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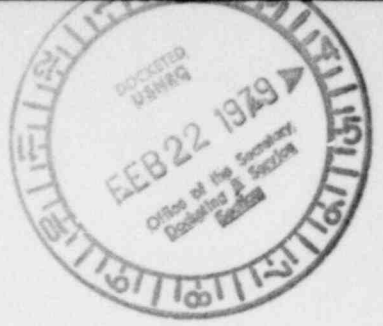

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:	§	
	§	
HOUSTON LIGHTING & POWER	§	
COMPANY, THE CITY OF SAN	§	
ANTONIO, THE CITY OF AUSTIN,	§	NRC DOCKET NOS. 50-498A
and CENTRAL POWER AND LIGHT	§	50-499A
COMPANY	§	
(South Texas Project, Unit	§	
Nos. 2 and 2)	§	
	§	
TEXAS UTILITIES GENERATING	§	NRC DOCKET NOS. 50-445A
COMPANY, et al.	§	50-446A
(Comanche Peak Steam Electric	§	
Station, Unit Nos. 1 and 2)	§	

HOUSTON LIGHTING & POWER COMPANY'S
OBJECTIONS AND ANSWERS TO THE
NRC STAFF'S INITIAL INTERROGATORIES
AND REQUESTS FOR PRODUCTION OF DOCUMENTS

General Objection

Houston Lighting & Power Company objects to being served a joint set of written interrogatories that is directed simultaneously to Houston Lighting & Power Company and to other power companies within the State of Texas with which Houston Lighting & Power Company is not affiliated. Houston Lighting & Power Company does not have access to information in the possession of these non-affiliated power companies, and Houston Lighting & Power Company can in no way respond to questions directed at such non-affiliated utilities.

Houston Lighting & Power Company will, however, attempt to answer the Staff's interrogatories as if such interrogatories were directed at Houston Lighting & Power Company alone.

Answers and Objections

Without waiving the general objection, Houston Lighting & Power Company answers and lodges specific objections to the Staff's interrogatories as follows:

1(a). Mr. D. E. Simmons, Dr. Herbert H. Woodson, Mr. Abraham Gerber. Other witnesses may be added to this list when HL&P learns that witnesses will be called by the other parties and the substance of such witnesses' testimony.

1(b). Mr. D. E. Simmons, Houston Lighting & Power Company, P. O. Box 1700, Houston, Texas 77001; Dr. Herbert H. Woodson, Professor of Electrical Engineering, Engineering Science Building, Room I41, University of Texas at Austin, Austin, Texas 78711; Mr. Abraham Gerber, National Economic Research Associates, 251 Royal Palm Way, Palm Beach, Florida 33480.

1(c). None.

1(d). All documents relating to the underlying facts or data to be relied upon by Mr. Simmons, Dr. Woodson and Mr. Gerber were previously produced for inspection by counsel for CP&L and HL&P understands that CP&L has made these documents available to the Staff. In any event, such documents are available for the Staff's review upon request.

Correspondence between HL&P officers, including Mr. Simmons, and counsel is not subject to production as privileged communications and as data beyond the scope of materials discoverable under Rule 705 of the Federal Rules of Evidence, and HL&P objects to producing such documents on these grounds.

1(e). See answer to Question 1(d).

1(f). Both Dr. Woodson and Mr. Gerber explained the scope of their assignments in their depositions in the matter of West Texas Utilities Company, et al. v. Texas Electric Service Company, et al., Civil Action No. 3-76-0633F. [See, Gerber Dep. July, 1977, pp. 9-17; Sept. 1978, pp. 36-50; Woodson Dep. pp. 13-21.] They have been given no further assignments to date. No express assignment has been given to Mr. Simmons.

1(g). The answer for Dr. Woodson is none, other than counsel. Mr. Simmons did not contact third parties or rely on such contacts in his studies. Of course, Mr. Simmons' studies were based on years of practice as an electrical engineer and a myriad of communications during those years, but it is impossible to isolate specific contacts in his past as forming the basis for his studies. To the extent that Mr. Gerber relied on contacts with third parties in forming his expert opinions, this information is disclosed in the underlying work papers referenced in 1(d) and 1(e). HL&P otherwise objects to this interrogatory on the grounds that it calls for information beyond that required by Rule 705 of the Federal Rules of Evidence.

2(a). This question was already answered in response to Interrogatory No. 8 of the Plaintiff's First Interrogatories in West Texas Utilities Company, et al. v. Texas Electric Service Company, et al., supra. See also the testimony of Messrs. Jordan (Tr. 2723-2757), Robinson (Tr. 261-272) and Simmons (Tr. 3090-3091) in the trial of West Texas Utilities Company, et al. v. Texas Electric Service Company, et al., supra. HL&P also notes that the General Accounting Office (GAO) is currently investigating the costs imposed on HL&P as a result of federal regulation and the results of the GAO investigation may be relevant to this interrogatory.

