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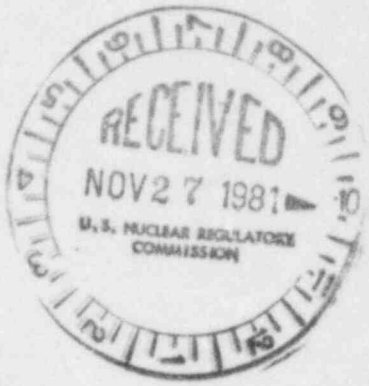

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
TEXAS UTILITIES GENERATING COMPANY, ET AL.	)	Docket Nos. 50-445 50-446
	)	
(Comanche Peak Steam Electric Station, Units 1 and 2)	)	

NRC STAFF'S TRIAL BRIEF REGARDING
CONTENTIONS 9 AND 25 AND BOARD QUESTION NO. 2

INTRODUCTION

In its "Scheduling Order" dated July 23, 1981, the Atomic Safety and Licensing Board (hereafter "the Licensing Board") directed that "Trial Briefs" (including "witness and exhibit lists and summaries")[1/] for the evidentiary hearing scheduled to begin on December 2, 1981, be filed by November 25, 1981.[2/] In accordance with the Scheduling Order, the NRC Staff ("Staff") hereby files this trial brief, which sets forth the Staff's witness and exhibit list and a summary of the Staff's testimony on Contentions 9 and 25[3/] and Board Question No. 2.

1/ See "Scheduling Order," at 2.

2/ Id., at 2.

3/ Contentions 9 and 25 are the subjects of motions for summary disposition. See "Applicants' Motion for Summary Disposition of CFUR's Contention 9," dated October 28, 1981, and "NRC Staff's Motion for Summary Disposition of Contention 25 (Financial Qualifications)," dated October 28, 1981. On November 20, 1981, the Staff filed a response supporting the Applicants' motion for summary disposition of Contention 9; no response was filed by Intervenor CFUR. On November 20, 1981, the Applicants filed a response supporting the Staff's

(CONTINUED)

WITNESS AND EXHIBIT LIST

The following Staff witnesses are scheduled to testify at the evidentiary hearing commencing on December 2, 1981:

Contention 9

J. S. Boegli

Earl H. Markee

Dr. Walter J. Pasciak

Contention 25

Jim C. Petersen

Board Question No. 2

John G. Spraul

Pursuant to 10 CFR § 2.743(g), the Staff will offer the following documents into evidence, as exhibits:

1) the Staff's "Final Environmental Statement Related to the Operation of Comanche Peak Steam Electric Station, Units 1 and 2" (NUREG-0775, September 1981); and

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3/ (CONTINUED)

motion for summary disposition of Contention 25; a response opposing the Staff's motion was filed by Intervenor CASE on November 18, 1981.

In addition, on November 20, 1981, Applicants reached a stipulation with CFUR on Contention 9. In the "Stipulation" filed on that date, CFUR voluntarily withdrew Contention 9 "from litigation in this proceeding." The Staff has reviewed the Stipulation and has determined that it has no objection thereto. Accordingly, the Staff has authorized Applicants to represent in their Motion to Dismiss Contention 9 (to be filed today) that the Staff agrees with the Stipulation and supports dismissal of Contention 9.

The Staff notes that if Contentions 9 and 25 are dismissed, they will not be considered at the evidentiary hearing scheduled to commence on December 2, 1981, and that only Board Question No. 2 will remain for consideration at that time.

2) the Staff's "Safety Evaluation Report Related to the Operation of Comanche Peak Steam Electric Station, Units 1 and 2," (NUREG-0797, July 1981), and Supplement No. 1 thereto (NUREG-0797, October 1981).

SUMMARY OF TESTIMONY

Contention 9

Contention 9 asserts as follows:

> "Applicants have failed to make any effort to determine the effect of radioactive releases on the general public other than at the exclusion boundary. Various transport mechanisms may cause, in certain cases, the bulk of the health effects to occur some distance from the exclusion boundary."

