

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

IN THE MATTER OF	§	
	§	
HOUSTON LIGHTING & POWER	§	DOCKET NOS. STN-498 OL
COMPANY, ET AL.	§	STN-499 OL
	§	
(South Texas Project	§	
Units 1 and 2)	§	

FIRST SET OF INTERROGATORIES AND REQUESTS
FOR PRODUCTION OF DOCUMENTS FROM
HOUSTON LIGHTING & POWER COMPANY,
ET AL., APPLICANTS, TO CITIZENS
FOR EQUITABLE UTILITIES

Preface

Pursuant to Section 2.740b and 2.741 of the Commission's Rules of Practice, Houston Lighting & Power Company, Project Manager of the South Texas Project, acting on behalf of itself and the other Applicants, the City of San Antonio, Texas, acting by and through the City Public Service Board of the City of San Antonio, Central Power and Light Company and the City of Austin, Texas (hereinafter "Applicants"), propounds the following Interrogatories and Requests for Production of Documents to Citizens for Equitable Utilities (hereinafter "CEU" or "Intervenor").

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I.

Instructions

1. Each interrogatory must be answered separately and fully in writing under oath or affirmation by the person or persons making them, and each document requested must be produced, on or before December 21, 1979, in accordance with the Atomic Safety and Licensing Board's Memorandum and Order of August 3, 1979.

2. As used herein the singular form of a noun or pronoun shall be considered to include within its meaning the plural form of the noun or pronoun so used, and vice versa; in similar fashion, the use of the masculine form of a pronoun shall be considered to also include within its meaning the feminine form of the pronoun so used, and vice versa; and in a similar fashion, the use of tense of any verb shall be considered to also include within its meaning all other tenses of the verb so used.

3. These interrogatories shall be deemed continuing, so as to require additional answers if after answering such interrogatories CEU obtains information upon the basis of which it knows a response was incorrect when made, or it knows that the response though correct when made is no longer true and the circumstances are such that a failure to amend the response is in substance a knowing concealment.

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4. In your answer, please repeat each interrogatory set forth herein and then set forth the answer thereto separately and fully. As to any interrogatory, section, part, subsection or sub-part of said interrogatory that you refuse to answer for any reason, separately state the grounds for any such refusal. Where a complete answer to a particular interrogatory, section, part, sub-section or sub-part of said interrogatory is not possible, such interrogatory, section, part, sub-section or sub-part of said interrogatory should be answered to the extent possible and a statement made indicating the reason for the partial answer.

5. If any response is withheld, in whole or in part, for any reason, including but not limited to any claim of privilege, confidentiality or trade secret, set forth the basis upon which such response is withheld, and include in such explanation a statement of what is being withheld, the whereabouts of all documents referring expressly to whatever response is being withheld, and the identity of all persons who have seen any documents being withheld or have knowledge of the matters being withheld.

II.

Definitions

The following definitions and instructions shall apply to these Interrogatories:

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1. The words "identify," "identity" or "identification" when used in reference to a natural person means to state his full name and present or last known address, his present or last known position in business affiliation, and each of his positions during the relevant period; when used in reference to a business entity, means to state the name, address and any account or computer number to which such entity is referred to in your records; when used in reference to a document, means to state the type of document (i.e., letter, memorandum, chart, sound production, report, computer input or output, etc.), the location where it is maintained, all identifying marks and codes, the addressee, the document date, author, and persons to whom copies were sent or persons initiating or reading or approving the document and the name of each of the present custodians of the document. If any such document was, but is no longer in your possession or subject to your control, or in existence, state whether it is (1) missing or lost, (2) has been destroyed, (3) has been transferred, voluntarily or involuntarily, to others, or (4) otherwise disposed of, and in each instance, explain the circumstances surrounding an authorization for such disposition thereof and state the date or approximate date thereof.

