Gulf Power

TEN YEAR SITE PLAN

1986 - 1995

FOR ELECTRIC GENERATING FACILITIES
AND
ASSOCIATED TRANSMISSION LINES

APRIL, 1986

GULF POWER COMPANY

TEN YEAR SITE PLAN

FOR ELECTRICAL GENERATING FACILITIES

AND

ASSOCIATED TRANSMISSION LINES

Submitted to the
State of Florida
Department of Community Affairs
Division of Local Resource Management
Bureau of Land and Water Management
Power Plant Siting Program

APRIL 1, 1986

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DESCRIPTION OF EXISTING FACILITIES

TYP FORM 1A

UTILITY GULF POWER COMPANY

EXISTING GENERATING FACILITIES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
				Fuel		Com'l In-Service	Exptd Retrmnt	Gen Max Nameplate	Net Capability Summer	Net Capability Winter	Fuel Transp	
Plant	Unit No.	Location	Type	Pri	Alt	Mo/Yr	Mo/Yr	KW	MW	MW	Pri	Alt
								1,229,000	1092.0	1092.0		
Crist	1	Pensacola	FS	NG	HO	1/45	1995	28,125	21.9	21.9	PL	TK
	2	25/IN/30W	FS	NG	HO	6/49	1995	28,125	21.0	21.0	PL	TK
	3		FS	NG	HO	9/52	1995	37,500	37.8	37.8	PL	TK
	4		FS	C	NG	7/59	1996	93,750	86.9	86.9	WA	PL
	5		FS	C	NG	6/61	1996	93,750	88.7	88.7	WA	PL
	6		FS	C	NG	5/70	2005	369,750	332.2	332.2	WA	PL
	7		FS	C	no	8/73	2008	578,000	503.5	503.5	WA	--
								381,850	386.8	390.3		
Lansing Smith	1	Panama City	FS	C	no	6/65	2002	149,600	165.0	165.0	WA	--
	2	36/2S/15W	FS	C	no	6/67	2004	190,400	190.5	190.5	WA	--
	A		CT	LO	no	5/71	1995	41,850	31.3	34.8	TK	--
								98,000	93.2	93.2		
Scholz	1	Sneads	FS	C	no	3/53	1995	49,000	46.1	46.1	RR	WA
	2	12/3N/7W	FS	C	no	10/53	1995	49,000	47.1	47.1	RR	WA
								548,250	511.2	511.2		
Daniel	1	Jackson County,MS	FS	C	HO	4/77	2017	274,125	255.1	255.1	RR	TK
	2	42/5S/6W	FS	C	HO	6/81	2021	274,125	256.1	256.1	RR	TK
						Total System as of December 31, 1985			2083.2	2086.7		

TYP FORM 1B

UTILITY GULF POWER COMPANY

EXISTING GENERATING FACILITIES
LAND USE AND INVESTMENT

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Land Area		Plant Capital Investment in ($1,000)			
Plant Name	Total Acres	In Use Acres	Land	Site Improvements(A)	Buildings & Equipment(B)	Total
Steam Total			5,472	106,570	483,372	595,414
Crist	680	350	1,782	51,607	233,296	286,685
Lansing Smith	865	400	221	13,208	62,888	76,317
Scholz	293	168	45	5,329	20,966	26,340
Daniel	2,657 (C)	500 (C)	3,424 (D)	36,416 (D)	166,029 (D)	205,869 (D)
Caryville (Weather Station)				10	193	203
Combustion Turbine Total				645	3,553	4,198
Lansing Smith CT				645	3,553	4,198

(A) Includes Buildings.

(B) Buildings excluded due to inclusion in Col. 5.

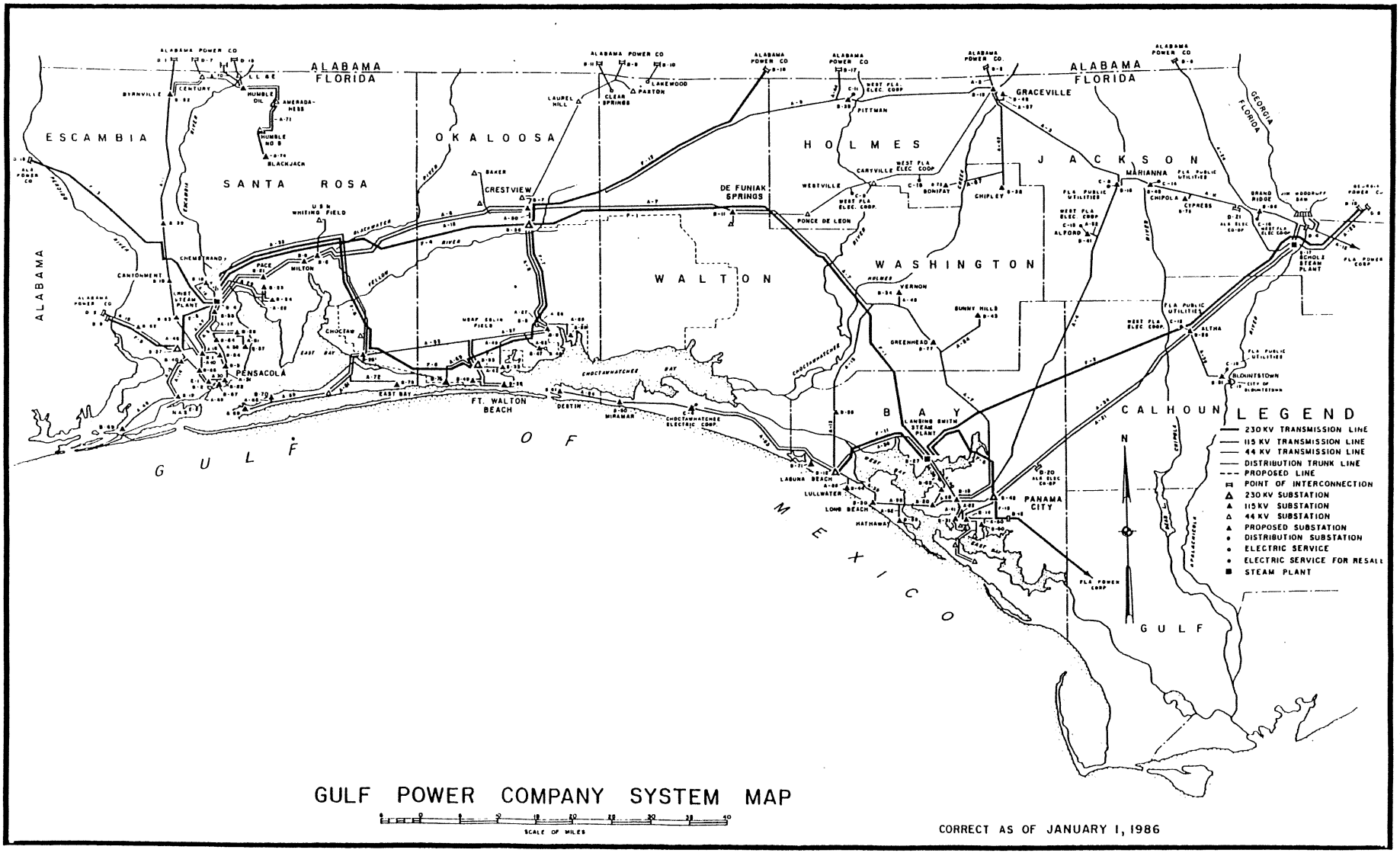
(C) Daniel Plant information refers to total area owned jointly by Gulf and Mississippi Power.

(D) Gulf Power's portion of Plant Daniel only.