2(b)-(c). HL&P finds it difficult to answer this interrogatory without specific identification of the judicial or administrative order hypothesized, as well as descriptions of the electrical interconnections ordered, the transactions effected over such interconnections and the allocation of any economic cost or benefit connected with such interconnection or transaction. HL&P notes, for example, that under an order by the Federal Energy Regulatory Commission to make an interstate interconnection under Section 202 of the Public Utility Regulatory Policies Act of 1978, HL&P would be exempt from regulation by the Federal Energy Regulatory Commission. Any interconnection, whether it be interstate or intrastate, must be examined on its merits with respect to both the economic and electrical impacts

of such interconnection. HL&P does not perceive any benefits from interstate operation solely for the purposes of interstate operation.

2(d). None

3(a). HL&P was represented in these discussions by Messrs. P. H. Robinson, Frank M. Austin and D. E. Simmons.

3(b)-(c). This matter was not discussed at the time of the formation of ERCOT.

3(d). Criteria and qualifications for membership in ERCOT are listed in the ERCOT agreement. The criteria and qualifications for membership in ERCOT have not changed since the time of its formation.

3(e). HL&P has previously produced for the NRC Staff's inspection and copying the ERCOT agreement and all documents in HL&P's possession relating to the formation of ERCOT.

4(a). The method of allocation of voting power is set forth in Paragraph VI of the ERCOT agreement. The number of votes allocated to HL&P changes each year in accordance with the formula. At present, HL&P has 325 out of 1,034 votes. Under Article VII of the TIS Agreement, no party to the agreement has any right to bind any other party without its express prior written consent.

4(b)-(c):

BUDGET YEAR	TOTAL TIS BUDGET	HL&P SHARE
78-79 Proposed	$75,000	20.86%
77-78	49,320	20.55%
76-77	NONE	
75-76	20,767	20.7%
74-75	25,500	20.28
73-74	39,000	21.00

BUDGET YEAR	TOTAL ERCOT BUDGET	HL&P SHARE
78-79 Proposed	$114,500.00	32%
77-78	67,970.65	32%
76-77	71,057.24	28%
75-76	62,610.37	29%
74-75	55,814.35	34%

4(d). For TIS, see 4(b), (c); for ERCOT the answer is none.

4(e). This information was previously produced in response to Interrogatory Nos. 17 and 18 of the Department of Justice's First Set of Interrogatories.

4(f). HL&P has previously produced all documents relating to these interrogatories for the NRC's inspection and copying, except those documents from which the information

reflected in the answers to interrogatories 4(b), 4(c), and 4(d) were drawn, which are available for the NRC's inspection.

5(a)-(b). With the exceptions noted below, the only entities that have requested membership in TIS or ERCOT since 1965 are the entities that are presently members of those two organizations. HL&P understands that TMPA has very recently indicated an interest in membership in TIS, but HL&P has received no such formal request or notice. The Public Utilities Board of the City of Brownsville has requested membership in TIS, but TIS has not formally acted on Brownsville's request for membership in TIS as of this time. To the best of HL&P's knowledge, no one has ever requested and been denied membership in either TIS or ERCOT.

5(c). HL&P has previously produced for inspection and copying by the NRC all documents relating to this interrogatory, except for the letter attached as Exhibit A.

6(a). HL&P knows that CP&L and WTU, under orders from CSW, have considered interconnecting with companies in the Southwest Power Pool. HL&P studied interconnection with Gulf States Utilities Company on numerous occasions described in the 1968 interconnection study referenced in Interrogatory No. 20. In 1966 TU hired Stone & Webster to study interconnections outside Texas (see Plaintiffs' Exhibit 763 in West Texas Utilities Company, et al. v. Texas Electric Service Company, et al., supra).

6(b). HL&P's response to the CSW proposal is explained in the testimony of Mr. Don D. Jordan (Tr. 2726-2746) and Mr. D. E. Simmons (Tr. 2937-2951) in West Texas Utilities Company, et al. v. Texas Electric Service Company, et al., supra. There have been no other proposals, since all objective studies have shown that there is no present benefit from interconnections outside Texas.

6(c). Don D. Jordan, G. W. Oprea, D. E. Simmons, and R. W. McCuistion have personal knowledge of negotiations regarding CP&L and WTU's proposal to interconnect with interstate electric utilities.

6(d). None that HL&P is aware of.

6(e). All documents relating to Interrogatory No. 6(a) were previously produced by HL&P for the NRC Staff's inspection and copying. HL&P has continued to evaluate CSW's proposal throughout the course of litigation and in settlement discussions. HL&P objects to producing any documents related to preparation for litigation or evaluation of settlement proposals, because these documents are privileged, and they are not relevant to the issues in this case.

7(a). The substance of the conversation between Mr. Brown and Mr. Gooch is set forth in response No. XV of HL&P's Answers to Plaintiff's First Set of Interrogatories. Mr. Thrash reported to Mr. Brown the phone call which Mr.

Worsham had received from Richard Ferguson and advised Mr. Brown that he was returning to Houston immediately.

7(b). This question can best be answered by reference to the testimony of Mr. Don D. Jordan (Tr. 2749-2752) in the trial of West Texas Utilities Company, et al. v. Texas Electric Service Company, et al., supra.

7(c). Any documents which may be relevant to this interrogatory were previously produced for inspection and copying by the NRC staff.