2. The terms "document(s)" or "documentation" mean and include every writing or record of any type and description

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that is in your possession, control or custody or your attorney's possession, control or custody as of the date of filing your answers to these interrogatories, including, but not limited to, correspondence, memoranda, stenographic or handwritten notes, drafts, studies, publications, invoices, ledgers, journals, books, records, accounts, pamphlets, voice recordings, reports, surveys, statistical compilations, work papers, or any other writing or recording of any kind. The term "document" also includes every copy of a writing or record where such copy contains any commentary or notation of any kind that does not appear on the original or on any other copy. Without limitation of the term "control," a document is deemed to be within your control if you have ownership, possession, or custody of the document or a copy thereof, or the right to secure the document or copy thereof from any person or public or private entity having physical possession thereof.

3. "Studies" means all analyses of every type, including but not limited to, evaluations, reports, research, examinations, abstracts, criticisms, calculations, tabulations, compilations, compendiums, surveys, books, essays, monographs, and all other investigations, published or unpublished.

4. "Relating to" means relating to in any way and includes the documents which are the subject of the request

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(e.g. "relating to a study" includes the study itself). Requests concerning a study or basis should be understood to include all input considered and all possible outcomes with respect to such study or basis. For example, requests for documents relating to engineering studies would include all data compiled but not used and all results considered but rejected.

III.

Interrogatories

A. Contention 1 (as accepted by the Licensing Board)

1. Identify specifically each document you rely upon to support your assertion in Paragraph 1 of Contention 1 that the South Texas Project Unit 2 Mechanical Electrical Auxiliary Building is being constructed one foot from its design location; and produce each such document identified which is other than a communication between Applicants and the Nuclear Regulatory Commission. If you do not rely upon any written documents, or if you rely upon information in addition to written documents, identify the source of your information which provides the basis for this assertion and describe such information.

2. Explain precisely how this asserted surveying error violates the provisions of 10 CFR Part 50, Appendix B, Sections X and XI.

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Paragraph 2

3. Identify specifically each document you rely upon to support the assertion that because of "field construction error . . . extensive voids exist in the concrete wall enclosing the STP containment building"; and produce each such document identified which is other than a communication between Applicants and the Nuclear Regulatory Commission. If you do not rely upon any written documents, or if you rely upon information in addition to written documents, identify the source of your information which provides the basis for this assertion and describe such information.

4. Identify the field construction error (or if more than one, each such field construction error) which you assert has resulted in "extensive voids" in the concrete; and describe precisely each field construction error (or errors) which you identify has resulted in "extensive voids" in the concrete.

5. Explain precisely how the construction errors asserted in Paragraph 2 of Contention 1 violate the provisions of 10 CFR Part 50, Appendix B, Sections IX and X.

Paragraph 3

6. Identify specifically what documents you rely upon to support the assertion that a "field document relating to

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cadweld inspections has been lost"; and produce each such document identified which is other than a communication between Applicants and the Nuclear Regulatory Commission. If you do not rely upon any written documents, or if you rely on information in addition to written documents, identify the source of your information which provides the basis for this assertion and describe such information.

7. Identify specifically, including title, date and subject matter, the particular "field document relating to cadweld inspections" which you assert has been lost.

8. Explain precisely how loss of the "field document" to which you refer violates the provisions of 10 CFR Part 50, Appendix B, Sections VI and XVII.

Paragraph 4

9. Identify specifically what documents you rely upon to support your assertion that "membrane seals in the containment structure" have been "damaged"; and produce each such document identified which is other than a communication between Applicants and the Nuclear Regulatory Commission. If you do not rely upon any written documents, or if you rely on information in addition to written documents, identify the source of your information which provides the basis for this assertion and describe such information.

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10. Identify and describe the "membrane seals" which you assert have been damaged. Describe the "damage" which you assert has occurred to these "membrane seals", and identify in which containment structure these "membrane seals" are located.

11. Explain precisely how the damage to the "membrane seals" to which you refer violates the provisions of 10 CFR Part 50, Appendix B, Sections X, XV and XVI.

Paragraph 5

12. Identify specifically the location of the "equipment doors" around which you assert that "steel reinforcement bars are missing" and identify in which containment these "equipment doors" are located.

13. Identify in which of the "containment structures," and specifically where in the identified "containment structure" you assert that steel reinforcement bars are missing.

