1998 California Gas Report

PREPARED BY THE CALIFORNIA GAS AND ELECTRIC UTILITIES

1998 CALIFORNIA GAS REPORT

Table of Contents

Table of Contents

Page No.

Page No.

LIST OF CHARTS AND TABLES

1998 California Gas Report

FOREWORD

FOREWORD

The *1998 California Gas Report* presents a comprehensive outlook for natural gas requirements and supplies for California through the year 2015. This comprehensive report is prepared in even-numbered years, followed by a supplemental report in odd-numbered years, in compliance with California Public Utilities Commission Decision D.95-01-039. The projections in the California Gas Report are for long-term planning and do not necessarily reflect the day-to-day operational plans of the utilities.

The report is organized into three sections: Executive Summary, northern California, and southern California. The Executive Summary provides statewide highlights and consolidated tables on supply and demand. The northern California section provides detail on requirements and supplies of natural gas for Pacific Gas and Electric Company (PG&E). The southern California section shows similar detail for Southern California Gas Company (SoCalGas), the City of Long Beach Gas and Electric Department, San Diego Gas & Electric Company, Southern California Edison Company (Edison), and the City of Los Angeles Department of Water and Power.

Each participating utility has provided a narrative explaining its assumptions and outlook for natural gas requirements and supplies. Any forecast, however, is subject to considerable uncertainty in the future. Changes in the economy, energy and environmental policies, natural resource availability, and the continually evolving restructuring of the gas and electric industries can significantly affect the reliability of these forecasts. The further into the future a forecast extends, the more susceptible it is to inaccuracy. This report should not be used by readers as a substitute for full, detailed analysis of their own specific energy requirements.

The two major report sections were written by PG&E for northern California and by SoCalGas for southern California. Both sections contain tables showing data on gas availability by source, with corresponding tables for gas requirements (demand) by customer class. Separate sets of these tables are presented for average, cold, and hot temperature year conditions.

Gas supply and demand estimates are provided individually by the participating utilities; however, for the *1998 California Gas Report*, as a result of Edison's divestiture of all natural gas-fired generating stations, Edison did not submit a forecast of future gas use for this report.

The Working Committee, comprised of representatives from each utility, is responsible for preparing and compiling the report. All policy matters and reporting guidelines are reviewed and approved by the General Committee, composed of officers from the participating utilities. The membership of both committees is listed in the Respondents section at the end of this report. The Glossary provides definitions for words and acronyms that are generally familiar to those in the gas industry, but may not be to all readers.

1998 California Gas Report

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

DEMAND OUTLOOK

California natural gas demand, including volumes bypassing utility systems, is expected to grow at an annual average rate of 1.0 percent from 1998 to 2015. This forecast is supported by favorable projections of population and employment growth rates.

In general load growth is projected for all sectors, except the Enhanced Oil Recovery (EOR) market, which is expected to decline at an average annual rate of 2.7 percent over the forecast period. The NGV market, whose demand forecast is more modest than in the 1996 California Gas Report, still represents the sector with the highest growth rate potential. Residential, Commercial, and Wholesale sectors are expected to grow at an average annual rate of 0.8 percent, while Industrial load is expected to see growth at a 0.6 percent average annual rate. The Electric Generation sector is projected to grow at an average annual rate of 1.5 percent, although this figure is highly speculative. Note that since electric generation load has been aggregated, EOR figures are lower by virtue of the fact that they reflect only steaming volumes.

GAS STRATEGY

In January 1998, the CPUC released a staff report initiating a Gas Strategy rulemaking to assess the current market and regulatory framework for California's natural gas industry. The general goal of the Gas Strategy is to consider reforms to the current regulatory framework emphasizing market-oriented policies to benefit California consumers. The CPUC could issue a decision on some of its initial findings toward the end of 1998.

ELECTRIC INDUSTRY RESTRUCTURING

On March 31, 1998, California implemented Electric Industry Restructuring (EIR) which gives California consumers the option of selecting their electric commodity energy provider from a variety of local and out-of-state sources. As a part of EIR, the independent system operator (ISO) integrated operations and took over management of the electric transmission systems of Edison, PG&E, and SDG&E — a change that is expected to

improve grid efficiency and commitment of generation facilities. Coincident with the ISO, the Western Power Exchange (WEPEX) began operation as the broker for non-direct access electric supply and demand. While electric utilities were required to divest half of their generation assets, PG&E, Edison, and SDG&E have announced plans to divest all their gas-fired power plants. These divestitures could have a significant impact on power generation operations and related natural gas requirements in California.

FOCUS ON EFFICIENCY AND ENVIRONMENTAL QUALITY

California utilities continue to focus on Customer Energy Efficiency (CEE) and other demand-side management (DSM) programs in their utility electric and gas resource plans. In addition, California utilities actively support Clean Air Act Amendments that seek to improve air quality by reducing fuel oil use in power plants and by marketing natural gas vehicles.

The increasing awareness of natural gas as a clean, economical fuel continues to help position utilities to meet environmentally acceptable energy requirements of the future.

SUPPLY OUTLOOK/PIPELINE CAPACITY

California's existing gas supply portfolio is regionally diverse and includes supplies from California (onshore and offshore), traditional Southwest supply sources (the Permian, Anadarko, and San Juan basins), the Rocky Mountains, and Canada. The map on the following page shows the locations of these supply sources and some of the gas pipelines serving California.

Additional pipeline capacity and open access have contributed to long-term supply availability and gas-on-gas competition. Interstate pipelines currently serving California include El Paso Pipeline Company (El Paso), Kern River Transmission Company (Kern River), Mojave Pipeline Company (Mojave), PG&E Gas Transmission-Northwest, Pacific Interstate Transmission Company (PITCO), Pacific Offshore Pipeline Company (POPCO), Transwestern Pipeline Company (Transwestern), and Tuscarora Pipeline.

WESTERN NORTH AMERICAN NATURAL GAS PIPELINES

(Not to Scale)

1. ANG
2. El Paso
3. Kern River
4. Mojave
5. Northwest
6. NOVA
7. Paiute
8. PG&E Redwood Path
9. PG&E GT-NW
10. SoCalGas
11. SDG&E
12. Transwestern
13. Tuscarora

STATEWIDE CONSOLIDATED SUMMARY TABLES AND CHARTS

The consolidated summary tables and charts on the following pages show the statewide aggregations of gas supplies and gas requirements (demand). Supplies are shown by source, in tabular form. The gas requirements by customer classification are in tabular form as well as graphical form.

Gas sales and transportation volumes are consolidated under the general category of system gas requirements. Details of gas transportation for individual utilities are given in the tabular data for northern California and southern California. The wholesale category includes the City of Long Beach Gas and Electric Department, San Diego Gas & Electric Company, Southwest Gas Corporation, and the Cities of Coalinga and Palo Alto.

Some columns may not sum precisely because of modeling accuracy and rounding differences, and do not imply curtailments.

STATEWIDE TOTAL SUPPLY SOURCES AND REQUIREMENTS
MMCF/DAY

Total California Supply Sources	1998	1999	2000	2005	2010	2015
California Sources	439	593	596	620	460	284
Out-of-State	4,287	4,230	4,209	4,500	4,884	5,367
Net Withdrawal/(Injection)	0	0	0	0	0	0
Utility Total	4,726	4,823	4,805	5,120	5,344	5,651
Pipeline Bypass (1)	794	813	827	839	880	861
Total	5,520	5,636	5,632	5,959	6,224	6,512

Total California Requirements	1998	1999	2000	2005	2010	2015
Residential	1,225	1,232	1,241	1,293	1,338	1,391
Commercial	460	463	464	485	505	526
Natural Gas Vehicles	6	9	12	31	72	114
Industrial	946	940	937	984	1,025	1,056
Electric Generation (2)	1,579	1,665	1,624	1,795	1,870	2,019
Enhanced Oil Recovery	43	41	38	27	27	27
Wholesale/Resale	367	378	390	406	410	420
Company Use and Unaccounted For	97	98	98	100	101	104
Utility Total	4,723	4,826	4,804	5,121	5,348	5,657
Pipeline Bypass (1)	794	813	827	839	880	861
Total	5,517	5,639	5,631	5,960	6,228	6,518

NOTES:
(1) Bypass is defined in the Glossary.
(2) Includes utility and non-utility generation.

STATEWIDE ANNUAL GAS SUPPLY SOURCES - TAKEN
MMCF/DAY

Northern California	1998	1999	2000	2005	2010	2015
California Sources (1)	160	160	160	160	160	160
Out-of State	1,918	1,989	1,993	2,137	2,300	2,471
Net Withdrawal/(Injection)	0	0	0	0	0	0
Utility Total	2,078	2,149	2,153	2,297	2,460	2,631
Pipeline Bypass (2)	366	366	366	366	366	366
Northern California Total	2,444	2,515	2,519	2,663	2,826	2,997

Southern California	1998	1999	2000	2005	2010	2015
California Sources (1)	279	433	436	460	300	124
Out-of-State	2,369	2,241	2,216	2,363	2,584	2,896
Net Withdrawal/(Injection)	0	0	0	0	0	0
Utility Total	2,648	2,674	2,652	2,823	2,884	3,020
Pipeline Bypass (2)	428	447	461	473	514	495
Southern California Total	3,076	3,121	3,113	3,296	3,398	3,515

NOTES:
(1) Includes utility purchases and exchange/transport gas.
(2) Bypass is defined in the Glossary.

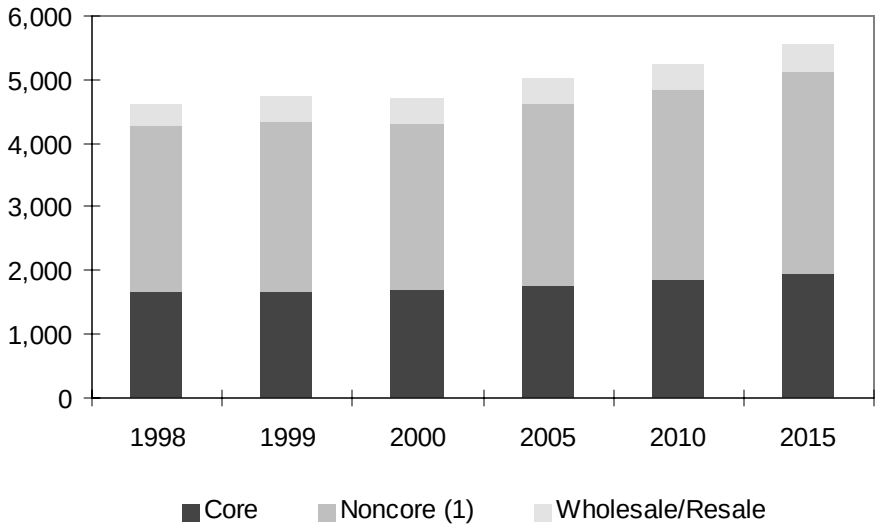
STATEWIDE ANNUAL GAS REQUIREMENTS (1)
MMCF/DAY

Northern California	1998	1999	2000	2005	2010	2015
Residential	540	540	541	547	554	561
Commercial-Core	202	204	205	207	208	209
Natural Gas Vehicles-Core	1	1	2	4	14	25
Natural Gas Vehicles-Noncore	1	1	1	6	28	50
Industrial-Noncore	505	510	515	547	585	620
Wholesale/Resale	19	21	21	21	21	21
SMUD Electric Generation	58	58	58	58	58	58
Electric Generation (2)	690	757	749	848	936	1,033
Enhanced Oil Recovery	4	4	4	4	4	4
Company Use and Unaccounted For	55	56	56	56	56	56
Utility Total	2,076	2,153	2,152	2,298	2,463	2,636
Pipeline Bypass (4)	366	366	366	366	366	366
Northern California Total	2,442	2,519	2,518	2,664	2,829	3,002

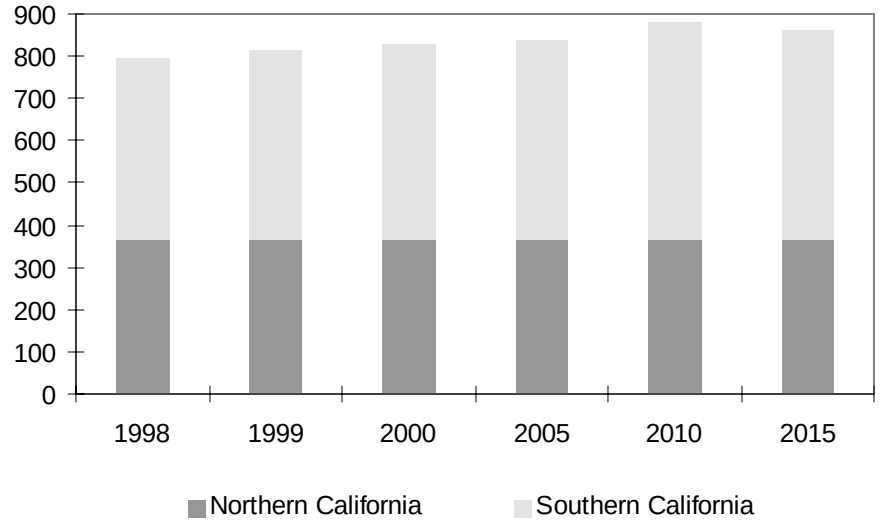
Southern California	1998	1999	2000	2005	2010	2015
Residential	685	692	700	746	784	830
Commercial-Core	181	182	183	198	213	228
Commercial-Noncore	77	77	76	80	84	89
Natural Gas Vehicles-Core	4	7	9	21	30	39
Industrial-Core	51	50	49	50	50	49
Industrial-Noncore	390	380	373	387	390	387
Wholesale/Resale	348	357	369	385	389	399
Electric Generation	831	850	817	889	876	928
Enhanced Oil Recovery (3)	39	37	34	23	23	23
Company Use and Unaccounted For	42	42	42	44	45	48
Utility Total	2,648	2,674	2,652	2,823	2,884	3,020
Pipeline Bypass (4)	428	447	461	473	514	495
Southern California Total	3,076	3,121	3,113	3,296	3,398	3,515

NOTES:
(1) Includes transportation gas.
(2) Electric Generation includes Non-EOR cogeneration, PG&E Utility Electric Generation, and other non-utility generation.
(3) Includes associated cogeneration and transportation gas for Enhanced Oil Recovery.
(4) Bypass is defined in the Glossary.

TOTAL CALIFORNIA GAS DEMAND FORECAST

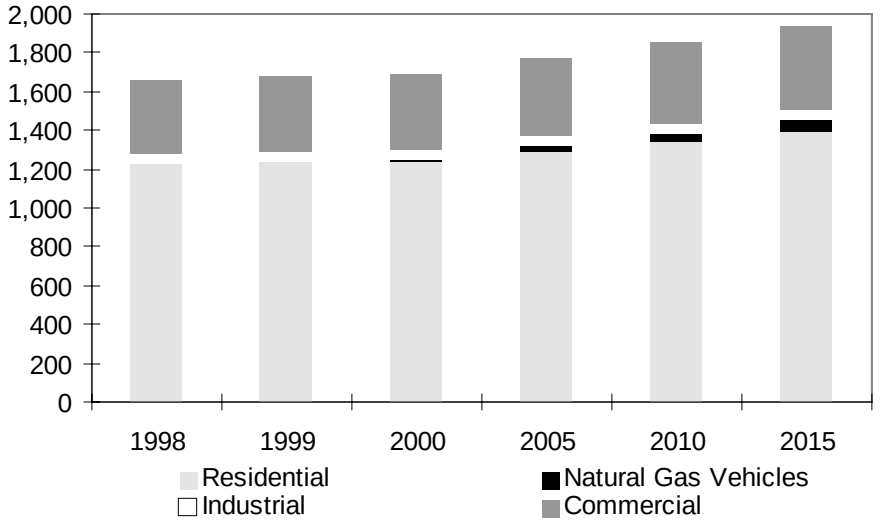


TOTAL CALIFORNIA BYPASS FORECAST

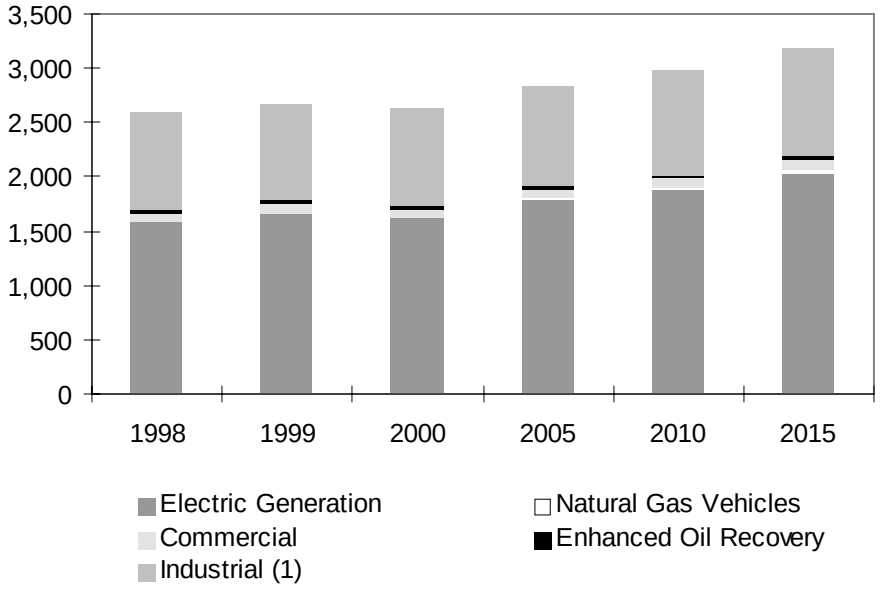


NOTES:
(1) Includes Mexicali

TOTAL CALIFORNIA CORE GAS DEMAND FORECAST



TOTAL CALIFORNIA NONCORE GAS DEMAND FORECAST



NOTES:
(1) Includes Mexicali

STATEWIDE SOURCES AND DISPOSITION

The Statewide Sources and Disposition Summary is intended to complement the existing five-year recorded data tables by providing a comparison by customer segment. The Statewide Sources and Disposition Summary data was first introduced in the *1995 California Gas Report Supplement* for recorded 1994 data. The California Gas Report will continue to add and display historical data until five years of recorded information has been accumulated and can be provided on an ongoing basis.

The information shown on the following Statewide Sources and Disposition Summary tables is based on the utilities' accounting records and on available gas nomination and preliminary gas transaction information obtained daily from customers or their appointed agents and representatives. It should be noted that data on daily gas nominations are frequently subject to reconciling adjustments. In addition, some of the data are based on allocations and assignments which, by necessity, rely on estimated or preliminary information. As a result, the table containing recorded 1996 data has been revised to reflect final recorded data, as well as to update the data previously reported for Southern California Gas Company.

Some columns may not sum precisely because of modeling accuracy and rounding differences, and do not imply curtailments.

1998 California Gas Report

Recorded 1994 Statewide Sources and Disposition Summary

MMcf/day

	California Sources	El Paso	Trans-western	PG&E GT-NW	Kern River	Mojave	Other	TOTAL
Southern California Gas Company								
Core	153	474	307	0	1	0	0	935
Noncore Commercial/Industrial	76	286	108	29	100	0	0	599
UEG	27	313	72	175	93	16	17	713
EOR	21	63	24	1	38	0	0	147
Wholesale/Resale (1)	22	185	76	65	24	1	5	378
Total	299	1,321	587	270	256	17	22	2,772
Pacific Gas and Electric Company								
Core	114	176	24	565	0	0	0	879
Noncore Commercial/Industrial	92	51	15	377	80	0	0	615
UEG	6	370	84	292	13	0	0	765
EOR (2)	*	*	*	*	*	*	*	*
Wholesale/Resale (2)	*	*	*	*	*	*	*	*
Total	212	597	123	1,234	93	0	0	2,259
Non-Utilities								
Direct Sales/Bypass	311	0	0	0	324	230	0	865
TOTAL SUPPLIER	822	1,918	710	1,504	673	247	22	5,896

NOTES:

(1) Includes SDG&E data as shown:

San Diego Gas & Electric Company								
Core	10	55	24	32	9	0	1	131
Noncore Commercial/Industrial	2	34	15	7	2	0	0	60
UEG	8	45	19	29	9	0	0	110
Total	20	134	58	68	20	0	1	301

(2) Volumes are included in Noncore Commercial/Industrial.

1998 California Gas Report

Recorded 1995 Statewide Sources and Disposition Summary

MMcf/day

	California Sources	El Paso	Trans-western	PG&E GT-NW	Kern River	Mojave	Other (1)	TOTAL
Southern California Gas Company								
Core	145	478	233	16	2	0	13	887
Noncore Commercial/Industrial	76	301	57	66	129	3	(7)	625
UEG	21	245	65	160	81	20	(32)	560
EOR	0	59	8	78	0	0	(2)	143
Wholesale/Resale (2)	42	200	43	54	9	0	(5)	343
Total	284	1,283	406	374	221	23	(33)	2,558
Pacific Gas and Electric Company								
Core	82	150	4	535	0	0	1	772
Noncore Commercial/Industrial (3)	90	50	14	502	76	0	20	752
UEG	4	99	65	182	3	0	0	353
EOR (4)	*	*	*	*	*	*	*	*
Wholesale/Resale	0	0	1	9	0	0	1	11
Total	175	299	84	1,228	78	0	22	1,887
Other Northern California (5)								
Core	0	0	0	0	0	0	9	9
Non-Utilities	308	0	0	0	362	306	0	976
TOTAL SUPPLIER	767	1,582	490	1,602	661	329	(2)	5,429

NOTES:

(1) Includes storage withdrawals.

(2) Includes SDG&E data as shown:

San Diego Gas & Electric Company								
Core	11	57	17	34	1	0	1	121
Noncore Commercial/Industrial	3	44	13	8	0	0	0	68
UEG	10	49	14	32	1	0	1	107
Total	24	150	44	73	2	0	3	295

(3) Includes noncore and core transport.

(4) Volumes are included in Noncore Commercial/Industrial.

(5) Includes Southwest Gas Corp. and Washington Water Power data.

1998 California Gas Report

Recorded 1996 Statewide Sources and Disposition Summary

MMcf/day

	California Sources	El Paso	Trans-western	PG&E GT-NW	Kern River	Mojave	Other (1)	TOTAL
Southern California Gas Company								
Core	88	552	194	(4)	0	0	29	860
Noncore Commercial/Industrial	85	259	54	191	75	7	(8)	663
UEG	6	139	9	135	39	9	43	380
EOR	45	47	5	11	33	0	15	156
Wholesale/Resale (2)	59	137	39	77	15	1	26	355
Total	283	1,134	302	411	162	18	104	2,414
Pacific Gas and Electric Company								
Core	65	145	1	531	0	0	(0)	742
Noncore Commercial/Industrial (3)	90	52	28	525	81	0	32	808
UEG	12	94	55	162	8	0	0	332
EOR (4)	*	*	*	*	*	*	*	*
Wholesale/Resale	0	0	0	26	0	0	0	26
Total	167	291	84	1,245	90	0	31	1,908
Other Northern California (5)								
Core	0	0	0	0	0	0	8	8
Non-Utilities	311	0	0	0	391	277	0	979
TOTAL SUPPLIER	761	1,425	386	1,656	644	295	143	5,310

NOTES:

(1) Includes storage withdrawals.

(2) Includes SDG&E data as shown:

San Diego Gas & Electric Company (6)								
Core	14	62	16	26	1	1	4	123
Noncore Commercial/Industrial	3	46	12	6	0	0	1	68
UEG	14	58	15	26	1	1	4	118
Total	31	167	42	58	1	1	9	309

(3) Includes noncore and core transport

(4) Volumes are included in Noncore Commercial/Industrial.

(5) Includes Southwest Gas Corp. and Washington Water Power data.

(6) Recorded gas disposition by source represents the total actual deliveries by end-use including sales and transportation volumes. Transport volumes are assumed to be distributed 80 percent El Paso and 20 percent Transwestern based in end-use sales on only those pipelines. (Company Use and LUAF volumes are included in disposition to core).

1998 California Gas Report

Recorded 1997 Statewide Sources and Disposition Summary

MMcf/day

	California Sources	El Paso	Trans-western	PG&E GT-NW	Kern River	Mojave	Other (1)	TOTAL
Southern California Gas Company								
Core	77	487	212	26	45	36	3	868
Noncore Commercial/Industrial	0	417	0	203	49	49	(24)	694
UEG	36	151	52	147	31	14	2	432
EOR	104	0	51	3	0	0	0	158
Wholesale/Resale (2)	73	119	119	65	0	0	3	379
Total	290	1,173	433	444	126	99	(16)	2,549
Pacific Gas and Electric Company								
Core	29	139	1	565	4	0	4	742
Noncore Commercial/Industrial (3)	118	77	52	456	67	0	34	804
UEG	0	137	52	203	3	0	22	418
EOR (4)	*	*	*	*	*	*	*	*
Wholesale/Resale	0	0	0	23	0	0	0	23
Total	147	353	106	1,246	75	0	60	1,986
Other Northern California (5)								
Core	0	0	0	0	0	0	9	9
Non-Utilities	329	0	0	0	434	201	0	964
TOTAL SUPPLIER	766	1,526	539	1,690	635	300	53	5,508

NOTES:

(1) Includes storage withdrawals.