UTILITY GULF POWER COMPANY TYP FORM 1C

EXISTING GENERATING FACILITIES
ENVIRONMENTAL CONSIDERATIONS FOR STEAM GENERATING UNITS

(1) Plant Name	(2) Unit	(3) Flue Gas Cleaning Particulate	(4) Flue Gas Cleaning SOx	(5) Flue Gas Cleaning NOx	(6) Cooling Type
Crist	1	no	no	no	WCTM
	2	no	no	no	WCTM
	3	no	no	no	WCTM
	4	EP	no	no	WCTM
	5	EP	no	no	WCTM
	6	EP	no	no	WCTM
	7	EP	no	no	WCTM
Lansing Smith	1	EP	no	no	OTS
	2	EP	no	no	OTS
Scholz	1	EP	no	no	OTF
	2	EP	no	no	OTF
Daniel	1	EP	no	no	CP
	2	EP	no	no	CP



GULF POWER COMPANY SYSTEM MAP

CORRECT AS OF JANUARY 1, 1986

4-1-86

CHAPTER II

FORECAST OF ELECTRIC POWER DEMAND

UTILITY GULF POWER COMPANY

HISTORY AND FORECAST OF ENERGY CONSUMPTION AND NUMBER OF CUSTOMERS BY CUSTOMER CLASS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	RURAL AND RESIDENTIAL					COMMERCIAL		
YEAR	* POPULATION	MEMBERS PER HOUSEHOLD	GWH	AVERAGE NO. OF CUSTOMERS	AVERAGE KWH CONSUMPTION PER CUSTOMER	GWH	AVERAGE NO. OF CUSTOMERS	AVERAGE KWH CONSUMPTION PER CUSTOMER
1976	466,390	2.94	2,047	158,492	12,913	1,128	20,364	55,376
1977	471,619	2.89	2,156	163,121	13,220	1,207	20,964	57,559
1978	475,152	2.83	2,243	168,156	13,342	1,254	21,567	58,124
1979	481,963	2.79	2,225	172,906	12,868	1,269	21,949	57,832
1980	481,996	2.68	2,335	180,166	12,959	1,293	22,459	57,564
1981	501,660	2.68	2,361	187,489	12,591	1,352	23,243	58,190
1982	515,319	2.65	2,364	194,228	12,169	1,432	23,962	59,748
1983	519,479	2.58	2,472	201,714	12,254	1,499	25,487	58,805
1984	540,267	2.54	2,561	212,379	12,057	1,559	27,336	57,044
1985	553,718	2.47	2,736	223,908	12,221	1,777	28,983	61,326
1986	566,804	2.42	2,909	233,864	12,440	1,695	30,445	55,685
1987	579,514	2.37	3,040	244,773	12,419	1,755	32,021	54,800
1988	591,829	2.32	3,166	254,861	12,422	1,816	33,503	54,201
1989	602,203	2.28	3,258	263,839	12,347	1,873	34,821	53,800
1990	610,941	2.25	3,344	271,452	12,321	1,912	35,939	53,196
1991	618,452	2.22	3,413	278,041	12,276	1,940	36,906	52,570
1992	625,596	2.20	3,476	284,338	12,225	1,974	37,830	52,191
1993	632,386	2.18	3,541	290,190	12,201	2,009	38,688	51,923
1994	638,819	2.16	3,598	295,575	12,172	2,047	39,477	51,849
1995	644,915	2.15	3,654	300,567	12,155	2,087	40,209	51,896

* HISTORICAL AND PROJECTED POPULATION FIGURES INCLUDE ESCAMBIA, SANTA ROSA, OKALOOSA, WALTON, BAY, WASHINGTON, HOLMES, AND JACKSON COUNTIES.

UTILITY GULF POWER COMPANY

HISTORY AND FORECAST OF ENERGY CONSUMPTION AND NUMBER OF CUSTOMERS BY CUSTOMER CLASS

(10)	(11)	(12) INDUSTRIAL	(13)	(14)	(15)	(16)
YEAR	GWH	AVERAGE NO. OF CUSTOMERS	AVERAGE KWH CONSUMPTION PER CUSTOMER	STREET AND HIGHWAY LIGHTING GWH	OTHER SALES TO ULTIMATE CONSUMERS GWH	TOTAL SALES TO ULTIMATE CONSUMERS GWH
1976	1,435	154	9,321,214	13	0	4,623
1977	1,494	156	9,577,808	14	0	4,871
1978	1,530	160	9,560,894	14	0	5,041
1979	1,552	164	9,465,628	14	0	5,061
1980	1,494	166	9,002,560	14	0	5,136
1981	1,482	165	8,983,485	14	0	5,209
1982	1,432	170	8,421,988	14	0	5,241
1983	1,612	176	9,161,324	14	0	5,597
1984	1,771	182	9,731,324	14	0	5,905
1985	1,771	181	9,782,249	14	0	6,299
1986	1,924	199	9,669,749	14	0	6,543
1987	2,140	206	10,390,359	14	0	6,949
1988	1,986	212	9,368,717	14	0	6,983
1989	1,991	217	9,175,313	15	0	7,137
1990	1,993	221	9,018,683	15	0	7,264
1991	2,036	224	9,088,433	15	0	7,405
1992	2,006	227	8,834,974	16	0	7,472
1993	1,936	230	8,416,043	16	0	7,501
1994	1,976	233	8,482,725	16	0	7,637
1995	2,013	236	8,528,496	17	0	7,771

UTILITY GULF POWER COMPANY

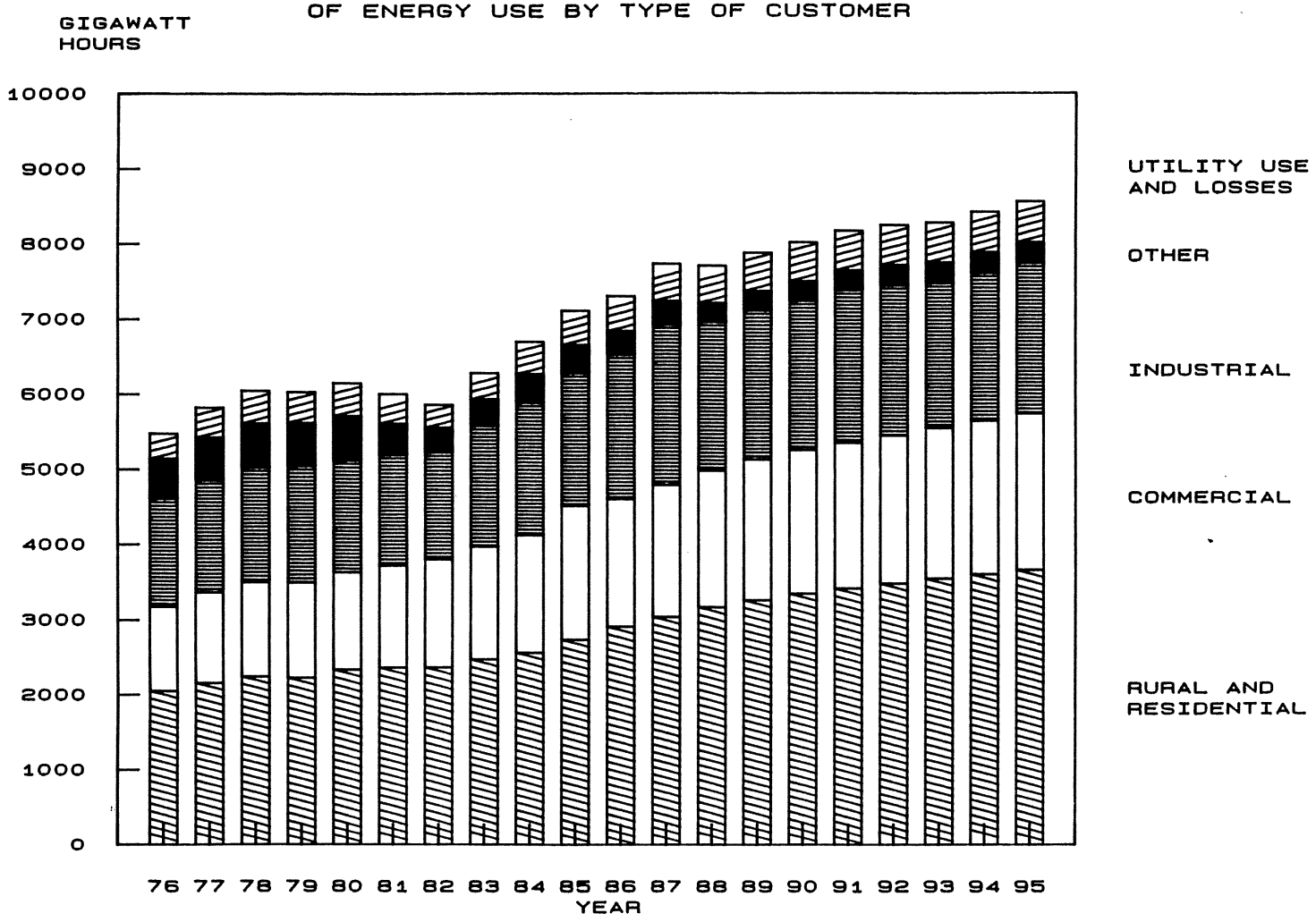
HISTORY AND FORECAST OF ENERGY CONSUMPTION AND NUMBER OF CUSTOMERS BY CUSTOMER CLASS