14. Identify the documents you rely upon to support your assertion that "steel reinforcement bars . . . are missing from around the equipment doors in the containment and such bars are missing from the containment structure as well"; and produce each such document identified which is other than a communication between Applicants and the Nuclear Regulatory Commission. If you do not rely upon any written

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documents, or if you rely on information in addition to written documents, identify the source of your information which provides the basis for this assertion and describe such information.

15. Explain precisely how the missing steel reinforcement bars to which you refer violate 10 CFR Part 50, Appendix B, Sections X, XV and XVI.

Paragraph 6

16. Identify the documents you rely upon to support the assertion that "cadwelds which have been integrated into parts of the plant structure which are not capable of being verified with regard to compliance with 10 CFR Part 50, Appendix B"; and produce each such document identified which is other than a communication between Applicants and the Nuclear Regulatory Commission. If you do not rely upon any written documents, or if you rely on information in addition to written documents, identify the source of your information which provides the basis for this assertion and describe such information.

17. Identify specifically where in the "plant structure" you allege that cadwelds have been integrated but are not capable of being verified with regard to compliance with 10 CFR Part 50; and explain precisely why the cadwelds to which you refer are not capable of being verified.

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18. Explain precisely how the circumstances asserted in this paragraph constitute violations of the provisions of 10 CFR Part 50, Appendix B, Sections IX and X.

Paragraph 7a

19. Identify the documents you rely upon to support the assertion that "[e]fforts by quality control inspectors to verify that design changes were executed in accordance with the purposes of the original design were repeatedly and systematically thwarted"; and produce each such document identified which is other than a communication between Applicants and the Nuclear Regulatory Commission. If you do not rely upon any written documents, or if you rely on information in addition to written documents, identify the source of your information which provides the basis for this assertion and describe such information.

20. Identify each "quality control inspector" who you assert was thwarted in his efforts to verify design changes. Describe the circumstances of each such incident, giving the date of each such incident and identification of all of the individuals known to you to have been involved in such incident.

21. Explain what is meant by the phrase, "design changes . . . were executed in accordance with the purposes

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of the original design"; and identify the "design changes" which were involved in the incidents identified in response to the immediately preceding Interrogatory A.20.

22. Do you contend that "quality control inspectors" are responsible for verifying that design changes conform to the purposes of the original design?

23. Do you contend that design changes must conform to the purposes of the original design?

24. Explain in what respects the provisions of Sections III and IX of 10 CFR Part 50, Appendix B are violated by the assertion set forth in Paragraph 7a of Contention 1.
Paragraph 7b

25. Identify the documents you rely upon to support the assertion that "[t]here were personnel other than the original designer approving design changes with no first hand knowledge of the purpose of the original design"; and produce each such document identified which is other than a communication between Applicants and the Nuclear Regulatory Commission. If you do not rely upon any written documents, or if you rely on information in addition to written documents, identify the source of your information which provides the basis for this assertion and describe such information.

26. Identify the "personnel" who approved "design changes with no first hand knowledge of the purpose of the

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original design." Describe the circumstances of each such incident, giving the dates, identifying each such design change and the identification of all of the individuals known to you to have been involved in such incident.

27. Do you contend that design changes can be made only by personnel having "first hand knowledge of the purpose of the original design?"

28. Explain in what respects the provisions of Sections III and IX of 10 CFR Part 50, Appendix B are violated by the circumstances set forth in Paragraph 7b of Contention 1.
Paragraph 7c

29. Identify each "design change" which was "approved by personnel unqualified in the type of design where the change was made." Describe the circumstances of each such incident giving the date of each such incident and the identity of the person or persons who approved each such design change.

30. Identify the documents you rely upon to support the assertion that "design changes [were] approved by personnel unqualified in the type of design where the change was made"; and produce each such document identified which is other than a communication between Applicants and the Nuclear Regulatory Commission. If you do not rely upon any written

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documents, or if you rely on information in addition to written documents, identify the source of your information which provides the basis for this assertion and describe such information.

