Gulf Power

TEN YEAR SITE PLAN

1987-1996

FOR ELECTRIC GENERATING FACILITIES

AND

ASSOCIATED TRANSMISSION LINES

APRIL, 1987

GULF POWER COMPANY

TEN YEAR SITE PLAN

FOR ELECTRIC 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, 1987

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CHAPTER I

DESCRIPTION OF EXISTING FACILITIES

UTILITY: GULF POWER COMPANY
EXISTING GENERATING FACILITIES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
				Fuel					Net Capability		Fuel Transp	
Plant Name	Unit No.	Location	Type	Pri	Alt	Com'l In-Service Mo/Yr	Exptd Retrmnt Mo/Yr	Gen Max Nameplate KW	Summer MW	Winter MW	Pri	Alt
								1,229,000	1097.1	1097.1		
Crist	1	Pensacola	FS	NG	HO	1/45	1995	28,125	21.9	21.9	PL	TK
	2	25/1N/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	87.5	87.5	WA	PL
	5		FS	C	NG	6/61	1996	93,750	89.0	89.0	WA	PL
	6		FS	C	NG	5/70	2005	369,750	332.0	332.0	WA	PL
	7		FS	C	--	8/73	2008	578,000	507.9	507.9	WA	--
								381,850	387.0	390.5		
Lansing Smith	1	Panama City	FS	C	--	6/65	2002	149,600	165.1	165.1	WA	--
	2	36/2S/15W	FS	C	--	6/67	2004	190,400	190.6	190.6	WA	--
	A		CT	LO	--	5/71	1995	41,850	31.3	34.8	TK	--
								98,000	93.1	93.1		
Scholz	1	Sneads	FS	C	--	3/53	1995	49,000	46.0	46.0	RR	WA
	2	12/3N/7W	FS	C	--	10/53	1995	49,000	47.1	47.1	RR	WA
								548,250	511.5	511.5		
Daniel	1	Jackson County, MS	FS	C	HO	4/77	2012	274,125	255.1	255.1	RR	TK
	2	42/5S/6W	FS	C	HO	6/81	2016	274,125	256.4	256.4	RR	TK
						Total System as of December 31, 1986			2088.7	2092.2		

Abbreviations:

Fuel

FS - Fossil Steam
CT - Combustion Turbine
NG - Natural Gas
C - Coal
LO - Light Oil
HO - Heavy Oil

Fuel Transportation

PL - Pipeline
WA - Water
TK - Truck
RR - Railroad

Utility: Gulf Power Company

TYP FORM 1B

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			5,814	108,876	489,500	604,190
Crist	680	350	1,782	51,807	238,738	292,327
Lansing Smith	865	400	221	15,143	63,205	78,569
Scholz	293 (C)	168 (C)	45 (D)	5,188 (D)	21,045 (D)	26,278 (D)
Daniel	2,657	500	3,766	36,728	166,319	206,813
Caryville (Weather Station)				10	193	203
Combustion Turbine Total				597	3,533	4,150
Lansing Smith CT				597	3,533	4,150

(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.