(17)	(18)	(19)	(20)	(21)	(22)
YEAR	SALES FOR RESALE GWH	UTILITY USE AND LOSSES GWH	NET ENERGY FOR LOAD GWH	OTHER CUSTOMERS (AVERAGE NO.)	TOTAL NO. OF CUSTOMERS
1976	519	334	5,475	60	179,070
1977	552	401	5,823	60	184,301
1978	569	434	6,044	59	189,942
1979	558	411	6,030	59	195,078
1980	574	438	6,148	60	202,851
1981	400	395	6,004	57	210,954
1982	313	306	5,859	59	218,419
1983	336	351	6,284	62	227,439
1984	364	433	6,703	63	239,960
1985	359	458	7,115	63	253,135
1986	299	470	7,311	62	264,570
1987	296	497	7,742	62	277,062
1988	239	495	7,716	58	288,634
1989	243	506	7,886	58	298,935
1990	246	515	8,026	58	307,670
1991	248	525	8,178	58	315,229
1992	250	530	8,252	58	322,453
1993	252	533	8,286	58	329,166
1994	254	542	8,434	58	335,343
1995	256	552	8,577	58	341,070

NOTE: SALES FOR RESALE AND NET ENERGY FOR LOAD INCLUDE CONTRACTED ENERGY ALLOCATED TO CERTAIN CUSTOMERS BY SOUTHEASTERN POWER ADMINISTRATION (SEPA)

GRAPH 1

HISTORY AND FORECAST
OF ENERGY USE BY TYPE OF CUSTOMER



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UTILITY GULF POWER COMPANY

ENERGY SOURCES[a][b]

Energy Sources			Actual 1984	Actual 1985	1986	1987	1988	1989
ANNUAL ENERGY INTERCHANGE		GWH	(1561)	(1437)	(1343)	(1602)	(553)	177
NUCLEAR		GWH	None	None	None	None	None	None
COAL		GWH	8242	8534	8653	9344	8269	7709
RESIDUAL	-TOTAL	GWH	None	None	None	None	None	None
	Steam	GWH	None	None	None	None	None	None
	CC	GWH	None	None	None	None	None	None
	CT	GWH	None	None	None	None	None	None
	Diesel	GWH	None	None	None	None	None	None
DISTILLATE	-TOTAL	GWH	0	0	0	0	0	0
	Steam	GWH	None	None	None	None	None	None
	CC	GWH	None	None	None	None	None	None
	CT	GWH	0	0	0	0	0	0
	Diesel	GWH	None	None	None	None	None	None
NATURAL GAS	-TOTAL	GWH	22	18	1	0	0	0
	Steam	GWH	22	18	1	0	0	0
	CC	GWH	None	None	None	None	None	None
	CT	GWH	None	None	None	None	None	None
	Diesel	GWH	None	None	None	None	None	None
OTHER		GWH	None	None	None	None	None	None
NET ENERGY FOR LOAD		GWH	6703	7115	7311	7742	7716	7886

(a) Includes contracted energy allocated to certain resale customers by Southeastern Power Administration (SEPA).

(b) Includes energy generated from the capacity sold under existing Unit Power Sales contracts.

UTILITY GULF POWER COMPANY

ENERGY SOURCES[a][b]

Energy Sources			1990	1991	1992	1993	1994	1995
ANNUAL ENERGY INTERCHANGE		GWH	16	675	1097	1826	2076	2159
NUCLEAR		GWH	None	None	None	None	None	None
COAL		GWH	8010	7502	7155	6460	6358	6418
RESIDUAL	-TOTAL	GWH	None	None	None	None	None	None
	Steam	GWH	None	None	None	None	None	None
	CC	GWH	None	None	None	None	None	None
	CT	GWH	None	None	None	None	None	None
	Diesel	GWH	None	None	None	None	None	None
DISTILLATE	-TOTAL	GWH	0	0	0	0	0	0
	Steam	GWH	None	None	None	None	None	None
	CC	GWH	None	None	None	None	None	None
	CT	GWH	0	0	0	0	0	0
	Diesel	GWH	None	None	None	None	None	None
NATUAL Gas	-TOTAL	GWH	0	1	0	0	0	0
	Steam	GWH	0	1	0	0	0	0
	CC	GWH	None	None	None	None	None	None
	CT	GWH	None	None	None	None	None	None
	Diesel	GWH	None	None	None	None	None	None
OTHER		GWH	None	None	None	None	None	None
NET ENERGY FOR LOAD		GWH	8026	8178	8252	8286	8434	8577

(a) Includes contracted energy allocated to certain resale customers by Southeastern Power Administration (SEPA).

(b) Includes energy generated from the capacity sold under existing Unit Power Sales contracts.

UTILITY GULF POWER COMPANY

FUEL REQUIREMENTS

Fuel Requirements			Actual 1984	Actual 1985	1986	1987	1988	1989
NUCLEAR		$BTUx10^{12}$	None	None	None	None	None	None
COAL		1000 TON	3637	3785	3884	4164	3701	3446
RESIDUAL	-TOTAL	1000 BBL	None	None	None	None	None	None
	Steam	1000 BBL	None	None	None	None	None	None
	CC	1000 BBL	None	None	None	None	None	None
	CT	1000 BBL	None	None	None	None	None	None
	Diesel	1000 BBL	None	None	None	None	None	None
DISTILLATE	-TOTAL	1000 BBL	27	32	34	35	35	35
	Steam	1000 BBL	26	30	34	35	35	35
	CC	1000 BBL	None	None	None	None	None	None
	CT	1000 BBL	1	2	0	0	0	0
	Diesel	1000 BBL	None	None	None	None	None	None
NATURAL	-TOTAL	1000 MCF	283	473	313	300	298	297
	Steam	1000 MCF	283	473	313	300	298	297
	CC	1000 MCF	None	None	None	None	None	None
	CT	1000 MCF	None	None	None	None	None	None
	Diesel	1000 MCF	None	None	None	None	None	None
OTHER		$BTUx10^{6}$	None	None	None	None	None	None
ANNUAL AVG. FOSSIL NET H.R.		BTU/KWH	10,639	10,609	10,700	10,677	10,735	10,718