Although the contention on its face relates to whether or not the effects of radioactive releases on the general public beyond the exclusion boundary have been considered, CFUR has stated that:

> "[T]he object of this contention is to ensure that planned batch releases of gaseous radioactive gases will be accomplished during meteorological conditions which minimize radiation exposure."[4/]

According to CFUR:

> "Action taken by the Applicant to make planned batch releases during meteorological conditions which minimize radioactive exposures (in addition to complying with regulations stipulating permissable [sic] levels of radiation, radioactivity in effluents, design criteria, and limiting conditions for operation) complies with the requirements of 10 CFR § 20.1(c)."[5/]

CFUR has described the source of the gaseous "batch releases" with which it is concerned as follows:

> "103-3 Subsequent to one or more transients and/or containable accidents which produce more radioactive gas than anticipated, batch releases would occur during normal operation to reduce

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4/ "CFUR's First and Second Set of Supplemental Answers to NRC Staff's First and Second Set of Interrogatories," filed September 1, 1981 (Response to Interrogatory 9-3, at 18).

5/ Id.

the volume in the gas decay tanks so that subsequent transients and/or containable accidents can be contained."6/

The Staff witnesses on Contention 9 will be J. S. Boegli, Earl H. Markee and Dr. Walter J. Pasciak, all of whose testimony has been prefiled in accordance with the Licensing Board's Scheduling Order. Mr. Boegli's testimony will show that the gaseous waste processing systems for Comanche Peak are capable of maintaining releases of radioactive materials in gaseous effluents during normal operation (including anticipated operational occurrences) "as low as is reasonably achievable" within the requirements of 10 CFR Part 50, Appendix I and the Annex to Appendix I. Mr. Markee's testimony will show that in determining concentrations of radioactive effluents, the NRC Staff considered various atmospheric transport mechanisms at and beyond the exclusion boundary and that in determining relative concentrations of radioactive effluents from Comanche Peak, the Staff considered on-site meteorological data for the four-year period between May 1972 and May 1976. Dr. Pasciak's testimony will show that the effects of radioactive releases on the general public beyond the exclusion boundary have been considered.

Contention 9 is founded on CFUR's belief that 10 CFR § 20.1(c) and 10 CFR Part 50 require that actions be taken by Applicants to "minimize the effects of gaseous batch releases from CPSES." (emphasis added).7/

6/ "CFUR's Response to Applicants' Third Set of Interrogatories," filed June 2, 1981 (Response to Interrogatory 103-3, at 11).

7/ See "Report of CFUR's Position on Each Contention," filed April 10, 1980, at Enclosure 1, p. 24 ("Report of CFUR's Position"), and "CFUR's Response to NRC Staff's Second Set of Interrogatories to and Request for the Production of Documents From Intervenor CFUR and Supplement to Answers to NRC Staff's First Set of Interrogatories to and Request to Produce From CFUR," filed May 22, 1981 (Response to Staff's Interrogatory 9-15(b), at 14).

In this regard, 10 CFR § 20.1 states the purpose of the regulations at 10 CFR Part 20, "Standards for Protection Against Radiation." The "ALARA" or "As Low As Is Reasonably Achievable" requirements cited by CFUR are defined in 10 CFR § 20.1(c). However, 10 CFR Part 50, Appendix I provides numerical guidance on design objectives for light-water-cooled nuclear reactors to meet the requirement that radioactive materials in effluents released to unrestricted areas be kept "as low as is reasonably achievable." (FES § 4.2.3; Testimony of J. S. Boegli, at 5). As stated in Appendix I, Section I., design objectives and limiting conditions for operation conforming to the guidelines of Appendix I shall be deemed a conclusive showing of compliance with the ALARA requirements of 10 C.F.R. § 50.34a and 50.36a.

The design objectives of Appendix I require that the Applicants provide adequate treatment or gas holdup equipment to reduce radioactive materials in effluents to ALARA levels in accordance with 10 CFR Part 50.34a (Boegli, at 5). The Staff's source term (presented in FES Table 5.6) includes an estimate of the releases from the gaseous radioactive waste management system via the decay tanks. (Id.) The NRC Staff has shown in the SER § 11.2.2.5 that the gaseous waste processing systems for Comanche Peak are capable of maintaining releases of radioactive materials in gaseous effluents during normal operation (including anticipated operational occurrences) "as low as is reasonably achievable" within the requirements of Appendix I and the Annex to Appendix I. (FES § 4.2.3.; Boegli at 5). The "ALARA" criteria of 10 CFR Part 50, Appendix I do not include planning batch releases from the decay tanks during meteorological conditions which "minimize radioactive exposures," since meteorological conditions do not reduce the levels of radioactive materials

in gaseous effluents to "ALARA" levels, as required by 10 CFR Part 50, Appendix I. (Boegli at 6).