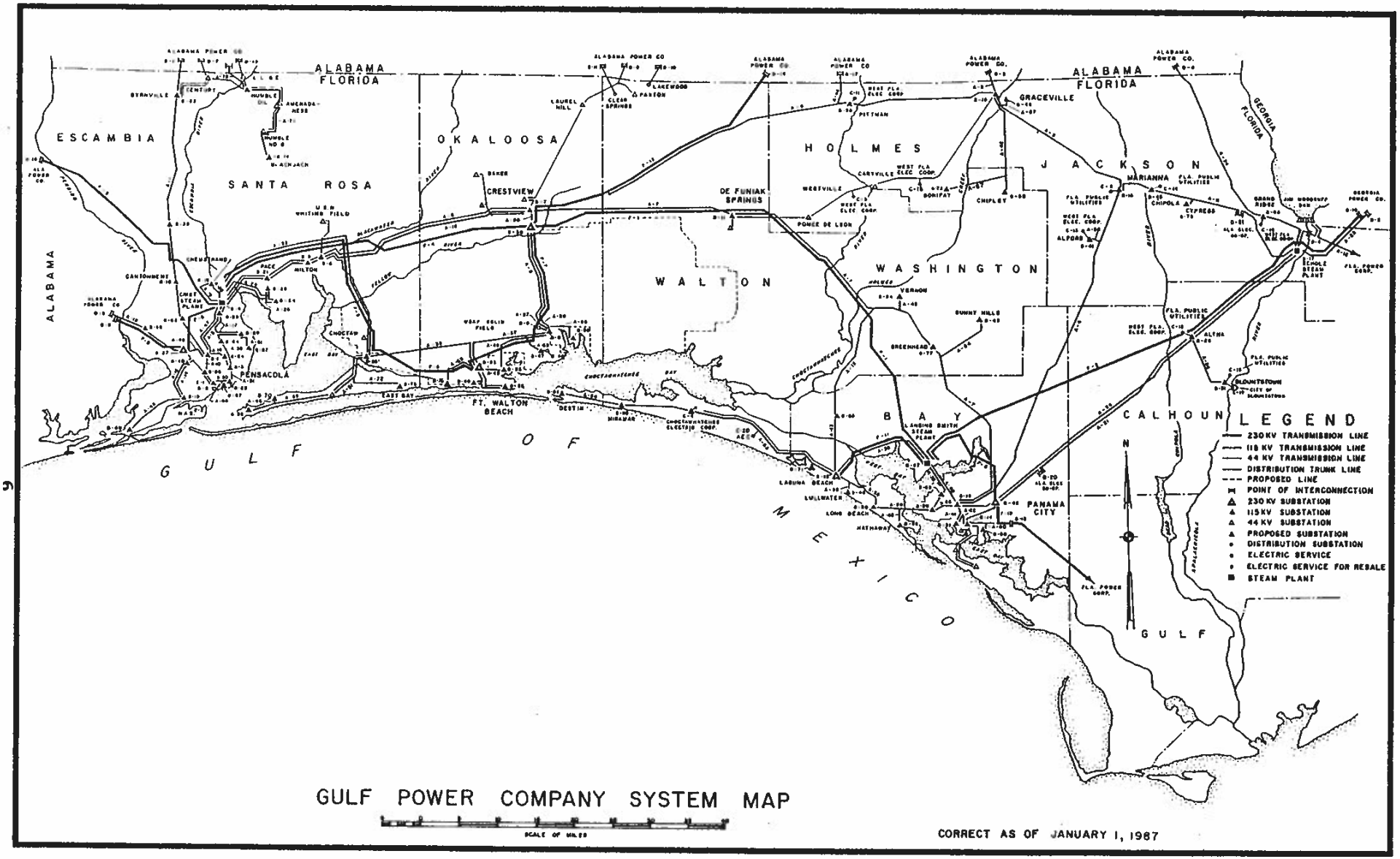
Utility: Gulf Power Company

Existing Generating Facilities
Environmental Considerations for Steam Generating Units

(1)	(2)	(3)	(4)	(5)	(6)
		Flue Gas Cleaning			
Plant Name	Unit	Particulate	SOx	NOx	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

Abbreviations:

EP - Electrostatic Precipitator
WCTM - Wet cooling tower, mechanical draft
OTS - Once-through, saline
OTF - Once-through, fresh
CP - Cooling pond



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
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	561,483	2.41	2,964	232,816	12,729	1,913	30,575	62,572
1987	573,554	2.37	2,971	242,493	12,251	1,862	32,195	57,832
1988	585,264	2.32	3,084	252,254	12,225	1,914	33,702	56,791
1989	596,587	2.30	3,154	259,476	12,156	1,959	34,858	56,188
1990	607,743	2.28	3,222	266,666	12,084	2,001	36,009	55,571
1991	618,717	2.26	3,311	273,744	12,097	2,033	37,143	54,735
1992	628,822	2.24	3,376	280,258	12,045	2,027	38,191	53,074
1993	638,495	2.23	3,439	286,483	12,006	2,056	39,193	52,447
1994	647,741	2.21	3,515	292,492	12,017	2,082	40,160	51,852
1995	656,577	2.20	3,583	298,227	12,014	2,110	41,082	51,349
1996	665,027	2.19	3,634	303,687	11,965	2,136	41,961	50,907

* HISTORICAL AND PROJECTED FIGURES INCLUDE PORTIONS OF ESCAMBIA, SANTA ROSA, OKALOOSA, WALTON, BAY, WASHINGTON, HOLMES, AND JACKSON COUNTIES SERVED BY GULF POWER COMPANY.

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

(10)	(11)	(12)	(13)	(14)	(15)	(16)
	INDUSTRIAL					
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
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	1,745	194	8,995,227	14	0	6,636
1987	1,812	209	8,668,316	14	0	6,658
1988	1,666	217	7,678,977	14	0	6,678
1989	1,705	223	7,644,121	14	0	6,832
1990	1,716	226	7,592,633	14	0	6,954
1991	1,736	229	7,580,869	15	0	7,095
1992	1,807	233	7,756,399	15	0	7,225
1993	1,851	236	7,844,237	15	0	7,361
1994	1,891	239	7,910,799	15	0	7,503
1995	1,929	242	7,971,446	15	0	7,637
1996	1,966	245	8,022,849	16	0	7,751