31. Explain in what respects the acts asserted in this Paragraph 7c of Contention 1 constitute a violation of the provisions of Section III and IX of 10 CFR Part 50, Appendix B. Paragraph 7d

32. Identify each individual who you assert "falsified" "pour cards" as stated in Paragraph 7d of Contention 1.

33. Describe the manner in which each pour card referred to in Paragraph 7d of Contention 1 was "falsified."

34. Identify the documents you rely upon to support the assertion that "numerous pour cards . . . were falsified by numerous persons"; and produce each such document identified. If you do not rely upon any written documents, or if you rely on information in addition to written documents, state the source of your information which provides the basis for this assertion and describe such information.

Paragraph 7e

35. Describe each instance, including dates and identification of all of the individuals known to you to have been involved, in which a quality control inspector has been: (a) assaulted; (b) threatened with bodily harm; (c) fired;

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and/or (d) otherwise intimidated; as asserted in Paragraph 7e of Contention 1. In those instances, describe all asserted "acts constituting a pattern of behavior designed to intimidate inspectors."

36. Identify, by date, quality control inspector involved and subject matter to be inspected, every inspection which you allege was not done because the quality control inspector "decided to play cards . . . rather than risk [his] safety on the plant grounds."

37. Identify documents which you rely upon to support the assertions in Paragraph 7e of Contention 1 and produce each such document identified. If you do not rely upon any written documents, or if you rely on documents in addition to written documents, identify the source of your information which provides the basis for this assertion and describe such information.

Paragraphs 1 through 7e

38. Identify each person you intend to call as a witness at the Hearing to testify to matters relating to Contention 1 or any part of Contention 1.

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B. Contention 2 (as accepted by the Licensing Board)

1. Do you rely upon any written documents other than the NRC inspection records listed in Contention 2 to support your assertion that South Texas Project construction records have been falsified? If so, please identify specifically each such document relied upon; and produce each document so identified. Do you rely upon any other information to provide the basis for this contention? If so, identify the source of your information and describe such information.

2. Identify specifically, including title, date and subject matter, each "construction record" which you assert has been falsified.

3. Identify the "employees" of Houston Lighting & Power Company and the "employees" of Brown and Root who are asserted to have "falsified" construction records.

4. Identify each person you intend to call as a witness at the Hearing to testify to matters relating to Contention 2 or any part of Contention 2.

C. Contention 4 (as accepted by the Licensing Board)

1. Identify each person you intend to call as a witness at the Hearing to testify on matters relating to Contention 4 or any part of Contention 4.

2. State every reason, with every fact supporting those reasons, upon which you rely to support the assertion

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that, "The South Texas Project (STP) Category I structures and equipment are inadequately designed and constructed with respect to wind loadings"; and produce all studies or other documentation upon which you rely to support this assertion.

3. Identify the "South Texas Project (STP) Category I structures and equipment [which] are inadequately designed and constructed with respect to wind loadings."

4. State the "actual wind velocities associated with hurricanes which have occurred along the Texas Gulf Coast [which] have exceeded wind loadings for which STP structures have been designed and evaluated"; identify each document known to you substantiating such wind velocities; and produce all such documents.

5. State every reason, with every fact supporting those reasons, upon which you rely to support the assertion that, "there are non-Category I structures containing equipment which if destroyed or damaged would jeopardize the safe operation of STP"; and produce all studies or other documentation upon which you rely to support this assertion.

6. Identify the non-Category I buildings not designed to withstand winds generated by hurricanes and which "if destroyed or damaged would provide missile type projectiles which could penetrate Category I structures."

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7. Identify the equipment contained within non-Category I structures which could jeopardize the safe operation of the South Texas Project, if destroyed or damaged.

8. Identify the South Texas Project Category I structures which are inadequately protected against missile type projectiles.

9. State every reason, with every fact supporting those reasons, upon which you rely to support the assertions that, "non-Category I buildings...if damaged [by hurricane generated winds] would provide missile type projectiles which could penetrate Category I structures which are inadequately protected"; and produce all studies or other documentation upon which you rely to support this assertion.