UTILITY GULF POWER COMPANY

FUEL REQUIREMENTS

Fuel Requirements			1990	1991	1992	1993	1994	1995
NUCLEAR		BTUx10^{12}	None	None	None	None	None	None
COAL		1000 TON	3570	3358	3202	2882	2834	2862
RESIDUAL	-TOTAL	1000 BBL	None	None	None	None	None	None
	Steam	1000 BBL	None	None	None	None	None	None
	CC	1000 BBL	None	None	None	None	None	None
	CT	1000 BBL	None	None	None	None	None	None
	Diesel	1000 BBL	None	None	None	None	None	None
DISTILLATE	-TOTAL	1000 BBL	35	0	0	0	0	0
	Steam	1000 BBL	35	0	0	0	0	0
	CC	1000 BBL	None	None	None	None	None	None
	CT	1000 BBL	0	0	0	0	0	0
	Diesel	1000 BBL	None	None	None	None	None	None
NATURAL GAS	-TOTAL	1000 MCF	297	12	9	3	3	4
	Steam	1000 MCF	297	12	9	3	3	4
	CC	1000 MCF	None	None	None	None	None	None
	CT	1000 MCF	None	None	None	None	None	None
	Diesel	1000 MCF	None	None	None	None	None	None
OTHER		BTUx10^{6}	None	None	None	None	None	None
ANNUAL AVG. FOSSIL NET H.R.		BTU/KWH	10,688	10,680	10,670	10,620	10,608	10,614

UTILITY GULF POWER COMPANY

HISTORY AND FORECAST OF SEASONAL PEAK DEMAND AND ANNUAL NET ENERGY FOR LOAD

	SUMMER PEAK DEMAND - MW					ANNUAL NET ENERGY FOR LOAD			
	FIRM					GWH			LOAD FACTOR
YEAR	RETAIL	WHOLESALE	TOTAL	INTERRUPT	TOTAL	RETAIL	WHOLESALE	TOTAL	%
1976	1,032	108	1,140		1,140			5,475	54.68%
1977	1,063	117	1,180		1,180			5,823	56.34%
1978	1,138	119	1,257		1,257			6,044	54.89%
1979	1,115	117	1,232		1,232			6,030	55.87%
1980	1,259	133	1,392		1,392			6,148	50.28%
1981	1,231	78	1,309		1,309			6,004	52.36%
1982	1,166	66	1,232		1,232			5,859	54.29%
1983	1,279	76	1,355		1,355			6,284	52.94%
1984	1,315	80	1,395		1,395			6,703	54.70%
1985	1,367	87	1,454		1,454			7,115	55.86%
1986	1,468	57	1,525		1,525			7,311	54.73%
1987	1,556	59	1,615		1,615			7,742	54.73%
1988	1,583	47	1,630		1,630			7,716	53.89%
1989	1,623	48	1,671		1,671			7,886	53.87%
1990	1,654	49	1,703		1,703			8,026	53.80%
1991	1,685	50	1,735		1,735			8,178	53.81%
1992	1,701	50	1,751		1,751			8,252	53.65%
1993	1,704	51	1,755		1,755			8,286	53.90%
1994	1,735	51	1,786		1,786			8,434	53.90%
1995	1,761	52	1,813		1,813			8,577	54.00%

NOTE: Includes contracted capacity and energy allocated to certain resale customers by Southeastern Power Administration (SEPA)

HISTORY AND FORECAST OF SEASONAL PEAK DEMAND AND ANNUAL NET ENERGY FOR LOAD

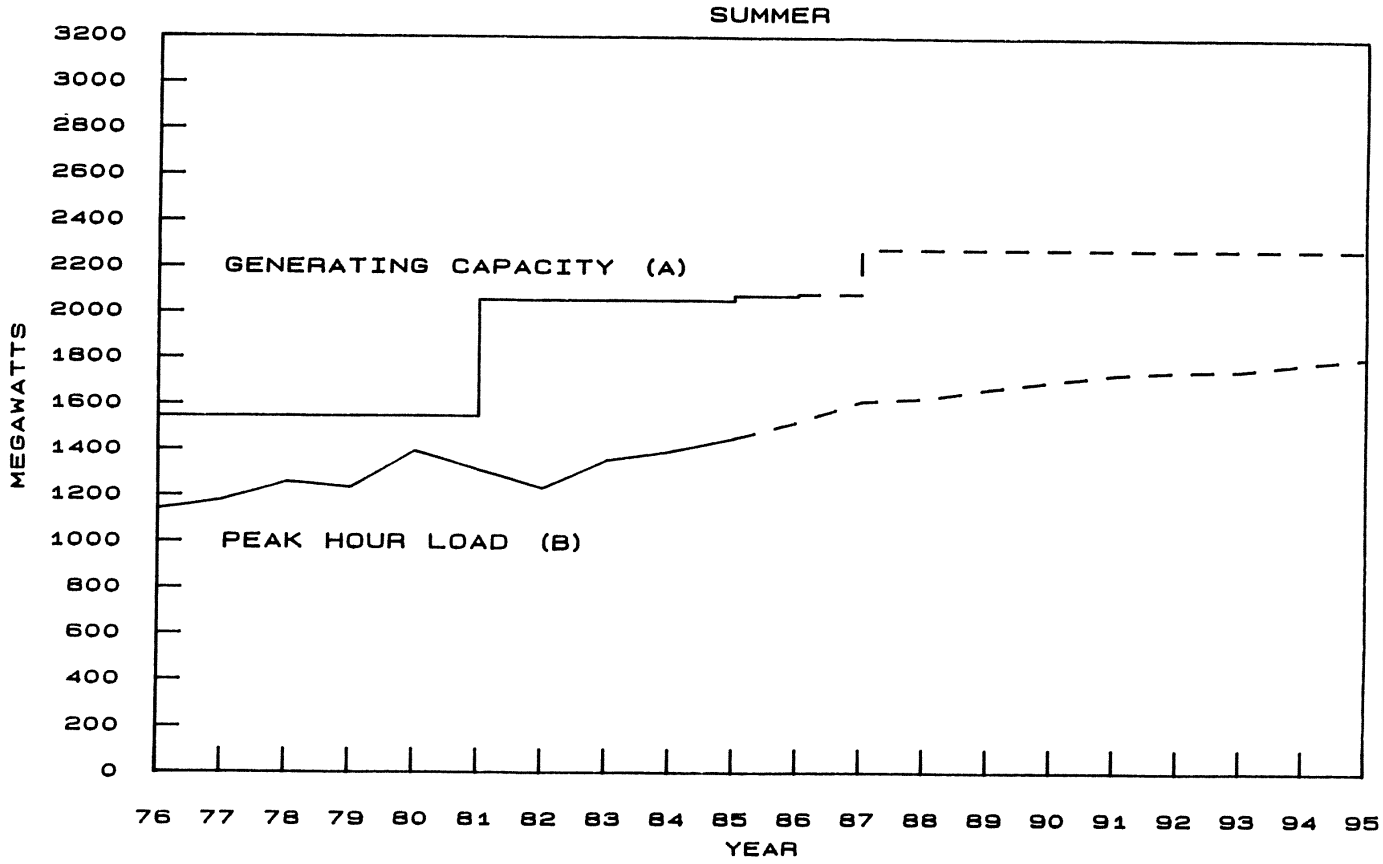
WINTER PEAK DEMAND - MW

YEAR	FIRM RETAIL	FIRM WHOLESALE	FIRM TOTAL	INTERRUPT	TOTAL
1976-77	1,027	94	1,121		1,121
1977-78	967	105	1,072		1,072
1978-79	1,040	113	1,154		1,154
1979-80	1,022	110	1,132		1,132
1980-81	1,083	106	1,189		1,189
1981-82	1,149	68	1,217		1,217
1982-83	978	59	1,037		1,037
1983-84	1,234	72	1,306		1,306
1984-85	1,450	81	1,531		1,531
1985-86	1,315	52	1,367		1,367
1986-87	1,383	51	1,434		1,434
1987-88	1,403	40	1,443		1,443
1988-89	1,430	41	1,471		1,471
1989-90	1,458	41	1,499		1,499
1990-91	1,485	42	1,527		1,527
1991-92	1,499	42	1,541		1,541
1992-93	1,502	43	1,545		1,545
1993-94	1,524	43	1,567		1,567
1994-95	1,545	44	1,589		1,589
1995-96	1,564	44	1,608		1,608

