Application No.: A.03-09-

Exhibit No.:

Date: September 3, 2003

Witness: David M. Bisi

PREPARED DIRECT TESTIMONY OF
DAVID M. BISI
SOUTHERN CALIFORNIA GAS COMPANY

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2005 BIENNIAL COST ALLOCATION PROCEEDING

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A. PURPOSE

The purpose of my testimony is to present the Gas Resource Plan for Southern California Gas Company (SoCalGas). The Gas Resource Plan identifies the least-cost facility improvements necessary to meet the forecasted incremental increase in customer demand over a 15-year planning period, from 2005 through 2020. The Gas Resource Plan is used for long run marginal cost ("LRMC") cost allocation.

I also discuss the possibility that unforeseen changes in gas supply and demand could make new infrastructure necessary, even though the existing facilities are more than adequate to meet current and anticipated incremental customer demand under SoCalGas' and the Commission's design criteria. The information I present on this new infrastructure has been developed for contingency planning purposes only.

B. SOCALGAS TRANSMISSION SYSTEM

SoCalGas owns and operates an integrated transmission system consisting of pipeline and storage facilities. With its network of transmission pipeline and four interconnected storage fields, SoCalGas delivers natural gas to over five million residential and business customers.

A map of the SoCalGas transmission system is attached as Figure 1. The transmission system extends from the Colorado River on the eastern end of SoCalGas' 23,000 square mile service territory, to the Pacific Coast on the western end; from Tulare County in the north, to the U.S./Mexico border in the south (excluding parts of San Diego County).

The SoCalGas transmission system can accept up to 3,875 million cubic feet per day (MMcfd) of interstate and local California supplies on a firm basis[1]. Primary supply sources are the southwestern United States, the Rocky Mountain region, Canada, and California on- and off-shore production. The interstate pipelines that supply the SoCalGas transmission system are El Paso, Transwestern, Kern River, Mojave, Questar Southern Trails, and PG&E GTN. The SoCalGas transmission system interconnects with El Paso at the Colorado River near Needles and Blythe, California, and with Transwestern and Southern Trails near Needles, California.

[1] This is increased from 3,500 MMcfd of receipt capacity presented in SoCalGas' last BCAP application due to the receipt point expansions at North Needles, Wheeler Ridge, Line 85, and Kramer Junction, and represents the volume of supply that SoCalGas can receive and redeliver to burn or store year around.

SoCalGas has interconnection agreements for the common Kern/Mojave pipeline at Wheeler Ridge in the San Joaquin Valley and at Kramer Junction in the high desert. At Kern River Station in the San Joaquin Valley, SoCalGas maintains a major interconnect with the PG&E intrastate pipeline system, and receives PG&E GTN deliveries at that location.

In the Gas Industry Restructuring proceeding (I.99-07-003), SoCalGas identified and described the two segments of its transmission system – the "backbone" and "local" transmission pipeline systems. The backbone transmission pipeline system transports gas supplies received from the interstate pipelines and from California producers to the local transmission pipeline system or to the storage fields. Local transmission pipelines transport the supplies from the backbone transmission system or from the storage fields to end-use customers. These backbone and local transmission facilities are indicated on Figure 1 at the end of my testimony.

SoCalGas operates four storage fields that interconnect with its transmission system[2]. These storage fields – Aliso Canyon, Honor Rancho, La Goleta, and Playa del Rey – are located near the primary load centers of the SoCalGas system. Together they have a combined inventory capacity of 118.1 billion cubic feet (BCF), a combined firm injection capacity of 845 MMcfd, and a combined firm withdrawal capacity of 3,125 MMcfd.

C. DESIGN CRITERIA & SYSTEM CAPACITY

SoCalGas designs its backbone transmission system to maintain a 15 % – 20 % annual average slack capacity relative to demand forecast under an average temperature/normal hydro condition. This slack capacity allows flexibility to purchase gas supplies at the most favorable time and location, which lowers gas costs and allows SoCalGas' customers to meet unexpected and temporary spikes in demand cost effectively.

SoCalGas designs its local transmission and storage systems to provide service to core customers during a 1-in-35 year cold day condition (one curtailment event in 35 years), under which both firm and interruptible noncore transportation service is curtailed. Additionally, SoCalGas uses a 1-in-10 year cold day condition (one curtailment event in 10 years) as the design criteria for noncore firm transportation service. Under these design conditions, during a 1-in-10 year event service to interruptible noncore customers would be curtailed. Both conditions are expected to occur during winter operating seasons when core customers' gas use is greatest.

[2] A fifth storage field in Montebello, California is in the process of abandonment.

The SoCalGas transmission and storage system has sufficient capacity to serve a demand of 6.0 billion cubic feet per day (BCFD) through a combination of storage withdrawal and flowing supply (provided sufficient flowing supply exists). SoCalGas used Stoner Software's SynerGEE gas network modeling and management software to calculate the system capacity. SynerGEE is a state-of-the-art hydraulic program that is utilized by gas companies worldwide to model distribution and transmission systems, and SoCalGas has used Stoner Software products for nearly 20 years. SynerGEE is capable of performing time-varying transient analyses of a gas system based upon input supplies and demands. By providing time-varying profiles of supply and demand, SynerGEE is able to provide an accurate representation of daily system operation.

