            | Assurance through audit, surveillance and inspection that consultants, contractors and suppliers providing quality-related items or services have established and implemented an adequate quality assurance program.  | 62 |
| 6.            | Membership on the Operations Review Committee upon appointment by the Group Vice President, Nuclear <del>Engineering and Operations</del> <sup>Production</sup> .   | 83 |

77

17.2.1.1.1 <sup>4</sup> Vice President of Nuclear Engineering and Support  
~~Chief Engineer~~

Vice President of Nuclear Engineering and Support

77

The ~~Chief Engineer~~ is responsible for providing engineering related technical services in support of CPSES operations.

77

Specific duties and responsibilities of the ~~Chief Engineer~~ <sup>Vice President of Nuclear Engineering and Support</sup> includes the following:

53

1. Technical support to Nuclear operations.

5

2. Technical direction and administrative guidance to his staff.

5

3. Assistance, as required, in the procurement of equipment, materials, and services for the operation, maintenance or modification of CPSES.

81

17.2.1.2 Nuclear Overview Department

81

The Nuclear Overview Department, under the direction of the Director of Nuclear Overview functions to assure effective implementation of the quality assurance program.

81

Specific functions performed by the Nuclear Overview Department include:

62

1. Quality assurance auditing of ~~NEO~~ <sup>Nuclear Production</sup> quality-related activities, both offsite and onsite.
2. Evaluation of consultants', contractors', and suppliers' quality assurance programs and implementing procedures.
3. Quality assurance auditing of consultants, contractors, and suppliers.

|          |   |               |
|----------|---|---------------|
| 4.       | Surveillance and inspection conducted at equipment and material suppliers' facilities.  |               |
| 5.       | Review of procurement documents to assure incorporation of adequate quality assurance requirements for procured items and services.   | 76            |
| 6.       | Surveillance and inspection of site quality related activities to assure compliance with the applicable quality requirements.   | 76            |
| 7.       | Engineering services to support the Operations Review Committee (ORC).  | 83            |
| 8.       | <del>Corporate</del> Health Physics <sup>review</sup> <del>support</del> to these programs necessary for radiological protection of Company personnel and property, the environment and the general public.   | 83            |
| 9.       | Engineering and administrative support to the corporate office Emergency Support Center.  | 83            |
| 10.      | Support the development of appropriate emergency plans for TU Electric in accordance with regulatory guidelines and requirements and performance of the annual 10CFR50.54(t) independent review of the Emergency Planning Program.  | 85            |
| 17.2.1.3 | <u>Quality Assurance Section</u>  | 74            |
|          | The Quality Assurance Section, is supervised by the Manager, QA who reports directly to the Director of Nuclear Overview. The Quality Assurance Section is responsible for the administration and implementation of an effective quality assurance audit program for CPSES. | Q421.48<br>81 |
|          |   | 71            |

The Manager, Operations QC has sufficient authority and organizational freedom at CPSES to identify quality problems, recommend solutions, verify implementation of solutions, to stop unsatisfactory work and control further processing, delivery or installation of non-conforming material until proper disposition has occurred. 79

Inspections shall be performed by qualified individuals other than those who performed or directly supervised the activity being inspected. Personnel performing these inspections may be from the same department but are not from the same group that performed the work. 74

In addition, qualification criteria for inspection personnel are reviewed for concurrence by the Manager, Operations Quality Control. Q421.11 79

#### 17.2.1.6 Plant Analysis Section 81

The Plant Analysis Section is supervised by the <sup>Manager,</sup> ~~Plant Analysis Manager~~ who reports directly to the Director of Nuclear Overview. The Plant Analysis Section is responsible for administration and implementation of the trending effort for CPSES. 81

#### 17.2.1.7 Independent Safety Engineering Group (ISEG) Section 81

The ISEG Section is supervised by the Manager, ISEG who reports directly to the Director of Nuclear Overview. The ISEG Section is responsible for administration and implementation of the surveillance program for CPSES. 81

#### 17.2.1.8 Operations Review Committee 74

Independent reviews of activities affecting plant safety during the operations phase are performed by the Operations Review Committee. The structure and responsibilities of this committee are described in Section 13.4.

administration of the program rests with the Director of Nuclear Overview.

Q421.50

83

The Group Vice President, Nuclear ~~Engineering and Operations~~ <sup>Production</sup> will assure that an annual independent assessment of the audit program is performed. These independent assessments will be conducted in accordance with predetermined schedules, with results documented, and a follow-up system utilized to assure that corrective action is taken and audited when it is considered necessary to verify implementation.

77

83

The Vice-Presidents shall meet periodically to assess the status and adequacy of the quality assurance program, and at least annually provide a written assessment of the overall effectiveness of the QA program to the Group Vice-President, Nuclear ~~Engineering and Operations~~ <sup>Production</sup>, which includes the results of the independent assessment of the audit program.