Although CFUR has asserted that "more sophisticated weather data is requried [sic] to minimize the effects of gaseous batch releases from CPSES in conformance with the ALARA requirements of 10 CFR Part 50,"[8/] CFUR has never specified just what "sophisticated data" is necessary. In this regard, in determining relative concentrations of radioactive effluents from Comanche Peak, the Staff considered on-site meteorological data for the four-year period between May 1972 to May 1976. (Testimony of Earl H. Markee, at 3-4, 5; FES §§ 4.3.3.1; and SER §§ 2.3.2 and 2.3.3). Based on the Staff's evaluation of the on-site meteorological data and the terrain at and surrounding the site, the Staff concluded (1) that the "constant near wind-direction model (Gaussian straightline trajectory model) presented in Regulatory (Reg.) Guide 1.111, Rev. 1,[9/] was appropriate for use in determining transport and diffusion estimates for routine radioactive releases to the atmosphere, and (2) that the model presented in Reg. Guide 1.145[10/] was appropriate for use in determining transport and diffusion estimates for accidental radioactive releases to the atmosphere. (Id., at 3).

In determining relative concentrations of radioactive effluents, the NRC Staff considered various atmospheric transport mechanisms at and beyond the exclusion boundary, such as transport by wind flow,

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8/ Report of CFUR's Position, supra, at 24.

9/ See Reg. Guide 1.111, Rev. 1, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light Water Reactors" (July 1977).

10/ See Reg. Guide 1.145, "Atmospheric Dispersion Models for Potential Accident Consequence Assessments At Nuclear Power Plants" (August 1979).

and dilution and ground deposition by atmospheric turbulence. (Id., at 4). Further, the dilution factors calculated using on-site meteorological data were conservative. (Id., at 4-5).

Since the procedures specified in Reg. Guides 1.111 and 1.145 for this plant layout assume a ground level release of radionuclides with initial mixing due to turbulence generated by the plant structures, the maximum off-site concentration in the air at ground level is calculated to occur at the site boundary. (Id., at 5). Also, with this assumption, the calculated concentrations beyond the site boundary will be lower than those at the site boundary because the concentration from a ground level release decreases with distance from the source. (Id.). The assumption of a ground level release and building-caused mixing tends to produce higher ground level concentrations at all distances than for an elevated release. (Id.) During the course of a long period of time, it is expected that elevated releases will occur at least part of the time. (Id.). Therefore, the ground level release assumption provides a conservative estimate of atmospheric radioactive effluent concentrations. (Id.).

CFUR has challenged the wind-rose pattern used by the Applicants to evaluate off-site releases, based on the predominant movement of storm-cloud formations in the Dallas-Fort Worth area.[11/] It is correct, as CFUR asserts, that the predominant movement of storm cloud formations in the Dallas-Fort Worth area is from the southwest to the northeast. (Markee, at 6). However, the movement of storm-cloud formations was

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11/ See "CFUR's Motion to Add Contention", dated October 31, 1979, at 2.

part of the assessment of transport mechanisms for radioactive releases from Comanche Peak. (Id., at 6). In addition, radioactive effluent releases from Comanche Peak are not expected to occur only during storm conditions. (Id.). Such releases are expected to occur randomly, during the plant lifetime and the on-site meteorological data for the four-year period of record analyzed by the Staff and the Applicants is expected to provide a reasonable representation of the frequency of the various meteorological conditions during this period, including storms. (Id.). Therefore, the short-term and long-term diffusion estimates based on this period of data record adequately account for the spectrum of meteorological conditions leading to transport and diffusion of radioactive releases. (Id.).