D. Contention 5 (as accepted by the Licensing Board)

1. Produce each of the following documents or identify a public location where each of the following documents may be inspected:

(1) Toombs, George L. and Culter, Peter B.,
Lower Columbia River Environmental Radiological
Survey in Oregon, contracted by the U. S. Public
Health Service and Oregon State Board of Health;

(2) Bryeitong, _____, The Nuclear Dilemma,
Ballentine Press;

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(3) Eicholtz, Geoffrey, Environmental Aspects of Nuclear Power, published by Ann Arbor Sciences. 1976;

(4) Chapman, Rice and Price, Uptake and Accumulation of Radioactive Zink by Marine Plankton, Fish and Shellfish, U. S. Fish and Wildlife Service Bulletin 135, Vol. 58, pp. 279-92;

(5) Chapman, Rice and Baptist, Ecological Aspects of Radioactivity in The Marine Environment, Environmental Radiation Symposium, John Hopkins University, pp. 107-80; and

(6) Brown, J. Martin, Health, Safety and Social Issues of Nuclear Power, in W. C. Reynolds, ed. The California Nuclear Initiative Analysis and Discussion of the Issues, (Institute for Energy Studies, Stanford University, 1976);

identified in Intervenor CEU's filings of May 29, 1979, and in the footnote on page 3 of the Attachment to the Atomic Safety and Licensing Board's Memorandum and Order of August 3, 1979.

2. State whether you have performed or relied upon any studies or other documentation (other than those

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identified in the immediately preceding Interrogatory D.1.) which indicate that the "Staff's Treatment (in the construction-permit FES, section 5.4.1.3 and Table 5.7) of bioaccumulation of radionuclides in aquatic organisms is inadequate or in error"; and produce all such studies or other documentation.

3. Identify each person you intend to call as a witness at the Hearing to testify on matters relating to Contention 5 or any part of Contention 5.

4. Identify in what way the Staff's treatment (in the construction-permit FES, section 5.4.1.3 and Table 5.7) of bioaccumulation of radionuclides in aquatic organisms is inadequate or in error.

5. Identify each isotope that CEU contends should have been included, or was incorrectly evaluated by the Staff in, section 5.4.1.3 and in Table 5.7 of the construction-permit FES.

6. Identify each organism (for example, each fish, each crustacean, each mollusc or each alga) that CEU contends should have been included, or was incorrectly evaluated, by the Staff in section 5.4.1.3 and in Table 5.7 of the construction-permit FES.

7. For each isotope and each organism identified in the two immediately preceding Interrogatories D.5. and D.6: (a)

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provide the bioaccumulation factor (stated in units of pCi/kg of organism per pCi/liter of water or in units convertible thereto) which CEU contends should have been used for each organism identified in the two immediately preceding Interrogatories D.5. and D.6.; and (b) produce all assumptions, calculations, studies and documentation used in computing the bioaccumulation factors provided in response to (a) of this Interrogatory D.7.

E. Contention 6 (as accepted by the Licensing Board)

1. State every reason, with every fact supporting those reasons, upon which you rely to support the assertion that radionuclides deposition rates are affected by relatively high and continuous humidity levels; identify the geographic area or areas considered in each study or other document upon which you rely; and produce all studies or other documentation upon which you rely to support this assertion.

2. Specify the entries in Table 11.A-6 (copy attached) of the South Texas Project Final Safety Analysis Report (STP FSAR), if any, which you contend are in error as a result of failing to take into account the "relatively high and continual humidity" in the vicinity of the South Texas Project Site.

3. What assumptions as to humidity do you contend are used by the Applicant in calculating compliance with 10 CFR 50, Appendix I? In what respect are these assumptions in error?

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4. What assumptions regarding humidity do you contend should be used in calculating compliance of the South Texas Project with 10 CFR 50, Appendix I?

5. Is it your contention that the South Texas Project will not meet the requirements of 10 CFR 50, Appendix I, if your assumptions regarding humidity (as set forth in your answer to immediately preceding interrogatory E.4) are used in the calculation?

6. If the answer to immediately preceding interrogatory E.5 is, "yes," provide all calculations you have performed which demonstrate that the South Texas Project will not meet the requirements of 10 CFR 50, Appendix I.