76

71

The quality assurance requirements and controls applicable to the operations phase, comply with the requirements of 10 CFR Part 50, Appendix B. Table 17.2-1 provides a matrix showing those sections of the QA Manual which satisfy the requirements of each criterion of 10 CFR Part 50, Appendix B. The quality assurance requirements and controls shall be consistent with the applicable guidance of those Regulatory Guides and industry standards listed in Table 17.2-2 and discussed in Appendix 1A(B).

Q421.51

81

The Director of Nuclear Overview is responsible for controlling the distribution of the Quality Assurance Manual and revisions thereto.

71

The quality assurance requirements and controls are designed to assure that activities affecting the quality and operation of safety-related items are accomplished in a planned and controlled manner. Activities affecting quality are accomplished in accordance with written, approved procedures and instructions under suitably controlled conditions. Controlled conditions include, as applicable, appropriate equipment, suitable environmental conditions, and

completion of prerequisites. All procedures prescribing activities affecting quality are controlled and distributed in accordance with the measures described in Section 17.2.6.

71

The Director of Nuclear Overview is responsible for assuring, through audits and surveillance, implementation of the Quality Assurance Program. He is responsible for regularly assessing the status and adequacy of the Program, within ~~the Nuclear Production Group~~ <sup>NEO</sup>, and as implemented by consultants, contractors, and suppliers. The Director of Nuclear Overview reports the results of these evaluations to the ~~Vice-President, Nuclear Engineering~~ <sup>Group</sup>. Unresolved issues between the Director of Nuclear Overview and others concerning quality are brought to the Group Vice-President, Nuclear ~~Engineering and Operations~~ <sup>Production</sup> for resolution.

81

71

81

83

The Director of Nuclear Overview has overall responsibility for the identification, scheduling, assignment, conduct and reporting of station activities assigned to the Nuclear Overview Department. Station activities affecting quality are subject to quality surveillance and audit by Nuclear Overview site personnel.

Q421.54

81

In addition, the Manager, Operations QC has responsibility for administration and implementation of the CPSES quality control program.

79

The Manager, QA reviews procedures involving operation, maintenance, modification, inspection and testing during the operations phase for quality assurance requirements as a normal function of the Station Operations Review Committee. Procedural implementation of quality requirements is periodically reviewed by the Nuclear Overview organization through audits and surveillance activities.

Q421.54

76

81

An indoctrination and training program is established for those personnel performing activities affecting quality. The scope, objectives, and methods for implementing the indoctrination and training program are prescribed by written, approved procedures. These procedures also prescribe methods for documenting the accomplishment of training. The indoctrination and training program

71

includes provisions that personnel performing activities affecting quality are:

- 71
1. Instructed as to the purpose, scope, and implementation of the Quality Assurance Program and related procedures and instructions as appropriate to their activities.
  2. Qualified in the principles and techniques of activities for which they are responsible.
  3. Retrained, re-examined or recertified, when appropriate, to maintain necessary proficiency in those activities for which they are responsible.

76

Q421.55 17.2.3 DESIGN CONTROL

Q421.57

78

Requirements for the control of design activities associated with modifications of safety-related structures, systems, and components are consistent with the provisions of Regulatory Guide 1.33, and Regulatory Guide 1.64 as discussed in Appendix 1A(B).

Q421.55

77

*vice President of Nuclear Operations*  
The ~~CPSES Plant Manager~~ shall have the responsibility for approving and controlling the implementation of station design modifications.

78

*of Nuclear Engineering and Support*  
The ~~Senior~~ Vice President shall have the overall responsibility for developing procedures to maintain and control the design control process, ~~except for the fuel-related design control process which is the responsibility of the Vice President, Nuclear Engineering.~~

Q421.57

71

Final approval of all station modifications is the responsibility of the SORC. The SORC will submit all proposed station design modifications which involve a change in CPSES Technical Specifications or an unreviewed safety question to the ORC for review and approval before proceeding with implementation. Safety evaluations on station design modifications which do not involve unreviewed safety questions or a change in CPSES Technical Specifications will be reviewed by ORC, however, this will not be a prerequisite for implementation. Upon recommendation from SORC, the *vice President of Nuclear Operations* ~~CPSES Plant Manager~~ approves each station design modification for implementation.

44

77

All design modification requests made by station personnel, shall be submitted to the ~~Chief Engineer~~ <sup>Vice President of Nuclear Engineering and Support</sup> for coordination of the station level engineering review. The actual change of design for those design modification requests approved by the ~~CPSES Plant Manager~~ <sup>Vice President of Nuclear Operations</sup> may be done by ~~NED~~ <sup>Nuclear Production Group</sup> engineering personnel or approved engineering services contractors in areas other than reactor engineering for which the Reactor Engineering Department will be responsible. The above organizations will have approved design procedures and/or instructions before any design modifications are performed by the respective organization. These procedures and/or instructions will assure proper design review and verification. These procedures and instructions will also assure that design control is commensurate with the original design. The ~~Senior Vice President~~ <sup>of Nuclear Engineering and Support</sup> will assure that the designer is provided with the latest revisions to all drawings, specifications, and other design documents which are applicable.