Contrary to what is alleged in Contention 9, the effects of radioactive releases on the general public beyond the exclusion boundary have been considered. (Testimony of Dr. Walter S. Pasciak, at 2). Both the Applicants in the Environmental Report-Operating License Stage (ER-OL) and the Staff in the "Final Environmental Statement related to the operation of Comanche Peak Steam Electric Station, Units 1 and 2" (NUREG-0775, September 1981) present results of dose calculations for the location where maximum exposure is likely to occur and for the entire human population residing within a fifty-mile radius of the plant. (Pasciak, at 2). The Applicants listed the results of their calculations for the maximum exposed individual in Tables 5.2-4 and 5.2-5 of the Environmental Report. (Id., at 2). The Staff presented the final results of its calculations for the maximum exposed individual in FES

§ 5.8.1., "Radiological Impacts of Normal Operation," Table 5.9. (Id., at 2). The Applicants' population dose estimates are listed in Table 5.2-6 of the ER, and the Staff's population dose estimates are presented in Table 5.10 of the FES. (Id.).

The maximum exposed individual dose estimates by the Applicants and by the Staff were made for locations where they would be expected to be highest rather than for locations chosen arbitrarily, such as the exclusion area boundary locations. (Id., at 3). The locations, for example, were chosen in the following manner: For the cow milk pathway, or for the vegetable consumption pathway, the dose calculations were made for the actual farm or garden located when the highest doses would be expected to occur. (Id., at 3). For external exposures, dose estimates were made for the location outside the exclusion area where the highest dose from that pathway would be expected to occur. (Id.). For the ground shine pathway, dose estimates were made at the actual residence where estimates from this pathway would be expected to be highest. (Id.).

In both the maximum exposed individual calculation and the 50-mile population dose calculations, atmospheric transport from the point of release to the receptor point was taken into consideration by means of modeling techniques described in Reg. Guide 1.111, Rev. 1. (Id., at 4). As previously stated, historical meteorological data were input to these models. (Id.) In addition, radioactive decay in transport within plants and milk animals and bioconcentration within plants and milk animals was taken into consideration. (Id.). These transport models are described in Reg. Guide 1.109, "Calculations of Annual Doses To

Man From Routine Releases of Reactor Effluents For The Purpose of Evaluating Compliance With 10 C.F.R. Part 50, Appendix I," Revision 1 (July 1977). (Id.).12/

As part of the Staff's evaluation of the environmental impacts of Comanche Peak operation, the Staff also estimated health effects for the population residing within a 50-mile radius of the plant. (Id., at 4-5). These estimates are presented in Section 5.8.1.5 of the FES. (Id., at 5).

In contrast, nowhere in CFUR's filings to date or in its Answers to the Staff's Interrogatories has CFUR provided any factual basis for the allegations contained in Contention 9. CFUR has not presented any evidence disputing that the effects of radioactive releases on the general public have been considered.

Contention 25

Contention 25 was admitted by the Licensing Board's Order of June 16, 1980. It asserts as follows:

> Contention 25. The requirements of the Atomic Energy Act, as amended, 10 CFR 50.57(a)(4) and 10 CFR 50 Appendix C have not been met in that the Applicant is not financially qualified to operate the proposed facility.

12/ As was noted recently by an Atomic Safety and Licensing Board in granting summary disposition of a contention challenging the models used to calculate individual and population radiation doses:

> In September 1977, a group of experts, meeting to evaluate models used for the environmental assessment of radionuclide releases, concluded that the transport models given in Regulatory Guide 1.109 are adequate for demonstrating compliance with Appendix I to 10 CFR Part 50." Pennsylvania Power & Light Co. (Susquehanna Steam Electric Station, Units 1 and 2) LBP-81- , __ NRC ___ (October 12, 1981) (slip. op. at 3).

Contrary to the allegations of the contention, the Staff's review of the financial data submitted by the Applicants in accordance with applicable Commission regulations has led the Staff to conclude that the Applicants are financially qualified to operate and safely decommission the Comanche Peak facility.

10 CFR § 50.57(a)(4) provides that an operating license may be issued by the Commission upon finding that "[t]he applicant is technically and financially qualified to engage in the activities authorized by the operating license in accordance with the regulations in this chapter."