(2) Includes SDG&E data as shown:

San Diego Gas & Electric Company (6)								
Core	11	57	19	24	1	0	6	118
Noncore Commercial/Industrial	3	47	16	6	0	0	2	73
UEG	13	64	21	28	1	0	8	134
Total	26	168	56	57	2	0	16	326

(3) Includes noncore and core transport.

(4) Volumes are included in Noncore Commercial/Industrial.

(5) Includes Southwest Gas Corp., Washington Water Power, and Tuscarora Pipeline data.

(6) Recorded gas disposition by source represents the total actual deliveries by end-use including sales and transportation volumes. Transport volumes are assumed to be distributed 80 percent El Paso and 20 percent Transwestern based in end-use sales on only those pipelines. (Company Use and LUAF volumes are included in disposition to core).

1998 California Gas Report

NORTHERN CALIFORNIA

INTRODUCTION

Pacific Gas and Electric Company (PG&E) provides natural gas service to 3.4 million residential customers and 200,000 businesses in northern and central California. In addition to serving residential, commercial, industrial, and enhanced oil recovery (EOR) markets, PG&E provides gas transportation service to both its own and the divested, gas-fired power plants for electric generation. Other wholesale distribution systems, which receive gas tranportation service from PG&E, serve a small portion of the gas customers in the region. PG&E's customers are located in 37 counties from south of Bakersfield to north of Redding, with high concentrations in the San Francisco Bay Area and the Sacramento and San Joaquin valleys.

The forecast for this report covers 1998 through 2015; however, as a matter of convenience, the tabular data at the end of the section show only the years 1998 through 2005 and the years 2010 and 2015. The forecast is subject to many uncertainties, but represents PG&E's best estimates for the future, based upon the most current information available.

The northern California section of the report begins with the demand forecast, including discussion of economic conditions, customer energy efficiency, forecast methodology, and other facts affecting demand in various markets. Following the gas demand forecast are discussions of gas supply and pipeline capacity. Abnormal peak day demands and supply resources, as well as gas balances, are discussed at the end of this section.

GAS DEMAND REQUIREMENTS

OVERVIEW

PG&E's *1998 California Gas Report* (98 CGR) average year demand forecast projects total on-system demand growing at an annual average rate of 1.4 percent between 1998 and 2015. This overall growth rate is a combination of 0.4 percent annual growth in the core market and 2.0 percent annual growth in the noncore market. By comparison, the *1996 California Gas Report* (96 CGR) estimated annual average growth rates of 1.2 percent per year for the core market and 2.0 percent per year for the noncore market[1].

Declines in the estimated rate of growth in the core market are due to incorporation of more recent historic usage, economic, and demographic data; more recent forecasts of economic and demographic drivers; and re-specification of the econometric models used to forecast core demand. While the 98 CGR noncore growth rates are virtually identical to the 96 CGR noncore growth rates, the composition of noncore growth is somewhat different. In the 98 CGR, the industrial market is estimated to grow at an annualized rate of 1.2 percent, while the electric generation market is estimated to grow at an annualized rate of 2.4 percent. Comparable growth rates from the 96 CGR are 1.6 percent and 1.8 percent, respectively[2].

In addition to the lower growth rates discussed above, the level of core demand is somewhat lower than that shown in the 96 CGR. The lower forecast level of core demand is due to new assumptions regarding "expected" temperature conditions during the forecast horizon. For the 98 CGR, PG&E is adopting a convention of employing a five-year average of temperatures ending year 1997 as the "expected" temperature for forecasting purposes. In previous California Gas Reports, PG&E used Official Normal Weather (ONW) as defined by the World Meteorological Association and National Atmospheric and Oceanographic Administration, a thirty-year average of temperatures ending in 1990, to develop its estimate of "expected" temperatures. Recent research using historical temperature data from 1960 through 1997 shows that averaging over shorter periods yields more accurate forecasts of near-term weather conditions. Utilizing the new benchmark temperature results in about a 50 MMcf/day reduction in forecast demand for PG&E's temperature-sensitive residential and commercial loads.

---

[1] The period used for calculating the 96 CGR growth rates is 1998-2010. 96 CGR did not include the 2011-2015 period in its forecast horizon.

[2] As note 1 above, the 96 CGR growth rates are calculated over the period 1998-2010.

FORECAST METHOD

PG&E's gas demand forecasts for the residential and commercial sectors are developed from econometric models. Gas demand for industrial customers is indexed to the growth in industrial production and manufacturing employment. Forecasts for other sectors (electric generation, EOR, NGV, wholesale) are developed from current and past market information. While variation in short-term gas use depends mainly on prevailing weather conditions, longer-term trends in gas demand are driven primarily by underlying economic, demographic, and technological changes such as growth in population, income, employment, and industrial output; and changes in the efficiency profiles of residential and commercial buildings and the appliances within them. Impacts from natural gas customer energy efficiency (CEE) programs are included in the gas demand forecast.

MARKET SENSITIVITY

The average-year gas demand forecast presented here is a reasonable projection for an uncertain future. However, point forecasts cannot capture the uncertainty in the major determinants of gas demand (e.g., weather, economic activity, appliance saturation, and efficiencies). In order to give some flavor of the possible variation in gas demand, PG&E has developed forecasts of gas demand under assumed hot-year and cold-year conditions. The assumptions for these scenarios are described below.

Temperature

Because space heating accounts for a high percentage of use, gas requirements for PG&E's residential and commercial customers are sensitive to prevailing temperature conditions. PG&E's average-year forecast assumes that temperatures in the forecast period will be equivalent to the average of observed temperatures during the past five years. Of course, actual temperatures in the forecast period will be higher or lower than those assumed in the average-year scenario and gas use will vary accordingly. PG&E's hot-year forecast assumes that temperatures in the forecast horizon will be equivalent to temperatures observed during the warmest year during the historic period 1960 through 1997 (1212 annual heating degree days in 1986). The cold-year forecast assumes that temperatures in the forecast horizon will be equivalent to those observed in the coldest year during that same historic period (2107 annual heating degree days in 1971).

Calculating the hot-year and cold-year scenarios in this way is a departure from the methodology used in previous California Gas Reports. Traditionally, the hot-year (cold-year) temperature assumptions have been derived by adding (subtracting) two standard deviations from the long-term mean of observed temperatures to the temperatures assumed in the average-year scenario. However, since PG&E is no longer using the long-term average of temperatures as the assumption for its average-year scenario, the traditional method of developing the hot-year and cold-year scenario temperature assumptions is no longer appropriate. It is PG&E's belief that the hot-year and cold-year scenarios shown in this report offer reasonable bounds for projecting the effect of temperature variation on gas demand.

Electric Demand and Hydro Conditions

Gas requirements for thermal electric generation within PG&E's service territory are sensitive to projections of future electric loads, as well as assumptions about the availability of nuclear[3], hydroelectric, and imported power.

The electric generation average-year forecast assumes greater than normal hydro conditions in 1998, and normal hydro conditions for the remainder of the forecast horizon. In the cold-year scenario, high electric demand due to a cold winter and a warm summer is combined with low hydro output assumptions resulting in a higher level of dispatch for marginal gas-fired generation units. In the warm-year scenario, lower than expected electric demand due to a warm winter and a cool summer is combined with assumed high hydro output resulting in a lower level of dispatch for marginal gas-fired generation units.

MARKET SECTORS

Residential

Residential customer growth in the PG&E service area is forecast to be about one percent per year from 1998 to 2015. At the same time, gas use per customer is expected to decline because of increased energy savings due to improvements in appliance and building-shell efficiencies. As a result, PG&E's forecast of residential demand growth is relatively flat with annual average growth of just over 0.2 percent per year from 1998 to 2015.

[3] For example, the electric generation market segment demand declines slightly between 1999 and 2000. This is a result of assumptions regarding the re-fueling schedule for PG&E's Diablo Canyon generating station.

Commercial

The number of commercial customers in the PG&E service area is forecast to grow at an average rate of about 0.5 percent per year from 1998 to 2015. As in the residential market segment, growth in the number of commercial customers is largely offset by declining gas use per square foot as new and more energy-efficient gas equipment and building-shell technologies gain market share. The combination of these effects produces a relatively flat commercial gas demand growth rate of approximately 0.2 percent per year from 1998 through 2015.

Natural Gas Vehicles

Growing concern over air quality in California is focusing public attention on vehicles that emit less harmful exhaust. PG&E has a program to encourage the use of natural gas vehicles (NGVs) in customers' fleets. Both the National Energy Policy Act and the California Air Resources Board's low emission vehicle regulations should increase this market after 1998. NGVs are expected to account for approximately 3 MMcf/day of demand by year 2000 increasing to 75 MMcf/day by the year 2015.

Industrial

Gas requirements for PG&E's industrial sector are affected by the level and type of industrial activity in the service area and changes in industrial processes. Gas use for industrial processes is expected to grow 1.2 percent per year from 1998 to 2015. This growth is driven by an expected increase in the production of food products; petroleum and chemical products; paper and pulp products; and stone, clay, and glass products to serve growing markets both here and abroad. These industries represent approximately 80 percent of PG&E's industrial gas market segment.

Electric Generation

PG&E's electric generation gas requirements forecast is consistent with the company's latest regulatory forecasts as filed in the 1998 Biennial Cost Allocation Proceeding and the 1999 General Rate Case. Electric generation gas requirements are expected to grow at an annual average rate of 2.4 percent per year from 2000 to 2015. The effect of Electric Industry Restructuring on the electric generation market's gas requirement in the forecast horizon remains highly uncertain.

The Sacramento Municipal Utility District (SMUD) is the fifth largest municipal electric utility in the United States and provides electric service to approximately 500,000 customers within the greater Sacramento area. SMUD had no gas-fired plants prior to 1995. Between 1995 and 1998 three gas-fired cogeneration plants were constructed and a gas system to fuel those plants was developed. The average expected daily gas consumption of these plants is 58 MMcf. Under expected peak conditions, the daily gas load could increase to 75 MMcf.

CUSTOMER ENERGY EFFICIENCY

PG&E has been actively implementing Customer Energy Efficiency (CEE) and other demand-side management programs. These programs help PG&E minimize the use of existing fossil-fuel generation and reduce the need for additional transmission and distribution facilities, ultimately resulting in reduced operating costs.

While PG&E will be transferring CEE program administration to the California Energy Commission during the forecast horizon, our assumption is that these programs will be funded at approximately the same level they are today. Impacts from currently funded and anticipated natural gas programs are included in the gas demand forecast. Electric CEE programs are reflected in the forecast of electric generation requirements.

Gas Demand Reductions Due to CEE Programs
(MDth)

Year	Residential	Commercial	Industrial	Total
1998	732	468	1,860	3,060
1999	972	528	2,028	3,528
2000	1,212	576	2,244	4,032
2001	1,452	636	2,460	4,548
2002	1,692	684	2,676	5,052
2003	1,932	744	2,892	5,568
2004	2,172	804	3,324	6,084
2005	2,412	864	3,540	6,600
2006	2,652	924	3,756	7,116
2007	2,892	984	3,756	7,632
2008	3,132	1,044	3,972	8,148
2009	3,372	1,104	4,188	8,664
2010	3,612	1,164	4,404	9,180
2015	5,094	1,517	5,663	12,274

GAS SUPPLY SOURCES

California-Source Gas

California source gas supplies come primarily from gas fields in the Sacramento Valley. PG&E's customer's purchases of California-source gas in 1997 averaged about 148 MMcf/day.

Implementation of the new market structure under Gas Accord has changed the way California-source gas is marketed in PG&E's service area. California gas producers now have the option to market their supplies to any customer in northern, central, and southern California.

U. S. Southwest Gas

PG&E's customers access three major U.S. Southwest gas producing basins--Permian, San Juan, and Anadarko--via the El Paso and Transwestern pipeline systems.

PG&E's customers can purchase U.S. Southwest gas supplies at the basin and transport it to California via interstate pipelines. Customers can also purchase these supplies at the California-Arizona border (Topock) or at the newly-established California Citygate marketers who hold inter- and intra-state pipeline capacity.

Canadian Gas

PG&E's customers can purchase Canadian gas from various suppliers in Canada and transport it to California primarily through PG&E Gas Transmission - Northwest. Customers can also purchase supplies at the California-Oregon border (Malin) and deliver the gas through PG&E's Redwood Path. Customers also may purchase supplies at the Citygate from marketers who hold inter- and intra-state pipeline capacity.

PG&E Gas Transmission - Northwest has access to Canadian gas supplies produced in the Western Canadian Sedimentary Basin (WCSB), which covers most of Alberta and parts of British Columbia and Saskatchewan. The WCSB is a prolific supply region. Given 1996 Canadian gas production of 5.6 Tcf and estimates of established reserves of 67 Tcf, Canada has a reserve life of about thirteen years.

Beyond the established reserves, estimates of undiscovered resources in the WCSB are over 100 Tcf. In addition, there are substantial gas resources in other areas of Canada. In the so-called frontier areas of the MacKenzie Delta, Beaufort Sea, Arctic Islands, and the Eastern Offshore area, there are approximately 320 Tcf of ultimate reserves. The National Energy Board (NEB) of Canada estimates that marketable resource potential for the WCSB is over 250 Tcf, of which 43 percent has been found. In addition, there is an estimated 20 Tcf of unconventional resources in coal bed and another 90 Tcf of tight sand resources in the WCSB reservoirs. Based on estimates by NEB and others, PG&E believes that Canada's natural gas resources--including existing inventory of conventional and unconventional gas resources--are immense.

Rocky Mountain Gas

PG&E's customers have access to gas supplies from the Rocky Mountain area via the Kern River Pipeline and the PG&E Gas Transmission-Northwest and Northwest Pipeline interconnect at Stanfield, Oregon. The Rocky Mountain area is a large region with many oil and gas producing basins. The greatest potential supplies available to California from this area are in the basins in southwestern and central Wyoming, adjacent to northern Colorado, and in northeastern Utah. Rocky Mountain supplies should enhance service reliability and increase diversity of gas supplies in northern and central California.

Supplemental Gas Supplies

Supplemental gas supplies are included in PG&E's forecast to meet customer's gas requirements and avoid curtailments.

PG&E anticipates that sufficient supplemental supplies will be available from a variety of sources at market-competitive prices to meet existing and projected market demands in its service area. The supplemental supplies shown in this report could be delivered through a variety of sources, including new interstate pipeline facilities and expansion of PG&E's existing transmission and storage facilities.

GAS SUPPLY/PIPELINE CAPACITY

OVERVIEW

Competition for gas supply, market share, and transportation access has increased significantly over the past few years. Implementation of PG&E's Gas Accord and the addition of interstate pipeline capacity have provided all customers with direct access to gas supplies, intra- and inter-state transportation, and related services.

Almost all of PG&E's noncore customers buy all or most of their gas supply needs directly from the market. They use PG&E's transportation and storage services to meet their gas supply needs.

INTERSTATE GAS PIPELINE CAPACITY

In recent years, the natural gas pipeline industry has taken significant steps to expand the nation's already extensive pipeline network. These efforts have allowed California utilities and end users improved access to supply basins and enhanced gas-on-gas and pipeline-to-pipeline competition. Interstate pipelines serving northern California include the El Paso, Transwestern, PG&E Gas Transmission-Northwest, and Kern River pipelines. These pipelines provide northern California with access to gas producing regions in the U. S. Southwest and Rocky Mountain areas, and in Western Canada.

U.S. Southwest

Total PG&E intrastate capacity connected to U.S. Southwest pipeline systems (Transwestern, El Paso, and Kern River) is limited to 1,140 MMcf/day, which is the maximum capacity of PG&E's Line 300 (Baja Path). In developing the forecast of gas supply takes, PG&E has assumed continued annual supply availability of 1,140 MMcf/day from the U. S. Southwest for the entire forecast period.

ABNORMAL PEAK DAY SUPPLY AND DEMAND

APD DEMAND FORECAST

The Abnormal Peak Day (APD) forecast is a forecast of the core demand forecast which CPUC regulations require PG&E to serve if weather conditions were to match those on the coldest day ever observed in the PG&E service area.

The forecast is developed by using statistical tools to estimate the relationship of daily core gas usage to daily weather conditions during several recent winters. This relationship is then used to forecast what the core load would be under the adverse weather conditions which occurred on December 11, 1932, the coldest day on record in PG&E's service area.

FORECAST OF APD SUPPLY AVAILABILITY

For APD planning purposes, supplies will flow under core's firm capacity, any as-available capacity, and capacity made available pursuant to supply diversion arrangements. These flowing supplies may be from Canada, U.S. Southwest, Rocky Mountains, SoCalGas, and California-source gas. Supplies could also be purchased from noncore customers once gas enters the PG&E system. PG&E Gas Procurement Department will be responsible for managing the flowing supplies to PG&E's core customers in the event of an APD occurrence. Core aggregators have the obligation to make and pay for all necessary arrangements to deliver gas to PG&E to match the use of their customers.

A significant part of the APD demand will be met by storage withdrawals from PG&E's underground storage facilities located at McDonald Island, Los Medanos, and Pleasant Creek.

PACIFIC GAS AND ELECTRIC COMPANY

Forecast of Gas Demand and Supply on an Abnormal Peak Day (APD)

MMcf/Day

	1998-1999	1999-2000	2000-2001	2001-2002	2002-2003
APD Core Demand[1]	3,058	3,067	3,075	3,081	3,088
Firm Storage Withdrawal	1,006	1,006	1,006	1,006	1,006
Required Flowing Supplies[2]	2,052	2,061	2,069	2,075	2,082
Total APD Resources (to meet demands)	3,058	3,067	3,075	3,081	3,088

NOTES:

(1) Includes PG&E Gas Procurement Department's and other Core Transport Agent's core customer demands. APD planning criterion: system temperature on APD is 29 degrees F.

(2) Includes supplies flowing under firm capacity, and capacity made available pursuant to supply diversion arrangements.

GAS BALANCES

OVERVIEW

Although available gas supplies exceed requirements on an average basis, on particularly cold winter days heightened demand could require the use of gas from underground storage. The balances listed in this report represent one possible combination of system demands and supply competition necessary to deliver incremental supplies. They are not intended to reflect actual choices by customers, or an outcome sought or preferred by PG&E.

SEQUENCING

Sequencing describes the order in which gas supplies are purchased in accordance with PG&E's gas purchase policy and operational considerations. The gas balances presented in this report are based on sequencing assumptions consistent with these guidelines.

BALANCE RESULTS

The gas balances show full service to all customers under an average year for the forecast period. Beginning January 2010, supplemental supplies of 100 MMcf per day are assumed to be available to the PG&E system for all three temperature-year cases. No curtailments occur in any of the temperature cases.

PACIFIC GAS AND ELECTRIC COMPANY
TABULAR DATA

TABULAR DATA

Recorded data for 1993 through 1997 and forecast data for 1998 through 2015 are shown in the following tables in millions of cubic feet per day (MMcf/day). Additional information on gas supply and requirements is as follows:

The UEG curtailments reported in the recorded data reflect interruptions in service caused by maintenance, operational, and economic considerations, as well as supply or capacity constraints.

Off-system deliveries from PG&E's system to southern California markets were assumed to average 350 MMcf/day.

Some numbers may not sum precisely because of modeling accuracy and rounding and do not imply curtailments.

The Recorded Years 1993-1997 data show supplies, requirements, and gas sendout within the PG&E service area. Supplies delivered to southern California utilities for use in their service areas are not included.

ANNUAL GAS SUPPLY AND REQUIREMENTS
RECORDED YEARS 1993-1997
MMCF/DAY

LINE	GAS SUPPLY TAKEN		1993	1994	1995	1996	1997	LINE
	CALIFORNIA SOURCE GAS							
1	Regular Purchases		88	80	85	77	29	1
2	Exchange		22	16	11	11	12	2
3	Transport		73	99	80	81	107	3
4	Total California Source Gas		183	195	176	169	147	4
	OUT-OF-STATE GAS							
5	Rocky Mountain Gas		0	0	0	0	0	5
6	U.S. Southwest Purchases - Core		367	203	155	146	144	6
7	Canadian Purchases - Core		847	580	535	531	565	7
8	UEG Gas Transport from U.S. Southwest		298	465	167	157	215	8
9	UEG Gas Transport from Canada		57	296	182	162	203	9
10	Noncore Customer Gas Transport		306	562	671	724	768	10
11	Total Out-of-State Gas		1,875	2,105	1,710	1,721	1,894	11
12	Subtotal		2,059	2,300	1,886	1,890	2,042	12
13	Storage Withdrawal		86	131	54	78	113	13
14	TOTAL GAS SUPPLY TAKEN		2,144	2,431	1,940	1,968	2,155	14
	GAS SENDOUT							
	SALES							
15	CORE	Residential		587	525	521	524	15
16		Commercial		198	176	171	167	16
17		NGV		0	0	0	1	17
18		SUBTOTAL - Core		786	702	692	691	18
19	NONCORE	Industrial		37	36	30	26	19
20		Electric Generation (1)		5	3	3	2	20
21		EOR		11	0	0	0	21
22		NGV		0	0	0	0	22
23		Wholesale/Resale		2	0	0	0	23
24		SUBTOTAL - Noncore		56	38	33	28	24
25	SHRINKAGE Company Use & Unaccounted for			130	86	128	165	25
26	TOTAL SALES			971	826	853	884	26
	TRANSPORT ONLY							
27	CORE	All Classes		42	46	38	45	27
28	NONCORE	Industrial		390	444	530	562	28
29		Electric Generation (1)		890	503	460	564	29
30		EOR		7	18	6	4	30
31		NGV		0	1	1	1	31
32		Wholesale/Resale		11	10	10	10	32
33	TOTAL TRANSPORT ONLY			1,339	1,021	1,044	1,186	33
34	California Exchange Gas			16	11	11	12	34
35	Storage Injection			104	82	61	74	35
36	SUBTOTAL			1,460	1,114	1,115	1,271	36
37	TOTAL GAS SENDOUT (2)			2,431	1,940	1,968	2,155	37
	CURTAILMENT / ALTERNATIVE FUEL BURNS							
38	Residential, Commercial, Industrial & EOR		0	0	0	0	0	38
39	Utility Steam Electric Generation (3)		25	40	0	0	0	39
40	TOTAL CURTAILMENT		25	40	0	0	0	40

NOTES:

(1) Electric Generation includes Non-EOR cogeneration, PG&E Utility Electric Generation, and other non-utility generation.

(2) Off-system transportation is excluded from northern California's total gas sendout.

(3) UEG curtailments include voluntary oil burns due to economic, operational, and inventory reduction reasons as well as involuntary curtailments due to supply shortages and capacity constraints. No UEG gas curtailments occurred in 1995 or 1996.

ANNUAL GAS SUPPLY
FORECAST YEARS 1998-2002
MMCF/DAY
AVERAGE TEMPERATURE YEAR

LINE	GAS SUPPLY AVAILABLE	1998	1999	2000	2001	2002	LINE
1	CALIFORNIA SOURCE GAS	160	160	160	160	160	1
	OUT-OF-STATE GAS						
2	U.S. Southwest Gas (1)	1,140	1,140	1,140	1,140	1,140	2
3	Canadian Gas (2)	1,475	1,475	1,512	1,525	1,525	3
4	Supplemental (3)	0	0	6	30	50	4
5	Total Out-of-State Gas	2,615	2,615	2,652	2,665	2,665	5
6	TOTAL Supplies Available (4)	2,775	2,775	2,812	2,825	2,825	6
7	Pipeline Bypass (5)	366	366	366	366	366	7
8	TOTAL INCLUDING BYPASS	3,141	3,141	3,178	3,191	3,191	8
	GAS SUPPLY TAKEN						
	CALIFORNIA SOURCE GAS						
9	PG&E Purchases (6)	20	20	20	20	20	9
10	Customer Transport	140	140	140	140	140	10
11	Total California	160	160	160	160	160	11
	OUT-OF-STATE GAS (via Existing Facilities)						
	U.S. Southwest Gas						
12	PG&E Purchases (6)	151	139	123	110	96	12
13	Customer Transport	292	375	358	400	438	13
14	Total Southwest U.S.	443	514	481	510	534	14
	Canadian Gas						
15	PG&E Purchases (6)	591	591	591	592	592	15
16	Customer Transport	884	884	921	933	933	16
17	Total Canadian	1,475	1,475	1,512	1,525	1,525	17
	Supplemental						
18	PG&E Purchases (6)	0	0	0	0	0	18
19	Customer Transport	0	0	0	0	0	19
20	Total Supplemental	0	0	0	0	0	20
21	Total Out-of State Gas	1,918	1,989	1,993	2,035	2,059	21
22	SUBTOTAL	2,078	2,149	2,153	2,195	2,219	22
23	Storage Withdrawal	103	103	103	103	103	23
24	Pipeline Bypass (5)	366	366	366	366	366	24
25	TOTAL THROUGHPUT	2,547	2,618	2,622	2,664	2,688	25

NOTES:

(1) This is based on the intrastate capacity of 1,140 MMcf/day and includes transport of customer-owned gas and purchases by PG&E. The total capacity from the U. S. Southwest and the Rocky Mountain producing regions is higher than the intrastate capacity of 1,140 MMcf/day on PG&E's Baja Path.