8(a)-(b):

YEAR	DEMAND	CAPACITY	RESERVE	
1979	9675	11488	1813	18.7
1980	10125	12522(1)(3)	2397	23.7
1981	10550	12522(3)	1972	18.7
1982	10900	12557(3)	1657	15.2
1983	11350	13332	1982	17.5
1984	11975	13732(3)	1757	14.7
1985	12425	15125(2)	2700	21.7
1986	12900	15875	2975	23.1
1987	13325	16625	3300	24.8
1988	13775	16625	2850	20.7
1989	14250	17375	3125	21.9

Notes:
(1) Retire 36 MW
(2) Retire 87 MW
(3) Purchased Power
1980 - 500 MW
1980 - 500 MW } Under Contract with City of Austin

1982 - 150 MW
1984 - 400 MW } Not Under Contract.

8(c). HL&P objects to this interrogatory as being argumentative and as being a hypothetical question so incomplete in background facts as to make any answer meaningless speculation. Insofar as HL&P is concerned, it has determined on several

occasions that the burdens of interstate operation far outweigh any potential benefits (see, the testimony of D. E. Simmons (Tr. 2920-2948) in West Texas Utilities Company, et al. v. Texas Electric Service Company, et al.).

8(d). The documents from which the answers to Interrogatories 8(a) and 8(b) were drawn are in the files of HL&P's Planning Department and are available for inspection.

9(a). While this has never been a formal requirement, the TIS interconnections have normally been operated unloaded in the past. HL&P believes this pattern of operation will change with anticipated increases in the sale of economy energy.

9(b). Not applicable.

9(c). No. At page 21 of the Stagg study, Mr. Stagg explains the assumptions he made concerning transmission additions required for increased coordination with ERCOT.

9(d). None, other than the Stagg study that has been made available.

10(a)-(c). HL&P's position regarding the size and manageability of ERCOT is described in the testimony of both Mr. D. E. Simmons (Tr. 2924-2925) in the trial of West Texas Utilities Company, et al. v. Texas Electric Service Company, et al., supra. HL&P also agrees with the testimony of Mr. E. D. Scarth in this regard (Tr. 33273329).

10(d). Yes. Although HL&P anticipates higher outage rates with the larger coal and nuclear units, this should be offset by lower absolute values for reserves because of size.

10(e). HL&P believes that the issue is whether the interconnection, no matter what its capacity, will achieve benefits that outweigh the costs and reliability detriments associated with the interconnection.

10(f). HL&P is not aware of any savings in fuel cost or generation costs which would outweigh the costs and reliability detriments associated with such interconnections.

11(a)-(b). HL&P has a very compact service area, all parts of which have experienced substantial growth. The electric utilities having facilities in or adjacent to the HL&P service area are listed in Question No. 9, Table 9-4 of the South Texas Project Units 1 and 2, Antitrust Information.

11(c). None.

12. Pursuant to an order of the Texas Public Utility Commission, target relative rates of return were established for each of the Company's major rate classifications. The order established that the greatest rate of return should be from contract service, of which a portion of the load is interruptible. In response to this order, the Company filed rates which were determined to yield the relative rates of return listed in descending order below:

Rate Classification	Relative Return
Contract Service	2.14
Large Overhead Service A	1.40
Miscellaneous General Service	1.27
Large Overhead Service B	1.22
Large General Service	1.02
Wholesale Service	1.00
Residential	.70
Street Lighting	.16

13(a). HL&P's position on this matter is explained in the testimony of Mr. D. E. Simmons in West Texas Utilities Company, et al. v. Texas Electric Service Company, et al., supra, (Tr. 2949-2951).

13(b). HL&P cannot answer for TU.

13(c). HL&P cannot answer for TU.

14. South Texas Project Nuclear Units 1 and 2; Comanche Peak Steam Electric Station.

15(a). There are no such transactions by HL&P.

15(b). CSW's preferred scheme of interconnecting and integrating its four subsidiaries (i.e., Mode 4) would require extensive wheeling by HL&P. On November 8, 1973, the Texas Municipal Power Pool (TMPP) sent HL&P a letter regarding the possibility of wheeling power and other coordination activities. A copy of this letter was sent to Mr. Robert J. Verdisco at the Atomic Energy Commission. By

letter dated January 5, 1979, TMPP requested HL&P to begin negotiations for a transmission agreement. (Exhibit B).

15(c). As described in the testimony of Mr. Don D. Jordan in the trial of West Texas Utilities Company, et al. v. Texas Electric Service Company, et al., supra, Mr. Jordan told CSW he would consider their proposals. HL&P did consider CSW's plans and determined them to be totally lacking in merit and designed solely for the purpose of solving CSW's holding company problems and not motivated by valid economic or electrical considerations. HL&P has nonetheless continued to evaluate CSW's studies as they progress. HL&P's response to the Texas Municipal Power Pool's 1973 letter is found in Exhibit M to the South Texas Project Units 1 and 2, Antitrust Information. HL&P has not responded to TMPA's 1979 letter.

15(d). Other than documents previously produced to the NRC, see Exhibit B.

16(a). HL&P does not install generation in a manner designed to ensure that it will have a fixed percentage of installed generation in each year. HL&P's installed reserves have been reported in the Environmental Reports for both the South Texas Project and the Allens Creek Nuclear Generating Station. HL&P's planning criteria are also described therein.