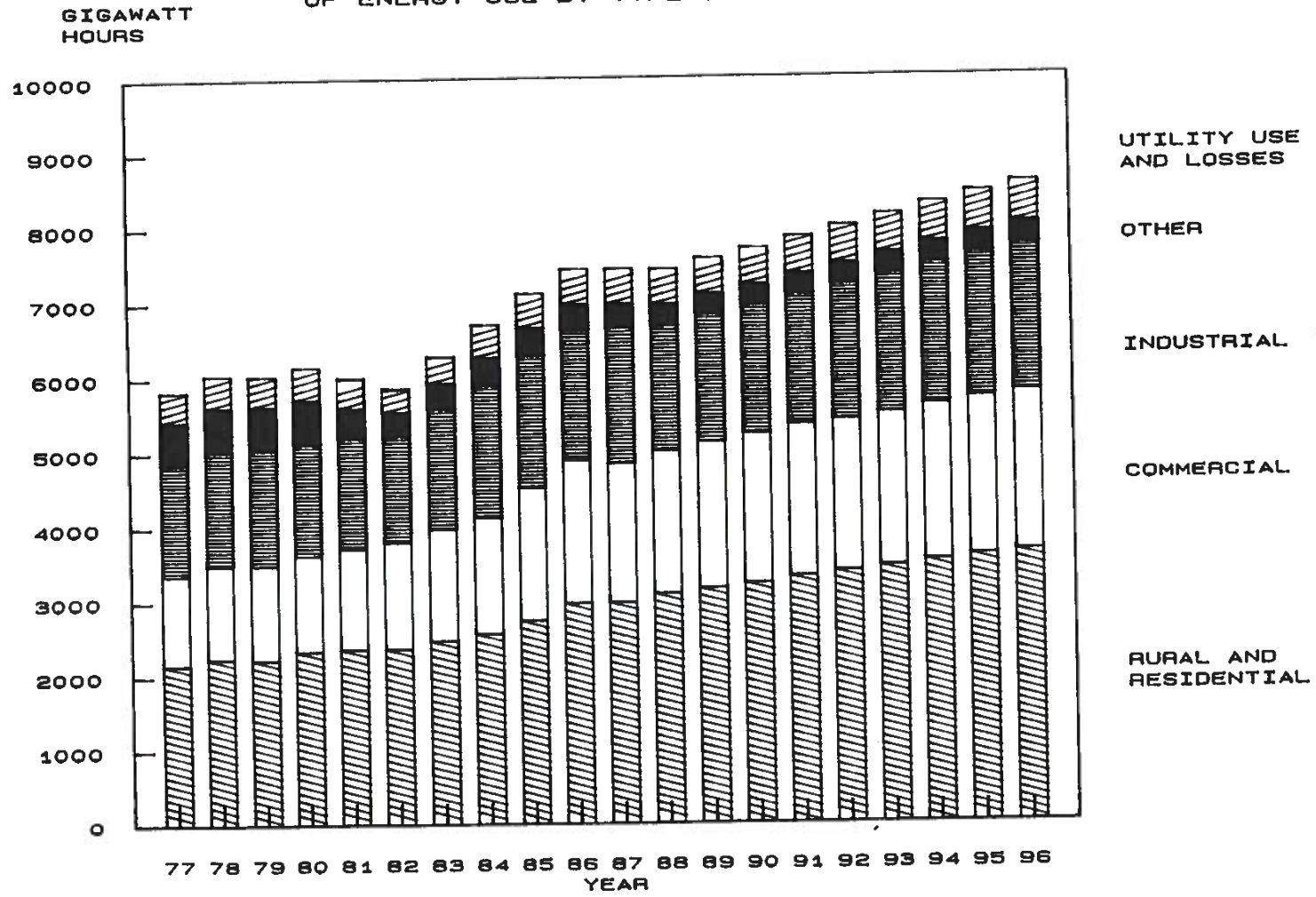
HISTORY AND FORECAST OF ENERGY CONSUMPTION AND NUMBER OF CUSTOMERS BY CUSTOMER CLASS

(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
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	324	475	7,435	61	263,646
1987	304	475	7,437	62	274,959
1988	277	474	7,429	60	286,233
1989	257	483	7,572	58	294,615
1990	259	492	7,704	58	302,959
1991	261	501	7,857	58	311,174
1992	262	510	7,997	58	318,740
1993	263	520	8,144	58	325,970
1994	264	530	8,297	58	332,949
1995	265	539	8,441	58	339,609
1996	266	547	8,564	58	345,951

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
(a)(b)
Energy Sources

Energy Sources			Actual 1985	Actual 1986	1987	1988	1989	1990
Annual Energy Interchange		GWH	(1,437)	(1,022)	(1,790)	(1,839)	(935)	(1,401)
Nuclear		GWH	None	None	None	None	None	None
Coal		GWH	8,534	8,411	9,227	9,268	8,507	9,105
Residual	-Total	GWH	None	2	None	None	None	None
	Steam	GWH	None	2	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	18	44	0	0	0	0
	Steam	GWH	18	44	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	7,115	7,435	7,437	7,429	7,572	7,704

(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 (a)(b)

Energy Sources

Energy Sources		1991	1992	1993	1994	1995	1996
Annual Energy Interchange	GWH	(842)	(1,746)	(663)	477	1,307	2,399
Nuclear	GWH	None	None	None	None	None	None
Coal	GWH	8,699	9,743	8,807	7,820	7,134	6,165
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	0	0	0	0	0	0
Steam	GWH	0	0	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	7,857	7,997	8,144	8,297	8,441	8,564