(2) 350 MMcf/day assumed to southern California.

(3) May include interruptible supplies transported over existing facilities, displacement agreements, or modifications that expand existing facilities.

(4) Supplies available through utility system.

ANNUAL GAS REQUIREMENTS
FORECAST YEARS 1998-2002
MMCF/DAY
AVERAGE TEMPERATURE YEAR

LINE			1998	1999	2000	2001	2002	LINE
	REQUIREMENTS FORECAST BY END USE (1)							
1	CORE	Residential	540	540	541	542	543	1
2		Commercial	202	204	205	206	206	2
3		NGV	1	1	2	2	3	3
4		SUBTOTAL-Core	744	746	748	750	752	4
5	NONCORE	Industrial	505	510	515	521	527	5
6		SMUD Electric Generation	58	58	58	58	58	6
7		PG&E Electric Generation (2)	690	757	749	783	799	7
8		EOR	4	4	4	4	4	8
9		NGV	1	1	1	2	3	9
10		Resale	10	11	11	11	11	10
11		Southwest Exchange Gas	9	10	10	10	10	11
12		SUBTOTAL-Noncore	1,277	1,351	1,348	1,389	1,411	12
13	SHRINKAGE	Company Use and Unaccounted For	55	56	56	56	56	13
14	TOTAL END USE SERVED BY UTILITY (3)		2,076	2,153	2,152	2,195	2,219	14
15		Storage Injection	103	103	103	103	103	15
16		SUBTOTAL-Including Injection	2,179	2,256	2,255	2,298	2,322	16
17		Pipeline Bypass (4)	366	366	366	366	366	17
18	TOTAL REQUIREMENTS		2,545	2,622	2,621	2,664	2,688	18
19	SYSTEM CURTAILMENT		0	0	0	0	0	19
	TRANSPORT ONLY (4)							
20	CORE	All Classes	67	77	89	102	117	20
21	NONCORE	Industrial	495	505	515	521	527	21
22		SMUD Electric Generation	58	58	58	58	58	22
23		PG&E Electric Generation	690	757	749	783	799	23
24		EOR	4	4	4	4	4	24
25		NGV	1	1	1	2	3	25
26		Resale	10	11	11	11	11	26
27		Southwest Exchange Gas	9	10	10	10	10	27
28	TOTAL TRANSPORT ONLY		1,334	1,422	1,437	1,491	1,528	28

NOTES:
(1) Requirements forecast by end use includes on-system sales and transportation volumes only.
(2) Electric Generation includes Non-EOR cogeneration, PG&E Utility Electric Generation, and other non-utility generation.
(3) Figures are net of pipeline bypass load losses to non-jurisdictional gas suppliers.
(4) Transport is included in requirements forecast above.

ANNUAL GAS SUPPLY
FORECAST YEARS 2003-2015
MMCF/DAY
AVERAGE TEMPERATURE YEAR

LINE	GAS SUPPLY AVAILABLE	2003	2004	2005	2010	2015	LINE
1	CALIFORNIA SOURCE GAS	160	160	160	160	160	1
	OUT-OF-STATE GAS						
2	U.S. Southwest Gas (1)	1,140	1,140	1,140	1,140	1,140	2
3	Canadian Gas (2)	1,525	1,525	1,525	1,525	1,525	3
4	Supplemental (3)	0	0	0	0	10	4
5	Total Out-of-State Gas	2,665	2,665	2,665	2,665	2,675	5
6	TOTAL Supplies Available (4)	2,825	2,825	2,825	2,825	2,835	6
7	Pipeline Bypass (5)	366	366	366	366	366	7
8	TOTAL INCLUDING BYPASS	3,191	3,191	3,191	3,191	3,201	8
	GAS SUPPLY TAKEN						
	CALIFORNIA SOURCE GAS						
9	PG&E Purchases (6)	20	20	20	20	20	9
10	Customer Transport	140	140	140	140	140	10
11	Total California	160	160	160	160	160	11
	OUT-OF-STATE GAS (via Existing Facilities)						
	U.S. Southwest Gas						
12	PG&E Purchases (6)	86	75	63	0	0	12
13	Customer Transport	471	510	549	775	942	13
14	Total Southwest U.S.	557	585	612	775	942	14
	Canadian Gas						
15	PG&E Purchases (6)	592	592	592	574	435	15
16	Customer Transport	933	933	932	931	929	16
17	Total Canadian	1,525	1,525	1,525	1,525	1,525	17
	Supplemental						
18	PG&E Purchases (6)	0	0	0	0	0	18
19	Customer Transport	0	0	0	0	4	19
20	Total Supplemental	0	0	0	0	4	20
21	Total Out-of State Gas	2,082	2,110	2,137	2,300	2,471	21
22	SUBTOTAL	2,242	2,270	2,297	2,460	2,631	22
23	Storage Withdrawal	103	103	103	103	103	23
24	Pipeline Bypass (5)	366	366	366	366	366	24
25	TOTAL THROUGHPUT	2,711	2,739	2,766	2,929	3,100	25

NOTES:

(1) This is based on the intrastate capacity of 1,140 MMcf/day and includes transport of customer-owned gas and purchases by PG&E. The total capacity from the U. S. Southwest and the Rocky Mountain producing regions is higher than the intrastate capacity of 1,140 MMcf/day on PG&E's Baja Path.

(2) 350 MMcf/day assumed to southern California.

(3) May include interruptible supplies transported over existing facilities, displacement agreements, or modifications that expand existing facilities.

(4) Supplies available through utility system.

(5) Bypass is defined in the Glossary.

(6) Core portfolio only.

ANNUAL GAS REQUIREMENTS
FORECAST YEARS 2003-2015
MMCF/DAY
AVERAGE TEMPERATURE YEAR

LINE			2003	2004	2005	2010	2015	LINE
	REQUIREMENTS FORECAST BY END USE (1)							
1	CORE	Residential	544	546	547	554	561	1
2		Commercial	206	207	207	208	209	2
3		NGV	3	4	4	14	25	3
4		SUBTOTAL-Core	754	756	759	776	795	4
5	NONCORE	Industrial	532	539	547	585	620	5
6		SMUD Electric Generation	58	58	58	58	58	6
7		PG&E Electric Generation (2)	815	831	848	936	1,033	7
8		EOR	4	4	4	4	4	8
9		NGV	4	5	6	28	50	9
10		Resale	11	11	11	11	11	10
11		Southwest Exchange Gas	10	10	10	10	10	11
12		SUBTOTAL-Noncore	1,433	1,458	1,484	1,631	1,786	12
13	SHRINKAGE	Company Use and Unaccounted For	56	56	56	55	55	13
14	TOTAL END USE SERVED BY UTILITY (3)		2,243	2,269	2,298	2,463	2,636	14
15		Storage Injection	103	103	103	103	103	15
16		SUBTOTAL-Including Injection	2,346	2,372	2,401	2,566	2,739	16
17		Pipeline Bypass (4)	366	366	366	366	366	17
18	TOTAL REQUIREMENTS		2,712	2,738	2,767	2,932	3,105	18
19	SYSTEM CURTAILMENT		0	0	0	0	0	19
	TRANSPORT ONLY (4)							
20	CORE	All Classes	129	142	156	251	404	20
21	NONCORE	Industrial	532	539	547	585	620	21
22		SMUD Electric Generation	58	58	58	58	58	22
23		PG&E Electric Generation	815	831	848	936	1,033	23
24		EOR	4	4	4	4	4	24
25		NGV	4	5	6	28	50	25
26		Resale	11	11	11	11	11	26
27		Southwest Exchange Gas	10	10	10	10	10	27
28	TOTAL TRANSPORT ONLY		1,562	1,599	1,639	1,882	2,190	28

NOTES:
(1) Requirements forecast by end use includes on-system sales and transportation volumes only.
(2) Electric Generation includes Non-EOR cogeneration, PG&E Utility Electric Generation, and other non-utility generation.
(3) Figures are net of pipeline bypass load losses to non-jurisdictional gas suppliers.
(4) Transport is included in requirements forecast above.

ANNUAL GAS SUPPLY
FORECAST YEARS 1998-2002
MMCF/DAY
COLD TEMPERATURE YEAR

LINE	GAS SUPPLY AVAILABLE	1998	1999	2000	2001	2002	LINE
1	CALIFORNIA SOURCE GAS	160	160	160	160	160	1
	OUT-OF-STATE GAS						
2	U.S. Southwest Gas (1)	1,140	1,140	1,140	1,140	1,140	2
3	Canadian Gas (2)	1,475	1,475	1,512	1,525	1,525	3
4	Supplemental (3)	0	0	0	0	0	4
5	Total Out-of-State Gas	2,615	2,615	2,652	2,665	2,665	5
6	TOTAL Supplies Available (4)	2,775	2,775	2,812	2,825	2,825	6
7	Pipeline Bypass (5)	366	366	366	366	366	7
8	TOTAL INCLUDING BYPASS	3,141	3,141	3,178	3,191	3,191	8
	GAS SUPPLY TAKEN						
	CALIFORNIA SOURCE GAS						
9	PG&E Purchases (6)	20	20	20	20	20	9
10	Customer Transport	140	140	140	140	140	10
11	Total California	160	160	160	160	160	11
	OUT-OF-STATE GAS (via Existing Facilities)						
	U.S. Southwest Gas						
12	PG&E Purchases (6)	252	238	223	209	192	12
13	Customer Transport	284	297	269	261	279	13
14	Total Southwest U.S.	707	799	767	806	835	14
	Canadian Gas						
15	PG&E Purchases (6)	600	600	600	600	600	15
16	Customer Transport	875	875	912	925	925	16
17	Total Canadian	1,475	1,475	1,512	1,525	1,525	17
	Supplemental						
18	PG&E Purchases (6)	0	0	0	0	0	18
19	Customer Transport	0	0	0	0	0	19
20	Total Supplemental	0	0	0	0	0	20
21	Total Out-of State Gas	2,182	2,274	2,279	2,331	2,360	21
22	SUBTOTAL	2,342	2,434	2,439	2,491	2,520	22
23	Storage Withdrawal	103	103	103	103	103	23
24	Pipeline Bypass (5)	366	366	366	366	366	24
25	TOTAL THROUGHPUT	2,811	2,903	2,908	2,960	2,989	25

NOTES:

(1) This is based on the intrastate capacity of 1,140 MMcf/day and includes transport of customer-owned gas and purchases by PG&E. The total capacity from the U. S. Southwest and the Rocky Mountain producing regions is higher than the intrastate capacity of 1,140 MMcf/day on PG&E's Baja Path.

(2) 350 MMcf/day assumed to southern California.

(3) May include interruptible supplies transported over existing facilities, displacement agreements, or modifications that expand existing facilities.

(4) Supplies available through utility system.

(5) Bypass is defined in the Glossary.

(6) Core portfolio only.

ANNUAL GAS REQUIREMENTS
FORECAST YEARS 1998-2002
MMCF/DAY
COLD TEMPERATURE YEAR

LINE			1998	1999	2000	2001	2002	LINE
	REQUIREMENTS FORECAST BY END USE (1)							
1	CORE	Residential	631	631	632	634	635	1
2		Commercial	230	232	233	234	235	2
3		NGV	1	1	2	2	3	3
4		SUBTOTAL-Core	862	865	868	870	872	4
5	NONCORE	Industrial	518	522	528	534	540	5
6		SMUD Electric Generation	58	58	58	58	58	6
7		PG&E Electric Generation (2)	825	912	902	946	964	7
8		EOR	4	4	4	4	4	8
9		NGV	1	1	1	2	3	9
10		Resale	10	11	11	11	11	10
11		Southwest Exchange Gas	9	10	10	10	10	11
12		SUBTOTAL-Noncore	1,425	1,519	1,514	1,564	1,589	12
13	SHRINKAGE	Company Use and Unaccounted For	57	58	58	58	58	13
14	TOTAL END USE SERVED BY UTILITY (3)		2,344	2,441	2,439	2,492	2,519	14
15		Storage Injection	103	103	103	103	103	15
16		SUBTOTAL-Including Injection	2,447	2,544	2,542	2,595	2,622	16
17		Pipeline Bypass (4)	366	366	366	366	366	17
18	TOTAL REQUIREMENTS		2,813	2,910	2,908	2,961	2,988	18
19	SYSTEM CURTAILMENT		0	0	0	0	0	19
	TRANSPORT ONLY (4)							
20	CORE	All Classes	78	89	103	136	149	20
21	NONCORE	Industrial	507	517	528	534	540	21
22		SMUD Electric Generation	58	58	58	58	58	22
23		PG&E Electric Generation	825	912	902	946	964	23
24		EOR	4	4	4	4	4	24
25		NGV	1	1	1	2	3	25
26		Resale	10	11	11	11	11	26
27		Southwest Exchange Gas	9	10	10	10	10	27
28	TOTAL TRANSPORT ONLY		1,493	1,603	1,616	1,682	1,725	28

NOTES:
(1) Requirements forecast by end use includes on-system sales and transportation volumes only.
(2) Electric Generation includes Non-EOR cogeneration, PG&E Utility Electric Generation, and other non-utility generation.
(3) Figures are net of pipeline bypass load losses to non-jurisdictional gas suppliers.
(4) Transport is included in requirements forecast above.

ANNUAL GAS SUPPLY
FORECAST YEARS 2003-2015
MMCF/DAY
COLD TEMPERATURE YEAR

LINE	GAS SUPPLY AVAILABLE	2003	2004	2005	2010	2015	LINE
1	CALIFORNIA SOURCE GAS	160	160	160	160	160	1
	OUT-OF STATE GAS						
2	U.S. Southwest Gas (1)	1,140	1,140	1,140	1,140	1,140	2
3	Canadian Gas (2)	1,525	1,525	1,525	1,525	1,525	3
4	Supplemental (3)	0	0	10	50	180	4
5	Total Out-of State Gas	2,665	2,665	2,675	2,715	2,845	5
6	TOTAL Supplies Available (4)	2,825	2,825	2,835	2,875	3,005	6
7	Pipeline Bypass (5)	366	366	366	366	366	7
8	TOTAL INCLUDING BYPASS	3,191	3,191	3,201	3,241	3,371	8
	GAS SUPPLY TAKEN						
	CALIFORNIA SOURCE GAS						
9	PG&E Purchases (6)	20	20	20	20	20	9
10	Customer Transport	140	140	140	140	140	10
11	Total California	160	160	160	160	160	11
	OUT OF STATE GAS (via Existing Facilities)						
	U.S. Southwest Gas						
12	PG&E Purchases (6)	180	167	154	74	0	12
13	Customer Transport	683	725	769	971	1,131	13
14	Total Southwest U.S.	863	892	923	1,045	1,131	14
	Canadian Gas						
15	PG&E Purchases (6)	600	600	600	586	498	15
16	Customer Transport	925	925	925	938	1,028	16
17	Total Canadian	1,524	1,524	1,525	1,526	1,526	17
	Supplemental						
18	PG&E Purchases (6)	0	0	0	0	0	18
19	Customer Transport	0	0	5	38	163	19
20	Total Supplemental	0	0	5	38	163	20
21	Total Out-of State Gas	2,387	2,416	2,453	2,609	2,820	21
22	SUBTOTAL	2,547	2,576	2,613	2,769	2,980	22
23	Storage Withdrawal	103	103	103	103	103	23
24	Pipeline Bypass (5)	366	366	366	366	366	24
25	TOTAL THROUGHPUT	3,016	3,045	3,082	3,238	3,449	25

NOTES:

(1) This is based on the intrastate capacity of 1,140 MMcf/day and includes transport of customer-owned gas and purchases by PG&E. The total capacity from the U. S. Southwest and the Rocky Mountain producing regions is higher than the intrastate capacity of 1,140 MMcf/day on PG&E's Baja Path.

(2) 350 MMcf/day assumed to southern California.

(3) May include interruptible supplies transported over existing facilities, displacement agreements, or modifications that expand existing facilities.

(4) Supplies available through utility system.

(5) Bypass is defined in the Glossary.

(6) Core portfolio only.

ANNUAL GAS REQUIREMENTS
FORECAST YEARS 2003-2015
MMCF/DAY
COLD TEMPERATURE YEAR

LINE			2003	2004	2005	2010	2015	LINE
	REQUIREMENTS FORECAST BY END USE (1)							
1	CORE	Residential	636	638	640	649	657	1
2		Commercial	235	236	236	237	238	2
3		NGV	3	4	4	14	25	3
4		SUBTOTAL-Core	874	877	880	900	920	4
5	NONCORE	Industrial	545	553	561	600	637	5
6		SMUD Electric Generation	58	58	58	58	58	6
7		PG&E Electric Generation (2)	984	1,003	1,023	1,130	1,248	7
8		EOR	4	4	4	4	4	8
9		NGV	4	5	6	28	50	9
10		Resale	11	11	11	11	11	10
11		Southwest Exchange Gas	10	10	10	10	10	11
12		SUBTOTAL-Noncore	1,615	1,643	1,673	1,840	2,017	12
13	SHRINKAGE	Company Use and Unaccounted For	58	58	57	57	57	13
14	TOTAL END USE SERVED BY UTILITY (3)		2,547	2,578	2,611	2,797	2,993	14
15		Storage Injection	103	103	103	103	103	15
16		SUBTOTAL-Including Injection	2,650	2,681	2,714	2,900	3,096	16
17		Pipeline Bypass (4)	366	366	366	366	366	17
18	TOTAL REQUIREMENTS		3,016	3,047	3,080	3,266	3,462	18
19	SYSTEM CURTAILMENT		0	0	0	0	0	19
	TRANSPORT ONLY (4)							
20	CORE	All Classes	149	164	181	291	469	20
21	NONCORE	Industrial	545	553	561	600	637	21
22		SMUD Electric Generation	58	58	58	58	58	22
23		PG&E Electric Generation	984	1,003	1,023	1,130	1,248	23
24		EOR	4	4	4	4	4	24
25		NGV	4	5	6	28	50	25
26		Resale	11	11	11	11	11	26
27		Southwest Exchange Gas	10	10	10	10	10	27
28	TOTAL TRANSPORT ONLY		1,765	1,808	1,854	2,131	2,485	28

NOTES:
(1) Requirements forecast by end use includes on-system sales and transportation volumes only.
(2) Electric Generation includes Non-EOR cogeneration, PG&E Utility Electric Generation, and other non-utility generation.
(3) Figures are net of pipeline bypass load losses to non-jurisdictional gas suppliers.
(4) Transport is included in requirements forecast above.

ANNUAL GAS SUPPLY
FORECAST YEARS 1998-2002
MMCF/DAY
HOT TEMPERATURE YEAR

LINE	GAS SUPPLY AVAILABLE	1998	1999	2000	2001	2002	LINE
1	CALIFORNIA SOURCE GAS	160	160	160	160	160	1
	OUT-OF STATE GAS						
2	U.S. Southwest Gas (1)	1,140	1,140	1,140	1,140	1,140	2
3	Canadian Gas (2)	1,475	1,475	1,512	1,525	1,525	3
4	Supplemental (3)	0	0	0	0	0	4
5	Total Out-of-State Gas	2,615	2,615	2,652	2,665	2,665	5
6	TOTAL Supplies Available (4)	2,775	2,775	2,812	2,825	2,825	6
7	Pipeline Bypass (5)	366	366	366	366	366	7
8	TOTAL INCLUDING BYPASS	3,141	3,141	3,178	3,191	3,191	8
	GAS SUPPLY TAKEN						
	CALIFORNIA SOURCE GAS						
9	PG&E Purchases (6)	20	20	20	20	20	9
10	Customer Transport	140	140	140	140	140	10
11	Total California	160	160	160	160	160	11
	OUT OF STATE GAS (via Existing Facilities)						
	U.S. Southwest Gas						
12	PG&E Purchases (6)	110	98	83	73	59	12
13	Customer Transport	154	212	203	234	266	13
14	Total Southwest U.S.	264	310	286	307	325	14
	Canadian Gas						
15	PG&E Purchases (6)	592	593	593	593	593	15
16	Customer Transport	879	880	915	925	927	16
17	Total Canadian	1,471	1,473	1,508	1,518	1520	17
	Supplemental						
18	PG&E Purchases (6)	0	0	0	0	0	18
19	Customer Transport	0	0	0	0	0	19
20	Total Supplemental	0	0	0	0	0	20
21	Total Out-of State Gas	1,735	1,783	1,794	1,825	1,845	21
22	SUBTOTAL	1,895	1,943	1,954	1,985	2,005	22
23	Storage Withdrawal	103	103	103	103	103	23
24	Pipeline Bypass (5)	366	366	366	366	366	24
25	TOTAL THROUGHPUT	2,364	2,412	2,423	2,454	2,474	25

NOTES:

(1) This is based on the intrastate capacity of 1,140 MMcf/day and includes transport of customer-owned gas and purchases by PG&E. The total capacity from the U. S. Southwest and the Rocky Mountain producing regions is higher than the intrastate capacity of 1,140 MMcf/day on PG&E's Baja Path.

(2) 350 MMcf/day assumed to southern California.

(3) May include interruptible supplies transported over existing facilities, displacement agreements, or modifications that expand existing facilities.

(4) Supplies available through utility system.

(5) Bypass is defined in the Glossary.

(6) Core portfolio only.

ANNUAL GAS REQUIREMENTS
FORECAST YEARS 1998-2002
MMCF/DAY
HOT TEMPERATURE YEAR

LINE			1998	1999	2000	2001	2002	LINE
	REQUIREMENTS FORECAST BY END USE (1)							
1	CORE	Residential	507	507	508	509	510	1
2		Commercial	193	194	195	196	196	2
3		NGV	1	1	2	2	3	3
4		SUBTOTAL-Core	701	703	705	707	709	4
5	NONCORE	Industrial	502	506	511	517	523	5
6		SMUD Electric Generation	58	58	58	58	58	6
7		PG&E Electric Generation (2)	554	602	596	621	633	7
8		EOR	4	4	4	4	4	8
9		NGV	1	1	1	2	3	9
10		Resale	10	11	11	11	11	10
11		Southwest Exchange Gas	9	10	10	10	10	11
12		SUBTOTAL-Noncore	1,138	1,191	1,192	1,222	1,241	12
13	SHRINKAGE	Company Use and Unaccounted For	54	56	55	56	56	13
14	TOTAL END USE SERVED BY UTILITY (3)		1,893	1,950	1,952	1,985	2,005	14
15		Storage Injection	103	103	103	103	103	15
16		SUBTOTAL-Including Injection	1,996	2,053	2,055	2,088	2,108	16
17		Pipeline Bypass (4)	366	366	366	366	366	17
18	TOTAL REQUIREMENTS		2,362	2,419	2,421	2,454	2,474	18
19	SYSTEM CURTAILMENT		0	0	0	0	0	19
	TRANSPORT ONLY (4)							
20	CORE	All Classes	63	73	83	96	192	20
21	NONCORE	Industrial	492	501	511	517	523	21
22		SMUD Electric Generation	58	58	58	58	58	22
23		PG&E Electric Generation	554	602	596	621	633	23
24		EOR	4	4	4	4	4	24
25		NGV	1	1	1	2	3	25
26		Resale	10	11	11	11	11	26
27		Southwest Exchange Gas	9	10	10	10	10	27
28	TOTAL TRANSPORT ONLY		1,191	1,259	1,275	1,318	1,351	28

NOTES:
(1) Requirements forecast by end use includes on-system sales and transportation volumes only.
(2) Electric Generation includes Non-EOR cogeneration, PG&E Utility Electric Generation, and other non-utility generation.
(3) Figures are net of pipeline bypass load losses to non-jurisdictional gas suppliers.
(4) Transport is included in requirements forecast above.