10 CFR § 50.33(f) provides more specific requirements with respect to financial qualifications. It specifies the information required to be contained in applications for licenses, and requires that information be provided which demonstrates that the applicant possesses or has "reasonable assurance" of obtaining the funds necessary to cover operating costs, plus the estimated costs of permanently shutting the facility down and maintaining it in a safe condition. The Commission has determined that the "reasonable assurance" requirement is satisfied where an applicant has "a reasonable financing plan in the light of relevant circumstances." Public Service Co. of New Hampshire (Seabrook Station, Units 1 and 2), CLI-78-1, 7 NRC 1, 18 (1978). Finally, Appendix C to 10 CFR Part 50 provides guidance as to the general kinds of financial and other data which should be submitted by applicants, although it does not establish absolute requirements for the submission of any particular information.

The NRC Staff witness on Contention 5 will be Jim C. Petersen, whose testimony has been prefiled in accordance with the Licensing Board's Scheduling Order. Mr. Petersen's testimony will establish that

the Staff has reviewed the financial and other data submitted by the Applicants and has referred to independent sources of financial information (Testimony of Jim C. Petersen, at 5). The Applicants plan to recover the costs of operation through revenues derived from customers in system-wide sales of electricity. (Id., at 7). The rates for electricity charged by 5 of the 6 Applicants (all Applicants other than TMPA) are set by the Public Utility Commission of Texas, which requires that revenues be set at a level which permits the recovery of allowable operating expenses together with a reasonable return on investment. TMPA has power sales contracts with its member cities that require the establishment of rates sufficient to cover all operating costs, including TMPA's share of Comanche Peak costs. (Id.).

The Applicants' long-term statements of operation (except for Tex-La, a new entity which has no historical operating results) demonstrate the consistent recovery of historical costs of operation. (Id., at 8). Because the Applicants have demonstrated the ability historically to achieve consistent recovery of capital and operating costs for other facilities, their plan to finance the Comanche Peak facility's operation through revenues derived from rates charged to customers for utility service represents a reasonable financing plan in light of relevant circumstances. (Id.). See, e.g. Seabrook, supra, 7 NRC at 20; Duke Power Co. (William B. McGuire Nuclear Station, Units 1 and 2), LBP-79-13, 9 NRC 489, 525 (1979); Virginia Electric and Power Co. (North Anna Nuclear Power Station, Units 1 and 2), LBP-77-68, 6 NRC 1127, 1162 (1977), aff'd, ALAB-491, 8 NRC 245 (1978).

While long-term statements of operation are not available for Tex-La, a new entity which has no historical operating results, the $180 million loan guarantee provided by the U.S. Rural Electrification Administration--an amount substantially in excess of Tex-La's estimated $135 million capital contribution to the facility--demonstrates that Tex-La has satisfied the NRC's financial qualification requirements (Petersen, at 8).

The Applicants have estimated the costs to decommission the facility, assuming the use of the immediate dismantlement mode; these estimated costs of decommissioning are consistent with the estimated costs of decommissioning found in NUREG/CR-0130. (Id.). The Applicants have indicated that they believe they will be able to recover decommissioning costs in the rate process, and intend to build the collection of these funds into depreciation rates of the facility under the "negative net salvage" approach. (Id.).

The Staff has determined that the Applicants' plan to recover decommissioning costs provides reasonable assurance for financing the decommissioning of the facility upon the end of its serviceable life. (Id., at 9). This conclusion is based on the nature of the Applicants' business, their present and historical financial strength, the fact that utilities customarily adjust their annual charges for negative net salvage amounts to compensate for changes in decommissioning estimates, and other considerations. (Id.). Also, because the NRC requires that any operating reactor be safely decommissioned when it is retired (for the protection of the public health and safety), it is reasonable to assume that those amounts will be allowed in customer rate charges as necessary

and reasonable expenses. (Id.). Accordingly, the Applicants' plan to finance these expenses from customer revenues constitutes a reasonable financing plan in light of relevant circumstances. (Id.).

Based upon these determinations, the Staff has concluded that the Applicants have provided a reasonable financing plan in light of relevant circumstances to operate, shutdown (if necessary) and maintain the Comanche Peak facility in a safe condition. (Id., at 9). Accordingly, the Applicants have reasonable assurance under 10 C.F.R. § 50.33(f) of obtaining the necessary funds to cover estimated operating costs to the extent of their respective ownership interests in the facility. (Id.). As a consequence, the Applicants are financially qualified to operate and safely decommission the Comanche Peak facility, in accordance with applicable regulations and the Atomic Energy Act.