16(b). See answer to 16(a).

16(c). None.

16(d). None. HL&P does not regard reserves as "excess" merely because they exceed HL&P's reserve criteria in any one year.

17(a). None.

17(b). None.

18(a). See Tables S.8.2, S.8.4, S.8.6, S.8.7 and S.8.9 of the NRC's Final Supplement, Allens Creek Nuclear Generating Station, Unit No. 1 (Aug. 1978).

18(b):

GROWTH IN HL&P TRANSMISSION CAPACITY SINCE 1970

Year	Transmission Total Miles	Percentage Increase
69	2356.52	
70	2427.43	3.0%
71	2504.39	3.17%
72	2537.10	1.31%
73	2608.52	2.82%
74	2703.5	3.64%
75	2703.5	0%
76	2756.57	1.96%
77	2768.29	.43%
78	[Data not now availabe. Will be included in DOE Form 1 for 1978.]	

18(c). HL&P's service area has not changed perceptibly since 1970.

19. None for HL&P.

20(a). HL&P: John McReynolds, Vice President Engineering; D. E. Simmons, Superintendent of System Engineering. TP&L: John Robuck, Vice President of Engineering. GSU: S. L. Adams, Vice President of Engineering.

20(b). All documents related to this study were previously produced for inspection and copying by the NRC Staff.

21. The PUC order speaks for itself. Beyond this the interrogatory calls for speculation and argument, not facts, and HL&P objects on this ground.

22. The following studies are available for inspecton:

(1) Cost of Fuel Oil Conversion Program Through December 12, 1978, (Memorandum of February 1, 1979, to Dr. R. T. Beaubouef from J. R. Yeats, Jr.).

(2) Conversion of Generating Units to Cycling Operation And Oil Firing (Ebasco Services, Inc., two-volume report dated January, 1972).

(3) Alternative Plans for Conversion of Steam Generating Units to Oil Firing, (Ebasco Services, Inc., two-volume reported dated February 1973).

(4) Coal conversion Feasibility and Cost Study - P. H. Robinson Station, W. A. Parish Station, T. H. Wharton Station, (Bechtel Power Corporation - August, 1977).

23(a). The basis for this assertion is explained in Mr. Simmons' testimony in the Docket No. 14 proceeding, as well

as in his testimony in the trial of West Texas Utilities Company, et al. v. Texas Electric Service Company, et al., supra.

23(b). All documents related to this interrogatory have previously been produced for inspection and copying by the NRC Staff and/or are exhibits in West Texas Utilities Company, et al. v. Texas Electric Service Company, et al., supra.

23(c). R. M. McCuistion, John F. Meyer, Glenn Stagg and K. L. Williams.

24. These documents containing the data are available for the NRC's inspection.

25(a). The capital cost projection is $804 per kilowatt. The annual cash flows are:

CASH FLOW
(1,000's)

Period	$
Pre-1978	425,795
1978	
JAN	32,307
FEB	30,195
MAR	38,223
APR	40,507
MAY	36,930
JUN	36,028
JUL	53,893
AUG	51,578
SEP	48,013

CASH FLOW
(1,000's)

Period		$
OCT		49,783
NOV		49,140
DEC	Appox.	36,589
TOTAL		311,796
1979 Projected		503,186
1980 Projected		337,021
1981 Projected		274,021
1982 Projected		155,457
TOTAL PROJECT*		2,000,276

*Based on Commercial Operation Dates:
Unit 1: December, 1981
Unit 2: December, 1982

26. Forced Outage Data for 1979 Corporate Studies

UNIT TYPE	CAPACITY (MW)	EQUIVALENT FORCED OUTAGE RATE (%) IMMATURE	MATURE	WEEKS OF MAINTENANCE
Coal	450-600	16.	14.	5
Coal	601 +	18.	16.	6
Combined Cycle	360	39.6	6.	33% of units @ 52
Nuclear	900 +	18.	16.	6

1977 FORCED OUTAGE DATA FOR EXISTING HL&P UNITS

UNIT	#	CAP (MW)	(%)FOR	(%)EFOR	Maint. Weeks	Years DATA
CB-1	47	750	2.87	7.34 (1)	5	5
CB-2	48	750	1.88	3.81 (1)	4	4
CB-3	59	750	2.03	5.26 (1)(2)	4	15
DW-4-6	-	61	2.5	3.12 (3)	2	-