Design changes, including those originating on site, are subject to the same controls which were applicable to the original design. ~~NED~~ <sup>Nuclear Production</sup> may designate an organization to make design changes other than the one which prepared the original design. In these cases, ~~NED~~ <sup>Nuclear Production</sup> will assure that that organization has access to pertinent background information, including an adequate understanding of the requirements and intent of the original design, and has demonstrated competence in applicable design areas.

~~The Senior Vice President~~ <sup>Vice President of Nuclear Engineering and Support</sup> shall coordinate necessary revisions to drawings and other design documents. The ~~Plant Manager~~ <sup>Vice President of Nuclear Operations</sup> shall coordinate necessary revisions to plant procedures and instructions as a result of design changes. Changes are promptly distributed to ensure availability to responsible plant personnel prior to commencement of work.

Q421.55

85

77

53

77

Q421.56

77

77

44

62 Section Supervisors. Qualified test laboratories and consultants may  
9 be used in qualification of special processes. Procedures shall be  
developed which delineate the requirements for special process.  
81 These procedures shall be reviewed by the Nuclear Overview Department.

Q421.67 | 17.2.10 INSPECTION

71 Requirements are established for an inspection program to verify  
conformance of activities affecting quality with requirements  
76 specified for those activities. These requirements are consistent  
with the provisions of Regulatory Guides 1.30, 1.33, 1.39, 1.58, 1.94,  
and 1.116 as discussed in Appendix 1A(B).

Q421.48

Q421.11

79 The Manager, Operations QC is responsible for administering and  
implementing the CPSES quality control inspection program.  
76 Inspections are performed by quality control inspectors who are  
qualified and certified in accordance with ANSI N45.2.6-1978 and who  
are independent of the individuals performing or directly supervising  
81 the activity being inspected. The quality control inspectors may be  
selected from among any of the <sup>Nuclear Production</sup> ~~NEO~~ departments, including contract  
personnel, and will report directly to the Manager, Operations QC when  
acting in the capacity of quality control inspectors with the  
exception of receipt inspection personnel who report to the  
Procurement QA Manager. All quality control inspection personnel  
13 have authority to stop unsatisfactory work and control further  
processing, delivery, or installation of nonconforming material, parts  
71 or components. The quality control inspector's qualifications and  
certifications are maintained current through the <sup>Nuclear Production</sup> ~~NEO~~ training  
program.

Q421.83

14 Inspections at CPSES are performed in accordance with written  
procedures, instructions, or checklists, appropriate to the

consistent with the provisions of Regulatory Guides 1.33 and 1.88 as discussed in Appendix 1A(B).

71 Sufficient records are maintained to provide documentary evidence of the quality of items and of the accomplishment of activities affecting quality. Records to be maintained include such items as drawings, specifications, procurement documents, nonconformance reports, corrective action reports, operating logs, personnel and procedure qualifications, results of inspections and test, material certifications and test results, and audit reports.

53 Quality assurance records are maintained in accordance with procedures and instructions which assign responsibilities for the collection, maintenance, and protection of records. These procedures and instructions provide a system of record identification to assure retrievability and prescribe retention periods for various types of records.

Q421.74

85

*Vice President of Nuclear Engineering and Support*  
The ~~Chief Engineer~~ is responsible for development of procedures and instructions to implement the management requirements related to QA records. The Nuclear Overview Department reviews and approves the administrative control procedures and instructions and the retention periods assigned for quality assurance records.

81

74

Quality assurance records are stored in specially constructed storage facilities at CPSES to prevent their destruction, deterioration, or theft. Records are stored in the Engineering Records Center, the Operations Records Center, and the Project Records Center. These storage facilities, and others which may be designated in the future, are designed, constructed, and maintained in accordance with the applicable requirements of the regulatory guides referenced above. Access to the records facilities is controlled so that only authorized

55

2. Contractors, consultants, and suppliers of quality related items or service.

83

83

Overview Department QA:

- 9

1. Utilizes an audit planning document which defines the organizations and activities to be audited and the frequency of the audits.

- 9

2. Requires auditors to be familiar with the type of activities to be audited and have no direct responsibilities in the area being audited.

- 9

3. Provide auditing checklists or other objective guidelines to identify those activities which affect quality.

- 9

4. Requires examination of the essential characteristics of the quality activity examined.

- 9

5. Requires an audit report be prepared and that it notes the extent of examination and deficiencies found.

- 9

6. Requires the audit report be sent to management responsible for the area audited for review and corrective action for deficiencies.