ANNUAL GAS SUPPLY
FORECAST YEARS 2003-2015
MMCF/DAY
HOT TEMPERATURE YEAR

LINE	GAS SUPPLY AVAILABLE	2003	2004	2005	2010	2015	LINE
1	CALIFORNIA SOURCE GAS	160	160	160	160	160	1
	OUT-OF STATE GAS						
2	U.S. Southwest Gas (1)	1,140	1,140	1,140	1,140	1,140	2
3	Canadian Gas (2)	1,525	1,525	1,525	1,525	1,525	3
4	Supplemental (3)	0	0	0	0	0	4
5	Total Out-of-State Gas	2,665	2,665	2,665	2,665	2,665	5
6	TOTAL Supplies Available (4)	2,825	2,825	2,825	2,825	2,825	6
7	Pipeline Bypass (5)	366	366	366	366	366	7
8	TOTAL INCLUDING BYPASS	3,191	3,191	3,191	3,191	3,191	8
	GAS SUPPLY TAKEN						
	CALIFORNIA SOURCE GAS						
9	PG&E Purchases (6)	20	20	20	20	20	9
10	Customer Transport	140	140	140	140	140	10
11	Total California	160	160	160	160	160	11
	OUT OF STATE GAS (via Existing Facilities)						
	U.S. Southwest Gas						
12	PG&E Purchases (6)	48	39	28	0	0	12
13	Customer Transport	297	328	362	534	687	13
14	Total Southwest U.S.	345	367	390	534	687	14
	Canadian Gas						
15	PG&E Purchases (6)	593	593	593	544	413	15
16	Customer Transport	928	929	930	981	1,112	16
17	Total Canadian	1,521	1,522	1,524	1,525	1,525	17
	Supplemental						
18	PG&E Purchases (6)	0	0	0	0	0	18
19	Customer Transport	0	0	0	0	0	19
20	Total Supplemental	0	0	0	0	0	20
21	Total Out-of State Gas	1,866	1,889	1,914	2,059	2,212	21
22	SUBTOTAL	2,026	2,049	2,074	2,219	2,372	22
23	Storage Withdrawal	103	103	103	103	103	23
24	Pipeline Bypass (5)	366	366	366	366	366	24
25	TOTAL THROUGHPUT	2,495	2,518	2,543	2,688	2,841	25

NOTES:

(1) This is based on the intrastate capacity of 1,140 MMcf/day and includes transport of customer-owned gas and purchases by PG&E. The total capacity from the U. S. Southwest and the Rocky Mountain producing regions is higher than the intrastate capacity of 1,140 MMcf/day on PG&E's Baja Path.

(2) 350 MMcf/day assumed to southern California.

(3) May include interruptible supplies transported over existing facilities, displacement agreements, or modifications that expand existing facilities.

(4) Supplies available through utility system.

(5) Bypass is defined in the Glossary.

(6) Core portfolio only.

ANNUAL GAS REQUIREMENTS
FORECAST YEARS 2003-2015
MMCF/DAY
HOT TEMPERATURE YEAR

LINE			2003	2004	2005	2010	2015	LINE
	REQUIREMENTS FORECAST BY END USE (1)							
1	CORE	Residential	511	512	513	520	527	1
2		Commercial	197	19	236	237	238	2
3		NGV	3	4	4	14	25	3
4		SUBTOTAL-Core	874	877	880	900	920	4
5	NONCORE	Industrial	545	553	561	600	637	5
6		SMUD Electric Generation	58	58	58	58	58	6
7		PG&E Electric Generation (2)	646	659	672	742	819	7
8		EOR	4	4	4	4	4	8
9		NGV	4	5	6	28	50	9
10		Resale	11	11	11	11	11	10
11		Southwest Exchange Gas	10	10	10	10	10	11
12		SUBTOTAL-Noncore	1,260	1,281	1,303	1,432	1,567	12
13	SHRINKAGE	Company Use and Unaccounted For	58	58	57	57	57	13
14	TOTAL END USE SERVED BY UTILITY (3)		2,025	2,049	2,074	2,219	2,371	14
15		Storage Injection	103	103	103	103	103	15
16		SUBTOTAL-Including Injection	2,128	2,152	2,177	2,322	2,474	16
17		Pipeline Bypass (4)	366	366	366	366	366	17
18	TOTAL REQUIREMENTS		2,494	2,518	2,543	2,688	2,840	18
19	SYSTEM CURTAILMENT		0	0	0	0	0	19
	TRANSPORT ONLY (4)							
20	CORE	All Classes	121	133	147	236	381	20
21	NONCORE	Industrial	545	553	561	600	637	21
22		SMUD Electric Generation	58	58	58	58	58	22
23		PG&E Electric Generation	646	659	672	742	819	23
24		EOR	4	4	4	4	4	24
25		NGV	4	5	6	28	50	25
26		Resale	11	11	11	11	11	26
27		Southwest Exchange Gas	10	10	10	10	10	27
28	TOTAL TRANSPORT ONLY		1,381	1,414	1,450	1,669	1,948	28

NOTES:
(1) Requirements forecast by end use includes on-system sales and transportation volumes only.
(2) Electric Generation includes Non-EOR cogeneration, PG&E Utility Electric Generation, and other non-utility generation.
(3) Figures are net of pipeline bypass load losses to non-jurisdictional gas suppliers.
(4) Transport is included in requirements forecast above.

1998 California Gas Report

SOUTHERN CALIFORNIA

INTRODUCTION

Southern California Gas Company (SoCalGas) is the principal distributor of natural gas in southern California, providing retail and wholesale customers with procurement, transportation, exchange, and storage services. SoCalGas is a gas-only utility and, in addition to serving the residential, commercial, and industrial markets, provides gas to the electric utilities serving southern California, including Southern California Edison Company, the City of Los Angeles Department of Water and Power, and a number of smaller municipal electric utilities. San Diego Gas & Electric Company (SDG&E), Southwest Gas Corporation, and the City of Long Beach Electric and Gas Department are SoCalGas' three wholesale utility customers.

This report covers an 18-year forecast period, from 1998 through 2015; however, only the consecutive years 1998 through 2005 and the point years 2010 and 2015 are shown in the tabular data in the next sections. The forecast is subject to uncertainty, but represents SoCalGas' best estimates for the future, based upon the most current information available.

The southern California section of the *1998 California Gas Report* begins with a discussion of the economic conditions and regulatory issues facing the utilities, followed by a discussion of the factors affecting gas demand in various market sectors. The outlook on gas supply, which continues to be favorable, is presented next. SoCalGas' weighted average cost of gas (WACOG) price forecast is discussed followed by a review of the peak day demand forecast. Summary tables and figures underlying the forecast are provided.

THE SOUTHERN CALIFORNIA ENVIRONMENT

ECONOMICS AND DEMOGRAPHICS

The gas demand forecast is determined, in part, by the long-term economic outlook for SoCalGas' service territory. After a prolonged recession in the early 1990's, southern California's economy has staged a healthy recovery over the past few years. Total employment has grown steadily since 1994. Total non-farm employment grew 1.9 percent in 1996 and 2.2 percent in 1997 — about the same as the U.S. average. In 1998, the area's non-farm jobs are expected to pass the 7-million mark, surpassing their previous 1990 peak of 6.96 million. Local service jobs averaged 3.5 percent annual growth over the past two years, recovering from previously much slower growth during the recession. Area manufacturing jobs increased a solid 1.8 percent in 1996 and 2.2 percent in 1997, both significantly faster than the overall U.S. rate. However, southern California's manufacturing employment remains nearly 20 percent below its 1988 peak of 1.26 million jobs.

Through 2015 SoCalGas forecasts a 1.4 percent average annual growth rate for non-farm jobs in its service area. Manufacturing employment is also expected to increase, but at a slower rate of 0.4 percent. As a result, manufacturing's share of non-farm employment is expected to decline from 14.7 percent in 1997 to 12.3 percent by 2015. Service jobs are forecast to increase an average of 2.2 percent per year, increasing their share from 31 percent in 1997 to 36 percent by 2015.

SoCalGas expects service-area population to increase at an average annual rate of 1.4 percent to 2015 -- faster than the U.S. average, and a modest pickup from the service area's lackluster 1.0 percent annual increases of the mid-1990's. More people will once again come from elsewhere in the U.S. to live and work in a healthy southern California economy. In addition, foreign immigration should remain strong, especially from Latin America and East Asia. With higher growth in jobs and population, SoCalGas expects active customers to increase an average of 1.17 percent per year from 1997 to 2015 -- slightly faster than the recent 1.0 percent average annual growth from 1995 to 1997.

REGULATORY ENVIRONMENT

The past year witnessed California Public Utilities Commission (CPUC) and Federal Energy Regulatory Commission (FERC) regulatory developments designed to make the gas industry more responsive to the changing needs of the natural gas marketplace. In addition to the significant impacts of Electric Industry Restructuring and the Gas Strategy rulemaking, discussed in the Foreword, the following regulatory matters are noteworthy:

State Regulatory Matters

In July 1997, the CPUC issued its final decision on SoCalGas' application for performance based regulation (PBR). Key elements of the PBR include an initial adjustment in base rates, an indexing mechanism that limits future rate increases to the inflation rate less a productivity factor, a sharing mechanism with customers if earnings exceed the authorized rate of return, and rate refunds if service quality deteriorates. SoCalGas implemented the initial PBR based margin adjustment in August 1997 and implemented the remaining PBR elements in January 1998. The CPUC intends for its PBR decision to remain in effect for five years; however, the CPUC decision also provides for the possibility that changes to the PBR mechanism could be adopted in SoCalGas' periodic Biennial Cost Allocation Proceeding.

Federal Regulatory Matters

Most of the natural gas delivered by SoCalGas is produced outside of California. These supplies are delivered to SoCalGas' intrastate transmission system by interstate pipeline companies (primarily El Paso Natural Gas Company and Transwestern Natural Gas Company) that are regulated by FERC.

Existing interstate pipeline capacity into California continues to exceed current demand by over 1 billion cubic feet (Bcf) per day. This excess has reduced the market value of pipeline capacity well below FERC tariff rates. SoCalGas exercised its step-down option on both the El Paso and Transwestern pipeline systems, in 1996 and 1997 respectively, thereby reducing its firm interstate capacity obligations to 1.45 Bcf/day from 2.25 Bcf/day.

FERC-approved settlements have resulted in a reduction in costs that SoCalGas may have to pay for capacity released that cannot be remarketed. Of the remaining 1.45 Bcf/day, core customers presently use 1.05 Bcf/day at the full FERC tariff rate; the remaining 0.4 Bcf/day is remarketed under the capacity brokering program.

GAS DEMAND (REQUIREMENTS)

OVERVIEW

SoCalGas expects continued growth in the residential market along with associated service-oriented businesses in the commercial market. These markets, along with small industrial customers, comprise the core market. The remaining customers, who typically have the capability or economic feasibility to switch to alternative fuels, make up the noncore market.

The following table compares the composition of SoCalGas' market share for recorded year 1997 and forecast year 2015.

Composition of SoCalGas Throughput (Bcf)

	1997	2015	Change
Residential	239.8	303.0	26
Core Non-residential	83.6	115.3	38%
Noncore C&I	168.3	173.7	3%
EOR-Steaming	14.6	8.4	-43%
Electric Generation	285.8	338.7	19%
Wholesale	138.3	145.6	5%
Other	9.9	17.5	77%
Total	940.3	1,102.2	17%

Residential, core non-residential, and wholesale requirements are expected to increase due to changes in the economic outlook as southern California continues its recovery from the prolonged recession. EOR requirements, that have declined since the Kern-Mojave Pipeline began offering direct service to California customers in 1992 continue to decline. SoCalGas expects growth in the Electric Generation market, but its forecast is highly uncertain due to the recent EIR.

MARKET SENSITIVITY

Temperature

Demand forecasts are prepared for three design temperature conditions — average, cold, and hot — to quantify changes in demand due to weather. Temperature variations can cause significant changes in winter gas demand due to space heating in the residential and core commercial and industrial markets. The largest demand variations due to temperature occur in the month of January. Degree-day differences between the three conditions are developed from a six-zone temperature monitoring procedure within SoCalGas' service territory. The cold and hot design temperature conditions are based on a statistical recurrence factor of 1-in-35 years.

Pipeline Bypass

The Kern-Mojave Pipeline began operating in California in 1992, leading to partial bypass of the local gas distribution systems. In 1997, 150 Bcf of gas load bypassed SoCalGas' distribution system. Bypass is expected to grow gradually to 172 Bcf per year in 2008. The expiration of several major long-term EOR customer transportation contracts by 2009 will result in an increase of bypass to 188 Bcf per year by 2010. Beyond 2010, bypass will decline slowly as total gas usage in the EOR market declines.

MARKET SECTORS

Residential

Residential demand, adjusted for temperature, increased slightly to 249 Bcf in 1997 from 245 Bcf in 1996. Unadjusted residential demand fell to 240 Bcf in 1997 4 percent less than temperature adjusted demand, primarily because of warmer than normal weather conditions in southern California.

Active residential customers totaled 4.62 million at the end of 1997, an increase of 41,700 (or 0.9 percent) from year-end 1996. With new home construction recovering after the long recession, SoCalGas expects to add nearly 47,000 active residential customers in 1998. On average, residential customer growth is expected to increase about 1.2 percent per year through 2015, reaching some 5.7 million customers by year-end 2015.

Residential demand is projected to grow from 250 Bcf in 1998 to 303 Bcf in 2015, an increase of 3.1 Bcf per year. SoCalGas' DSM programs are projected to save about 1 Bcf per year in the residential sector.

Commercial

On a temperature-adjusted basis, core commercial market demand in 1997 totaled 67 Bcf, up 5 Bcf from 1996. This increase is largely the result of improving economic conditions in SoCalGas' service territory. Core commercial market demand is forecast to grow at 1.4 percent per year, reaching 83 Bcf in 2015.

Noncore commercial demand in 1997 totaled 25.6 Bcf, a slight increase of 1 Bcf from 1996 usage. Noncore commercial demand is expected to grow at 1.3 percent per year, reaching 32.5 Bcf in 2015. This growth is primarily due to an increase in commercial employment.

Industrial

In 1997 retail industrial core market deliveries were 18.0 Bcf, a decrease of 0.1 Bcf from 1996 deliveries. In addition, retail industrial core market deliveries are projected to decline over the forecast period from 18.6 Bcf to 17.9 Bcf in 2015.

Retail industrial noncore deliveries are forecast to be 131.3 Bcf in 1998 which is 1.4 Bcf lower than the 1997 recorded usage of 132.7 Bcf. After 1998 industrial noncore demand is forecast to decline slightly in the short-term to 123.7 Bcf (1999 to 2000) and then gradually increase to 132.8 Bcf in 2011. After 2011 industrial noncore demand is forecast to drop to 131.6 Bcf in 2015. The main reason for the decline in load in the short-term is the assumption that customers in the City of Vernon will begin receiving service under wholesale rates in 1999. The increase in gas demand between 2001 and 2011 is due, in part, to an increase in industrial employment. The declining industrial employment forecast after 2011 contributes to the decline in long-term industrial noncore demand.

Electric Generation

With the recent restructuring of the electricity market in California, utility and non-utility power generation loads are more logically combined. As a result, this sector includes the following markets that were traditionally reported separately: industrial/commercial cogeneration less than 20 MW, industrial/commercial cogeneration greater than 20 MW, enhanced oil recovery (EOR)-related cogeneration, and utility electric generation (UEG).

Industrial/Commercial Cogeneration <20 MW

The Industrial/Commercial Cogeneration segment is generally made up of customers generating less than 20 MW of power. All the cogeneration units in this segment are installed primarily to generate electricity for internal consumption rather than for the sale of power to electric utilities. The total cogeneration forecast of 22.1 Bcf for 1998 is 0.5 Bcf lower than the 1997 recorded throughput of 22.6 Bcf. After 1998 the forecast of gas demand remains stable through 2015. The potential impact of the electric industry restructuring on this segment's generation is considered minimal.

Industrial/Commercial Cogeneration >20 MW

In 1997 gas deliveries to industrial/commercial cogenerators greater than 20 MW were 64 Bcf, approximately 5 percent higher than in 1996. Industrial/commercial cogeneration greater than 20 MW is forecast to decline 6 percent per year, decreasing annual demand from 64 Bcf in 1997 to 56 Bcf in 1999. The primary factor contributing to this decline is the buyout of the energy and capacity payments in existing cogeneration power contracts and the transition to market-based energy payments. Gas demand for this market is expected to stay steady at 53 Bcf per year from 2005 through 2015.

EOR-Related Cogeneration

In 1997 recorded gas deliveries to the EOR-related cogeneration market were 43.0 Bcf, a decrease of 1.4 Bcf from 1996. This decrease is due to increased bypass to the Kern-Mojave Pipeline. EOR-related cogeneration demand is expected to be 43.0 Bcf in 1998 and to stay at that level until 2004 when it will drop to 39.8 Bcf because of the expiration of several long-term transportation contracts. Another drop will occur in 2009 to 21.2 Bcf, and then the demand will level out at 17.5 Bcf for the remainder of the forecast period.

Utility Electric Generation (UEG)

While retail gas deliveries to the UEG market were 157 Bcf in 1997, approximately 12 percent higher than in 1996, the divestiture of utility-owned, gas-fired generation facilities significantly alters the structure of the UEG market. For this report, UEG includes traditional UEG load plus load from facilities formerly classified as UEG, but classified now as exempt wholesale generators (EWG).

Forecasted growth of retail UEG gas requirements is 2.1 percent per year, raising annual demand from 183 Bcf in 1998 to 249 Bcf in 2015. This forecast is based on an assessment of UEG gas demand under electric industry restructuring. Key assumptions are based on those adopted by the California Energy Commission in Electricity Report ER94 and ER96 proceedings, and include existing California generation resources dispatched by a single system operator through 2002. Based on the uncertainty of the long-term impact of electric restructuring, UEG gas use was increased by 1.6 percent per year consistent with the general increase in electric sales during the period 2003 through 2015.

Enhanced Oil Recovery — Steam

Recorded deliveries to the EOR steaming market in 1997 were 14.7 Bcf, an increase of 2.0 Bcf from 1996. This increase is due to decreased usage of gas from the Kern-Mojave Pipeline. During the following years, EOR steaming demand is expected to decline slowly from 14.2 Bcf in 1998 to 8.4 Bcf by 2004 as a result of changes in long-term gas transportation contracts. Demand will remain at that level for the rest of the forecast period. These figures include gas delivered to PG&E's EOR customers through inter-utility exchange. In 1997 0.1 Bcf of gas was delivered to PG&E through such arrangements; no change in demand is expected in exchange arrangements.

Oil prices are not expected to reach a level that would initiate any major expansion in EOR operations throughout the forecast period. As a result, EOR production is expected to gradually decline by approximately 2 percent per year.

The combination of favorable gas prices and environmental restrictions against the use of oil will result in increased usage of natural gas in EOR production in the near term. After 2005 gas usage will decline as oil production declines. However, sources of supply will continue to shift over time. Oil producers will rely increasingly on the interstate pipelines in California to supplant traditional supply sources, such as own-source gas and SoCalGas.

Mexicali

On July 31, 1997, SoCalGas started deliveries to Mexicali, Mexico. SoCalGas expects to serve 2.9 Bcf to Mexicali in 1998, and based on SoCalGas' long-term forecast, Mexicali load is expected to grow at an average rate of 2.5 percent per year to 7.4 Bcf in 2015.

Wholesale

The forecast of wholesale gas demand includes sales to SDG&E, the City of Long Beach Electric and Gas Department (Long Beach), Southwest Gas Corporation (SWG), and the City of Vernon (Vernon).

The non-UEG gas demand forecast for SDG&E is based on the long-term demand forecast prepared by SDG&E for this report. Under average temperature conditions, total non-UEG requirements for SDG&E are expected to increase from 69 Bcf in 1998 at an average growth rate of 0.8 percent per year to 78 Bcf in 2015. SDG&E's total UEG requirements are expected to stay steady at 41 Bcf per year from 1998 through 2015.

SoCalGas used the forecast developed by Long Beach for the forecast of its throughput. During the forecast period, under average temperature conditions, Long Beach expects its requirements to decrease gradually from 8 Bcf at an average rate of 0.01 percent per year to 7 Bcf in 2015.

The demand forecast for SWG is based on a long-term demand forecast prepared by SoCalGas. In 1998 SoCalGas will serve approximately 5.5 Bcf directly, while another 3.4 Bcf will be served in 1998 by exchange arrangements with PG&E. The direct service load is expected to grow steadily by 1.0 percent per year throughout the forecast period to approximately 6.3 Bcf in 2015.

The wholesale forecast includes Vernon, which is expected to implement retail distribution service during the forecast period.

Natural Gas Vehicles

In November 1995, the CPUC issued a decision regarding Low Emission Vehicle (LEV) programs which approved, among other things, continued ratepayer support for customer information, education and training. Although the decision eliminated ratepayer support for construction of new public access refueling stations and monetary incentives to purchase NGVs, the availability of public funds[1] has allowed the NGV market to continue to grow. SoCalGas' customer information, education, and training program facilitates this growth by providing valuable guidance to potential new NGV customers as well as those customers who plan to expand their NGV fleet.

[1] From the following sources: the South Coast Air Quality Management District (SCAQMD), the Mobile Source Review Committee (MSRC), the California Energy Commission (CEC), the Department of Energy's (DOE) Clean Cities Program, and other air pollution control districts.

At the end of 1997, 97 fueling stations served approximately 5,000 vehicles that consumed 1.0 Bcf. SoCalGas remains optimistic about the NGV market growth, forecasting an increase in demand to 7.5 Bcf in 2005 and 18.0 Bcf in 2020. Although SoCalGas is in the process of divesting its fueling stations located on customer property, the forecasted growth will be adequately served by a maturing compressed natural gas (CNG) refueling station industry.

While most NGVs in 1992 were after-market conversions, today's light-duty NGV market is dominated by Original Equipment Manufacturer (OEM) vehicles. In addition to the light-duty NGV products already offered by Ford, GM, and Honda, Chrysler announced plans to reenter the market in 1999. In the medium- and heavy-duty vehicle arena there are more than 45 available engine/vehicle products. Although some conversion kits are available for heavy-duty vehicles, as in the light-duty market, new OEM vehicles dominate. However, an increasingly popular option is the repowering[2] of medium- and heavy-duty vehicles.

Reduced vehicle emissions continue to be a major benefit of NGVs. With emissions that are a fraction of California's Ultra Low Emission Vehicle (ULEV) emissions standard, new Ford and Honda products are the cleanest vehicles of their type ever seen in the market. In the heavy-duty market where vehicle emissions are significantly higher, NGV reductions have the potential to generate greater air quality improvements. In this arena, Cummins is certifying its new heavy-duty natural gas engines to an optional 2.0 gram NOx standard that is half the level currently required. With purchase incentives that could include emission reduction credits, tax credits, and direct grants, SoCalGas expects that NGVs will continue to provide an attractive option for customers.

[2] Existing engines are replaced with new natural gas engines in vehicles that have a long useful life.

DEMAND-SIDE MANAGEMENT

The cumulative net Demand-Side Management (DSM) load impact forecast for selected years is provided in Table 1. The net load impact includes all DSM programs that SoCalGas is currently implementing or has sought CPUC approval to implement in 1998. Savings and goals for these programs are based on SoCalGas' 1997 DSM Application. The forecast also includes DSM activities that SoCalGas may undertake in the future, given the type of activities the Company currently pursues and the projected cost-effectiveness of DSM measures.

Conservation/energy efficiency activities encourage customers to install energy efficient equipment and weatherization measures, and/or adopt energy saving practices that result in reduced gas usage for a comparable level of service. SoCalGas' fuel substitution activities encourage customers to substitute electro-technologies with more source efficient, cost-effective, and environmentally beneficial natural gas technologies.[3] Conservation/energy efficiency load impacts are shown as positive numbers and fuel substitution load impacts are shown as negative numbers. The "total net load impact" is the difference between the natural gas throughput reduction resulting from SoCalGas' conservation programs and the increase in throughput from fuel substitution programs.

This forecast does not include DSM load impacts from the non-ratepayer funded Total Energy Efficiency Management (TEEM) program. TEEM program savings goals are not available at this time. The forecast does include savings from the DSM Pilot Bidding program, where contracts have been finalized, but does not include savings from DSM Pilot Bidding program elements still under negotiation.

Savings reported are for measures installed under SoCalGas' DSM programs. Credit is only taken for measures that are installed as a result of SoCalGas' DSM programs and only for the lifetimes of the measures installed. Measures with lifetimes less than the forecast planning period fall out of the

[3] Source efficiency is defined as the total annual energy required by the natural gas technology expressed in British Thermal Units (BTUs) compared to the total annual energy required by the electric technology expressed in BTUs, where electric BTUs are calculated as kilowatt-hours (kWh) times 10,239 BTU/kWh (the CEC accepted utility electric generation heat rate).

forecast when their expected lifetime is reached. This means, for example, that a measure installed in 1998 with a lifetime of 10 years is only included in the forecast through 2007. Naturally occurring conservation that is not attributable to SoCalGas' DSM activities is not included in the DSM forecast. In addition, the program portfolio is under revision by the California Board for Energy Efficiency who is expected to take over administration of the programs some time between October 1, 1998, and mid-to-end 1999.

Table 1
DSM Load Impact Forecast for Selected Years
(MMcf [4])

	1998	1999	2000	2002	2007	2012
Conservation "Hard"						
Core Residential	41	82	123	204	409	601
Core Commercial	168	335	503	838	1,676	2246
Core Industrial	55	110	165	274	549	823
SUBTOTAL	**264**	**527**	**791**	**1,316**	**2,634**	**3,670**
Conservation "Soft"						
Core Residential	180	361	541	0	0	0
Core Commercial	801	1,603	2,404	20	100	0
Core Industrial	95	190	285	0	0	0
SUBTOTAL	**1,076**	**2,154**	**3,230**	**20**	**100**	**0**
Fuel Substitution						
Core Residential	0	0	0	0	0	0
Core Commercial	-123	-245	-368	-613	-1,227	-1,773
Core Industrial	0	0	0	0	0	0
SUBTOTAL	**-123**	**-245**	**-368**	**-613**	**-1,227**	**-1,773**
Net Load Impact						
Core Residential	221	443	664	204	409	601
Core Commercial	846	1,693	2,539	245	549	473
Core Industrial	150	300	450	274	549	823
TOTAL NET LOAD IMPACT	**1,217**	**2,436**	**3,653**	**723**	**1,507**	**1,897**

Note:
1) DSM load impacts include 1998 program savings, but do not include pre-1998 program savings
2) "Hard" impacts include measures with lifetimes greater than three years
3) DSM impacts assume a heating value of 1041 Btu/cubic foot of natural gas.