(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 1985	Actual 1986	1987	1988	1989	1990
		12						
Nuclear		BTUx10	None	None	None	None	None	None
Coal		1000 TON	3,785	3,704	3,937	4,012	3,588	3,872
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	32	26	40	40	40	40
	Steam	1000 BBL	30	26	40	40	40	40
	CC	1000 BBL	None	None	None	None	None	None
	CT	1000 BBL	2	0	0	0	0	0
	Diesel	1000 BBL	None	None	None	None	None	None
Natural Gas	-Total	1000 MCF	473	924	306	305	300	300
	Steam	1000 MCF	473	924	306	305	300	300
	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
		6						
Other		BTUx10	None	None	None	None	None	None
Annual Avg. Fossil Net H.R.		BTU/KWH	10,609	10,639	10,243	10,370	10,127	10,222

Utility: Gulf Power Company

Fuel Requirements

Fuel Requirements			1991	1992	1993	1994	1995	1996
Nuclear		12 BTUx10	None	None	None	None	None	None
Coal		1000 TON	3,847	4,266	3,870	3,450	3,138	2,613
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	40	0	0	0	0	0
	Steam	1000 BBL	40	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	300	0	0	0	0	0
	Steam	1000 MCF	300	0	0	0	0	0
	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		6 BTUx10	None	None	None	None	None	None
Annual Avg. Fossil Net H.R.		BTU/KWH	10,617	10,419	10,477	10,544	10,537	10,267

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			ANNUAL LOAD FACTOR
YEAR	RETAIL	WHOLESALE	TOTAL	INTERRUPT	TOTAL	RETAIL	WHOLESALE	TOTAL	%
1977	1,063	117	1,180	0	1,180	5,272	552	5,823	56.3%
1978	1,138	119	1,257	0	1,257	5,475	569	6,044	54.9%
1979	1,115	117	1,232	0	1,232	5,472	558	6,030	55.9%
1980	1,259	133	1,392	0	1,392	5,574	575	6,148	50.3%
1981	1,231	78	1,309	0	1,309	5,605	400	6,004	52.4%
1982	1,166	66	1,232	0	1,232	5,547	313	5,859	54.3%
1983	1,279	76	1,355	0	1,355	5,948	336	6,284	52.9%
1984	1,315	80	1,395	0	1,395	6,338	364	6,703	54.7%
1985	1,367	87	1,454	0	1,454	6,757	359	7,115	55.9%
1986	1,605	79	1,684	0	1,684	7,110	324	7,435	50.4%
1987	1,552	70	1,622	0	1,622	7,133	304	7,437	52.3%
1988	1,566	64	1,630	9	1,639	7,152	277	7,429	51.9%
1989	1,599	59	1,658	9	1,667	7,315	257	7,572	52.1%
1990	1,624	60	1,684	9	1,693	7,445	259	7,704	52.2%
1991	1,657	60	1,717	9	1,726	7,596	261	7,857	52.2%
1992	1,676	60	1,736	14	1,750	7,735	262	7,997	52.4%
1993	1,705	60	1,765	14	1,779	7,881	263	8,144	52.7%
1994	1,733	61	1,794	14	1,808	8,033	264	8,297	52.8%
1995	1,762	61	1,823	14	1,837	8,176	265	8,441	52.9%
1996	1,785	61	1,846	14	1,860	8,298	266	8,564	52.8%

NOTE: Wholesale and total columns include 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