**FIGURE 17.2-1 HAS BEEN DELETED.**  
**REFER TO FIGURE 17.1-6 FOR NUCLEAR ENGINEERING**  
**AND OPERATIONS (NEO) ORGANIZATION.**

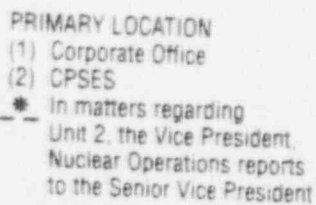
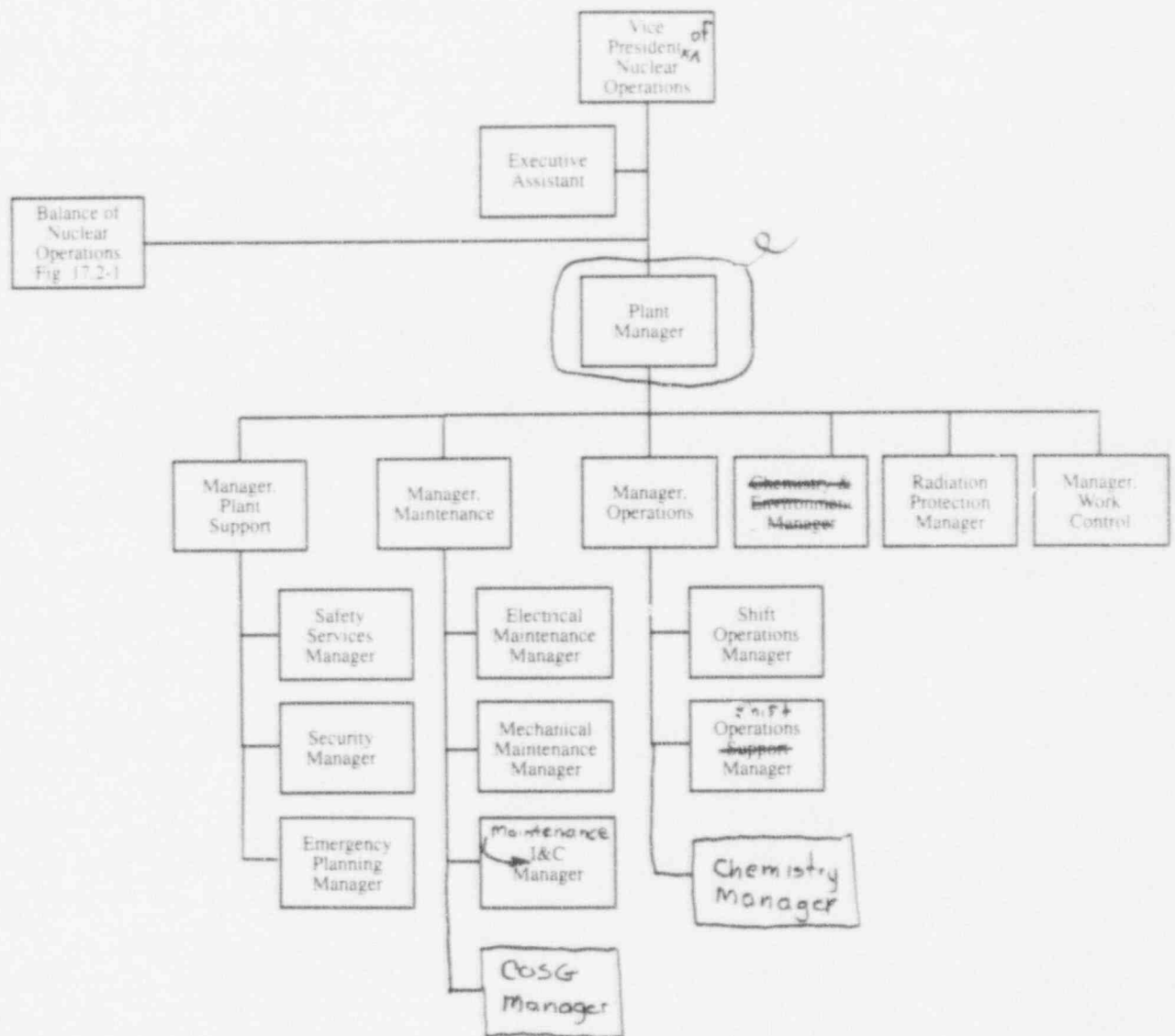


FIGURE ~~47-1-6~~ 17.2-1



~~AMENDMENT 05~~  
~~MAY 29, 1992~~

COMANCHE PEAK S.E.S.  
FINAL SAFETY ANALYSIS REPORT  
UNITS 1 AND 2

NUCLEAR OPERATIONS  
ORGANIZATION

FIGURE 17.2-2