[4] A positive number is a reduction in MMcf

CAPACITY, SOURCES, AND STORAGE

INTERSTATE PIPELINE CAPACITY

Southern California continues to operate in an environment of excess interstate pipeline capacity. Total firm interstate pipeline capacity into southern California is approximately 4,000 MMcf/day with 3,240 MMcf/day available directly to SoCalGas customers (remaining capacity provides direct access to customers served by the interstate pipelines). Existing pipeline systems provide access to several large supply basins including: the San Juan Basin, the Rocky Mountains, Western Canada, the Permian Basin, and California onshore and offshore production. The interstate pipeline systems, along with local California gas supplies, will continue to provide southern California customers with a reliable and abundant supply of clean energy in the future. Firm interstate pipeline capacity and local production serving SoCalGas customers is as follows:

Firm Interstate Pipeline Capacity and Local Production Serving SoCal Gas Customers

Pipeline System	MMcf/day
Current Firm Capacity [5]	
El Paso via SoCalGas	1,750
Transwestern via SoCalGas	750
Kern River & Mojave	390
PGT-PG&E Expansion	350
Total Existing Firm Capacity	3,240
California Production[6]	200 – 500
Total Supply Access	3,440 – 3,740

[5] Firm Capacity with matching intrastate capacity only. Does not include interruptible or excess upstream capacity. An additional 700 MMcf/day is available directly to southern California customers from the Kern River and Mojave pipelines.

[6] California production available to SoCalGas customers. Forecast includes increased sales from the Elk Hills field and the POPCO plant expansion from federal offshore supplies. Not all incremental California production provides additional firm access; it may replace existing supplies.

GAS SUPPLY SOURCES

Southern California receives gas supplies from several sedimentary basins in the western United States and Canada.

California Gas

Gas supply available to SoCalGas from California sources (state onshore plus state/federal offshore supplies), including Pacific Interstate Offshore Company (PIOC) and Pacific Offshore Pipeline Company (POPCO), was about 282 and 279 MMcf/day in 1996 and 1997, respectively. Beginning in late 1998 or some time in 1999, supplies available from California sources are expected to increase significantly due to (1) increased production from the Elk Hills field onshore, (2) increased production from the Hondo field in the federal offshore area, and (3) new production from the Molino state offshore area. By 2000 supplies from California sources are expected to reach nearly 500 MMcf/day. Through 2005 supplies can be expected to exhibit moderate decline but remain above 460 MMcf/day. Beyond 2005 gas supply should decline faster than during the previous 5-year period, but is expected to average about 9 percent per year over the 15-year period through 2020.

The major increase in supply is expected to come from the Elk Hills field as a result of the 1997 sale of U.S. Department of Energy's (DOE) Elk Hills Naval Petroleum Reserve to Occidental Petroleum Corporation — a change in ownership of about 80 percent of Elk Hill's oil and gas reserves. A key assumption in this forecast is that the increased Elk Hills supplies are available to SoCalGas and that Occidental Petroleum Corporation aggressively develops and markets the natural gas under its ownership.

Additional supplies from California's Federal Offshore area — Exxon's Hondo field — are expected to begin flowing into SoCalGas' system in 1998. These supplies are made available through the expansion of POPCO's gas processing/treatment plant in Santa Barbara County. The expanded facility is expected to be able to process double its pre-expansion gas input and will deliver between 60 to 65 MMcf/day into SoCalGas' system.

During the third quarter of 1996, the Molino project received approval from state and local agencies. Drilling of the first well began early in 1998, and the project is expected to be complete by year-end 1998. The project is viewed as an important effort to apply improved drilling techniques to drill from an onshore location to reach hydrocarbon reservoirs located between 2 and 3 miles offshore in state waters. In addition to the significant reserves (200 to 300 Bcf of gas and up to 100 Million barrels of oil), the project represents a potential demonstration of a feasible way to allow offshore oil and

gas development with much lower and acceptable risks of environmental damage than is associated with the use of drilling and production platforms located in the Santa Barbara Channel. Gas produced from this project will be delivered into SoCalGas' system via existing facilities.

Southwestern U.S. Gas

Traditional Southwest sources of natural gas, especially from the San Juan basin, will continue to supply most of southern California's natural gas demand. San Juan basin coalbed methane production reached a plateau with some of the early coalbed methane wells showing production declines. In 1996 the 90 wells drilled were significantly greater than the levels reported for 1994 and 1995 (triple the levels reported for 1994 and double the level for 1995). However, this was only about one third the production obtained for either 1992 and 1993. Although the Unconventional Fuels Tax Credit (which expires in 2003) provides producers an incentive to produce as much gas as possible from wells drilled before 1993, coalbed methane drilling economics are still profitable in the San Juan basin and parts of Utah and Wyoming. The San Juan basin's conventionally-produced gas supplies have increased since 1991 and are projected to be available at competitive prices to help meet southern California's gas demand.

As the processing, treatment, and transportation infrastructure has increased to accommodate new production from coal seams, gas flows on both the El Paso and Transwestern pipeline systems have changed so that the traditional east-to-west design of these systems has evolved to a combination of west-bound and east-bound flow patterns emanating from the San Juan basin. The role of Permian basin supplies has changed to that of a "swing" or "stand-by" supply basin. During 1995 and much of 1996, prices for San Juan basin gas were steeply discounted (often by more than $0.50/Dth) relative to prices for Permian basin gas supplies. This differential reflected the San Juan basin's large production capability relative to the pipeline capacity available to export gas from the basin. With the construction of new pipeline capacity and the re-engineering of existing transmission systems, this price differential typically runs at about $0.05/Dth and generally reflects differences between commodity transportation and fuel costs for moving gas from these basins to southern California.

Rocky Mountain Gas

Rocky Mountain gas supplies present viable alternatives to traditional Southwestern gas sources for southern California. Wyoming has nearly 8 percent of the Lower-48's proved natural gas reserves and holds the greatest potential in terms of future onshore domestic gas supplies. Although continued full utilization of the Kern River Pipeline has stimulated conventional exploration and development activity in Wyoming, substantial gas supplies in the Rocky Mountains also qualify for the Unconventional Fuels Tax Credit through year 2003 —mainly as tight formation gas and some as coal seam gas.

These supplies along with further drilling and development are expected to be available to supply southern California, along with increased flows to Midwestern markets.

Canadian Gas

Significant volumes of Canadian gas will supplement southern California's demand during the forecast period. Net exports of gas by Canada were just under 3.0 trillion cubic feet (Tcf) per year of natural gas to the United States in 1997, an increase of about 200 Bcf over the 1995 level and about 160 Bcf over the 1996 level. Canadian production is expected to increase from about 5.4 Tcf per year in 1996 to just over 6.5 Tcf per year by 2002. At year-end 1996, Canada's western provinces (Alberta, British Columbia and Saskatchewan) had connected reserves of 49 Tcf and as of 1993 estimated undiscovered supplies of 112 Tcf.

Canada's gas pipeline export capacity had overall average load factors of 87 percent and 89 percent, for 1995 and 1996, respectively. In 1997 the load factor increased substantially to just over 94 percent. New discoveries and continued development of Alberta's and British Columbia's gas supplies are expected to stimulate further expansion of Canadian export pipeline capacity — especially, to serve growing gas demand in the U.S. Midwest and Northeast.

STORAGE OPERATIONS

Assuming SoCalGas sells its Montebello storage field, as requested in A.98-01-015, SoCalGas' system will still have over 105 Bcf of working inventory, over 3 Bcf/day of withdrawal capability, and over 800 MMcf/day of injection capability. Using this capacity, SoCalGas' storage operations goals are as follows:

1. Meet the firm contractual commitments of storage customers.

The core market, SoCalGas' largest storage customer, is allocated 70 Bcf of inventory, 1985 MMcf/day of withdrawal, and 327 MMcf/day of injection.

2. Provide balancing services described in Rule 30.

Rule 30 provides for a 10 percent monthly balancing service and a maximum of 10 percent daily overdeliveries on overnomination event days (usually summer weekends). This rule also allows a maximum of 50 percent (5-day average), 30 percent, and 10 percent daily underdeliveries during winter months. In addition, underdelivery balancing tolerances tighten with decreases in SoCalGas' overall storage inventory levels — currently, 5 Bcf of inventory, 250 MMcf/day of withdrawal, and 355 MMcf/day of injection are allocated to the provision of these balancing services.

3. Maximize unbundled storage revenues through sales under various storage programs.

SoCalGas markets unbundled storage in an effort to minimize undercollections in the noncore storage regulatory balancing account, which is recovered from all customers in the transportation component of rates.

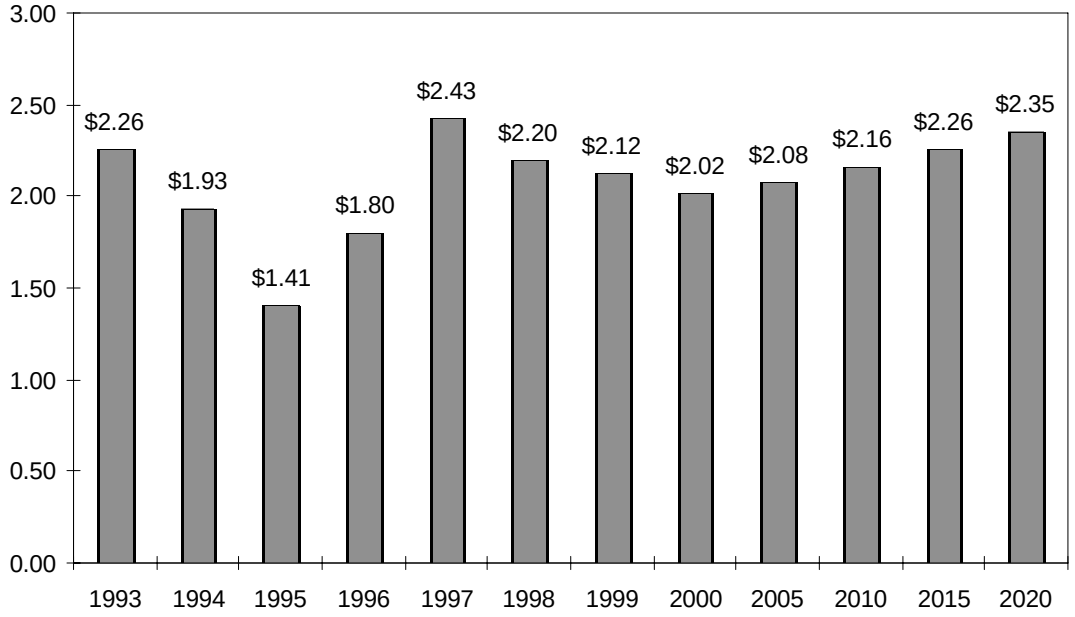
SoCalGas sells unbundled storage under the terms of the Customer Storage Program (CSP) as authorized by the CPUC in D.93-02-013. Some features of CSP are: (1) selection of flexible contract terms and conditions, (2) storage services differentiated according to peak and off-peak periods, (3) choice of firm or as-available services, (4) open-season auctions, and (5) off-system sales. SoCalGas' storage portfolio includes Basic Storage Service (BSS), Long-Term Storage Service (LTS), Special Auction Storage Services, and the Transaction-Based Storage Service (TBS).

GAS PRICE FORECAST

Forecast

SoCalGas' core WACOG forecast at the California/Arizona border for the *1998 California Gas Report* shows increased real prices, but at a decreasing rate through 2001, followed by real price growth of about 1.0 percent per year, thereafter, over the remainder of the forecast period through year 2020. Relative to the most recent 5-year average of prices (1993 through 1997), the Core WACOG is expected to exhibit a long-term real average annual price increase of 1.0 percent per year through 2020. This level of real price growth is consistent with expected sustained long-term growth in natural gas demand. Prices for gas supplies delivered to southern California are expected to exhibit a growing and stronger linkage to the price for electrical energy generated from gas powered sources such as gas combined cycle and gas turbine generating capacity. This trend is one of the key expected outcomes of the CPUC's and FERC's electric market deregulation initiatives already in progress.

CORE WACOG SOUTHERN CALIFORNIA
(1996 $/Decatherm)



Development of the Forecast

SoCalGas developed its gas price forecast (in March 1998) using statistical trending relationships combined with judgmental factors for the impacts associated with penetration of gas supply technology productivity enhancements coupled with competitive pressures of expected electricity market deregulation initiatives of State and Federal regulatory agencies. SoCalGas' analysts form their judgment of gas supply and price trends based on participation in workshops and through periodic meetings/discussions with key staff analysts in California State and Federal agencies and Canadian regulatory agencies' gas market analytical staffs. Periodic reviews of studies and forecasts by gas industry and governmental agencies are an additional input.

Forecast Uncertainty

It is important to recognize the future is unknown and no simple price forecast can be expected to capture all uncertainties. SoCalGas, in its price forecast, attempts to identify a long-term trend that is consistent with key assumptions about gas market structure, regulation, economic alternative fuel options that consumers may have, and the underlying gas supply economics associated with North American natural gas reserves and resources.

PEAK DAY DEMAND

SoCalGas plans and designs its system to provide continuous service to its core customers under an extreme peak day event. The extreme peak day design criteria is defined as a 1-in-35 year event; this correlates to a system average temperature of 38°F. Demand on an extreme peak day is met through a combination of withdrawals from underground storage facilities and flowing pipeline supplies. The following table summarizes the forecasted retail core demand and the supplies required to provide firm core service on a peak day.

Retail Core Peak Day Demand And Supply Requirements (MMcf/Day)

	1998	2000	2005	2010
Retail Core Demand	3,138	3,197	3,432	3,619
Firm Storage Withdrawal	1,985	2,022	2,171	2,289
Required Flowing Supplies	1,627	1,657	1,779	1,876

Notes:
Firm withdrawal and flowing supply requirements increase proportionally with demand growth. Firm withdrawal plus firm supplies must be sufficient to meet peak day and peak hour operating requirements.

SoCalGas also offers firm products and services to noncore customers who can choose interruptible, firm transportation, and firm storage services. If a noncore customer contracts for firm storage withdrawal rights, service is planned to continue up to an extreme peak day event. This provides noncore customers with a core-like level of reliability. If firm transportation services are chosen, service is planned to continue up to a 1-in-9 year, or 42°F event. If interruptible transportation is chosen, service can be interrupted as necessary to provide firm services to other customers.

1998 California Gas Report

SOUTHERN CALIFORNIA GAS COMPANY
TABULAR DATA

ANNUAL GAS SUPPLY AND SENDOUT - MMCF/DAY
RECORDED YEARS 1993 TO 1997

LINE	SUPPLIES AVAILABLE		1993	1994	1995	1996	1997	LINE
1	California Source Gas							1
	Firm Out-of-State Capacity							
2		California Offshore -POPCO / PIOC						2
3		El Paso Natural Gas Co.						3
4		Transwestern Pipeline Co.						4
5		Kern / Mojave						5
6		PGT / PG&E						6
7		Total Out-of-State Gas						7
8	TOTAL CAPACITY AVAILABLE							8
	GAS SUPPLY TAKEN							
9	California Source Gas		166	199	228	219	236	9
	Out-of-State Gas							
10		Pacific Interstate Companies	265	277	270	269	263	10
11		Other Out-of-State	2,255	2,356	2,105	1,840	2,085	11
12		Total Out-of-State Gas	2,519	2,633	2,375	2,109	2,348	12
13	TOTAL SUPPLY TAKEN		2,686	2,832	2,603	2,328	2,584	13
14		Net Underground Storage Withdrawal	(26)	(25)	(34)	115	(8)	14
15	TOTAL THROUGHPUT (1) (2)		2,660	2,807	2,569	2,443	2,576	15
	ACTUAL DELIVERIES BY END-USE (3)							
16	Core	Residential	678	702	656	645	657	16
17		Commercial	182	179	180	166	178	17
18		Industrial	69	54	51	49	51	18
19		SUBTOTAL	928	935	887	860	886	19
20	Noncore	Commercial	51	56	57	67	72	20
21		Industrial	244	271	293	367	389	21
22		Non-EOR Cogeneration	254	272	275	229	233	22
23		EOR Cogen & Steaming	178	147	143	156	158	23
24		Electric Utilities	583	713	560	380	432	24
25		SUBTOTAL	1,310	1,459	1,328	1,200	1,284	25
26	Wholesale	Residential	103	119	111	110	112	26
27		Com & Ind. Others	116	94	112	126	133	27
28		Electric Utilities	158	165	120	119	134	28
29		SUBTOTAL	377	378	343	355	379	29
30		Co. Use & LUAF	45	34	11	28	27	30
31	SYSTEM TOTAL-THROUGHPUT (1)		2,660	2,807	2,569	2,443	2,576	31
	TRANSPORTATION AND EXCHANGE							
32	Core	All End Uses	54	44	42	40	40	32
33	Noncore	Commercial/Industrial	288	254	286	396	436	33
34		Non-EOR Cogeneration	248	270	273	227	231	34
35		EOR Cogen & Steaming	178	147	139	156	158	35
36		Electric Utilities	583	713	560	380	432	36
37		SUBTOTAL-Retail	1,350	1,428	1,301	1,198	1,297	37
38	Wholesale	All End Uses	377	378	343	355	379	38
39	TOTAL TRANSPORTATION & EXCHANGE		1,727	1,806	1,644	1,553	1,676	39
	CURTAILMENT (RETAIL & WHOLESALE)							
40		Core	0	0	0	0	0	40
41		Noncore	0	0	0	0	0	41
42		TOTAL - Curtailment	0	0	0	0	0	42
43	REFUSAL		0	0	0	0	0	43

NOTES:

(1) Figures exclude pipeline bypass load losses due to non-jurisdictional gas suppliers. 388 412 420 409 411

(2) Excludes own-source gas supply of procurement by Edison and the City of Long Beach. 32 51 31 19 19

(3) Actual deliveries by end-use includes sales, transportation, and exchange volumes.

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED YEARS 1998 THRU 2002
AVERAGE TEMPERATURE YEAR

LINE	SUPPLIES AVAILABLE		1998	1999	2000	2001	2002	LINE
1	California Source Gas		279	433	436	457	440	1
	Firm Out-of-State Capacity							
2	Offshore - POPCO / PIOC		48	58	58	58	58	2
3	El Paso Natural Gas Co.		1,750	1,750	1,750	1,750	1,750	3
4	Transwestern Pipeline Co.		750	750	750	750	750	4
5	Kern / Mojave		390	390	390	390	390	5
6	PGT / PG&E		350	350	350	350	350	6
7	Total Out-of-State Gas		3,288	3,298	3,298	3,298	3,298	7
8	TOTAL CAPACITY AVAILABLE (1)		3,567	3,731	3,734	3,755	3,738	8
	GAS SUPPLY TAKEN							
9	California Source Gas		279	433	436	457	440	9
	Out-of-State Gas							
10	Pacific Interstate Companies		271	281	281	281	281	10
11	Other Out-of-State		2,098	1,960	1,935	1,926	2,032	11
12	Total Out-of-State Gas		2,369	2,241	2,216	2,207	2,313	12
13	TOTAL SUPPLY TAKEN		2,648	2,674	2,652	2,664	2,753	13
14	Net Underground Storage Withdrawal		0	0	0	0	0	14
15	TOTAL THROUGHPUT (1), (2)		2,648	2,674	2,652	2,664	2,753	15
	REQUIREMENTS FORECAST BY END-USE (3)							
16	CORE	Residential	685	692	700	712	724	16
17		Commercial	181	182	183	184	187	17
18		Industrial	51	50	49	49	49	18
19		NGV	4	7	9	12	14	19
20		Subtotal-CORE	921	931	941	957	974	20
21	NONCORE	Commercial	77	77	76	77	77	21
22		Industrial	382	368	359	361	360	22
23		EOR Steaming	39	37	34	34	33	23
24		Mexicali	8	12	14	15	16	24
25		Electric Generation	831	850	817	807	878	25
26		Subtotal-NONCORE	1,337	1,344	1,300	1,294	1,364	26
27	WHOLESALE	Core	152	154	157	157	158	27
28		Noncore Excl. UEG	82	89	99	100	100	28
29		Electric Utilities	114	114	113	114	114	29
30		Subtotal-WHOLESALE	348	357	369	371	372	30
31		Co. Use & LUAF	42	42	42	42	43	31
32	SYSTEM TOTAL THROUGHPUT (1)		2,648	2,674	2,652	2,664	2,753	32
	TRANSPORTATION AND EXCHANGE							
33	CORE	All End Uses	47	49	51	53	55	33
34	NONCORE	Commercial/Industrial	464	455	447	452	453	34
35		EOR Steaming	39	37	34	34	33	35
36		Electric Generation	826	848	816	807	877	36
37		Subtotal-RETAIL	1,376	1,389	1,348	1,346	1,418	37
38	WHOLESALE	All End Uses	348	357	369	371	372	38
39	TOTAL TRANSPORTATION & EXCHANGE		1,724	1,746	1,717	1,717	1,790	39
	CURTAILMENT (RETAIL & WHOLESALE)							
40		Core	0	0	0	0	0	40
41		Noncore	0	0	0	0	0	41
42		TOTAL - Curtailment	0	0	0	0	0	42

NOTES:

(1) Figures exclude pipeline bypass load losses to non-jurisdictional gas suppliers. 428 447 461 466 465

(2) Excludes own-source gas supply of procurements by the City of Long Beach. 11 11 11 11 11

(3) Requirement forecast by end-use includes sales, transportation, and exchange volumes.

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED YEARS 2003 THRU 2015
AVERAGE TEMPERATURE YEAR

LINE	SUPPLIES AVAILABLE		2003	2004	2005	2010	2015	LINE
1	California Source Gas		426	471	460	300	124	1
	Firm Out-of-State Capacity							
2	California Offshore - POPCO / PIOC		58	0	0	0	0	2
3	El Paso Natural Gas Co.		1,750	1,750	1,750	1,750	1,750	3
4	Transwestern Pipeline Co.		750	750	750	750	750	4
5	Kern / Mojave		390	390	390	390	390	5
6	PGT / PG&E		350	350	350	350	350	6
7	Total Out-of-State Gas		3,298	3,240	3,240	3,240	3,240	7
8	TOTAL CAPACITY AVAILABLE (1)		3,724	3,711	3,700	3,540	3,364	8
	GAS SUPPLY TAKEN							
9	California Source Gas		426	471	460	300	124	9
	Out-of-State Gas							
10	Pacific Interstate Companies		281	223	223	223	0	10
11	Other Out-of-State		2,071	2,094	2,140	2,361	2,896	11
12	Total Out-of-State Gas		2,352	2,317	2,363	2,584	2,896	12
13	TOTAL SUPPLY TAKEN		2,778	2,788	2,823	2,884	3,020	13
14	Net Underground Storage Withdrawal		0	0	0	0	0	14
15	TOTAL THROUGHPUT (1), (2)		2,778	2,788	2,823	2,884	3,020	15
	REQUIREMENTS FORECAST BY END-USE (3)							
16	CORE	Residential	732	738	746	784	830	16
17		Commercial	191	194	198	213	228	17
18		Industrial	50	50	50	50	49	18
19		NGV	17	19	21	30	39	19
20		Subtotal-CORE	990	1,001	1,015	1,077	1,146	20
21	NONCORE	Commercial	78	79	80	84	89	21
22		Industrial	364	367	370	371	367	22
23		EOR Steaming	28	23	23	23	23	23
24		Mexicali	16	16	17	19	20	24
25		Electric Generation	884	884	889	876	928	25
26		Subtotal-NONCORE	1,370	1,369	1,379	1,373	1,427	26
27	WHOLESALE	Core	160	161	163	161	170	27
28		Noncore Excl. UEG	100	100	108	114	115	28
29		Electric Utilities	114	113	114	114	114	29
30		Subtotal-WHOLESALE	374	374	385	389	399	30
31		Co. Use & LUAF	44	44	44	45	48	31
32	SYSTEM TOTAL THROUGHPUT (1)		2,778	2,788	2,823	2,884	3,020	32
	TRANSPORTATION AND EXCHANGE							
33	CORE	All End Uses	57	59	61	68	75	33
34	NONCORE	Commercial/Industrial	458	461	466	473	476	34
35		EOR Steaming	28	23	23	23	23	35
36		Electric Generation	884	884	888	876	928	36
37		Subtotal-RETAIL	1,427	1,427	1,438	1,440	1,502	37
38	WHOLESALE	All End Uses	374	374	385	389	399	38
39	TOTAL TRANSPORTATION & EXCHANGE		1,801	1,801	1,823	1,829	1,901	39
	CURTAILMENT (RETAIL & WHOLESALE)							
40		Core	0	0	0	0	0	40
41		Noncore	0	0	0	0	0	41
42		TOTAL - Curtailment	0	0	0	0	0	42

NOTES:

(1) Figures exclude pipeline bypass load losses to non-jurisdictional gas suppliers. 467 469 473 514 495

(2) Excludes own-source gas supply of procurements by the City of Long Beach. 11 11 11 12 12

(3) Requirement forecast by end-use includes sales, transportation, and exchange volumes.