1977 FORCED OUTAGE DATA FOR EXISTING HL&P UNITS

UNIT	#	CAP (MW)	(%)FOR	(%)EFOR	Maint. Weeks	Years DATA
DW-7	19	177	.75	.97	3	6
GB-1		72	2.5	3.12	2	(3)
GB-2		72	2.5	3.12	2	(3)
GB-3	15	112	2.44	2.44	3	6
GB-4	16	112	5.69	5.69	2	6
GB-5	55	411	.42	.52	5	3
PHR-1	31	441	1.88	2.53	1	6
PHR-2	32	441	.23	.59	4	6
PHR-3	46	565	2.03	4.47	4	6
PHR-4	56	760	1.41	3.18 (1)	1	5
SRB-1	21	177	1.38	2.70	3	6
SRB-2	20	177	.32	1.98	2	6
SRB-3	25	235	2.55	4.18	2	6
SRB-4	26	235	3.70	5.08	3	6
THW-1	29	71	.33	.71	2	6
THW-2	27	234	.35	.41	3	6
WAP-1	22	177	.73	.92	2	6
WAP-2	23	177	.99	1.25	2	6
WAP-3	28	278	1.59	1.82	2	6
WAP-4	45	565	.47	.64	5	6
WEB-1	17	112	0.00	.35	3	6
WEB-2	18	112	.25	.28	2	6
WEB-3	30	375	1.95	2.83	3	6
HOC-1		44	2.5	3.12	2	(3)
HOC-2		44	2.5	3.12	2	(3)
HOC-3		82	2.5	3.12	2	(3)
HOC-4		82	2.5	3.12	2	(3)
GABLE-6		26	2.5	3.12	2	(3)

1977 FORCED OUTAGE DATA FOR EXISTING HL&P UNITS

UNIT	#	CAP (MW)	(%)FOR	(%)EFOR	Maint. Weeks	Years DATA
GABLE-7		36	2.5	3.12	2	(3)
CHAMP-1		6	2.5	3.12	2	(3)
CHAMP-2		4	2.5	3.12	2	(3)
CHAMP-3		12	2.5	3.12	2	(3)

Notes:
(1) Partial Outage States to be used on this unit.
(2) HL&P 750 (MW) unit avg.
(3) From EEI Equipment Availability Report, 1966-1975.
(4) Projected data.

1977 FORCED OUTAGE DATA FOR EXISTING HL&P UNITS
GAS TURBINES

UNIT	#	CAP (MW)	(%)FOR	(%)EFOR	Maint. Weeks	Years DATA
GBGT-1	66	60	90.73	10.	52	(4)
GBGT-2	67	60	0.00	10.	52	(4)
GBGT-3	68	60	0.0	10.	0	(4)
GBGT-4	69	60	0.0	10.	0	(4)
GBGT-5	70	60	0.0	10.	0	(4)
GBGT-6	71	60	0.0	10.	0	(4)
HOCGT-1	39	14	3.25	9.37	0	6
HOCGT-2	40	14	19.53	9.37	0	6
HOCGT-3	41	14	9.01	9.37	0	6
HOCGT-4	42	14	.50	9.37	0	6
HOGCT-5	43	14	9.08	9.37	0	6
HOGCT-6	44	14	12.44	9.37	0	6
PHRGT-1	35	14	14.41	3.94	0	6
SBGT-1	37	27	64.14	3.94	52	6
SBGT-2	38	14	33.97	3.94	0	6
THWGT-1	33	14	55.85	3.94	0	6

1977 FORCED OUTAGE DATA FOR EXISTING HL&P UNITS

GAS TURBINES

UNIT	#	CAP (MW)	(%)FOR	(%)EFOR	Maint. Weeks	Years DATA
THWGT-31	49	67	41.59	14.6	52	4
THWGT-32	50	68	40.39	14.6	0	4
THWGT-33	51	68	29.76	14.6	0	4
THWGT-34	52	68	17.86	14.6	0	4
THWGT-41	53	67	31.49	14.6	52	4
THWGT-42	54	68	35.50	14.6	0	4
THWGT-43	57	68	22.87	14.6	0	2
THWGT-44	58	68	4.98	14.6	0	2
THWGT-51	60	60	33.46	12.55	52	2
THWGT-52	61	60	58.95	12.55	52	2
THWGT-53	62	60	35.02	12.55	0	2
THWGT-54	63	60	51.48	12.55	0	2
THWGT-55	64	60	23.75	12.55	0	2
THWGT-56	65	60	29.45	12.55	0	2
WAPGT-1	34	14	30.67	3.94	0	6
WEBGT-1	36	14	4.99	3.94	0	6

Note: The FOR and EFOR are the same for gas turbines. In this list the EFOR and actual maintenance are combined to produce 52 weeks of maintenance for some gas turbines. This is done so several gas turbines at a single plant may be combined into a single unit.

27. HL&P long-range transmission plans for the bulk power system have been coordinated with all TIS member systems in joint planning studies. These studies include 10 year horizon plans conducted in 1977 and 1978 for the years 1987 and 1988 respectively. In addition, 20 year horizon

plans were conducted in 1973 and 1974 for the year 1994. Copies of load flow reports prepared by the TIS Planning Subcommittee as well as the supporting studies are avaiable for review in Systems Engineering at HL&P. No stability studies were run on the ten and twenty year long-range studies.

28. Not applicable.

29. Not applicable.

30. Not applicable.

31(a). All documents related to this interrogatory have previously been produced for inspection and copying by the NRC Staff.

31(b). All documents related to this interrogatory have previously been produced for inspection and copying by the NRC Staff.

32(a). Mr. Barney M. Davis, who was President of Central Power and Light Company at the time HL&P entered into the South Texas Project, revealed in his deposition that CSW had long range plans for integration of its subsidiaries and that this fact was not revealed to the other participants in the South Texas Project. By contrast CSW represented, when asked, that it had no plans to integrate its subsidiaries. In this regard see the testimony of Mr. Burl Hulsey in West Texas Utilities Company, et al. v. Texas Electric Service Company, et al., supra, at pp. 1369-1372.