Board Question No. 2

Board Question No. 2 was framed in the Licensing Board's Order of June 16, 1980. It reads as follows:

> Applicant and Staff should describe in detail the operating quality assurance program for CPSES. A description of the provisions for conduct of QA audits should be provided, including a description of how reactor operations and reactor operator training will be audited.

Pursuant to the Licensing Board's direction, the Staff is prepared to provide testimony as to its review of the Applicants' operating quality assurance program. The Staff's witness on Board Question No. 2 is John G. Spraul, whose testimony has been prefiled in accordance with the Licensing Board's Scheduling Order.[13/] The Staff does not wish to

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13/ See "NRC Staff Testimony of John G. Spraul Regarding Operating Quality Assurance (Board Question No. 2)," filed November 20, 1981.

recite that testimony here at length and notes only the following determinations contained therein.

The Applicants' quality assurance program is set forth in their Corporate Quality Assurance Program Manual, which establishes the general quality assurance policies and requirements to be implemented at the facility (Spraul, at 3). These policies and requirements are implemented by the CPSES Operations Administrative Control and Quality Assurance Plan. (Id.). The plan establishes the quality requirements and controls to be implemented during station operations and defines the responsibilities, authority, and measures for the control and accomplishment of activities affecting the quality and operation of safety-related structures, systems, and components. (Id.). It is structured to be in accordance with Appendix B to 10 C.F.R. Part 50 and with the provisions of the applicable NRC regulatory guidance. (Id.). The plan, coupled with the quality assurance program description in the Applicants' Final Safety Analysis Report (FSAR), forms the foundation upon which the overall quality assurance program is formulated and describes how the requirements of Appendix B to 10 C.F.R. Part 50 are satisfied. (Id.). These documents control quality-related activities involving safety-related items to satisfy the requirements of Appendix B to 10 C.F.R. Part 50. (Id.).

The CPSES Operations Administrative Control and Quality Assurance Plan establishes requirements for an audit program. (Id., at 5). These requirements are consistent with the provisions of Regulatory Guides 1.28 and 1.33 and American National Standards Institute (ANSI) Standard N45.2.12. (Id.). The quality assurance program establishes a comprehensive audit system to

ensure that the quality assurance program requirements and related supporting procedures are effective and properly implemented during operations. (Id., at 6).

The Applicant has committed to audit all aspects of the quality assurance program annually, in accordance with the provisions described above. (Id., at 7). Details have not yet been made available for NRC review as to how any given portion of the CPSES quality assurance program (including reactor operations and reactor operator training) will be audited by the Applicants' quality assurance organization during the operations phase. (Id., at 7-8). As the design and construction phase nears completion, such information will be submitted to the NRC in the form of procedures which will then be reviewed by inspectors from the NRC's Office of Inspection and Enforcement. (Id., at 8). Implementation of these procedures will be verified in the field on a sampling basis by NRC inspectors. (Id.).

In summary, audits of reactor operations and reactor operator training are to be performed by qualified, independent personnel using checklists or other guidelines in accordance with procedures to be approved by the NRC's Office of Inspection and Enforcement. (Id.).

CONCLUSION

For the reasons set forth above, the Staff believes that no factual basis exists for the allegations contained in Contentions 9 and 25. In addition, the Staff believes that the issues raised in Board Question

No. 2 have been addressed, and that those issues do not warrant further concern or consideration.

Respectfully submitted,

Marjorie Ulman Rothschild

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Dated at Bethesda, Maryland
this 24th day of November, 1981

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
TEXAS UTILITIES GENERATING COMPANY, ET AL.	)	Docket Nos. 50-445
	)	50-446
(Comanche Peak Steam Electric Station, Units 1 and 2)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF'S TRIAL BRIEF REGARDING CONTENTIONS 9 AND 25 AND BOARD QUESTION NO. 2" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, or through deposit in the Nuclear Regulatory Commission's internal mail system (*), or by hand delivery (**), or by express mail (***), this 24th day of November, 1981:

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