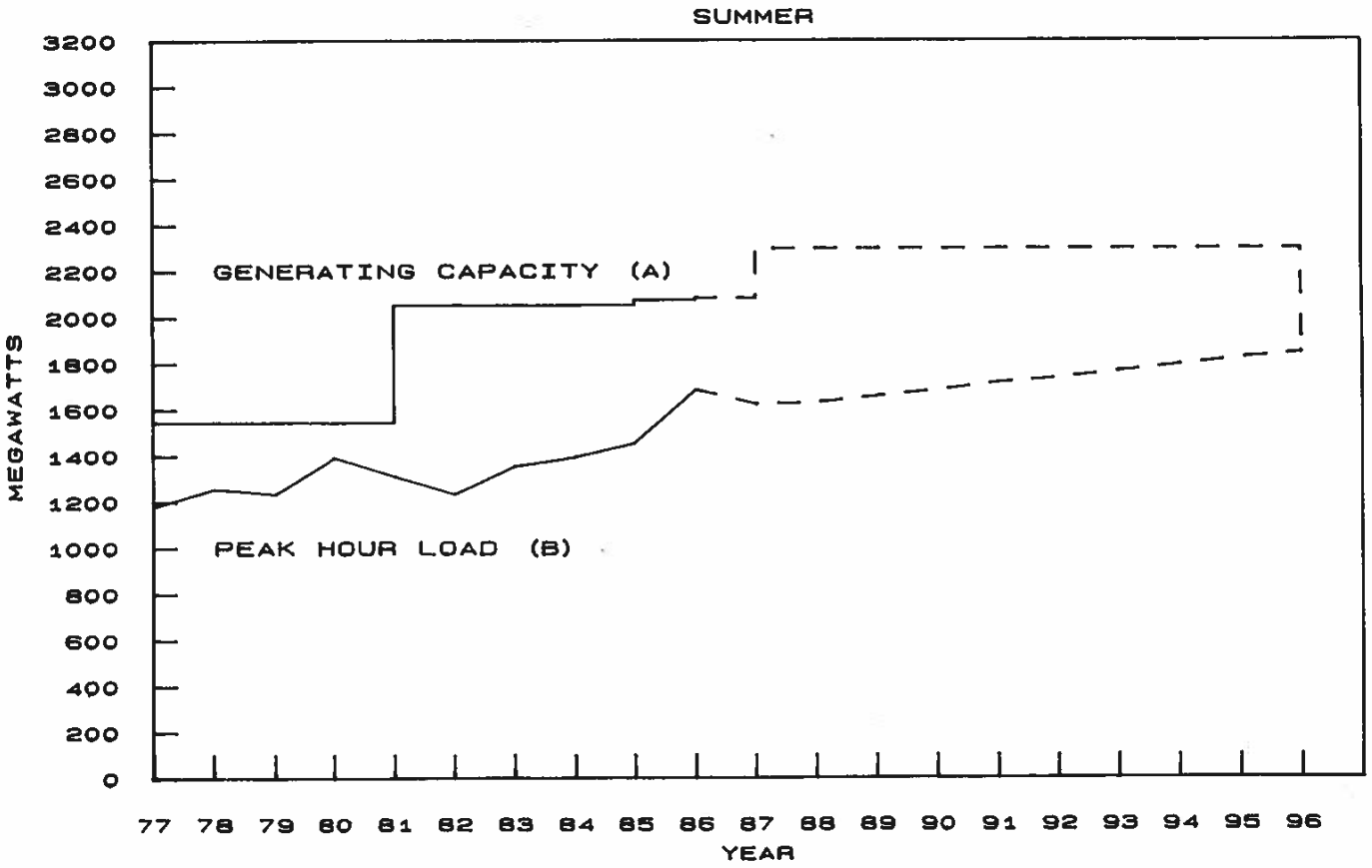
WINTER PEAK DEMAND - MW

YEAR	FIRM			INTERRUPT	TOTAL
	RETAIL	WHOLESALE	TOTAL		
1977-78	967	105	1,072	0	1,072
1978-79	1,041	113	1,154	0	1,154
1979-80	1,022	110	1,132	0	1,132
1980-81	1,083	106	1,189	0	1,189
1981-82	1,149	68	1,217	0	1,217
1982-83	978	59	1,037	0	1,037
1983-84	1,234	72	1,306	0	1,306
1984-85	1,450	81	1,531	0	1,531
1985-86	1,363	49	1,412	0	1,412
1986-87	1,433	60	1,493	0	1,493
1987-88	1,443	53	1,496	9	1,505
1988-89	1,472	51	1,523	9	1,532
1989-90	1,492	51	1,543	9	1,552
1990-91	1,524	52	1,576	9	1,585
1991-92	1,537	52	1,589	14	1,603
1992-93	1,560	52	1,612	14	1,626
1993-94	1,600	52	1,652	14	1,666
1994-95	1,624	52	1,676	14	1,690
1995-96	1,638	53	1,691	14	1,705
1996-97	1,646	53	1,699	14	1,713

NOTE: Wholesale and total columns include contracted capacity and energy allocated to certain resale customers by Southeastern Power Administration (SEPA)