NOTE: Includes contracted capacity and energy allocated to certain resale customers by Southeastern Power Administration (SEPA)

GRAPH 2

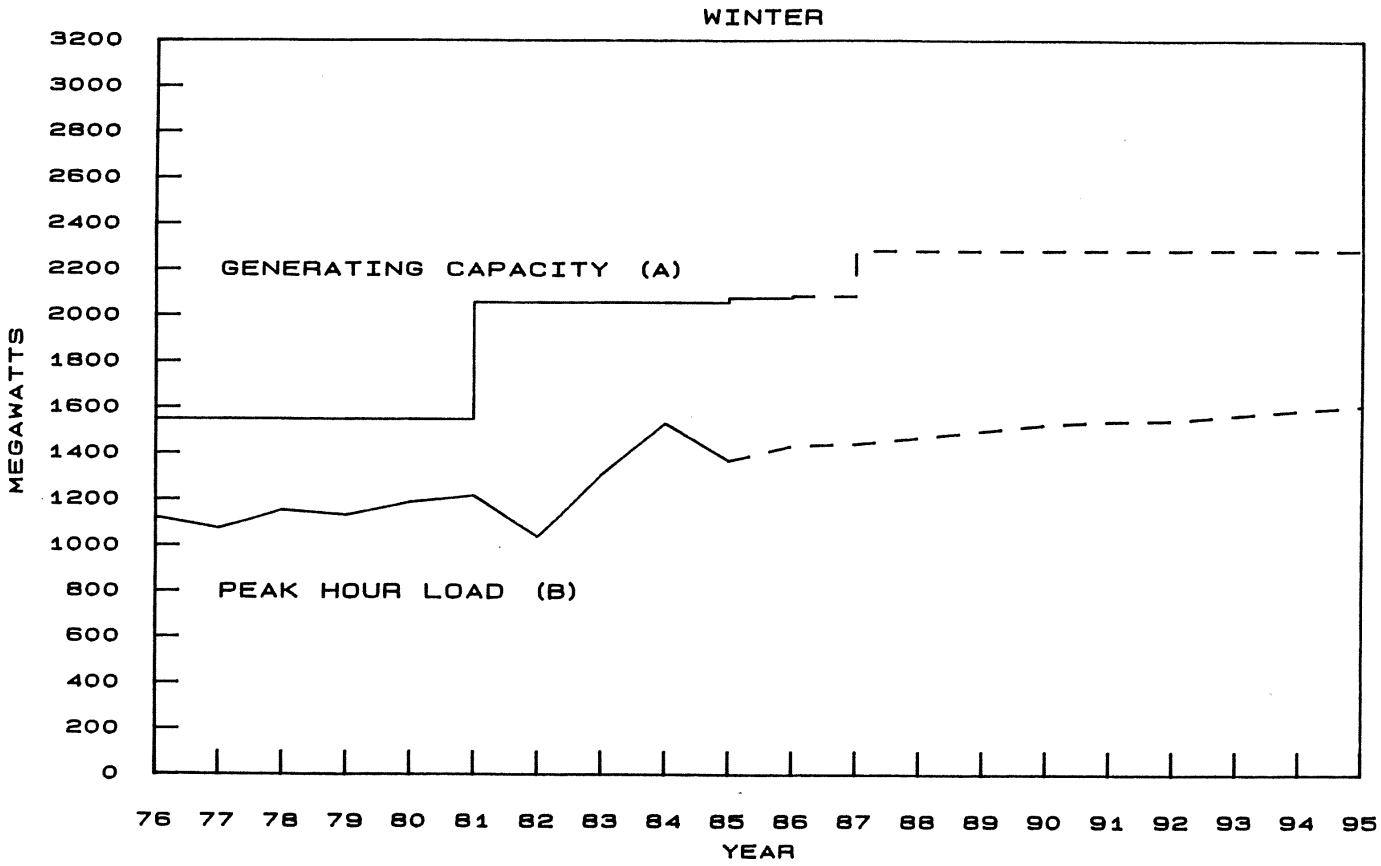
HISTORY AND FORECAST OF LOAD AND CAPACITY ADDITIONS



NOTE: (A) SHOWS INSTALLED GENERATING CAPACITY ONLY; REFER TO FORM 7A FOR NET AVAILABLE CAPACITY.
(B) INCLUDES CAPACITY ALLOCATED TO CERTAIN RESALE CUSTOMERS BY SEPA.

GRAPH 2

HISTORY AND FORECAST OF LOAD AND CAPACITY ADDITIONS



NOTE: (A) SHOWS INSTALLED GENERATING CAPACITY ONLY; REFER TO FORM 7B FOR NET AVAILABLE CAPACITY.
(B) INCLUDES CAPACITY ALLOCATED TO CERTAIN RESALE CUSTOMERS BY SEPA.

UTILITY GULF POWER COMPANY TYP FORM 5

PREVIOUS YEAR ACTUAL AND TWO-YEAR FORECAST OF PEAK DEMAND
AND NET ENERGY FOR LOAD BY MONTH

	ACTUAL		FORECAST			
	1985		1986		1987	
MONTH	PEAK DEMAND MW	NEL GWH	PEAK DEMAND MW	NEL GWH	PEAK DEMAND MW	NEL GWH
JAN	1531	627	1367	639	1434	669
FEB	1185	505	1248	498	1296	529
MAR	880	479	1072	510	1125	548
APR	1020	476	918	466	959	498
MAY	1200	589	1218	601	1278	633
JUN	1454	698	1424	732	1488	785
JUL	1412	731	1525	776	1615	825
AUG	1423	732	1486	807	1557	848
SEP	1393	627	1326	657	1411	702
OCT	1128	578	1177	544	1219	566
NOV	947	489	1025	510	1074	535
DEC	1262	584	1248	573	1297	605
TOTAL		7115		7311		7742

NOTE: Includes contracted capacity and energy allocated to certain resale customers by Southeastern Power Administration (SEPA).

FORECASTING DOCUMENTATION

GULF POWER COMPANY

LOAD FORECASTING METHODOLOGY

OVERVIEW

Gulf Power Company views the forecasting effort as a dynamic process requiring ongoing efforts to yield results which allow informed planning and decision-making. The total forecast is an integration of different techniques and methodologies, each applied to the task for which it is best suited. Many of the techniques take advantage of the extensive data made available through the Company's marketing efforts, which are predicated on the philosophy of knowing in detail the characteristics, perceptions and motivations of our customers and actively promoting wise and efficient uses of energy which meet the needs of those customers. This philosophy entails close contact with the customers and provides the opportunity to gain firsthand knowledge of even subtle changes occurring in the market.

The Forecasting and Marketing Planning section of the Marketing and Load Management Department is responsible for preparing forecasts of customers, energy sales and base rate revenues. Forecasts of monthly customers and energy sales are produced for both the short-term (0-5 years) and long-term (6-25 years). Base rate revenue projections are prepared for the short-term horizon. The Power Delivery Department, using inputs from the customer and energy forecasts, prepares the forecast of peak-hour demand. A description of the methods used in the development of these forecasts follows.

I. ENERGY SALES FORECAST

A. Residential Sales Forecast

The residential sales forecast is based on a disaggregated end-use approach. This approach has strong intuitive appeal due to the fact that energy consumption is directly associated with appliance activities. Moreover, the detail required in end-use models provides an excellent basis for imposing structural restrictions on the forecast and evaluating their feasibility.