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED YEARS 1998 THRU 2002
COLD TEMPERATURE YEAR

LINE	SUPPLIES AVAILABLE		1998	1999	2000	2001	2002	LINE
1	California Source Gas		279	433	436	457	440	1
	Firm Out-of-State Capacity							
2	California Offshore - POPCO / PIOC		48	58	58	58	58	2
3	El Paso Natural Gas Co.		1,750	1,750	1,750	1,750	1,750	3
4	Transwestern Pipeline Co.		750	750	750	750	750	4
5	Kern / Mojave		390	390	390	390	390	5
6	PGT / PG&E		350	350	350	350	350	6
7	Total Out-of-State Gas		3,288	3,298	3,298	3,298	3,298	7
8	TOTAL CAPACITY AVAILABLE (1)		3,567	3,731	3,734	3,755	3,738	8
	GAS SUPPLY TAKEN							
9	California Source Gas		279	433	436	457	440	9
	Out-of-State Gas							
10	Pacific Interstate Companies		271	281	281	281	281	10
11	Other Out-of-State		2,229	2,092	2,067	2,061	2,171	11
12	Total Out-of-State Gas		2,500	2,373	2,348	2,342	2,452	12
13	TOTAL SUPPLY TAKEN		2,779	2,806	2,784	2,799	2,892	13
14	Net Underground Storage Withdrawal		0	0	0	0	0	14
15	TOTAL THROUGHPUT (1), (2)		2,779	2,806	2,784	2,799	2,892	15
	REQUIREMENTS FORECAST BY END-USE (3)							
16	CORE	Residential	784	792	801	815	829	16
17		Commercial	194	195	196	197	200	17
18		Industrial	53	52	51	51	52	18
19		NGV	4	7	9	12	14	19
20		Subtotal-CORE	1,035	1,046	1,057	1,075	1,095	20
21	NONCORE	Commercial	77	77	76	77	77	21
22		Industrial	382	368	359	361	360	22
23		EOR Steaming	39	37	34	34	33	23
24		Mexicali	8	12	14	15	16	24
25		Electric Generation	831	850	817	807	878	25
26		Subtotal-NONCORE	1,337	1,344	1,300	1,294	1,364	26
27	WHOLESALE	Core	167	169	171	172	173	27
28		Noncore Excl. UEG	82	89	99	100	100	28
29		Electric Utilities	114	114	113	114	114	29
30		Subtotal-WHOLESALE	363	372	383	386	387	30
31		Co. Use & LUAF	44	44	44	44	46	31
32	SYSTEM TOTAL THROUGHPUT 1)		2,779	2,806	2,784	2,799	2,892	32
	TRANSPORTATION AND EXCHANGE							
33	CORE	All End Uses	50	53	55	57	59	33
34	NONCORE	Commercial/Industrial	464	455	447	452	453	34
35		EOR Steaming	39	37	34	34	33	35
36		Electric Generation	826	848	816	807	877	36
37		Subtotal-RETAIL	1,379	1,393	1,352	1,350	1,422	37
38	WHOLESALE	All End Uses	363	372	383	386	387	38
39	TOTAL TRANSPORTATION & EXCHANGE		1,742	1,765	1,735	1,736	1,809	39
	CURTAILMENT (RETAIL & WHOLESALE)							
40		Core	0	0	0	0	0	40
41		Noncore	0	0	0	0	0	41
42		TOTAL - Curtailment	0	0	0	0	0	42

NOTES:

(1) Figures exclude pipeline bypass load losses to non-jurisdictional gas suppliers. 428 447 461 466 465

(2) Excludes own-source gas supply of procurements by the City of Long Beach. 11 11 11 11 11

(3) Requirement forecast by end-use includes sales, transportation, and exchange volumes.

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED YEARS 2003 THRU 2015
COLD TEMPERATURE YEAR

LINE	SUPPLIES AVAILABLE		2003	2004	2005	2010	2015	LINE
1	California Source Gas		426	471	460	300	124	1
	Firm Out-of-State Capacity							
2	California Offshore - POPCO / PIOC		58	0	0	0	0	2
3	El Paso Natural Gas Co.		1,750	1,750	1,750	1,750	1,750	3
4	Transwestern Pipeline Co.		750	750	750	750	750	4
5	Kern / Mojave		390	390	390	390	390	5
6	PGT / PG&E		350	350	350	350	350	6
7	Total Out-of-State Gas		3,298	3,240	3,240	3,240	3,240	7
8	TOTAL CAPACITY AVAILABLE (1)		3,724	3,711	3,700	3,540	3,364	8
	GAS SUPPLY TAKEN							
9	California Source Gas		426	471	460	300	124	9
	Out-of-State Gas							
10	Pacific Interstate Companies		281	223	223	223	0	10
11	Other Out-of-State		2,210	2,234	2,281	2,509	3,050	11
12	Total Out-of-State Gas		2,491	2,457	2,504	2,732	3,050	12
13	TOTAL SUPPLY TAKEN		2,917	2,928	2,964	3,032	3,174	13
14	Net Underground Storage Withdrawal		0	0	0	0	0	14
15	TOTAL THROUGHPUT (1), (2)		2,917	2,928	2,964	3,032	3,174	15
	REQUIREMENTS FORECAST BY END-USE (3)							
16	CORE	Residential	839	845	854	898	950	16
17		Commercial	204	208	211	227	243	17
18		Industrial	52	52	52	52	51	18
19		NGV	17	19	21	30	39	19
20		Subtotal-CORE	1,112	1,124	1,138	1,207	1,283	20
21	NONCORE	Commercial	78	79	80	84	89	21
22		Industrial	364	367	370	371	367	22
23		EOR Steaming	28	23	23	23	23	23
24		Mexicali	16	16	17	19	20	24
25		Electric Generation	884	884	889	876	928	25
26		Subtotal-NONCORE	1,370	1,369	1,379	1,373	1,427	26
27	WHOLESALE	Core	175	176	178	176	185	27
28		Noncore Excl. UEG	100	100	108	114	115	28
29		Electric Utilities	114	113	114	114	114	29
30		Subtotal-WHOLESALE	389	389	400	404	414	30
31		Co. Use & LUAF	46	46	47	48	50	31
32	SYSTEM TOTAL THROUGHPUT (1)		2,917	2,928	2,964	3,032	3,174	32
	TRANSPORTATION AND EXCHANGE							
33	CORE	All End Uses	61	63	64	72	80	33
34	NONCORE	Commercial/Industrial	458	461	466	473	476	34
35		EOR Steaming	28	23	23	23	23	35
36		Electric Generation	884	884	888	876	928	36
37		Subtotal-RETAIL	1,431	1,431	1,441	1,444	1,507	37
38	WHOLESALE	All End Uses	389	389	400	404	414	38
39	TOTAL TRANSPORTATION & EXCHANGE		1,820	1,820	1,841	1,848	1,921	39
	CURTAILMENT (RETAIL & WHOLESALE)							
40		Core	0	0	0	0	0	40
41		Noncore	0	0	0	0	0	41
42		TOTAL - Curtailment	0	0	0	0	0	42

NOTES:

(1) Figures exclude pipeline bypass load losses to non-jurisdictional gas suppliers. 467 469 473 514 495

(2) Excludes own-source gas supply of procurements by the City of Long Beach. 11 11 11 12 12

(3) Requirement forecast by end-use includes sales, transportation, and exchange volumes.

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED YEARS 1998 THRU 2002
HOT TEMPERATURE YEAR

LINE	SUPPLIES AVAILABLE		1998	1999	2000	2001	2002	LINE
1	California Source Gas		279	433	436	457	440	1
	Firm Out-of-State Capacity							
2	California Offshore - POPCO / PIOC		48	58	58	58	58	2
3	El Paso Natural Gas Co.		1,750	1,750	1,750	1,750	1,750	3
4	Transwestern Pipeline Co.		750	750	750	750	750	4
5	Kern / Mojave		390	390	390	390	390	5
6	PGT / PG&E		350	350	350	350	350	6
7	Total Out-of-State Gas		3,288	3,298	3,298	3,298	3,298	7
8	TOTAL CAPACITY AVAILABLE (1)		3,567	3,731	3,734	3,755	3,738	8
	GAS SUPPLY TAKEN							
9	California Source Gas		279	433	436	457	440	9
	Out-of-State Gas							
10	Pacific Interstate Companies		271	281	281	281	281	10
11	Other Out-of-State		1,970	1,830	1,803	1,794	1,897	11
12	Total Out-of-State Gas		2,241	2,111	2,084	2,075	2,178	12
13	TOTAL SUPPLY TAKEN		2,520	2,544	2,520	2,532	2,618	13
14	Net Underground Storage Withdrawal		0	0	0	0	0	14
15	TOTAL THROUGHPUT (1), (2)		2,520	2,544	2,520	2,532	2,618	15
	REQUIREMENTS FORECAST BY END-USE (3)							
16	CORE	Residential	587	592	599	609	619	16
17		Commercial	168	169	170	172	174	17
18		Industrial	49	48	47	47	47	18
19		NGV	4	7	9	12	14	19
20		Subtotal-CORE	808	816	825	840	854	20
21	NONCORE	Commercial	77	77	76	77	77	21
22		Industrial	382	368	359	361	360	22
23		EOR Steaming	39	37	34	34	33	23
24		Mexicali	8	12	14	15	16	24
25		Electric Generation	831	850	817	807	878	25
26		Subtotal-NONCORE	1,337	1,344	1,300	1,294	1,364	26
27	WHOLESALE	Core	139	141	143	144	145	27
28		Noncore Excl. UEG	82	89	99	100	100	28
29		Electric Utilities	114	114	113	114	114	29
30		Subtotal-WHOLESALE	335	344	355	358	359	30
31		Co. Use & LUAF	40	40	40	40	41	31
32	SYSTEM TOTAL THROUGHPUT (1)		2,520	2,544	2,520	2,532	2,618	32
	TRANSPORTATION AND EXCHANGE							
33	CORE	All End Uses	43	45	47	49	51	33
34	NONCORE	Commercial/Industrial	464	455	447	452	453	34
35		EOR Steaming	39	37	34	34	33	35
36		Electric Generation	826	848	816	807	877	36
37		Subtotal-RETAIL	1,372	1,385	1,344	1,342	1,414	37
38	WHOLESALE	All End Uses	335	344	355	358	359	38
39	TOTAL TRANSPORTATION & EXCHANGE		1,707	1,729	1,699	1,700	1,773	39
	CURTAILMENT (RETAIL & WHOLESALE)							
40		Core	0	0	0	0	0	40
41		Noncore	0	0	0	0	0	41
42		TOTAL - Curtailment	0	0	0	0	0	42

NOTES:

(1) Figures exclude pipeline bypass load losses to non-jurisdictional gas suppliers. 428 447 461 466 465

(2) Excludes own-source gas supply of procurements by the City of Long Beach. 11 11 11 11 11

(3) Requirement forecast by end-use includes sales, transportation, and exchange volumes.

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED YEARS 2003 THRU 2015
HOT TEMPERATURE YEAR

LINE	SUPPLIES AVAILABLE		2003	2004	2005	2010	2015	LINE
1	California Source Gas		426	471	460	300	124	1
	Firm Out-of-State Capacity							
2	California Offshore - POPCO / PIOC		58	0	0	0	0	2
3	El Paso Natural Gas Co.		1,750	1,750	1,750	1,750	1,750	3
4	Transwestern Pipeline Co.		750	750	750	750	750	4
5	Kern / Mojave		390	390	390	390	390	5
6	PGT / PG&E		350	350	350	350	350	6
7	Total Out-of-State Gas		3,298	3,240	3,240	3,240	3,240	7
8	TOTAL CAPACITY AVAILABLE (1)		3,724	3,711	3,700	3,540	3,364	8
	GAS SUPPLY TAKEN							
9	California Source Gas		426	471	460	300	124	9
	Out-of-State Gas							
10	Pacific Interstate Companies		281	223	223	223	0	10
11	Other Out-of-State		1,933	1,956	1,999	2,216	2,740	11
12	Total Out-of-State Gas		2,214	2,179	2,222	2,439	2,740	12
13	TOTAL SUPPLY TAKEN		2,640	2,650	2,682	2,739	2,864	13
14	Net Underground Storage Withdrawal		0	0	0	0	0	14
15	TOTAL THROUGHPUT (1),(2)		2,640	2,650	2,682	2,739	2,864	15
	REQUIREMENTS FORECAST BY END-USE (3)							
16	CORE	Residential	626	631	637	670	709	16
17		Commercial	177	181	184	199	213	17
18		Industrial	48	48	48	48	47	18
19		NGV	17	19	21	30	39	19
20		Subtotal-CORE	868	879	890	947	1,008	20
21	NONCORE	Commercial	78	79	80	84	89	21
22		Industrial	364	367	370	371	367	22
23		EOR Steaming	28	23	23	23	23	23
24		Mexicali	16	16	17	19	20	24
25		Electric Generation	884	884	889	876	928	25
26		Subtotal-NONCORE	1,370	1,369	1,379	1,373	1,427	26
27	WHOLESALE	Core	146	147	149	148	155	27
28		Noncore Excl. UEG	100	100	108	114	115	28
29		Electric Utilities	114	113	114	114	114	29
30		Subtotal-WHOLESALE	360	360	371	376	384	30
31		Co. Use & LUAF	42	42	42	43	45	31
32	SYSTEM TOTAL THROUGHPUT (1)		2,640	2,650	2,682	2,739	2,864	32
	TRANSPORTATION AND EXCHANGE							
33	CORE	All End Uses	53	55	57	64	71	33
34	NONCORE	Commercial/Industrial	458	461	466	473	476	34
35		EOR Steaming	28	23	23	23	23	35
36		Electric Generation	884	884	888	876	928	36
37		Subtotal-RETAIL	1,423	1,423	1,434	1,436	1,498	37
38	WHOLESALE	All End Uses	360	360	371	376	384	38
39	TOTAL TRANSPORTATION & EXCHANGE		1,783	1,783	1,805	1,812	1,882	39
	CURTAILMENT (RETAIL & WHOLESALE)							
40		Core	0	0	0	0	0	40
41		Noncore	0	0	0	0	0	41
42		TOTAL - Curtailment	0	0	0	0	0	42

NOTES:

(1) Figures exclude pipeline bypass load losses to non-jurisdictional gas suppliers. 467 469 473 514 495

(2) Excludes own-source gas supply of procurements by the City of Long Beach. 11 11 11 12 12

(3) Requirement forecast by end-use includes sales, transportation, and exchange volumes.

1998 California Gas Report

CITY OF LONG BEACH
GAS AND ELECTRIC DEPARTMENT

CITY OF LONG BEACH
GAS AND ELECTRIC DEPARTMENT

The annual gas supply and requirements for the City of Long Beach Gas and Electric Department (Long Beach) are shown on the following tables for the years 1993 through 1997 and the estimated years 1998 through 2015. Long Beach prepared all forecasted requirements.

Serving approximately 149,000 customers, Long Beach is the largest California municipal gas utility and the fifth largest municipal gas utility in the United States. Long Beach's service territory includes the cities of Long Beach and Signal Hill, and sections of surrounding communities including Lakewood, Bellflower, Compton, Seal Beach, Paramount, and Los Alamitos. Long Beach's customer load profile is 50 percent residential and 50 percent commercial/industrial.

As a municipal utility, Long Beach's rates and policies are established by the City Council, which acts as the regulatory authority. The City Charter requires the gas utility to establish its rates comparable to the rates charged by surrounding gas utilities for similar types of service.

Long Beach receives approximately one third of its gas supply directly into its pipeline system from local production fields. These fields are located within Long Beach's service territory and offshore production. The other two thirds of Long Beach's gas supply is purchased at the California border, primarily from the Southwestern United States. Long Beach, as a wholesale customer, receives intrastate transmission service for this gas from SoCalGas.

On October 1, 1997, after over 70 years of being the Long Beach Gas Department, the Department changed its name to the Long Beach Gas and Electric Department. This change reflects the Department's new role of being the procurer of electric supplies for all City-owned facilities as allowed under the newly-restructured electric industry in California. These facilities include parks, libraries, water pumping stations, street lighting, and traffic signals.

To encourage the increase in usage of natural gas and the acceptance of state-of-the-art natural gas technologies, Long Beach offers financial incentives to commercial/industrial customers who install natural gas equipment. Customers, including the Queen Mary, the Long Beach Ice Dogs minor league hockey team, and the Long Beach Convention Center, have all installed

natural gas equipment with a total incremental therm usage of 500,000 therms annually. Long Beach intends to continue its efforts of aggressively marketing natural gas in direct competition with electrical equipment.

Anticipating the stringent new air-quality emission standards by the South Coast Air Quality Management District, Long Beach has continued its very aggressive natural gas vehicle (NGV) program and has become recognized as a leader in NGVs. To encourage and facilitate the acceptance of natural gas as a motor vehicle fuel, Long Beach is developing its fueling infrastructure. With over 300 NGVs, Long Beach has the second largest municipal NGV fleet in the United States (behind New York City).

Long Beach currently has a total number of five CNG fueling stations. The public fueling stations provide for 24-hour access and are used by private fleets including Super Shuttle and Long Beach Transit, and public fleets including the Cities of Carson and Torrance. Long Beach is currently in the process of changing its existing CNG stations to accept all types of fueling cards. It is expected that the four public fueling stations will be set up to accept all fueling card types by the end of 1998.

CITY OF LONG BEACH GAS AND ELECTRIC DEPARTMENT - TABULAR DATA

ANNUAL GAS SUPPLY AND SENDOUT - MMCF/DAY
RECORDED YEARS 1993 THRU 1997

LINE		1993	1994	1995	1996	1997	LINE
	GAS SUPPLY AVAILABLE						
	California Source Gas						
1	Regular Purchases						1
2	Received for Exchange/Transport						2
3	Total California Source Gas						3
4	Purchases from Other Utilities						4
	Out-of-State Gas						
5	Pacific Interstate Companies						5
6	Additional Core Supplies						6
7	Incremental Supplies						7
8	Out-of-State Transport						8
9	Total Out-of-State Gas						9
10	SUBTOTAL						10
11	Underground Storage Withdrawal						11
12	GAS SUPPLY AVAILABLE						12
	GAS SUPPLY TAKEN						
	California Source Gas						
13	Regular Purchases	14	10	12	11	11	13
14	Received for Exchange/Transport	0	0	0	0	0	14
15	Total California Source Gas	14	10	12	11	11	15
16	Purchases from Other Utilities	0	0	0	0	0	16
	Out-of-State Gas						
17	Pacific Interstate Companies	0	0	0	0	0	17
18	Additional Core Supplies	0	0	0	0	0	18
19	Incremental Supplies	66	54	21	21	21	19
20	Out-of-State Transport	0	0	0	0	0	20
21	Total Out-of-State Gas	66	54	21	21	21	21
22	SUBTOTAL	80	64	33	32	32	22
23	Underground Storage Withdrawal	0	0	0	0	0	23
24	TOTAL Gas Supply Taken & Transported	80	64	33	32	32	24

ANNUAL GAS SUPPLY AND SENDOUT - MMCF/DAY
RECORDED YEARS 1993 THRU 1997

LINE			1993	1994	1995	1996	1997	LINE
	ACTUAL DELIVERIES BY END-USE							
1	CORE	Residential	17	17	15	16	16	1
2	CORE/NONCORE	Commercial	8	8	8	8	7	2
3	CORE/NONCORE	Industrial	8	9	9	9	9	3
4		SUBTOTAL	33	34	32	33	31	4
5	NONCORE	Non-EOR Cogeneration	1	0	0	0	0	5
6		EOR Cogen. & Steaming	0	0	0	0	0	6
7		Electric Utilities	49	30	0	0	0	7
8		SUBTOTAL	50	30	0	0	0	8
9	WHOLESALE	Residential	0	0	0	0	0	9
10		Com. & Ind., others	0	0	0	0	0	10
11		Electric Utilities	0	0	0	0	0	11
12		SUBTOTAL-Wholesale	0	0	0	0	0	12
13		Co. Use & LUAF	(2)	0	1	0	0	13
14		SUBTOTAL-End Use	81	64	33	33	31	14
15		Storage Injection	0	0	0	0	0	15
16	SYSTEM TOTAL-THROUGHPUT		81	64	33	33	31	16
	ACTUAL TRANSPORTATION AND EXCHANGE							
17		Residential	N/A	N/A	N/A	N/A	N/A	17
18		Commercial/Industrial	N/A	N/A	N/A	N/A	N/A	18
19		Non-EOR Cogeneration	N/A	N/A	N/A	N/A	N/A	19
20		EOR Cogen. & Steaming	N/A	N/A	N/A	N/A	N/A	20
21		Electric Utilities	N/A	N/A	N/A	N/A	N/A	21
22		SUBTOTAL-Retail	66	48	21	21	21	22
23	WHOLESALE	All End Uses	0	0	0	0	0	23
24	TOTAL TRANSPORTATION & EXCHANGE		66	48	21	21	21	24
	ACTUAL CURTAILMENT							
25		Residential	0	0	0	0	0	25
26		Commercial/Industrial	0	0	0	0	0	26
27		Non-EOR Cogeneration	0	0	0	0	0	27
28		EOR Cogen. & Steaming	0	0	0	0	0	28
29		Electric Utilities	0	0	0	0	0	29
30		Wholesale	0	0	0	0	0	30
31		TOTAL-Curtailment	0	0	0	0	0	31
32	REFUSAL		0	0	0	0	0	32

NOTE: Actual deliveries by end-use includes sales, transportation, and exchange volumes, but excludes actual curtailments.

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED YEARS 1998 THRU 2002
AVERAGE TEMPERATURE YEAR

LINE	GAS SUPPLY AVAILABLE		1998	1999	2000	2001	2002	LINE
1	California Source Gas							1
2	Out-of-State Gas							2
3	TOTAL CAPACITY AVAILABLE							3
	GAS SUPPLY TAKEN							
4	California Source Gas		11	11	11	11	11	4
5	Out-of-State Gas		21	21	21	21	21	5
6	TOTAL SUPPLY TAKEN		32	32	32	32	32	6
7	Net Underground Storage Withdrawal		0	0	0	0	0	7
8	TOTAL THROUGHPUT (1)		32	32	32	32	32	8
	REQUIREMENTS FORECAST BY END-USE (1)							
9	CORE	Residential	16	16	17	17	16	9
10		Commercial	6	6	6	5	5	10
11		NGV	0	0	0	0	0	11
12		Subtotal-CORE	22	22	23	22	21	12
13	NONCORE	Industrial	10	10	10	10	10	13
14		Non-EOR Cogeneration	0	0	0	0	0	14
15		EOR	0	0	0	0	0	15
16		Utility Electric Generation	0	0	0	0	0	16
17		NGV	0	0	0	0	0	17
18		Subtotal-NONCORE	10	10	10	10	10	18
19		Co. Use & LUAF	0	0	0	0	0	19
20	SYSTEM TOTAL THROUGHPUT (1)		31	32	33	32	31	
21	SYSTEM CURTAILMENT		0	0	0	0	0	21
	TRANSPORTATION							
22	CORE	All End Uses	11	11	11	11	11	22
23	NONCORE	Industrial	10	10	10	10	10	23
24		Non-EOR Cogeneration	0	0	0	0	0	24
25		EOR	0	0	0	0	0	25
26		Utility Electric Generation	0	0	0	0	0	26
27		Subtotal NONCORE	10	10	10	10	10	27
28	TOTAL TRANSPORTATION		21	21	21	21	21	28

NOTES:
(1) Requirement forecast by end-use includes sales and transportation volumes.