GRAPH 2

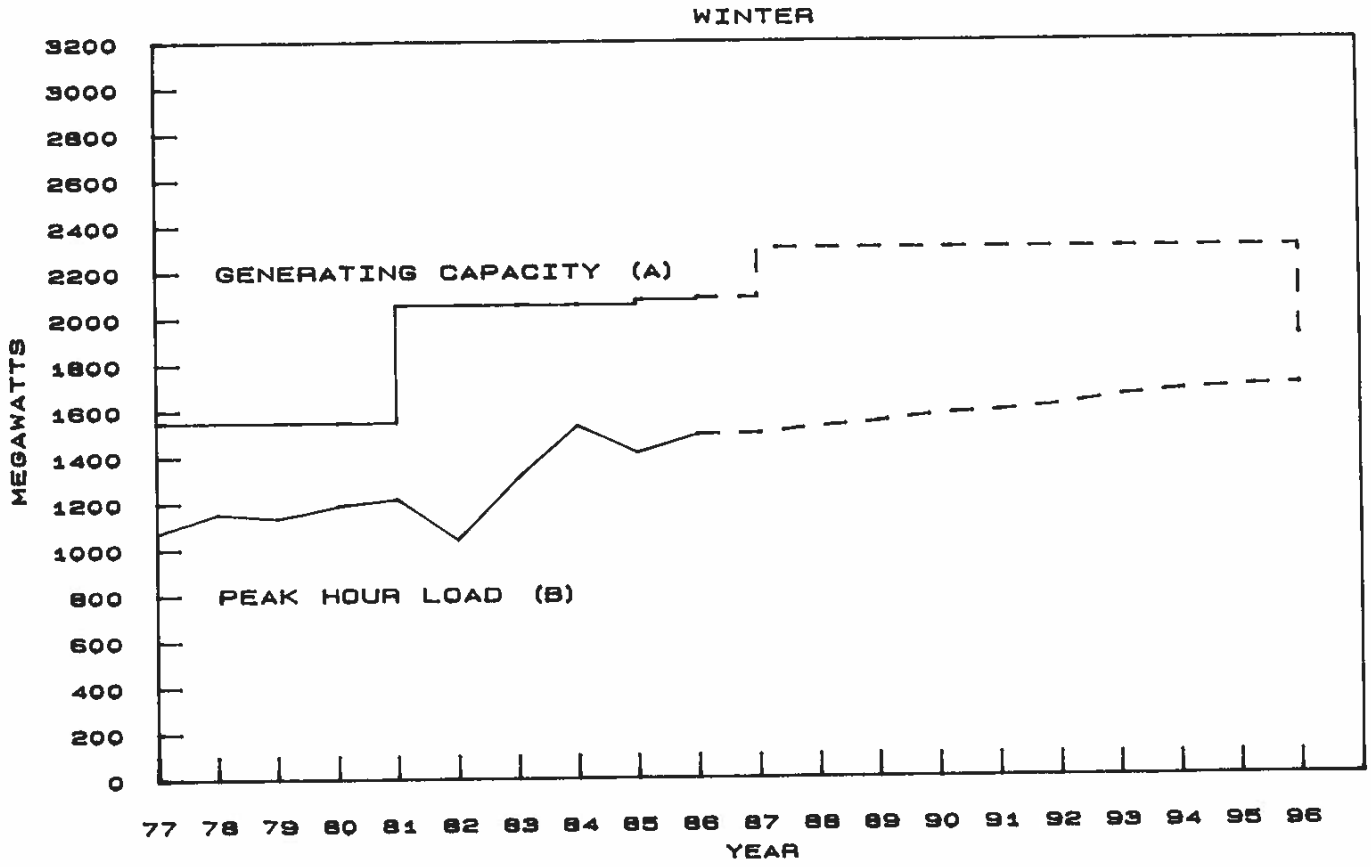
HISTORY AND FORECAST OF LOAD AND
CAPACITY ADDITIONS



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			
	1986		1987		1988	
MONTH	PEAK DEMAND MW	NEL GWH	PEAK DEMAND MW	NEL GWH	PEAK DEMAND MW	NEL GWH
JAN	1,412	588	1,493	601	1,496	602
FEB	1,279	479	1,275	535	1,279	536
MAR	1,062	520	1,003	530	1,015	531
APR	918	481	937	501	944	500
MAY	1,266	605	1,154	593	1,160	592
JUN	1,476	760	1,369	721	1,363	718
JUL	1,635	843	1,622	802	1,630	806
AUG	1,684	773	1,390	755	1,385	753
SEP	1,381	714	1,302	663	1,292	659
OCT	1,413	591	1,138	568	1,095	563
NOV	997	510	1,052	545	1,042	542
DEC	1,112	570	1,381	624	1,384	626
TOTAL		7,435		7,437		7,429

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. Gulf is recognized as an industry leader in the successful implementation of cost-effective conservation programs, beginning with the introduction of the highly successful Good ¢ents Home concept in 1976, and continuing with concerted efforts to meet the mandates of the 1980 Florida Energy Efficiency and Conservation Act (FEECA). This philosophy entails extensive market research and close contact with customers, and provides the opportunity to gain firsthand knowledge of even subtle changes occurring in the market. Also included in these efforts is continued research support for promising new energy technologies, including solar photovoltaics, electric vehicles, fuel cells and high efficiency equipment.

The Forecasting and Marketing Planning section of the Marketing and Load Management Department is responsible for preparing forecasts of customers, energy, peak demand and base rate revenues. Forecasts of monthly customers, energy sales, supply and peak demand 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. A description of the methods used in the development of these forecasts follows.

I. CUSTOMER FORECAST

A. Residential Customer Forecast

The immediate short-term forecast (0-2 years) of customers is based primarily on projections prepared by division personnel. The divisions remain abreast of local market and economic conditions within 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 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.

II. ENERGY SALES FORECAST

A. Residential Sales Forecast

The residential energy sales forecast is prepared using the Residential End-Use Energy Planning System (REEPS), a model developed for the Electric Power Research Institute (EPRI) by Cambridge Systematics, Incorporated, under Project RP1211-2. The REEPS model integrates elements of both econometric and engineering end-use approaches to energy forecasting. Market penetrations and energy consumption rates for major appliance end-uses are treated explicitly. REEPS produces forecasts of appliance installations, operating efficiencies and utilization patterns for space heating, water heating, air conditioning and cooking, as well as other major end-uses. Each of these decisions is responsive to energy prices and conservation policies, as well as household/dwelling characteristics and geographical variables.

The major behavioral responses in the simulation model have been estimated statistically from an analysis of household survey data. Surveys provide the uniquely rich data source necessary to identify the responsiveness of household energy decisions to prices and other variables.