The detail of end-use models, while offering a number of advantages, is also generally recognized as the source of major limitations to this approach. Extensive information about current and projected appliance market penetration and usage rates is required. The marketing information systems which play a vital role in the monitoring and management of Gulf's marketing programs help meet the extensive data requirements associated with end-use models. Additionally, detailed personal interview surveys are administered biannually to a random sample of residential customers, providing a portfolio of construction characteristics, appliance stocks and efficiencies, and demographics for specific segments of the residential market.

The residential end-use model produces a forecast for the following twelve (12) end use loads within each of three dwelling type classifications (single family, multi-family and mobile home):

1. Air Conditioning - Central
2. Air Conditioning - Window
3. Electric Resistance Heating
4. Electric Heat Pump Heating
5. Electric Water Heating
6. Refrigerator - Standard
7. Refrigerator - Frost Free
8. Freezer - Standard
9. Freezer - Frost Free
10. Electric Clothes Dryer
11. Electric Range/Oven
12. Miscellaneous Base Loads

The model structure is straightforward and can be represented in equation form as:

$$E_t = \sum_{d=1}^{3} \sum_{i=1}^{12} \sum_{m=1}^{12} N_{t,d,i,m} \, U_{t,d,i,m}$$

where: E_t = Energy sales to residential customer in year t.

$N_{t,d,i,m}$ = Number of end-use appliance i, dwelling type d, year t, month m.

$U_{t,d,i,m}$ = Amount of energy consumed by average unit of appliance i in dwelling type d, year t, month m.

The number of end use appliances i in dwelling type d, year t, month m is based on the forecasts of residential customers and appliance saturations. The amount of energy consumed by the average appliance i in dwelling type d, year t, month m is determined by the base year monthly unit energy consumption (UEC) estimates and other factors, including appliance efficiencies and the size and thermal integrity of the average dwelling.

The residential customer forecast is discussed in detail in a later section. The appliance saturation forecast is based primarily on the results of the Residential End Use Energy

Planning System (REEPS) appliance investment subsystem, developed by Cambridge Systematics. Although the general logic of the appliance subsystem is straightforward, its implementation is relatively complex due to the diversity of appliance purchase decisions and important structural considerations surrounding each of them. Both initial and replacement investment decisions are simulated, as well as unit failures. All of the behavioral models that are the bases for the simulations are discrete choice models, meaning they describe the selection of one alternative from a limited set of appliance options. More detail on the appliance choice models can be found in EPRI EA-2512, final report on the REEPS project (1211-2).

Major appliance base year unit energy consumption (UEC) estimates were developed using conditional energy demand regression analysis. This procedure can be employed to disaggregate total household demand for electricity into appliance specific demand functions, in the absence of metered observations on individual appliance energy usage.

Conditional energy demand models are multivariate regressions which explain residential customers' demands for electricity as functions of the energy using equipment that they own, weather conditions, demographic and dwelling characteristics, and other factors playing a major role in total household energy consumption. The mathematics underlying this method rely upon the rather simple idea that consumption through a particular end-use must be zero if the end-use is not present, and if the end-use is present, energy consumption levels might

be viewed as dependent on weather demographics, income and other variables.

The total electrical energy consumption, E, of a household can be represented as:

$$E = E_o + \sum_{i=1}^{N} E_i$$

Where E_i is the electrical energy consumed by a specified major appliance $\underline{i}$, and E_o is the electrical energy consumed by the remaining, unspecified set of appliances. The methodology of conditional energy demand analysis produces cross sectional, ordinary least squares regression estimates of the appliance coefficients. The regressions were performed using input data from the Gulf Power Company 1984 Residential Market Survey, billing cycle monthly energy data, and billing cycle monthly weather data.

The long-term residential sales forecast is based on the results produced by the REEPS model. This is consistent with the short-term forecast in that REEPS exhibits the structural detail of the end-use approach, while maintaining firm behavioral foundations in the theory of consumer choice and observed data on household decisions.

B. Commercial Sales Forecast

COMMEND, a commercial end-use model developed through EPRI research project 1216-06, serves as the basis for the major portion of Gulf's commercial energy sales forecast.

The COMMEND model is an extension of the capital-stock approach used in most econometric studies. This approach views the demand for energy as a product of three factors. The first of these factors is the physical stock of energy-using capital, the second factor is base year energy use, and the third is a utilization factor representing utilization of equipment relative to the base year.

Changes in equipment utilization are modeled using short-run econometric fuel price elasticities. Fuel choice is forecast with a life-cycle cost/behavioral microsimulation submodel, and changes in equipment efficiency are determined using engineering and cost information for space heating, cooling and ventilation equipment and econometric elasticity estimates for the other end-uses (lighting, water heating, ventilation, cooking, refrigeration, and others).

Gulf's most recent Commercial Market Survey, conducted in 1984, provided much of the input data required for the COMMEND model. The model produces forecasts of energy use for the end-uses mentioned above, within each of the following business categories:

1. Food Stores
2. Offices
3. Retail and Personal Services
4. Public Utilities
5. Automotive Services
6. Restaurants
7. Elementary/Secondary Schools
8. Colleges/Trade Schools
9. Hospitals/Health Services
10. Hotels/Motels
11. Religious Organizations
12. Miscellaneous

Monthly energy sales are based on historical ratios of monthly to annual sales. One of the primary advantages of this disaggregated end-use approach is that the engineering relationships used to determine future heating and cooling efficiency provide a more sound basis for forecasting long-run changes in weather-sensitive energy use requirements than econometric analysis alone can generally supply. In addition, the engineering data and end-use detail inherent in the model provide a framework for evaluating building performance standards, conservation programs, load management strategies or emerging technologies which impact individual end uses-and subsectors.

The energy sales forecast is based on a monthly billed energy per customer model. Weather variables (heating and cooling degree hours), and monthly variables which are used to incorporate seasonal patterns provide the data base for the multiple regression analysis. The resulting regression equation is used to forecast monthly billed energy per customer using expected weather conditions and the monthly variables.

C. Industrial Sales Forecast

The short-term industrial energy sales forecast is developed using a combination of on-site surveys of major industrial customers, trending techniques, and multiple regression analysis. Thirty-seven of Gulf's largest industrial customers are interviewed to identify load changes due to equipment addition, replacement or changes in operating character-

istics. The short-term forecast of monthly sales to these major industrial customers is a synthesis of the detailed survey information and historical monthly load factor trends. The forecast of short-term sales to the remaining smaller industrial customers is developed using multiple regression analysis.

The long-term forecast of industrial energy sales is based on econometric models of the chemical, pulp and paper, other manufacturing, and non-manufacturing, chemical and paper sectors. The industrial forecast is further refined by accounting for expected cogeneration installations, a supplemental energy rate rider and a proposed interruptible rate.

D. Street Lighting Sales Forecast

The forecast of monthly energy sales to street lighting customers is based on projections of the number of fixtures in service, for each of the following fixture types:

HIGH PRESSURE SODIUM VAPOR	MERCURY VAPOR
5,400 Lumen	3,200 Lumen
8,800 Lumen	7,000 Lumen
20,000 Lumen	9,400 Lumen
25,000 Lumen	17,000 Lumen
46,000 Lumen	48,000 Lumen

In the short-term, the estimated monthly kilowatt-hour consumption for each fixture type is multiplied by the projected

number of fixtures in service to produce total monthly sales for a given type of fixture. This methodology allows Gulf to explicitly evaluate the impacts of lighting programs, such as mercury to high pressure sodium conversions. In the long-term, kilowatt-hour consumption grows at the same rate as projected fixture growth.

E. Wholesale Forecast

The short-term forecast of energy sales to wholesale customers is based on interviews with these customers, as well as recent historical data. A forecast of total monthly energy requirements at each wholesale delivery point is produced. Energy requirements purchased from the Southeastern Power Administration (based on current contracts) by our wholesale customers are then removed from the total requirements to arrive at sales for resale.