7. Specify in each and every respect how the applicable NRC regulations fail to require adequate consideration of the effects of humidity in radiological dose calculations.

8. Produce all documents or other references upon which you rely in answering the foregoing questions.

9. Identify each person you intend to call as a witness at the Hearing to testify to matters relating to Contention 6 or any part of Contention 6.

F. Contention 7 (as accepted by the Licensing Board)

1. State every reason, with every fact supporting those reasons, upon which you rely to support the assertion, that "Due to soil conditions peculiar to this area...[Applicants]

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will not be able to maintain the 7,000 acre cooling pond at a sufficient level to allow continued safe operation of STP"; and produce all studies or other documentation upon which you rely in support of said assertion.

2. Describe the "soil conditions peculiar to this area" which you assert will prevent Applicants from maintaining "the 7,000 acre cooling pond at a sufficient level to allow continued safe operation of STP"; identify each document known to you substantiating such soil conditions; and produce all such documents.

3. State every reason, with every fact supporting those reasons, upon which you rely to support the assertion that, "Due to...inadequate water flow in the Colorado River ...[Applicants] will not be able to maintain the 7,000 acre cooling pond at a sufficient level to allow continued safe operation of STP"; and produce all studies or other documentation upon which you rely in support of said assertion.

4. What assumptions regarding: (a) the flow of water in the Colorado River; and (b) the availability of water from reservoirs located on the Colorado River; do you contend should be used in determining the supply of water which will enable Applicants "to maintain the 7,000 acre cooling pond at sufficient level to allow continued safe operation of STP." Identify each document known to you to substantiate such assumptions; and produce all such documents.

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5. What is the water level at which you contend Applicants must maintain the 7,000 acre cooling pond in order "to allow continued safe operation of STP?"

6. State every reason, with every fact supporting those reasons, upon which you rely to support the assertion that, "Due to...diminishing ground water supply, [Applicants] will not be able to maintain the 7,000 acre cooling pond at a sufficient level to allow continued safe operation of STP"; and produce all studies or other documentation upon which you rely in support of said assertion.

7. What ground water supply or supplies will be used as a source of make-up water for the 7,000 acre cooling pond at the South Texas Project? Furnish the amount of ground water to be supplied as such make-up water from each source identified.

8. Describe any reduction in the ground water supply in the area of the South Texas Project which would result in Applicants not being "able to maintain the 7,000 acre cooling pond at a sufficient level to allow continued safe operation of STP," giving the location or locations at which any such reduction has occurred, the depth of the ground water supply affected and the amount (in feet) of the reduction in the wells affected.

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9. Identify each person you intend to call as a witness at the Hearing to testify on matters relating to Contention 7 or any part of Contention 7.

G. Contention 8 (as accepted by the Licensing Board)

1. State every reason, with every fact supporting those reasons (other than those listed in (a) through (c) of this Contention), as to why you believe that emergency plans must be produced for areas beyond the LPZ surrounding the South Texas Project.

2. Define the area, by road, municipal boundary, natural barrier or otherwise, which must be evacuated over Highway 60 as asserted in subpart (b) of Contention 8.

3. Specify the number of people residing in the area defined in response to immediately preceding Interrogatory G.2.

4. Produce the "evacuation plan formulated by the Texas Department of Public Safety [which] is only 'in case of nuclear war.'"

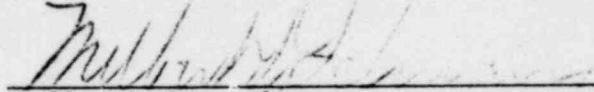
5. Identify each person you intend to call as a witness at the Hearing to testify on matters relating to Contention 8 or any part of Contention 8.