Moreover, both WTU and CP&L told the Department of Justice in 1973 that they did not want to interconnect with their sister companies in the Southwest Power Pool. See TESCO Exhibit 296 in West Texas Utilities Company, et al. v. Texas Electric Service Company, et al., supra.

32(b). See the deposition of Barney M. Davis, pages 14-15, 30-32; and the deposition of R. W. Watson, Exhibit 5.

33(a). HL&P believes that CP&L and WTU can achieve all the benefits of coordinated operation within ERCOT and can avoid the adverse economic and reliability effects associated with interconnection with the Southwest Power Pool.

33(b). See the answer to Interrogatory No. 8(c).

33(c). All documents relating to this interrogatory were previously produced for inspection and copying by the NRC Staff. HL&P has retained outside experts in connections with the presentation of this matter in other forums, and these experts have and are performing studies and analyses for HL&P. These people have not been designated as experts in this proceeding, and their documents are thus not subject to discovery by virtue of Rules 26(b)(4)(B) of the Federal Rules of Civil Procedure.

34(a). Yes.

34(b). Yes.

34(c). Not applicable.

35. See Exhibit C.

36(a)-(e), (h)-(j). Data for such interconnection at 110KV or above that HL&P has or plans to have by 1987:

Interconnection Terminals	Name of Utility	Total Length	Total Ownership	Committed Date	Energized* Date	KV Rating	MVA Rating
Peters-HLP Peters	LCRA	0.1	0.1	N.Av.***	1942	138KV	143
South Lane City 138KV Bus	CPL	-	-	N.Av.		138KV	200
South Lane City 69KV Bus	CPL	-	-	N.Av.	Prior to 1937	69KV	40
Jewett-T.H. Wharton	TPL	119.45	101.97	N.Av.	1968	345KV	872
Jewett-W.A.Parish	TPL	138.2	120.72	N.Av.	1963	345KV	872
Lon Hill W.A.Parish	CPL	170.9	34.72		1975	345KV	872
Crosby-Dayton	CPL	19.83	9.43	N.Av.	**	138KV	170
STP - Velasco Double Circuit	HL&P	43.8	43.8		5/81	345KV	872
Jewett - Lignite Double Circuit	HL&P	25.0	25.0		10/84	345KV	872

* Refers to Original Interconnection
** This Interconnection is closed for Emergency Block Transfers only.
*** Not Available.

(Continued):

Interconnection Terminals	Cost of Row	Cost of Line	Cost of Terminals	Utilities Sharing In Study Cost
Peters-HL&P Peters	-	-	N.Av.	N.Av.
South Lane City 138KV Bus	-	-	N.Av.	N.Av.
South Lane City 69KV Bus	-	-	N.Av.	N.Av.
Jewett-T.H. Wharton Jewett-W.A. Parish	1,124,356	5,770,319		TPL, HL&P
Lon Hill - W. A. Parish	96,266	4,319,696		STIS, TIS
Dayton-Crosby	-	-	N.Av.	N.Av.
STP-Velasco CKT1 STP-Velasco CKT2	1,493,581	20,416,000		COA, CPL CPS, HL&P
Jewett-Lignite CKT1 Jewett-Lignite CKT2	-	-	-	HL&P

36(f),(g). HL&P does not use overcurrent protection for interconnections, and thus, providing relay loadability in amps is not applicable. Instead, HL&P uses directional impedance relays such that impedance and angle of impedance must be specified.

36(k). HL&P has no documentation which shows any of the interconnections listed had or may have on adverse impact on any other electric utility not directly tied to that interconnection.

36(l). None.

36(m). Most of the detailed load flow studies used in planning the existing HL&P interconnections have not been retained after the line was completed and in service a few years. Typically, transient stability studies were not run in planning an interconnection, but were run later to establish relay times, reclosing schemes, and other operating considerations.

No load flow studies or engineering reports exist in the HL&P files which were prepared in planning the existing 138KV and 69 KV interconnections of HL&P. The studies available on the 345KV interconnection planning are described individually below:

I) Jewett-T. H. Wharton & Jewett-W. A. Parish 345 KV Double Circuit

1) "1963 Condensed Load Flow Studies NTIS-HLP 345KV Interconnection: dated November 6, 1961.

2) "Stability Studies for North Texas-South Texas Systems" dated November 6, 1962.

II W. A. Parish-Lon Hill 345KV

1) "South Texas Interconnected System Meeting January 28-29, 1970 (Summary of STIS Load Flows for 1970-1974)" dated February 12, 1970.

2) "STIS Task Force Reactor Studies Report" dated June 23, 1971.

3) "TIS Load Flow Study Report 1973-1977 Conditions - February 1973."

III STP-Velasco 345KV Double Circuit

1) "South Texas Project-Preliminary Load Flow Studies" dated August 3, 1973.

2) "Results of STP Reactor Task Force Studies, March 30, 1978 - April 1, 1976."

3) "Transmission and Substation Requirements for STP" dated April 27, 1973.