ANNUAL GAS SUPPLY AND REQUIREMENTS - MMCF/DAY
ESTIMATED YEARS 2003 THRU 2015
AVERAGE TEMPERATURE YEAR

LINE	GAS SUPPLY AVAILABLE		2003	2004	2005	2010	2015	LINE
1	California Source Gas							1
2	Out-of-State Gas							2
3	TOTAL CAPACITY AVAILABLE							3
	GAS SUPPLY TAKEN							
4	California Source Gas		11	11	11	12	12	4
5	Out-of-State Gas		21	21	21	21	20	5
6	TOTAL SUPPLY TAKEN		32	32	32	33	32	6
7	Net Underground Storage Withdrawal		0	0	0	0	0	7
8	TOTAL THROUGHPUT (1)		32	32	32	33	32	8
	REQUIREMENTS FORECAST BY END-USE (1)							
9	CORE	Residential	17	17	17	18	17	9
10		Commercial	5	5	5	5	5	10
11		NGV	0	0	0	0	0	11
12		Subtotal-CORE	22	22	22	23	22	12
13	NONCORE	Industrial	10	10	10	10	10	13
14		Non-EOR Cogeneration	0	0	0	0	0	14
15		EOR	0	0	0	0	0	15
16		Utility Electric Generation	0	0	0	0	0	16
17		NGV	0	0	0	0	0	17
18		Subtotal-NONCORE	10	10	10	10	10	18
19		Co. Use & LUAF	0	0	0	0	0	19
20	SYSTEM TOTAL THROUGHPUT (1)		32	32	32	33	32	20
21	SYSTEM CURTAILMENT		0	0	0	0	0	21
	TRANSPORTATION							
22	CORE	All End Uses	11	11	11	12	10	22
23	NONCORE	Industrial	10	10	10	10	10	23
24		Non-EOR Cogeneration	0	0	0	0	0	24
25		EOR	0	0	0	0	0	25
26		Utility Electric Generation	0	0	0	0	0	26
27		Subtotal NONCORE	10	10	10	10	10	27
28	TOTAL TRANSPORTATION		21	21	21	22	20	28

NOTES:

(1) Requirement forecast by end-use includes sales and transportation volumes.

1998 California Gas Report

SAN DIEGO
GAS & ELECTRIC COMPANY

SAN DIEGO GAS & ELECTRIC COMPANY

San Diego Gas & Electric Company (SDG&E), a subsidiary of Enova Corporation, is a combined gas and electric utility serving more than three million people in San Diego and southern Orange counties. SDG&E's gas system distributes natural gas to over 720,000 customers in San Diego County, including SDG&E's power plants. Total gas sales and transportation through SDG&E's system for 1997 was approximately 103 billion cubic (Bcf), which is an average of about 283 million cubic feet per day (MMcf/day).

GAS DEMAND

This projection of natural gas requirements reflects the anticipated 1998 Biennial Cost Allocation Proceeding (BCAP) forecast and SDG&E's electric generation planning assumptions. The outlook for gas sales and transportation demand is projected to be 2 percent lower by the end of this decade than the long-term forecast contained in the *1996 California Gas Report*. Total annual gas requirements indicated in this report are expected to grow to 113 Bcf by the year 2005, of which the power plant gas demand will be 37 percent and the core customer demand will represent over 41 percent.

SDG&E derives its forecasts for core and noncore sales and transportation customer gas consumption and peak demand from models which integrate demographic assumptions, economics, energy prices, conservation, marketing programs, building and appliance standards, weather, and other factors. These forecasting models use econometric techniques and end-use forecasting methodologies.

Natural gas requirements for electric generation in San Diego continue to be considered uncertain in view of recent historic events relating to California's electric restructuring and the planned divestiture of SDG&E's generating assets. While the Independent System Operator (ISO) officially started on March 31, 1998, with a "must run" contract for electric system reliability with SDG&E's power plants, gas demand is also dependent upon the ability to competitively bid into the Power Exchange (PX) with other electric generation providers to the state. It is unclear how SDG&E's power plant operations and resulting gas demand will be affected.

Additionally, SDG&E has announced plans to auction its plants, combustion turbines, 20 percent interest in the San Onofre Nuclear Generating Station (SONGS), and its portfolio of long-term power contracts.

The sale of the power plants and energy contracts is expected to be completed by the end of 1998. Electric generation gas demand would then be subject to dispatch by new plant owners, which will further impact gas requirements.

For this *1998 California Gas Report*, therefore, the outlook for San Diego's power plant gas requirements has not changed from the previous long-term forecast. Annual electric generation continues to reflect the three-year recorded average gas burn for 1993 through 1995, which is based upon SDG&E's 1996 BCAP filing. This is assumed to continue for each year throughout the forecast period.

SDG&E's Natural Gas Vehicle (NGV) gas requirements projection reflects a change in the program's focus as a result of the California Public Utilities Commission direction in late 1995 to scale back NGV activities. SDG&E's efforts are now targeted at new customer education about NGV benefits and at seeking funding assistance for customers to help defray incremental NGV costs. The local fueling infrastructure continues to be developed, and there are now almost 1,650 NGVs in San Diego County utilizing 22 fueling stations.

There continues to be a significant growth potential for gas demand in Baja California. An estimated additional gas load of at least 300 MMcf/day is possible for electric generation, as well as industrial use, that is not included in this forecast.

GAS SUPPLY

SDG&E procures natural gas through short-term and spot-market purchases, plus long-term firm contracts with Canadian suppliers. SDG&E has a long-term contract with El Paso Natural Gas Company for 10 MMcf/day of firm transportation capacity and for 52.5 MMcf/day on the PGT/PG&E pipeline system from Canada. SDG&E also actively participates in capacity brokering for interstate pipeline capacity. Underground storage inventory rights for SDG&E's core gas customers totaling 6,000,000 Decatherms are specified in the current natural gas service contract with SoCalGas.

SDG&E procures gas under a gas procurement performance-based incentive mechanism, the Gas PBR, that allows for the reasonableness of its gas purchases to be judged against a benchmark determined from spot market price indices for the Southwest basins and for deliveries to the California border into the SoCalGas intrastate pipeline system. SDG&E develops a portfolio of supply and transportation contracts to provide low-cost natural gas consistent with its customer service obligation.

There is expected to be sufficient supply deliverability to SDG&E's gas system from the SoCalGas pipeline system and storage facilities. Gas delivery is made primarily through the Moreno-to-San Diego transmission pipeline.

PEAK DAY DEMAND AND DELIVERABILITY

SDG&E's design peak day gas demand consists of projected requirements for its core market of residential and small commercial customers, as well as a limited amount of retail noncore gas requirements. The peak day is expected to occur during the winter season due to demand for gas space heating. SDG&E plans to meet its design peak day gas demand from a combination of flowing gas supplies and withdrawing gas storage inventory.

SDG&E's gas transmission system is designed to provide a 100 percent level of service to all core customers under design peak day conditions. Because this design peak day is expected to occur only once every 35 years, the remaining capacity during non-peak conditions is available to serve noncore customers. During periods of cold weather or extremely high UEG demand, however, it may not always be possible to maintain a 100 percent level of service to all noncore customers under the current system design criteria

The following table shows SDG&E's core gas demand forecast for the design peak day for the winter periods. This assumes that supplies from storage withdrawal are at SDG&E's maximum allowable rate under the terms of the current SoCalGas service contract and are used before out-of-state flowing gas supply purchases for the peak day core requirements.

SAN DIEGO GAS & ELECTRIC COMPANY
Design Peak Day Forecast
for Core Demand and Supplies
(MMCF/DAY)

	1998-99	1999-00	2000-01
PEAK DAY DEMAND:	401	403	404
AVAILABLE SUPPLY			
Storage Withdrawal	221	221	221
Out-of-State Supply	180	182	183
TOTAL CORE SUPPLY:	**401**	**403**	**404**

SAN DIEGO GAS & ELECTRIC COMPANY
TABULAR DATA

ANNUAL GAS SUPPLY AND REQUIREMENTS
RECORDED YEARS 1993-1997
MMCF/DAY

LINE	GAS SUPPLY AVAILABLE	1993	1994	1995	1996	1997	LINE
	California Source Gas						
1	Regular Purchases						1
2	Received for Exchange/Transport						2
3	Total California Source Gas						3
4	Purchases from Other Utilities						4
	Out-of-State Gas						
5	Pacific Interstate Companies						5
6	Additional Core Supplies						6
7	Supplemental Supplies						7
8	Out-of-State Transport						8
9	Total Out-of-State Gas						9
10	GAS SUPPLY AVAILABLE						10
11	Underground Storage Withdrawal						11
	GAS SUPPLY TAKEN						
	California Source Gas						
12	Regular Purchases	0	20	24	31	26	12
13	Received for Exchange/Transport	0	0	0	0	0	13
14	Total California Source Gas	0	20	24	31	26	14
15	Purchases from Other Utilities	0	0	0	0	0	15
	Out-of-State Gas						
16	Pacific Interstate Companies	0	0	0	0	0	16
17	Additional Core Supplies	0	0	0	0	0	17
18	Supplemental Supplies-Utility	268	241	224	232	251	18
19	Out-of-State Transport-Others	30	41	47	45	49	19
20	Total Out-of-State Gas	298	282	271	277	300	20
21	TOTAL Gas Supply Taken & Transported	298	302	296	308	326	21

ANNUAL GAS SUPPLY AND SENDOUT
RECORDED YEARS 1993-1997
MMCF/DAY

LINE	ACTUAL DELIVERIES BY END-USE		1993	1994	1995	1996	1997	LINE
1	CORE	Residential	87	92	85	85	86	1
2		Commercial	34	34	34	34	32	2
3		Industrial	0	0	0	0	0	3
4		Subtotal CORE	120	126	119	119	117	
5	NONCORE	Commercial	0	0	0	0	0	5
6		Industrial	16	20	23	27	29	6
7		Non-EOR Cogeneration	43	41	45	40	44	7
8		Electric Utilities	120	110	107	118	134	8
9		Subtotal NONCORE	179	171	175	185	207	9
10	WHOLESALE	Residential	0	0	0	0	0	10
11		Com. & Ind., others	0	0	0	0	0	11
12		Electric Utilities	0	0	0	0	0	12
13		Subtotal WHOLESALE	0	0	0	0	0	13
14		Co. Use & LUAF	(1)	4	3	4	1	14
15	SYSTEM TOTAL THROUGHPUT (SALES)		298	302	296	308	326	15
	ACTUAL TRANSPORTATION AND EXCHANGE							
16	CORE	Residential	1	1	1	0	1	16
17		Commercial	7	6	5	4	3	17
18	NONCORE	Industrial	2	1	4	4	8	18
19		Non-EOR Cogeneration	20	33	38	37	37	19
20		Electric Utilities	0	0	0	0	0	20
21		Subtotal-RETAIL	30	41	47	45	49	21
22	WHOLESALE	All End Uses	0	0	0	0	0	22
23	TOTAL TRANSPORTATION & EXCHANGE		30	41	47	45	49	23
	STORAGE							
24		Storage Injection	33	36	14	19	19	24
25		Storage Withdrawal	32	34	20	19	23	25
	ACTUAL CURTAILMENT							
26		Residential	0	0	0	0	0	26
27		Comm./Indl. & Cogen.	0	0	0	0	0	27
28		Electric Utilities	1	0	0	0	0	28
29		TOTAL-Curtailment	1	0	0	0	0	29
30	REFUSAL		17	0	0	6	1	30

NOTE:
Actual deliveries by end-use include sales and transportation volumes (may not add due to rounding).

MMBtu/Mcf	1.035	1.022	1.019	1.014	1.009	.

ANNUAL GAS SUPPLY AND REQUIREMENTS
FORECAST YEARS 1998-2002
MMCF/DAY
AVERAGE TEMPERATURE YEAR

LINE	GAS SUPPLY AVAILABLE	1998	1999	2000	2001	2002	LINE
	California Source Gas						
1	Regular Purchases	0	0	0	0	0	1
2	Received for Exchange/Transport	0	0	0	0	0	2
3	Total California Source Gas	0	0	0	0	0	3
4	Purchases from Other Utilities	0	0	0	0	0	4
	Out-of-State Gas						
5	Pacific Interstate Companies	0	0	0	0	0	5
6	Additional Core Supplies	0	0	0	0	0	6
7	Supplemental Supplies (Utility)	257	257	258	258	259	7
8	Out-of-State Transport (for others)	47	47	47	47	47	8
9	Total Out-of-State Gas	304	305	305	306	307	9
10	GAS SUPPLY AVAILABLE	304	305	305	306	307	10
11	Underground Storage Withdrawal	16	16	16	16	16	11
	GAS SUPPLY TAKEN						
	California Source Gas						
12	Regular Purchases	0	0	0	0	0	12
13	Received for Exchange/Transport	0	0	0	0	0	13
14	Total California Source Gas	0	0	0	0	0	14
15	Purchases from Other Utilities	0	0	0	0	0	15
	Out-of-State Gas						
16	Pacific Interstate Companies	0	0	0	0	0	16
17	Additional Core Supplies	0	0	0	0	0	17
18	Supplemental Supplies (Utility)	257	257	258	258	259	18
19	Out-of-State Transport (for others)	47	47	47	47	47	19
20	Total Out-of-State Gas	304	305	305	306	307	20
21	TOTAL Gas Supply Taken & Transported	304	305	305	306	307	21
22	Underground Storage Withdrawal	16	16	16	16	16	22

ANNUAL GAS SUPPLY AND REQUIREMENTS
FORECAST YEARS 1998-2002
MMCF/DAY
AVERAGE TEMPERATURE YEAR

LINE	REQUIREMENTS FORECAST BY END-USE		1998	1999	2000	2001	2002	LINE
1	CORE	Residential	87	87	88	88	88	1
2		Commercial	34	34	34	35	35	2
3		Industrial	0	0	0	0	0	3
4		NGV	1	1	1	1	1	4
5		Subtotal-CORE	122	122	123	123	124	5
6	NONCORE	Commercial	0	0	0	0	0	6
7		Industrial	22	23	23	23	23	7
8		Non-EOR Cogen.	44	44	44	44	44	8
9		Electric Utilities	113	113	113	113	113	9
10		Subtotal-NONCORE	180	180	179	180	180	10
11	WHOLESALE	All End Uses	0	0	0	0	0	11
12		Co. Use & LUAF	2	2	2	2	2	12
13	SYSTEM TOTAL - THROUGHPUT		304	305	305	306	307	13
14		Storage Injection	16	16	16	16	16	14
	TRANSPORTATION AND EXCHANGE							
15	CORE	All End Uses	4	4	4	4	4	15
16	NONCORE	Commercial/Industrial	6	6	6	6	6	16
17		Non-EOR Cogen.	37	37	37	37	37	17
18		Electric Utilities	0	0	0	0	0	18
19		Subtotal-RETAIL	47	47	47	47	47	19
20	WHOLESALE	All End Uses	0	0	0	0	0	20
21	TOTAL TRANSPORT & EXCHANGE		47	47	47	47	47	21
	CURTAILMENT (RETAIL AND WHOLESALE)							
22		Core	0	0	0	0	0	22
23		Commercial/Industrial & Cogen.	0	0	0	0	0	23
24		Electric Utilities	0	0	0	0	0	24
25		Total-CURTAILMENT	0	0	0	0	0	25
26	REFUSAL		0	0	0	0	0	26
		Days/Year	365	365	366	365	365	

NOTE:
Requirements forecast by end-use includes sales, transportation and exchange volumes (may not add due to rounding).

ANNUAL GAS SUPPLY AND REQUIREMENTS
FORECAST YEARS 2003-2015
MMCF/DAY
AVERAGE TEMPERATURE YEAR

LINE	GAS SUPPLY AVAILABLE	2003	2004	2005	2010	2015	LINE
	California Source Gas						
1	Regular Purchases	0	0	0	0	0	1
2	Received for Exchange/Transport	0	0	0	0	0	2
3	Total California Source Gas	0	0	0	0	0	3
4	Purchases from Other Utilities	0	0	0	0	0	4
	Out-of-State Gas						
5	Pacific Interstate Companies	0	0	0	0	0	5
6	Additional Core Supplies	0	0	0	0	0	6
7	Supplemental Supplies (Utility)	260	261	263	271	281	7
8	Out-of-State Transport (for others)	47	47	47	48	48	8
9	Total Out-of-State Gas	308	309	310	319	329	9
10	GAS SUPPLY AVAILABLE	308	309	310	319	329	10
11	Underground Storage Withdrawal	16	16	16	16	16	11
	GAS SUPPLY TAKEN						
	California Source Gas						
12	Regular Purchases	0	0	0	0	0	12
13	Received for Exchange/Transport	0	0	0	0	0	13
14	Total California Source Gas	0	0	0	0	0	14
15	Purchases from Other Utilities	0	0	0	0	0	15
	Out-of-State Gas						
16	Pacific Interstate Companies	0	0	0	0	0	16
17	Additional Core Supplies	0	0	0	0	0	17
18	Supplemental Supplies (Utility)	260	261	263	271	281	18
19	Out-of-State Transport (for others)	47	47	47	48	48	19
20	Total Out-of-State Gas	308	309	310	319	329	20
21	TOTAL Gas Supply Taken & Transported	308	309	310	319	329	21
22	Underground Storage Withdrawal	16	16	16	16	16	22

ANNUAL GAS SUPPLY AND REQUIREMENTS
FORECAST YEARS 2003-2015
MMCF/DAY
AVERAGE TEMPERATURE YEAR

LINE	REQUIREMENTS FORECAST BY END-USE		2003	2004	2005	2010	2015	LINE
1	CORE	Residential	89	90	90	96	103	1
2		Commercial	35	36	36	38	39	2
3		Industrial	0	0	0	0	0	3
4		NGV	1	1	1	2	2	4
5		Subtotal-CORE	125	127	128	135	144	5
6	NONCORE	Commercial	0	0	0	0	0	6
7		Industrial	23	23	23	24	25	7
8		Non-EOR Cogen.	44	44	44	44	44	8
9		Electric Utilities	113	113	113	113	113	9
10		Subtotal-NONCORE	180	180	180	181	183	10
11	WHOLESALE	All End Uses	0	0	0	0	0	11
12		Co. Use & LUAF	2	2	2	3	3	12
13	SYSTEM TOTAL - THROUGHPUT		308	309	310	319	329	13
14		Storage Injection	16	16	16	16	16	14
	TRANSPORTATION AND EXCHANGE							
15	CORE	All End Uses	4	4	4	4	5	15
16	NONCORE	Commercial/Industrial	6	6	6	6	6	16
17		Non-EOR Cogen.	37	37	37	37	37	17
18		Electric Utilities	0	0	0	0	0	18
19		Subtotal-RETAIL	47	47	47	48	48	19
20	WHOLESALE	All End Uses	0	0	0	0	0	20
21	TOTAL TRANSPORT & EXCHANGE		47	47	47	48	48	21
	CURTAILMENT (RETAIL AND WHOLESALE)							
22		Core	0	0	0	0	0	22
23		Commercial/Industrial & Cogen.	0	0	0	0	0	23
24		Electric Utilities	0	0	0	0	0	24
25		Total-CURTAILMENT	0	0	0	0	0	25
26	REFUSAL		0	0	0	0	0	26
		Days/Year	365	366	365	365	365	

NOTE:
Requirements forecast by end-use includes sales, transportation and exchange volumes (may not add due to rounding).

1998 California Gas Report

SOUTHERN CALIFORNIA EDISON COMPANY

SOUTHERN CALIFORNIA EDISON COMPANY

Southern California Edison Company (Edison) is the nation's second largest electric utility, serving more than 11 million people in a 50,000-square-mile area within central, coastal, and southern California. Edison is one of four affiliates that comprise Edison International. The other affiliates are Edison Mission Energy, Edison Enterprises, and Edison Capital.

A HISTORICAL PERSPECTIVE

Edison has historically provided a bundled package of electricity services that included the generation, transmission, and distribution of electricity to its customers. Edison has generated electricity from a multitude of sources, and natural gas-fired generation has been a significant portion of Edison's generation portfolio. In 1997, Edison burned over 143 billion cubic feet of natural gas. This natural gas was predominantly procured from supply basins in the southwest United States and western Canada and then transported via inter- and intrastate pipelines and distribution systems to Edison's generating stations in the southern California basin.

EDISON AND THE FUTURE

Edison's use of natural gas for electric generation will cease in 1998 with its planned divestiture of 100 percent of its gas-fired generation (twelve generating stations totaling approximately 10,000 MW of capacity). Accordingly, unlike other respondent utilities, Edison's unique situation dictates that the *1998 California Gas Report* will mark the last year in which Edison will provide recorded data. Additionally, due to the divestiture of Edison's natural gas-fired generating stations, beginning with the *1998 California Gas Report*, Edison will cease to submit forecast data for use in the California Gas Report.

SOUTHERN CALIFORNIA EDISON COMPANY
TABULAR DATA

ANNUAL GAS SUPPLY AND SENDOUT
RECORDED YEARS 1993 TO 1997
MMCF/DAY

LINE	GAS SUPPLY AVAILABLE	1993	1994	1995	1996	1997	LINE
	California Source Gas						
1	Regular Purchases						1
2	Received for Exchange/Transport						2
3	Total California Source Gas						3
4	Purchases from Other Utilities						4
	Out-of-State Gas						
5	Pacific Interstate Companies						5
6	Additional Core Supplies						6
7	Supplemental Supplies						7
8	Out-of-State Transport						8
9	Total Out-of-State Gas						9
10	Subtotal						10
11	Underground Storage Withdrawal						11
12	TOTAL GAS SUPPLY AVAILABLE						12
	GAS SUPPLY TAKEN						
	California Source Gas						
13	Regular Purchases	18	35	19	8	8	13
14	Received for Exchange/Transport	0	0	0	0	0	14
15	Total California Source Gas	18	35	19	8	8	15
16	Purchases from Other Utilities	0	0	0	0	0	16
	Out-of-State Gas						
17	Pacific Interstate Companies	0	0	0	0	0	17
18	Additional Core Supplies	0	0	0	0	0	18
19	Supplemental Supplies	471	553	430	313	387	19
20	Out-of-State Transport	0	0	0	0	0	20
21	Total Out-of-State Gas	471	553	430	313	387	21
22	Subtotal	489	588	449	321	395	22
23	Underground Storage Withdrawal	30	25	12	44	8	23
24	TOTAL GAS SUPPLY TAKEN AND TRANSPORTED	519	613	461	365	403	24

ANNUAL GAS SUPPLY AND SENDOUT
RECORDED YEARS 1993 TO 1997
MMCF/DAY

LINE	ACTUAL DELIVERIES BY END-USE		1993	1994	1995	1996	1997	LINE
1	CORE	Residential	0	0	0	0	0	1
2	CORE/NONCORE	Commercial	0	0	0	0	0	2
3	CORE/NONCORE	Industrial	0	0	0	0	0	3
4		Subtotal-CORE	0	0	0	0	0	4
5	NONCORE	Non-EOR Cogeneration	0	0	0	0	0	5
6		EOR Cogen. & Steaming	0	0	0	0	0	6
7		Electric Utilities	499	589	445	344	393	7
8		Subtotal-NONCORE	499	589	445	344	393	8
9	WHOLESALE	Residential	0	0	0	0	0	9
10		Com. & Ind., Others	0	0	0	0	0	10
11		Electric Utilities	0	0	0	0	0	11
12		Subtotal-WHOLESALE	0	0	0	0	0	12
13		Co. Use & LUAF	0	0	0	0	0	13
14		Subtotal-END USE	499	589	445	344	393	14
15		Storage Injection	20	24	16	21	10	15
16	SYSTEM TOTAL-THROUGHPUT		499	613	461	365	403	16
	ACTUAL TRANSPORTATION AND EXCHANGE							
18		Residential	0	0	0	0	0	18
19		Commercial/Industrial	0	0	0	0	0	19
20		Non-EOR Cogeneration	0	0	0	0	0	20
21		EOR Cogen. & Steaming	0	0	0	0	0	21
22		Electric Utilities	471	553	430	313	387	22
23		Subtotal-RETAIL	471	553	430	313	387	23
24	WHOLESALE	All End Uses	0	0	0	0	0	24
25	TOTAL TRANSPORTATION AND EXCHANGE		471	553	430	313	387	25
	ACTUAL CURTAILMENT							
26		Residential	0	0	0	0	0	26
27		Commercial/Industrial	0	0	0	0	0	27
28		Non-EOR Cogeneration	0	0	0	0	0	28
29		EOR Cogen. & Steaming	0	0	0	0	0	29
30		Electric Utilities	0	0	0	0	0	30
31		Wholesale	0	0	0	0	0	31
32		TOTAL-Curtailment	0	0	0	0	0	32
33	REFUSAL		0	0	0	0	0	33

1998 California Gas Report

LOS ANGELES DEPARTMENT OF WATER AND POWER

LOS ANGELES DEPARTMENT OF WATER AND POWER

The Los Angeles Department of Water and Power (LADWP), the nation's largest municipally owned utility, supplies water and electricity to approximately 3.5 million residents of the nation's second largest city. Throughout the last three decades, the LADWP has diversified its generation resources in order to spread the risk of fuel supply over a diverse array of generation facilities both inside and outside the Los Angeles basin. Recognizing the need to minimize the impact of electric generation on basin air quality, LADWP gradually achieved the goal of 100-percent gas utilization. Currently the LADWP basin gas generation facilities provide approximately 10 percent of annual generation needs, burning 19 Bcf in calendar year 1997.

Over the past few years LADWP has seen its gas usage decline from as much as 65 Bcf to last year's 19 Bcf. The abundance of hydro generation and other economy energy purchase options have combined to limit basin gas-fired generation. Oil burning has been relegated to the status of emergency back up.

LADWP's natural gas demand forecast is presented in the following tables for 1998 through 2015. It should be noted this forecast assumes hydro generation based on average-year conditions. However, any deviation from average-year conditions can affect natural gas requirement's significantly. Momentum from the recovering Los Angeles economy and customer efficiencies may also impact fuel use. LADWP's renewed commitment to alternative energy could also have major impacts.