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H. Other

1. Provide the names and addresses of all officers and directors of CEU.

Respectfully submitted,



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Attorneys for HOUSTON LIGHTING &
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of the South Texas Project,
acting herein on behalf of
itself and the other Applicants,
THE CITY OF SAN ANTONIO, TEXAS,
acting by and through the City
Public Service Board the City of
San Antonio, CENTRAL POWER AND
LIGHT COMPANY and THE CITY OF
AUSTIN, TEXAS

MS-3-C

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Table 11.A-6

APPENDIX I CONFORMANCE SUMMARY TABLE
SOUTH TEXAS PROJECT

Type of Dose	Appendix I Criteria		South Texas Project	
	Design Objective (1)	Point of Dose Evaluation	Calculated Dose	Point of Dose Evaluation (11)
<u>Liquid Effluents</u>				
Dose to total body from all pathways	5 mrem/yr per site	Location of the highest dose offsite (2)	1.2 mrem/yr (9)	Little Robbins Slough (10)
Dose to any organ from all pathways	5 mrem/yr per site	Same as above	1.2 mrem/yr (9)	Little Robbins Slough (10)
<u>Gaseous Effluents</u> (3)				
Gamma dose in air	10 mrad/yr per site	Location of the highest dose offsite (4)	0.024 mrad/yr	Location of highest annual average concentration at the site boundary (NW at 0.89 mi)
Beta dose in air	20 mrad/yr per site	Same as above	0.073 mrad/yr	Same as above
Dose to total body	5 mrem/yr per site	Location of the highest dose offsite (2)	0.0031 mrem/yr	Nearest residence (WSW at 2.8 miles)
Dose to skin of an individual	15 mrem/yr per site	Same as above	0.013 mrem/yr	Same as above
<u>Radioiodines and Particulates</u> (5) Released to the Atmosphere				
Dose to any organ from all pathways	15 mrem/yr per site	Location of the highest dose offsite (6)	0.76 mrem/yr (8)	Nearest assumed milk cow (7) (NNW at 10 miles)

Table 11.A-6 (Continued)

- (1) Design objectives as specified in the Commission's Appendix I Conformance Option, 40 FR 40816, September 4, 1975.
- * (2) Evaluated at a location that is anticipated to be occupied during plant lifetime or evaluated with respect to such potential land and water usage and food pathways as could actually exist during the term of plant operation.
- * (3) Calculated only for noble gases.
- * (4) Evaluated at a location that could be occupied during the term of plant operation.
- * (5) Doses due to carbon-14 and tritium intake from terrestrial food chains are included in this category.
- * (6) Evaluated at a location where an exposure pathway actually exists at time of licensing. However, if the applicant determines design objectives with respect to radioactive iodine on the basis of existing conditions and if potential changes in land and water usage and food pathways could result in exposures in excess of the guideline values given above, the applicant should provide reasonable assurance that a monitoring and surveillance program will be performed to determine: 1) the quantities of radioactive iodine actually released to the atmosphere and deposited relative to those estimated in the determination of design objectives; 2) whether changes in land and water usage and food pathways which would result in individual exposures greater than originally estimated have occurred; and 3) the content of radioactive iodine and foods involved in the changes, if and when they occur.
- (7) Cows are not currently milked at this location. Doses evaluated were based on the fact that no milk cows were found within 10 miles of the plant.
- (8) Dose to an infant thyroid from air inhalation and cow milk ingestion.
- (9) Dose to adult G.I. tract from fish ingestion, shoreline exposure, and ingestion of meat from a cow drinking from Little Robbins Slough.
- (10) Fish were assumed to be exposed to average radionuclide concentrations in the Cooling Reservoir.
- (11) Points given correspond to points of dose evaluation under Appendix I heading.

* Reproduced from Regulatory Guide 1.109.

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

IN THE MATTER OF	§	
	§	
HOUSTON LIGHTING & POWER	§	Docket Nos. STN 50-498-OL
COMPANY, ET AL.	§	STN 50-499-OL
	§	
(South Texas Project,	§	
Units 1 and 2)	§	
	§	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing First Set of Interrogatories and Request for Production of Documents from Houston Lighting & Power Company, et al., Applicants, to Citizens for Equitable Utilities in the above-captioned proceeding were served on the following by deposit in the United States mail, postage prepaid, or by hand delivery this 5th day of November, 1979:

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Date: November 5, 1979

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