IV) Jewett-Lignite 345KV Double Circuit. The Jewett -Lignite 345KV Double Circuit interconnection is proposed to be built about 1984. Numerous load flow studies have been performed by the HL&P Engineering Department investigating required transmission lines for various lignite plant sites.

In addition to these reports listed above, all the interconnections at 345KV have been incorporated into the five year load flow studies which the TIS Planning Sub-committee conducts each year. These load flow study reports have been done since 1971 and include:

TIS 1971-1975 Conditions - February 1971
TIS 1972-1976 Conditions - February 1972
TIS 1973-1977 Conditions - March 1973
TIS 1974-1978 Conditions - April 1974
TIS 1975-1979 Conditions - April 1975
TIS 1976-1980 Conditions - April 1976
TIS 1978-1981 Conditions - March 1978

36(n). Normally, detailed interconnection planning studies are financed either by both parties if the interconnection provides mutual benefit, or by one party if the interconnection provides only single benefit. Additionally, a proposed interconnection is modeled and simulation tested for performance in the TIS Planning Subcommittee Studies. The studies performed in TIS are paid for by a percentage formula for each company. The 345KV interconnection to CP&L was originally studied on a STIS (South Texas Interconnected System) basis, with costs shared among HL&P, LCRA, CPSB, COA, and CP&L.

36(o). HL&P has not opened an interconnection since 1965 either manually or automatically because of an overload condition on existing interconnections.

36(p). HL&P maintains records of all outages on interconnection lines which were initialed by automatic relay action. These outage records include those outages longer than 60 second duration since before 1965, and are available for review in Systems Engineering of HL&P. Records of manual opening (including remote supervisory) of interconnections for maintenance purposes are not recorded on a permanent basis and therefore are not available from 1965 to present. Switching orders for the current year are avaliable from the Energy Control Center of HL&P. The files will be made available to the NRC in accordance with Rule 33(c) of the Federal Rules of Civil Procedure.

37(a). A transmission map of the HL&P system showing all transmission lines of 110KV that HL&P has or plans to have by 1985 including X-Y coordinates of each transmission line end is not available. HL&P objects to development of a map that it does not maintain in the normal course of business and which would be burdensome to develop. Because the burden of deriving the answers called for are substantially the same for the party serving this interrogatory as for the party served, the files described below will be made available to the NRC in accordance with Federal Rule of Civil Procedure 33(c).

37(b), (e)-(f) HL&P maintains the terminal listing of HL&P transmission lines which are planned before 1985 in the Engineering Department Five Year Construction Plan Book. HL&P's planned transmission additions through the year 1984 are listed in the Five Year Book, which includes and KV rating, when the line is required to be energized, and the approximate line length. The Five Year Book is available for inspection.

37(d). The date upon which most existing lines were committed is not available. The commitment date for transmission lines added the past few years may be determined from "Engineering Authorizations" which commit money to the project. Most planned lines except those for the

current year are not committed at this time, except those required for the South Texas Project and those required for Allen Creek Nuclear Generating Station.

37(g). The loadability of each line in the HL&P system either existing or planned is expressed in MVA at rated KV voltage; no power factor is considered in the MVA ratings. The MVA capacity of each existing transmission line as well as typical power flows are provided in HL&P's FPC Form 12. The transmission capacity ratings for planned transmission additions are defined in the HL&P Engineering Department "Five Year Book."

37(h). There has been no known instances since 1965 that HL&P has automatically opened a transmission line by relaying due to an overload condition on the transmission line. The HL&P transmission protection scheme is not designed to detect overload conditions since the philosophy employed is based on directional impedance relays.

There has been no known instance since 1965 of an HL&P transmission line was manually opening (including by remote supervisory) because of an overload condition on that line.

37(i). For existing transmission lines, the dates and duration that each transmission line was opened for more than 60 seconds by automatic relaying, as well as the apparent

reasons for such opening, is documented in the files maintained by Systems Engineering, which are available for inspection.

Detailed records of manual opening of transmission lines for more than 60 seconds are not available since 1965. Switching orders for the current year are kept at the HL&P Energy Control Center. Most manual switching of HL&P transmission lines is performed for maintenance or construction reasons.

38. None.

39. The HL&P transmission system is presently designed such that any outage of a circuit or multiple circuits on a transmission tower leaving a generating plant will not result in an overload on the remaining circuits such that the output of a generator must be restricted below its maximum. HL&P is aware of a few instances in which several circuits from a generating plant having been outaged resulting in a temporary restriction being placed on the generator. In these cases, the restriction was usually made to prevent an overload from occurring due to the next single transmission contingency such that the generator was protected from exposure to overspeed tripping. HL&P does not keep records of such instances; therefore, specific dates of such outage are not available.

40. See answers to Questions 36(m), 41 and 42(a), and Chapter 8 of the STP Final Safety Analysis Report.

41(a). The South Texas Project utilizes a committee organizational structure to affect the necessary decisions in the overall planning philosophy of operation and design at STP. All design details for the STP plant proper have been delegated by the participants to the Project Manger, HL&P. The STP Management Committee, made up of executives of each participant, resolves all administrative decisions. One of the committees reporting to the Management Committee, the Technical Committee, had the responsibility for planning the transmission system to support the STP Units. The initial planning of the transmission lines for STP, including load flow studies and transient stability studies, was done by the Technical Committee in 1972 and 1973.