LADWP holds large portions of firm capacity rights on interstate pipelines that are becoming more valuable with the passage of time. This capacity gives LADWP some flexibility in establishing its supply portfolio and provides a measure of security.

Recent changes in government regulation brought about by AB 1890 have dramatically changed the energy landscape in California. The mandate for open access and creation of the Independent System Operator (ISO) and Power Exchange (PX) will influence the LADWP's electric operations even though the LADWP has no current plans to join the ISO. The opportunities for power sales through the PX, as well as under bilateral agreements, will provide an unknown but significant amount of revenue for the future.

The LADWP is undergoing a significant corporate restructuring and downsizing to achieve the necessary competitiveness to survive in a deregulated environment. Current plans call for significant debt reduction by 2003, 25 percent staff reductions by mid 1998, enhanced services for existing customers, and flexibility to negotiate rates for large commercial/industrial customers.

Since LADWP owns 28 percent of the electric transmission into California, it intends to remain active in governmental regulatory activities which affect electric transmission and generation activities in addition to gas regulatory activities. Recent divestment of generation facilities by investor-owned utilities and the opening of California's electric grid have required a review of operations and relationships unprecedented in scope. Opportunities abound.

LOS ANGELES DEPARTMENT OF WATER AND POWER - TABULAR DATA

ANNUAL GAS SUPPLY AND SENDOUT
RECORDED YEARS 1993-1997
MMCF/DAY

LINE	GAS SUPPLY AVAILABLE	1993	1994	1995	1996	1997	LINE
1	California Source Gas						1
	Out-of-State Gas						
2	California Offshore - POPCO/PIOC						2
3	El Paso Natural Gas Co.						3
4	Transwestern Pipeline Co.						4
5	Kern/Mojave						5
6	PGT/PG&E						6
7	Other						7
8	Total Out-of-State Gas						8
9	Subtotal						9
10	Underground Storage Withdrawal						10
11	TOTAL GAS SUPPLY AVAILABLE						11
	GAS SUPPLY TAKEN						
12	California Source Gas	0	0	0	3	0	12
	Out-of-State Gas						
13	Pacific Interstate Companies	0	0	0	0	0	13
14	Other Out-of-State	142	177	132	58	53	14
15	Total Out-of-State Gas	142	177	132	61	53	15
16	Subtotal	142	177	132	61	53	16
17	Underground Storage Withdrawal	0	0	0	0	0	17
18	TOTAL GAS SUPPLY TAKEN	142	177	132	61	53	18

ANNUAL GAS SUPPLY AND SENDOUT
RECORDED YEARS 1993-1997
MMCF/DAY

LINE	ACTUAL DELIVERIES BY END-USE		1993	1994	1995	1996	1997	LINE
1	CORE	Residential	0	0	0	0	0	1
2	CORE/NONCORE	Commercial	0	0	0	0	0	2
3	CORE/NONCORE	Industrial	0	0	0	0	0	3
4		Subtotal	0	0	0	0	0	4
5	NONCORE	Non-EOR Cogeneration	0	0	0	0	0	5
6		EOR Cogen. & Steaming	0	0	0	0	0	6
7		Electric Utilities	142	177	132	61	53	7
8		Subtotal	142	177	132	61	53	8
9	WHOLESALE	Residential	0	0	0	0	0	9
10		Com. & Ind., others	0	0	0	0	0	10
11		Electric Utilities	0	0	0	0	0	11
12		Subtotal WHOLESALE	0	0	0	0	0	12
13		Co. Use & LUAF	0	0	0	0	0	13
14		Subtotal-END USE	142	177	132	61	53	14
15		Storage Injection	0	0	0	0	0	15
16	SYSTEM TOTAL THROUGHPUT (SALES)		142	177	132	61	53	16
	ACTUAL TRANSPORTATION AND EXCHANGE							
17	CORE	All End Uses	0	0	0	0	0	17
18	NONCORE	Commercial/Industrial	0	0	0	0	0	18
19		Non-EOR Cogeneration	0	0	0	0	0	19
20		EOR Cogen. & Steaming	0	0	0	0	0	20
21		Electric Utilities	142	142	142	142	142	21
22		Subtotal-RETAIL	142	142	142	142	142	22
23	WHOLESALE	All End Uses	0	0	0	0	0	23
24	TOTAL TRANSPORTATION & EXCHANGE		142	142	142	142	142	24
	CURTAILMENT (RETAIL & WHOLESALE)							
25		Core	0	0	0	0	0	25
26		Noncore	0	0	0	0	0	26
27		TOTAL-Curtailment	0	0	0	0	0	27
28	REFUSAL		0	0	0	0	0	28

NOTE:
Actual deliveries by end-use include sales, transportation, and exchange volumes, but excludes actual curtailments.

ANNUAL GAS SUPPLY AND REQUIREMENTS
FORECAST YEARS 1998-2002
MMCF/DAY
AVERAGE TEMPERATURE YEAR

LINE	GAS SUPPLY AVAILABLE	1998	1999	2000	2001	2002	LINE
1	California Source Gas	0	0	0	0	0	1
	Out-of-State Gas						
2	California Offshore - POPCO/PIOC	0	0	0	0	0	2
3	El Paso Natural Gas Co.	36	36	36	36	36	3
4	Transwestern Pipeline Co.	0	0	0	0	0	4
5	Kern/Mojave	135	135	135	135	135	5
6	PGT/PG&E	0	0	0	0	0	6
7	Other	0	0	0	0	0	7
8	Total Out-of-State Gas	171	171	171	171	171	8
9	Subtotal	171	171	171	171	171	9
10	Underground Storage Withdrawal	0	0	0	0	0	10
11	TOTAL GAS SUPPLY AVAILABLE	171	171	171	171	171	11
	GAS SUPPLY TAKEN						
12	California Source Gas	0	0	0	0	0	12
	Out-of-State Gas						
13	Pacific Interstate Companies	0	0	0	0	0	13
14	Other Out-of-State	57	66	72	81	63	14
15	Total Out-of-State Gas	57	66	72	81	63	15
16	Subtotal	57	66	72	81	63	16
17	Underground Storage Withdrawal	0	0	0	0	0	17
18	TOTAL GAS SUPPLY TAKEN	57	66	72	81	63	18

ANNUAL GAS SUPPLY AND REQUIREMENTS
FORECAST YEARS 1998-2002
MMCF/DAY
AVERAGE TEMPERATURE YEAR

LINE	REQUIREMENTS FORECAST BY END-USE		1998	1999	2000	2001	2002	LINE
1	CORE	Residential	0	0	0	0	0	1
2	CORE/NONCORE	Commercial	0	0	0	0	0	2
3	CORE/NONCORE	Industrial	0	0	0	0	0	3
4		Subtotal	0	0	0	0	0	4
5	NONCORE	Non-EOR Cogeneration	0	0	0	0	0	5
6		EOR Cogen. & Steaming	0	0	0	0	0	6
7		Electric Utilities	57	66	72	81	63	7
8		Subtotal	57	66	72	81	63	8
9	WHOLESALE	Residential	0	0	0	0	0	9
10		Com. & Ind., others	0	0	0	0	0	10
11		Electric Utilities	0	0	0	0	0	11
12		Subtotal WHOLESALE	0	0	0	0	0	12
13		Co. Use & LUAF	0	0	0	0	0	13
14		Subtotal-END USE	57	66	72	81	63	14
15		Storage Injection	0	0	0	0	0	15
16	SYSTEM TOTAL THROUGHPUT		57	66	72	81	63	16
	TRANSPORTATION AND EXCHANGE							
17	CORE	All End Uses	0	0	0	0	0	17
18	NONCORE	Commercial/Industrial	0	0	0	0	0	18
19		Non-EOR Cogeneration	0	0	0	0	0	19
20		EOR Cogen. & Steaming	0	0	0	0	0	20
21		Electric Utilities	142	142	142	142	142	21
22		Subtotal-RETAIL	142	142	142	142	142	22
23	WHOLESALE	All End Uses	0	0	0	0	0	23
24	TOTAL TRANSPORTATION & EXCHANGE		142	142	142	142	142	24
	CURTAILMENT (RETAIL & WHOLESALE)							
25		Core	0	0	0	0	0	25
26		Noncore	0	0	0	0	0	26
27		TOTAL-Curtailment	0	0	0	0	0	27
28	REFUSAL		0	0	0	0	0	28

NOTE:
Requirements forecast by end-use includes sales, transportation, and exchange volumes.

ANNUAL GAS SUPPLY AND REQUIREMENTS
FORECAST YEARS 2003-2015
MMCF/DAY
AVERAGE TEMPERATURE YEAR

LINE	GAS SUPPLY AVAILABLE	2003	2004	2005	2010	2015	LINE
1	California Source Gas	0	0	0	0	0	1
	Out-of-State Gas						
2	California Offshore - POPCO/PIOC	0	0	0	0	0	2
3	El Paso Natural Gas Co.	36	36	36	0	0	3
4	Transwestern Pipeline Co.	0	0	0	0	0	4
5	Kern/Mojave	135	135	135	0	0	5
6	PGT/PG&E	0	0	0	0	0	6
7	Other	0	0	0	0	0	7
8	Total Out-of-State Gas	171	171	171	0	0	8
9	Subtotal	171	171	171	0	0	9
10	Underground Storage Withdrawal	0	0	0	0	0	10
11	TOTAL GAS SUPPLY AVAILABLE	171	171	171	0	0	11
	GAS SUPPLY TAKEN						
12	California Source Gas	0	0	0	0	0	12
	Out-of-State Gas						
13	Pacific Interstate Companies	0	0	0	0	0	13
14	Other Out-of-State	64	71	86	80	92	14
15	Total Out-of-State Gas	64	71	86	80	92	15
16	Subtotal	64	71	86	80	92	16
17	Underground Storage Withdrawal	0	0	0	0	0	17
18	TOTAL GAS SUPPLY TAKEN	64	71	86	80	92	18

ANNUAL GAS SUPPLY AND REQUIREMENTS
FORECAST YEARS 2003-2015
MMCF/DAY
AVERAGE TEMPERATURE YEAR

LINE	REQUIREMENTS FORECAST BY END-USE		2003	2004	2005	2010	2015	LINE
1	CORE	Residential	0	0	0	0	0	1
2	CORE/NONCORE	Commercial	0	0	0	0	0	2
3	CORE/NONCORE	Industrial	0	0	0	0	0	3
4		Subtotal	0	0	0	0	0	4
5	NONCORE	Non-EOR Cogeneration	0	0	0	0	0	5
6		EOR Cogen. & Steaming	0	0	0	0	0	6
7		Electric Utilities	64	71	86	80	92	7
8		Subtotal	64	71	86	80	92	8
9	WHOLESALE	Residential	0	0	0	0	0	9
10		Com. & Ind., others	0	0	0	0	0	10
11		Electric Utilities	0	0	0	0	0	11
12		Subtotal WHOLESALE	0	0	0	0	0	12
13		Co. Use & LUAF	0	0	0	0	0	13
14		Subtotal-END USE	64	71	86	80	92	14
15		Storage Injection	0	0	0	0	0	15
16	SYSTEM TOTAL THROUGHPUT		64	71	86	80	92	16
	TRANSPORTATION AND EXCHANGE							
17	CORE	All End Uses	0	0	0	0	0	17
18	NONCORE	Commercial/Industrial	0	0	0	0	0	18
19		Non-EOR Cogeneration	0	0	0	0	0	19
20		EOR Cogen. & Steaming	0	0	0	0	0	20
21		Electric Utilities	64	71	86	80	92	21
22		Subtotal-RETAIL	64	71	86	80	92	22
23	WHOLESALE	All End Uses	0	0	0	0	0	23
24	TOTAL TRANSPORTATION & EXCHANGE		64	71	86	80	92	24
	CURTAILMENT (RETAIL & WHOLESALE)							
25		Core	0	0	0	0	0	25
26		Noncore	0	0	0	0	0	26
27		TOTAL-Curtailment	0	0	0	0	0	27
28	REFUSAL		0	0	0	0	0	28

NOTE:
Requirements forecast by end-use includes sales, transportation, and exchange volumes.

1998 California Gas Report

GLOSSARY

AVERAGE DAY (OPERATIONAL DEFINITION)

Annual gas sales or requirements assuming average temperature year conditions divided by 365 days.

AVERAGE TEMPERATURE YEAR

Long-term average recorded temperature.

BCF

Billion cubic feet of gas.

BTU (BRITISH THERMAL UNIT)

Unit of measurement equal to the amount of heat energy required to raise the temperature of one pound of water one degree Fahrenheit. This unit is commonly used to measure the quantity of heat available from complete combustion of natural gas.

BYPASS

Most situations in which a customer is directly served by an interstate staunt equar s0c00i2o,without utilizmingexiustinglocraldiusribustion comany e ,s instom byp as, e.g.,h aporstion ofCaliforni aproducstiot. SreeNon-UtiliityDdliaveies.S

1.Regular

TIO

saom fueldsource. Alsos used todesignuar ay sparuar cl ast of gar customeys.

TURE YEAR

condition,

COMMERCIAL (SOCALGAS & SDG&E)

Category of gas customers whose establishments consist of services, manufacturing nondurable goods, dwellings not classified as residential, and farming (agriculture).

COMMERCIAL (PG&E)

Non-residential gas customers not engaged in electric generation, enhanced oil recovery, or gas resale activities with usage less than 20,800 therms per month.

COMPANY USE

Gas used by utilities for operational purposes, such as fuel for line compression and injection into storage.

CORE AGGREGATOR

Individuals or entities arranging natural gas commodity procurement activities on behalf of core customers. Also, sometimes known as an Energy Service Provider (ESP), a Core Transport Agent (CTA), or a Retail Service Provider (RSP).

CORE CUSTOMERS (SOCALGAS & SDG&E)

All residential customers; all commercial and industrial customers with average usage less than 20,800 therms per month who typically cannot fuel switch. Also, those commercial and industrial customers (whose average usage is more than 20,800 therms per year) who elect to remain a core customer receiving bundled gas service from the LDC.

CORE CUSTOMERS (PG&E)

All customers with average usage less than 20,800 therms per month.

CORE SUBSCRIPTION

Noncore customers who elect to use the LDC as a procurement agent to meet their commodity gas requirements.

CPUC

California Public Utilities Commission.

CUBIC FOOT OF GAS

Volume of natural gas which, at a temperature of 60 °F and an absolute pressure of 14.73 pounds per square inch, occupies one cubic foot.

CURTAILMENT

Temporary suspension, partial or complete, of gas deliveries to a customer or customers.

EG

Electric generation (including cogeneration) by a utility, customer, or independent power producer.

ENERGY SERVICE PROVIDER (ESP)

Individuals or entities engaged in providing retail energy services on behalf of customers. ESPs may provide commodity procurement, but could also provide other services, e.g., metering and billing.

ENHANCED OIL RECOVERY (EOR)

Injection of steam into oil-holding geologic zones to increase ability to extract oil by lowering its viscosity. Also used to designate a special category of gas customers.

EXCHANGE

Delivery of gas by one party to another and the delivery of an equivalent quantity by the second party to the first. Such transactions usually involve different points of delivery and may or may not be concurrent.

EXEMPT WHOLESALE GENERATORS (EWG)

A category of customers consuming gas for the purpose of generating electric power.

FERC

Federal Energy Regulatory Commission.

GAS SENDOUT

That portion of the available gas supply that is delivered to gas customers for consumption, plus shrinkage.

HEATING DEGREE DAY(S)

A measure of how much below a standard reference temperature (SoCalGas and SDG&E: 65 °F; PG&E: 60 °F) actual temperatures have been. A basis for computing how much electricity and gas are needed for space heating purposes.

HOT TEMPERATURE YEAR

Hot design-temperature conditions, based on long-term recorded weather data.

INDUSTRIAL (SOCALGAS & SDG&E)

Category of gas customers who are engaged in mining and in manufacturing durable goods.

INDUSTRIAL (PG&E)

Non-residential customers not engaged in electric generation, enhanced oil recovery, or gas resale activities using more than 20,800 therms per month.

LDC

Local electric and/or natural gas distribution company.

LNG (LIQUEFIED NATURAL GAS)

Natural gas in its liquid state.

MMBTU

Million British Thermal Units.

MMCF

Million cubic feet of gas.

MMCF/DAY

Million cubic feet of gas per day.

NGV (NATURAL GAS VEHICLE)

Vehicle that uses CNG or LNG as its source of fuel for its internal combustion engine.

NONCORE CUSTOMERS

Commercial and industrial customers whose average usage exceeds 20,800 therms per month, including qualifying cogeneration and solar electric projects. Noncore customers assume gas procurement responsibilities and receive gas transportation service from the utility under firm or interruptible intrastate transmission arrangements.

NON-UTILITY DELIVERIES

The volume of gas delivered directly to customers by an interstate or intrastate pipeline or other independent source instead of the local distribution company.

OFF-SYSTEM SALES

Gas sales to customers outside the utility's service area.

OUT-OF-STATE GAS

Gas from sources outside the state of California.

PRIORITY OF SERVICE (SOCALGAS & SDG&E)

In the event of a curtailment situation, utilities curtail gas usage to customers based on the following end-use priorities:

CORE SERVICE

Priority 1 – All residential customers, and commercial and industrial customers whose average usage is less than 20,800 therms per month.

Priority 2A – All commercial and industrial customers whose average usage is more than 20,800 therms per month and who elect to remain a core customer.

NONCORE SERVICE

Firm Service – All noncore customers served through firm intrastate transmission service, including core subscription service.

Interruptible – All noncore customers served through interruptible intrastate transmission service, including inter-utility deliveries.

PRIORITY OF SERVICE (PG&E)

In the event of a curtailment situation, PG&E curtails gas usage to customers based on the following end-use priorities:

Core Residential
Non-residential Core
Noncore using firm backbone service (including UEG)
Noncore using as-available backbone service (including UEG)
Market Center Services

PSIA

Pounds per square inch absolute. Equal to gauge pressure plus local atmospheric pressure.

PURCHASES FROM OTHER UTILITIES

Gas purchased from other utilities in California.

REQUIREMENTS

Total potential demand for gas, including that served by transportation, assuming the availability of unlimited supplies at reasonable cost.

RESALE

Gas customers who are either another utility or a municipal entity who, in turn, resells gas to end-use customers.

RESIDENTIAL

A category of gas customers whose dwellings are single-family units, multi-family units, mobile homes or other similar living facilities.

SHORT-TERM SUPPLIES

Gas purchases usually involving 30-day, short-term contract or spot gas supplies.

SPOT PURCHASES

Short-term purchases of gas typically not under contract and generally categorized as surplus or best efforts.

STORAGE BANKING

The direct use of local distribution company gas storage facilities by customers or other entities to store self-procured commodity gas supplies.

STORAGE INJECTION

Volume of natural gas injected into underground storage facilities.

STORAGE WITHDRAWAL

Volume of natural gas taken from underground storage facilities.

SUPPLEMENTAL SUPPLIES

A utility's best estimate for additional gas supplies that may be realized, from unspecified sources, during the forecast period.

SYSTEM CAPACITY OR NORMAL SYSTEM CAPACITY (OPERATIONAL DEFINITION)

The physical limitation of the system (pipelines and storage) to deliver or flow gas to end-users.

SYSTEM UTILIZATION OR NOMINAL SYSTEM CAPACITY (OPERATIONAL DEFINITION)

The use of system capacity or nominal system capacity at less than 100 percent utilization.

TAKE-OR-PAY

A term used to describe a contract agreement to pay for a product (natural gas) whether or not the product is delivered.

TARIFF

All rate schedules, sample forms, rentals, charges, and rules approved by regulatory agencies for used by the utility.

TCF

Trillion cubic feet of gas.

THERM

A unit of energy measurement, nominally 100,000 BTUs.

TOTAL GAS SUPPLY AVAILABLE

Total quantity of gas estimated to be available to meet gas requirements.

TOTAL GAS SUPPLY TAKEN

Total quantity of gas taken from all sources to meet gas requirements.

TOTAL THROUGHPUT

Total gas volumes passing through the system including sales, company use, storage, transportation, and exchange.

TRANSPORTATION GAS

Non-utility-owned gas transported for another party under contractual agreement.

UEG

Utility electric generation.

UNACCOUNTED FOR

Gas received into the system but unaccounted for due to measurement, temperature, pressure, or accounting discrepancies.

UNBUNDLING

The separation of natural gas utility services into its separate service components such as gas procurement, transportation, and storage with distinct rates for each service.

WACOG

Weighted average cost of gas.

WHOLESALE

A category of customer, either a utility or municipal entity, that resells gas.

1998 California Gas Report

RESPONDENTS

RESPONDENTS

The following utilities have been designated by the California Public Utilities Commission as respondents in the preparation of the California Gas Report:

- **Pacific Gas and Electric Company**
- **San Diego Gas & Electric Company**
- **Southern California Edison Company**
- **Southern California Gas Company**

The following utilities cooperate in the preparation of the report:

- **City of Long Beach Gas and Electric Department**
- **City of Los Angeles Department of Water and Power**
- **Southwest Gas Corporation**
- **Sacramento Municipal Utility District**

Two statewide committees have been formed by the respondents and cooperating utilities to prepare this report. The following individuals served on these committees this year:

GENERAL COMMITTEE

William R. Mazotti (Chairperson)	Pacific Gas and Electric Company
Thomas J. Armstrong	Southwest Gas Corporation
Kevin R. Cini	Southern California Edison Company
Gary Cotton	San Diego Gas & Electric Company
Frederick E. John	Southern California Gas Company

WORKING COMMITTEE

Denise Diaab Canning (Chairperson)	Southern California Gas Company
Richard D. Aslin	Pacific Gas and Electric Company
Sean Baker	Southern California Edison Company
John P. Bouchard	Pacific Gas and Electric Company
Barry Brunelle	Sacramento Municipal Utility District
I. Roger Farzaneh	Pacific Gas and Electric Company
Carl A. Funke	San Diego Gas & Electric Company
Chris Garner	City of Long Beach Gas and Electric Company
Edward B. Gieseking	Southwest Gas Corporation
John Korta	Pacific Gas and Electric Company
Scott Masuda	Los Angeles Dept. of Water and Power
Chris H. Roberts	Southern California Gas Company
Ginger Shugart	City of Long Beach Gas and Electric Company
Scott Wilder	Southern California Gas Company

OBSERVERS

R. Mark Pocta	California Public Utilities Commission, Office of Ratepayer Advocates
Sandra Fukutome	California Public Utilities Commission, Office of Ratepayer Advocates
W. William Wood, Jr.	California Energy Commission
Scott Tomishevsky	California Energy Commission

NOTE:

Please complete this form and mail or FAX

1) To reserve your subscription for the 1999 California Gas Report Supplement

2) For Product Inquiry

3) Change your mailing address

Incomplete Forms Cannot Be Processed!

Pacific Gas and Electric Company
1999 CGR Reservation Form
Mail Code N15A
P. O. Box 770000
San Francisco, CA 94177
FAX (415) 973-0881

Company Name _____

c/o _____

Address _____

City _____ **State** _____ **Zip** _____

Phone ( ) _____ **FAX ( )** _____

❒ Send me a 1999 CGR ❒ New Subscriber
❒ Change of Address

Please check the following for information on:

❒ Transportation ❒ Capacity Release
❒ INSIDEtracc ❒ Golden Gate Market Center
❒ Storage ❒ Pipeline Services Website
❒ Natural Gas Vehicles ❒ Electric Vehicles

Also visit PG&E's Website at: www.pge.com

NOTE:

Please complete this form and mail or FAX

1) To reserve your subscription for the 1999 California Gas Report Supplement

2) For Product Inquiry

3) Change your mailing address

Incomplete Forms Cannot Be Processed!

San Diego Gas & Electric, An Enova Company
1999 CGR Reservation Form
8306 Century Park Ct., CP4200
San Diego, CA 92123
FAX (619) 654-1117

Company Name _____

c/o _____

Address _____

City _____ **State** _____ **Zip** _____

Phone ( ) _____ **FAX ( )** _____

❒ Send me a 1999 CGR ❒ New Subscriber ❒ Change of Address

Please check the following for Program Information on:

❒ Electric Vehicles
❒ Natural Gas Vehicles
❒ Power Quality

NOTE:

Please complete this form and mail or FAX

1) To reserve your subscription for the 1999 California Gas Report Supplement

2) For Product Inquiry

3) Change your mailing address

Incomplete Forms Cannot Be Processed!

Southern California Gas Company
1999 CGR Reservation Form
Box 3249, Mail Location 27B2
Los Angeles, CA 90051-1249
FAX (213) 244-8271

Company Name _____

c/o _____

Address _____

City _____ **State** _____ **Zip** _____

Phone ( ) _____ **FAX ( )** _____

❒ Send me a 1999 CGR ❒ New Subscriber ❒ Change of Address

Please check the following for Program Information on:

❒ GasSelect
❒ Bidlink
❒ Weatherization
❒ Storage
❒ Fuel Cells
❒ Natural Gas Vehicles (NGVs)
❒ Demand Side Management (DSM)