The long-term forecast is based on estimates of annual growth rates for each delivery point, according to future growth potential.

II. CUSTOMER FORECAST

A. Residential Customer Forecast

The immediate short-term forecast (0-2 years) of customers is based primarily on preliminary forecasts prepared by division personnel. The divisions are very familiar with economic conditions specific to their service territories through direct contact with developers, builders, lending institutions and other key contacts. The immediate short-term forecasts prepared by the divisions, which are developed through various forecasting methods, are analyzed for consistency and the incorporation of major construction projects and business developments is reviewed. The end result is a near-term forecast of residential customers by type of dwelling.

For the remaining forecast horizon (3-25 years), the residential customers are modeled as a function of adult population and real per capita disposable income. Population projections are based on an age cohort survival technique in which the baseline population is aged over time, with net population changes occurring through the application of appropriate birth rates, survival rates and net migration estimates. Existing population levels are based on data published by the Bureau of Economic and Business Research (BEBR) at the University of Florida (Bulletin No. 68), and the Census Bureau. Net migration projections are produced using BEBR State of Florida net migration estimates as a basis, applying county-specific assumptions on share of state net migration to each of

the eight counties in Gulf's retail service area. These county net migration assumptions are based on an analysis of 1970 through 1983 data, and reflect a slowdown beginning in 1989 due to expected zoning and restrictions on land development at the local government level. The residential customer model provides quarterly estimates, which are translated to a monthly basis using historical ratios. Long-term housing stock breakdowns are based on Data Resources, Inc. (DRI) long-term forecast of housing starts by type of dwelling.

B. Commercial Customer Forecast

The immediate short-term forecast (0-2 years) of commercial customers, as in the residential sector, is prepared by the divisions. A review of the assumptions, techniques and results for each division is undertaken, with special attention given to the incorporation of new major commercial establishments.

Beyond the immediate short-term period, commercial customers are forecast as a function of residential customers, reflecting the growth of commercial services to meet the needs of new residents. Implicit in the commercial customer forecast is the relationship between growth in total real disposable income and growth in the commercial sector. The seasonal pattern observed due to the "tourist-oriented" nature of many commercial businesses is captured through the use of a binary shift variable in the regression equation.

III. SUMMER PEAK DEMAND FORECAST

A. Econometric Model Overview

Beginning in 1976, Southern Company Services developed an econometric model for Gulf and has produced forecasts each year of customers, energy and peak demand. This econometric model is reevaluated annually, updated, and enhanced to improve its performance and to incorporate new trends and explanatory factors. The demand portion of the econometric model was employed to develop the company's official 1986 peak-hour demand forecast using the customer levels and disaggregated energy sales projections from Gulf's approved 1986 energy and customer forecasts.

A major enhancement for the 1986 forecast is the separation of the residential/commercial model into separate equations.

The residential term is dependent on appliance saturation levels, number of customers, and the price of electricity. The effects of conservation are included in the price variable, the appliance saturation equation, and the conservation factors which incorporate the effect of changing customer characteristics such as house size and occupants per household. The commercial equation of the summer demand model relies on third quarter (July-September) commercial energy, with an exogenous factor to account for the impact of thermal storage technologies.

The wholesale term of the model is separated between the Rural Electric Cooperatives (REC) and the Florida Public Utilities Company (FPU) in order to obtain a better correlation

with historical demands for these customers. This separation also allows the wholesale term to be more readily adjusted to reflect known REC terminations. The REC and FPU demands are derived from third quarter REC and FPU energy.

The industrial term depends on third quarter industrial billed energy sales and incorporates projections of cogeneration, small power production, interruptible and supplemental energy sales and coincident demands.

The customer levels and class energy projections from Gulf's disaggregated end-use models were utilized as the respective inputs for the demand portion of the econometric model.

The projections of the variables used in the model to calculate the class demands and the total demand were adjusted to account for known or expected variations from historical patterns.

The following paragraphs detail the format of each class equation in the summer peak-hour demand econometric model.

B. Residential Demand

RES-MW = f(RD, RC, PT)
Where RD = Residential Demand per Customer (MW's)
RC = Number of Residential Customers - 3rd Quarter Average
PT = Price Term

The residential demand per customer is derived by multiplying the projected residential appliance saturation levels for each of twelve appliance categories by the expected demand contribution for the appliance and then by summming these together. The demand contributions for air conditioning, spaceheating, and water heating are adjusted by conservation factors which account for changes in house size, thermal efficiency, and the number of occupants per household. These changing customer characteristics are expected to decrease the average demand per appliance an additional amount over the reductions expected due to price reaction.

The number of residential customers is taken from Gulf's approved 1986 customer forecast. The price term is comprised of the basic price variable which consists of the average price of residential energy. The natural log of the basic variable is then lagged four years in a polynomial distribution.

C. Commercial Demand

COM-MW = f(CE)
Where CE = Commercial Energy Sales - 3rd Quarter

The commercial class demand is calculated from the forecasted 3rd quarter commercial billed energy sales, with adjustments for

the projected impact of thermal storage cooling devices in the future.

D. Industrial Demand

IND-MW = f(IE)
Where IE = Industrial Energy Sales - 3rd Quarter

The industrial demand is calculated directly from the third quarter (summer) industrial billed energy sales from Gulf's approved 1986 energy budget, with adjustments for projected cogeneration and interruptible loads.

E. Wholesale Demand

WHSL-MW = REC-MW + FPU-MW (REC Demand Plus FPU Demand)
REC-MW = f(RE)
Where RE = Rural Electric Co-op and Municipal Energy (with SEPA) - 3rd Quarter
FPU-MW = f(FE)
Where FE = FPU Energy Sales - 3rd Quarter

The REC and FPU demands are calculated directly from the REC and FPU third quarter (summer) billed energy sales from Gulf's approved 1986 energy budget. The wholesale demand is the sum of the REC and FPU demands.

F. Total Territorial Demand

Total-MW (W/O Losses) = RES-MW + COM-MW + IND-MW + WHSL-MW + EV-MW - PV-MW
Where EV-MW = Megawatt Contribution for Electric Vehicles
PV-MW = Megawatts Produced by Photovoltaics
Total-MW (W/Losses) =
[Total-MW (W/O Losses) - SEPA] x LF + SEPA
Where LF = Annual Loss Factor

Electric vehicles are expected to have a small, positive effect on demand toward the end of the forecast period, while photovoltaics are projected to reduce the peak demand slightly in the last decade of the forecast.

IV. WINTER PEAK DEMAND FORECAST

The 1986 winter demand forecast was derived using a regression model which was developed for Gulf by Southern Company Services. The winter demand model is not segregated by customer class, but does incorporate projections from each customer class. The projected energy sales, customers, and appliance saturations are from Gulf's approved 1986 customer and energy forecasts.

The basic form of the winter demand model is:

Winter Peak Demand MW = f(RC, RD, CE, WE, IE)

Where RC = Residential Customers - 1st Quarter Average

RD = Residential Demand per Customer (MW's)

CE = Commercial Energy Sales - 1st Quarter (MWH's)

WE = Wholesale Energy Sales - 1st Quarter (MWH's)

IE = Industrial Energy Sales - 1st Quarter (MWH's)

The residential demand per customer is derived using the same methodology as in the summer model.

V. MONTHLY PEAK-HOUR DEMAND METHODOLOGY

The monthly peak-hour demands are derived from monthly load factor projections which are applied directly to the monthly total territorial energy supply from the approved 1986 energy forecast.

The load factor projections are based on trend analysis of each month's ten-year historical load factors and their relationship to the summer and winter peak-hour demand load factors.

The forecasted summer peak-hour demand is used for the July monthly peak, and the winter forecasted peak-hour demand is utilized for the January peak forecast, since the actual seasonal peaks of recent years have occurred most frequently in these months.