(a) Those utilities involved in the STP transmission planning studies conducted by the Technical Task Force including those persons who participated in the studies at that time are as follows:

Utility	Representative	Title
City of Austin	Emmett Rummel	Sr. Planning Engineer
Houston Lighting & Power Company	K. L. Williams (Chairman)	Manager of Design & Development
Central Power & Light Company	Merle Borchelt	Manager of Planning
City Public Serv. San Antonio	Arthur Von Rosenberg	

41(b). The costs for the inital planning studies for the STP transmission system, including those studies run to determine reactor requirements, were costed to the participants on the basis of ownership in the South Texas Project units.

41(c). Decision-making rights among the participants in the Technical Committee is based on concensus approval. If alternate solutions are favored by one or more of the participants, requests are made to the Management Committee for resolution. Decisions of the Management Committee can be made by vote of participants owning sixty percent or more of the Project. The decision-making process of the transmission plans to support STP involved numerous studies, reviewed both individually and collectively by the STP Technical committee members and their respective in-house management and engineering staffs. After each member received approval from within its organization for its portion of the transmission additions, a unanimous recommendation was made to the Management Committee outlining the required transmission plans. After approval by the Management Committee, the transmission plans were modeled in the TIS studies and continually reevaluated for interconnection performance.

41(d). The Technical Committee had the direct responsibility for preparation of load flow and transient stability studies, and had responsibility for analysis of

these studies. The actual running of the studies was performed by the HL&P Engineering Department. Each committee member provided additional staff support as required.

41(e). The studies were run on HL&P's in-house IBM computers using both a 2000 bus "Northern States" load flow program and a 1500 bus "PECO" load flow and stability program. The printout from these studies were distributed to each Technical Committee member for review by himself and his designated staff.

41(f). The input data for these load flow studies used to determine the transmission lines for the STP was developed by the respective staffs of the participants. The data was put together by the HL&P Engineering Department Personnel and reviewed by the STP Technical Committee.

41(g). The final determination of the system conceptual configurations at the STP switchyard was determined by agreement of the Technical Committee Members. Minor detailed modifications due to relaying, physical, or reliability considerations were presented by the Project Manager or the affected party for Technical Committee concurrence. The conceptual arrangement was approved by the STP Management Committee and endorsed by each respective company organization. The design criteria by which the contingency condition studies were based were recommended to the Management Committee and approved as design guidelines.

41(h). The staffs of each engineering department designated by the respective Technical and/or Management Committee member were responsible for the analysis of the results. In addition, significant results were discussed at the Technical Meetings and were factored into the design of the STP transmission lines.

42(a). The load flow studies which show the proposed transmission configuration for the STP units, and that model the latest normal peak load system condition for the time the units will first be in commercial operation, are the 1982 and 1983 TIS summer peak base cases dated November 16, 1978. The output for these studies is available for review in Systems Engineering at HL&P.

42(b). HL&P does not maintain a transmission map suitable for identifying the location of each bus in the study in terms of X-Y coordinates. The load flow output contains the summary of area interchange and the control area in which each bus is located. A list of nominal bus voltages can be provided when the studies are reviewed.

43. HL&P objects to this Interrogatory in that it seeks the production of documents not relevant to the issues in this proceeding.

44. The cost of transmission lines chargeable to the South Texas Project has previously been provided to the NRC Staff in the Environmental Report for the South Texas Project.

45. HL&P objects that this Interrogatory calls for information that is wholly irrelevant to the issues set forth in the Special Prehearing Conference Order of July 13, 1978. HL&P further objects that this Interrogatory is unduly broad, burdensome and oppressive.

46. HL&P will pay compensation to any other electric utility company at such time when compensation is required under the terms of TIS transmission services guidelines. HL&P has not taken any action at this time that would require such compensation under the guidelines.

47. HL&P is not aware of any.

48. See Exhibit D.

49. HL&P plans its bulk transmission and generation additions to meet the design criteria which is required by TIS as a minimum. HL&P may in many instances apply ore stringent criteria to specific engineering problems, when called for in the judgment of HL&P's engineers.

50. Not applicable.

Respectfully submitted,

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Houston Lighting & Power Company

OF COUNSEL

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STATE OF TEXAS §
§
COUNTY OF HARRIS §

BEFORE ME, THE UNDERSIGNED AUTHORITY, on this day personally appeared D. E. SIMMONS, who upon his oath stated that he has answered the foregoing Houston Lighting & Power Company's Objection and Answers to the NRC Staff's Initial Interrogatories and Requests for Production of Documents in his capacity as Vice President of Corporate Planning for Houston Lighting & Power Company, and all statements contained therein are true and correct.

D. E. SIMMONS

SUBSCRIBED AND SWORN TO BEFORE ME by the said D. E. Simmons, on this 19th day of February, 1979.

Laura Warnasch
NOTARY PUBLIC in and for
Harris County, T E X A S

CERTIFICATE OF SERVICE

This is to certify that a true and corect copy of the foregoing instrument has been forwarded to all counsel of record in this matter, on this the 20th day of February, 1979.

E. W. Barnett