The REEPS model forecasts energy decisions for a large number of different population segments. These segments represent households with different demographic and dwelling characteristics. Together, the population segments reflect the full joint distribution of characteristics in the customer

population. The total service area forecast of residential energy decisions is represented as the sum of the choices of various segments. This approach not only provides aggregate forecasts which are consistent with disaggregate projections, but also permits evaluation of the distributional impacts of prospective energy policies.

For each of the major end-uses, REEPS forecasts acquisitions, efficiency and utilization choices. The model distinguishes among appliance installations in new housing, retrofit installations and purchases of portable units. Within the simulation, the probability of installing a given appliance in a new dwelling depends on the operating and performance characteristics of the competing alternatives, as well as household and dwelling features. The installation probabilities for certain end-use categories are highly interdependent.

The functional form of the appliance installation models is the multinomial logit or its generalization, the nested logit. The parameters of these models quantify the sensitivity of appliance installation choices to costs and other characteristics. The magnitudes of these parameters have been estimated statistically from household survey data.

Appliance operating efficiency and utilization rates are simulated in the REEPS model as interdependent decisions. Efficiency choice is dependent on operating cost at the planned utilization rate, while actual utilization depends on operating cost given the appliance efficiency. Appliance and building standards affect efficiency directly by mandating higher levels than those desired.

The sensitivity of efficiency and utilization decisions to costs, climate, household and dwelling size, and income has been estimated from historical survey data. Energy prices, income, and household and dwelling size significantly affect space conditioning and residual energy use. Household and dwelling size also influence water heating usage. Climate significantly impacts space heating and air conditioning.

Major appliance base year unit energy consumption (UEC) estimates are based on either metered appliance data or conditioned energy demand regression analysis. The latter is a technique employed in the absence of metered observations of individual appliance usage, and involves the disaggregation of total household demand for electricity into appliance specific demand functions.

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:

$$E = E_0 + \sum_{i=1}^{N} E_i$$

Where E_i is the electrical energy consumed by a specified major appliance i, and E_0 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.

B. Commercial Sales Forecast

COMMEND, a commercial end-use model developed by the Georgia Institute of Technology through EPRI Project RP1216-06, 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).

Three characteristics of COMMEND distinguish it from traditional modeling approaches. First, the reliance on engineering relationships to determine future heating and cooling efficiency provides a sounder basis for forecasting long-run changes in space heating and cooling energy requirements than a pure econometric approach can supply. Second, the simulation model uses a variety of engineering data on the energy-using characteristics of commercial buildings. Third, COMMEND provides estimates of energy use detailed by end-use, fuel type and building type.

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

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 characteristics. 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 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 which, in itself, is modeled as a function of projected residential customer growth.

E. Wholesale Energy 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.

III. PEAK DEMAND FORECAST

The peak demand forecast is prepared using the Hourly Electric Load Model (HELM), developed by ICF, Incorporated, for EPRI under Project RP1955-1. The model forecasts hourly electrical loads over the long term.

Load curve forecasts have always provided an important input to traditional system planning functions. Forecasts of the pattern of demand have acquired an added importance due to structural changes in the demand for electricity and increased utility involvement in influencing load patterns for the mutual benefit of the utility and its customers.

The underlying structure of electricity consumption has changed in several respects. Rapid increases in energy prices during the 1970's and early 1980's brought about changes in the efficiency of energy-using equipment. Additionally, sociodemographic and microeconomic developments have changed the composition of electricity consumption, including changes in fuel shares, housing mix, household age and size, construction features, mix of commercial services, and mix of industrial products.

In addition to these naturally occurring structural changes, utilities have become increasingly active in offering customers options which result in modified consumption patterns. An important input to the design of such demand-side programs is an assessment of their likely impact on utility system loads.

HELM has been designed to forecast electric utility load curves and to analyze the impacts of factors such as alternative weather conditions, customer mix changes, fuel share changes, and demand-

side programs. The structural detail of HELM provides forecasts of hourly class and system load curves by weighting and aggregating load shapes for individual end-use components.

Model inputs include energy forecasts and load shape data for the user-specified end-uses. Inputs are also required to reflect new technologies, rate structures and other demand-side programs. Model outputs include hourly system and class load curves, load duration curves, monthly system and class peaks, load factors and energy requirements by season and rating period.

The methodology embedded in HELM may be referred to as a "bottom-up" approach. Class and system load shapes are calculated by aggregating the load shapes of component end-uses. The system demand for electricity in hour i is modeled as the sum of demands by each end-use in hour i:

$$L_i = \sum_{R=1}^{N_R} L_{R,i} + \sum_{C=1}^{N_C} L_{C,i} + \sum_{I=1}^{N_I} L_{I,i} + Misc_i$$

Where: L_i = system demand for electricity in hour i;

N_R = number of residential end-use loads;

N_C = number of commercial end-use loads;

N_I = number of industrial end-use loads;

$L_{R,i}$ = demand for electricity by residential end-use R in hour i;

$L_{C,i}$ = demand for electricity by commercial end-use R in hour i:

$L_{I,i}$ = demand for electricity by industrial end-use R in hour i;

$Misc_i$ = other demands (wholesale, street lighting, losses, Company use) in hour i.