CHAPTER IV

SITE DESCRIPTION
AND
IMPACT ANALYSIS

UTILITY GULF POWER COMPANY

TYP FORM 6

PLANNED AND PROSPECTIVE GENERATING FACILITY ADDITIONS AND CHANGES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				Fuel		Const	Com'l In-	Gen Max	Net Capability		Fuel Transp		
Plant Name	Unit No.	Location	Type	Pri	Alt	Start Mo/Yr	Service Mo/Yr	Nameplate KW	Summer MW	Winter MW	Pri	Alt	Status
Robert W. Scherer (25%)	3	Monroe Co., Ga.	FS	C	--	8/82	2/87	222,750	202.0	202.0	RR	--	U
Crist	1r	Pensacola, Fl					(1995)		(21.9)	(21.9)			
	2r	Pensacola, Fl					(1995)		(21.0)	(21.0)			
	3r	Pensacola, Fl					(1995)		(37.8)	(37.8)			
ScholzScholz	1-2r	Sneads, Fl					(1995)		(93.2)	(93.2)			
Smith	Ar	Panama City, Fl					(1995)		(31.3)	(34.8)			
							TOTAL		(3.2)	(6.7)			

UTILITY GULF POWER COMPANY

TYP FORM 7A

FORECAST OF CAPACITY, DEMAND, AND SCHEDULED MAINTENANCE
AT TIME OF SUMMER PEAK (A)

YEAR	TOTAL INSTALLED CAPACITY MW	FIRM CAPACITY IMPORT MW (B)	TOTAL AVAILABLE CAPACITY MW	FIRM PEAK DEMAND MW	MARGIN BEFORE MAINTENANCE MW	MARGIN BEFORE MAINTENANCE PER CENT OF PEAK	SCHEDULED MAINTENANCE MW	MARGIN AFTER MAINTENANCE MW	MARGIN AFTER MAINTENANCE PER CENT OF PEAK
1986	2083	-401	1682	1525	157	10.3%		157	10.3%
1987	2282	-560	1722	1615	107	6.6%		107	6.6%
1988	2282	-624	1658	1630	28	1.7%		28	1.7%
1989	2282	-160	2122	1671	451	27.0%	NONE	451	27.0%
1990	2282	-160	2122	1703	419	24.6%		419	24.6%
1991	2282	-176	2106	1735	371	21.4%		371	21.4%
1992	2282	-183	2099	1751	348	19.9%		348	19.9%
1993	2282	-127	2155	1755	400	22.8%		400	22.8%
1994	2282	-59	2223	1786	437	24.5%		437	24.5%
1995	2282	8	2290	1813	477	26.3%		477	26.3%

NOTE: (A) CAPACITY ALLOCATIONS AND CHANGES MUST BE MADE BY JUNE 30 TO BE CONSIDERED IN EFFECT AT THE TIME OF THE SUMMER PEAK. ALL VALUES ARE SUMMER NET MW.

(B) INCLUDES ALL CAPACITY SOLD IN EXISTING UNIT POWER SALES CONTRACTS AND CONTRACTED CAPACITY ALLOCATED TO CERTAIN RESALE CUSTOMERS BY THE SOUTHEASTERN POWER ADMINISTRATION (SEPA).

UTILITY GULF POWER COMPANY

TYP FORM 7B

FORECAST OF CAPACITY, DEMAND, AND SCHEDULED MAINTENANCE
AT TIME OF WINTER PEAK (A)

YEAR	TOTAL INSTALLED CAPACITY MW	FIRM CAPACITY IMPORT MW (B)	TOTAL AVAILABLE CAPACITY MW	FIRM PEAK DEMAND MW	MARGIN BEFORE MAINTENANCE MW	MARGIN BEFORE MAINTENANCE PER CENT OF PEAK	SCHEDULED MAINTENANCE MW	MARGIN AFTER MAINTENANCE MW	MARGIN AFTER MAINTENANCE PER CENT OF PEAK
1986-87	2086	-605	1481	1434	47	3.3%		47	3.3%
1987-88	2285	-578	1707	1443	264	18.3%		264	18.3%
1988-89	2285	-624	1661	1471	190	12.9%	NOT	190	12.9%
1989-90	2285	-160	2125	1499	626	41.8%	AVAILABLE	626	41.8%
1990-91	2285	-160	2125	1527	598	39.2%		598	39.2%
1991-92	2285	-176	2109	1541	568	36.9%		568	36.9%
1992-93	2285	-159	2126	1545	581	37.6%		581	37.6%
1993-94	2285	-127	2158	1567	591	37.7%		591	37.7%
1994-95	2285	-59	2226	1589	637	40.1%		637	40.1%
1995-96	2285	8	2293	1608	685	42.6%			

NOTE: (A) CAPACITY ALLOCATIONS AND CHANGES MUST BE MADE BY NOVEMBER 30 TO BE CONSIDERED IN EFFECT AT THE TIME OF WINTER PEAK. ALL VALUES ARE WINTER NET MW.

(B) INCLUDES ALL CAPACITY SOLD IN EXISTING UNIT POWER SALES CONTRACTS, AND CONTRACTED CAPACITY ALLOCATED TO CERTAIN RESALE CUSTOMERS BY THE SOUTHEASTERN POWER ADMINISTRATION (SEPA).

AVAILABILITY OF PURCHASED POWER

Gulf Power Company coordinates its planning and operation with the other operating companies of the Southern electric system: Alabama Power Company, Georgia Power Company, and Mississippi Power Company. In any year an individual operating company may have a temporary surplus or deficit in generating capacity, depending on the relationship of its planned generating capacity to its load and reserve responsibility. Each company buys or sells its temporary deficit or surplus capacity from or to the pool. This is done through the mechanism of an Intercompany Interchange Contract among the companies, which is reviewed and updated annually.

OFF SYSTEM SALES

Unit Power Sales

Gulf Power Company, along with the other Southern operating companies, have negotiated the sales of unit capacity and energy to several utilities outside the Southern system. The term of the contracts started prior to 1986 and extends into 1995. Gulf's share of the capacity and energy sales varies from year to year and is reflected in the reserves on Forms 7A and 7B and the energy and fuel use on Forms 3A and 3B.

Long Term Sales

Contracts have also been finalized for the sale of non-firm capacity and energy through 1991. Reserves shown in this filing have not been reduced for this capacity; however, the energy sales have been reflected on Forms 3A and 3B.

CHAPTER IV

SITE DESCRIPTION

AND

IMPACT ANALYSIS

UTILITY GULF POWER COMPANY

TYP FORM 8A

STATUS REPORT
SPECIFICATIONS OF PROPOSED GENERATING FACILITIES

(1)	Plant Name & Unit	Robert W. Scherer Electric Generating Center
(2)	Status	This facility is not located in the State of Florida
(3)	Anticipated Construction Timing	
(4)	Capacity	Summer 202 MW(1) Winter 202 MW
(5)	Type	Fossil Steam
(6)	Primary and Alternate Fuel	Primary - Coal Alternate - None
(7)	Air Pollution Control Strategy	
(8)	Cooling Method	
(9)	Total Site Area	
(10)	Anticipated Capital Investment	
(11)	Certification Status	
(12)	Status With Federal Agencies	

(1) Gulf to acquire 202 MW of Unit 3 in February, 1987.

UTILITY GULF POWER COMPANY

TYP FORM 8B

STATUS REPORT AND SPECIFICATIONS OF PROPOSED
DIRECTLY-ASSOCIATED TRANSMISSION LINES

(1) Point of Origin and Termination

No new directly-associated transmission lines in Florida are required.

(2) Number of Lines

(3) Right-Of-Way

(4) Line Length

(5) Voltage

(6) Anticipated Construction Timing

(7) Anticipated Capital Investment

(8) Substations

(9) Participation