COMPANY USE & INTERDEPARTMENTAL ENERGY

The 1987 Annual Forecast for Company and Interdepartmental energy usage was based on recent historical values, with appropriate adjustments to reflect the difference in energy requirements through 1987, for new Company facilities. The 1987 forecasted Company usage was then projected through the year 2011, at the same growth rate each year as the growth in residential customers. The monthly spreads were derived using historical relationships between monthly and annual energy usage.

NEW FACILITIES

Facility	Est. In Service	Est. KW Demand	Est. Additional Annual MWH's
New General Office Pensacola	JUL, 1987	1,650	7,000
New Destin Line Service Facility	DEC, 1986	90	215
General Repair Facility Pensacola	JUL, 1986	486	851

The current forecasts also reflect Gulf's active position in the promotion of renewable energy resources, the most recent examples being our involvement in two waste-to-energy facilities located within our service area. Not only has Gulf aided in the initial stages of planning, installation and operation of these facilities, we have initiated preliminary studies to assess the feasibility of construction of other waste disposal units at various sites in Northwest Florida. Below is a list of the cumulative small power producer capability anticipated in the base case forecast. This includes both waste-to- energy projects and other renewable fuel projects.

Year	Small Power Producers (MW)	Year	Small Power Producers (MW)
1987	11.5	2000	45.0
1988	11.5	2001	45.0
1989	11.5	2002	50.0
1990	11.5	2003	50.0
1991	16.5	2004	50.0
1992	25.0	2005	50.0
1993	25.0	2006	50.0
1994	25.0	2007	50.0
1995	35.0	2008	50.0
1996	35.0	2009	50.0
1997	35.0	2010	50.0
1998	40.0	2011	50.0
1999	45.0		

CHAPTER III

FORECAST
OF
FACILITIES REQUIREMENTS

TYP FORM 6

UTILITY: GULF POWER COMPANY

PLANNED AND PROSPECTIVE GENERATING FACILITY ADDITIONS AND CHANGES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
				Fuel					Net Capability		Fuel Transp		
Plant Name	Unit No.	Location	Type	Pri	Alt	Const Start Mo/Yr	Com'l In-Service Mo/Yr	Gen Max Nameplate KW	Summer MW	Winter MW	Pri	Alt	Status
Robert W. Scherer (25%)	3	Monroe Co., Ga.	FS	C	--	8/82	1/87	222,750	208.3	208.3	RR	--	V
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)			
	4r	Pensacola, Fl					(1996)		(87.5)	(87.5)			
	5r	Pensacola, Fl					(1996)		(89.0)	(89.0)			
Scholz	1-2r	Sneads, Fl					(1995)		(93.1)	(93.1)			
Smith	Ar	Panama City, Fl					(1995)		(31.3)	(34.8)			
							TOTAL		(173.3)	(176.8)			

Abbreviations: FS - Fossil Steam
C - Coal
RR - Railroad
V - Under Construction. More than 50% complete.

TYP FORM 7A

UTILITY: GULF POWER COMPANY

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
1987	2297	-569	1728	1622	106	6.5%		106	6.5%
1988	2289	-623	1666	1630	36	2.2%		36	2.2%
1989	2289	-159	2130	1658	472	28.5%	NONE	472	28.5%
1990	2289	-158	2131	1684	447	26.5%		447	26.5%
1991	2289	-174	2115	1717	398	23.2%		398	23.2%
1992	2289	-181	2108	1736	372	21.4%		372	21.4%
1993	2289	-125	2164	1765	399	22.6%		399	22.6%
1994	2289	-57	2232	1794	438	24.4%		438	24.4%
1995	2289	10	2299	1823	476	26.1%		476	26.1%
1996	1907	10	1917	1846	71	3.8%		71	3.8%

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).

4-1-87

TYP FORM 7B

UTILITY: GULF POWER COMPANY

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
1987-88	2300	(577)	1723	1496	227	15.2%		227	15.2%
1988-89	2292	(623)	1669	1523	146	9.6%	NOT	146	9.6%
1989-90	2292	(159)	2133	1543	590	38.2%	AVAILABLE	590	38.2%
1990-91	2292	(158)	2134	1576	558	35.4%		558	35.4%
1991-92	2292	(174)	2118	1589	529	33.3%		529	33.3%
1992-93	2292	(157)	2135	1612	523	32.4%		523	32.4%
1993-94	2292	(125)	2167	1652	515	31.2%		515	31.2%
1994-95	2292	(57)	2235	1676	559	33.4%		559	33.4%
1995-96	2292	10	2302	1691	611	36.1%		611	36.1%
1996-97	1907	10	1917	1699	218	12.8%		218	12.8%

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 1987 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 2000. 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

TYP FORM 8A

Utility: Gulf Power Company

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	(a) Summer 208.3 MW Winter 208.3 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	

(a) Gulf to acquire 208.3 MW of Unit 3 in January, 1987.

Utility: Gulf Power Company

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	