D. DEMAND FORECASTS AND GAS RESOURCE PLAN

1. Backbone Transmission

Table 1 below presents the slack capacity of the SoCalGas backbone transmission system under an average temperature year condition as presented in the 2002 California Gas Report[3]. Column C shows that a slack factor greater than the 15 % - 20 % design criteria is maintained throughout the plan period (2005 – 2020). As a result, no additional expansion of the backbone transmission system is necessary to meet forecasted demand.

Table 1: Backbone Transmission Slack Factor, Average Temperature Year Condition

Year	2002 CGR (MMCFD) (A)	Load Factor (%) (B) = (A)/3875	Slack Factor (%) (C) = 100 - (B)
2004	2449	63.2	36.8
2005	2493	64.3	35.7
2006	2542	65.6	34.4
2007	2602	67.1	32.9
2010	2684	69.3	30.7
2015	2806	72.4	27.6
2020	2968	76.6	23.4

In previous BCAP applications, SoCalGas compared its receipt capacity to forecasted annual demand for the plan period based on a cold temperature year condition, but without the explicit requirement to maintain slack capacity (although slack capacity was in fact available). Table 1A below shows that sufficient slack capacity is still maintained even using cold temperature year conditions as presented in the 2002 California Gas Report[4].

[3] CGR pgs. 66, 67 (annual gas supply and requirements – average temperature year, line 30).
[4] CGR pgs. 68, 69 (annual gas supply and requirements – cold temperature year, line 30).

Table 1A: Backbone Transmission Slack Factor, Cold Temperature Year Condition

Year	2002 CGR (MMCFD) (A)	Load Factor (%) (B) = (A)/3875	Slack Factor (%) (C) = 100 - (B)
2004	2590	66.8	33.2
2005	2635	68.0	32.0
2006	2686	69.3	30.7
2007	2747	70.9	29.1
2010	2831	73.1	26.9
2015	2962	76.4	23.6
2020	3135	80.9	19.1

2. Local Transmission

The 1-in-35 and 1-in-10 year cold day condition demand forecasts are presented below in Table 2. SoCalGas has sufficient transmission and storage withdrawal capacity to meet the 1-in-35 and 1-in-10 year cold day design criterion throughout the 15 year planning period, and no further expansions are necessary to meet these demand conditions. The peak demands shown for the noncore commercial and industrial (C/I) and electric generation (EG) customer classes in 2004 and 2005 include the results of the recently held open seasons in the San Joaquin Valley and Imperial Valley as ordered by D.02-11-073. Gas demand for noncore C/I and EG customers beginning in 2006 are from the underlying data set used to develop the 2002 California Gas Report forecast, which did not distinguish between firm and interruptible service. Thus, for the purposes of this assessment, it was assumed that all future peak loads elected firm service.

Table 2: Design Criteria Demand Forecast

	1-in-35 Year Cold Day Demand (MMCFD)					1-in-10 Year Cold Day Demand (MMCFD)				
Year	Core†	N/C C&I*	EG**	Whole-sale***	Total	Core†	N/C C&I*	EG**	Whole-sale***	Total
2004	3313	0	0	555	3868	3024	488	722	753	4987
2005	3338	0	0	560	3898	3047	485	683	723	4938
2006	3377	0	0	566	3943	3083	497	758	734	5072
2007	3399	0	0	569	3968	3103	497	929	753	5282
2010	3506	0	0	589	4095	3201	496	822	768	5288
2015	3689	0	0	624	4313	3368	490	689	872	5420
2020	3896	0	0	685	4581	3556	487	757	957	5757

† includes core C&I
* noncore C&I includes EOR demand
** includes cogeneration demand
*** includes international service and wholesale EG demand

3. Storage

Under SoCalGas' Firm Rights for California ("FRCA") application (A.03-06-040), a storage resource plan is unnecessary under both the "compliance" and "preferred" cases since storage revenue requirements are set on an embedded cost basis. In any case, SoCalGas has not identified a need in its analyses to further expand storage services over the 15-year planning period to meet the design criteria.

E. CONTINGENCY PLANNING EXPANSION ANALYSIS

Even though SoCalGas' current system meets the CPUC approved design criteria[5], potential changes in the fundamentals of gas supply and demand in the Southwest could create a need for additional transmission or storage infrastructure over the next 15 years. At present nothing has occurred to support any specific proposals. SoCalGas will continue to study future developments and will bring new proposals to the Commission's attention when appropriate.

In the event currently unforeseen changes require system expansion, SoCalGas has identified certain contingency projects that could produce, if ever warranted, certain facility improvements that could, if necessary, expand SoCalGas' backbone transmission system's receipt capacity by another 200 MMcfd. Those projects are presented in Table 3. The projects are hypothetical only. SoCalGas has no plans to proceed with any of these projects.

Table 3: Backbone Transmission Expansion Options

200 MMcfd expansion at:	Description	Incremental compression (HP)	Incremental pipeline (mileage)	Total cost ($ million)
Topock (South Needles)	Expand S. Needles & Newberry compressors, loop transmission between S. Needles/Newberry & south of Quigley Station	14,000	109	$153
Blythe	Expand Blythe compressor	11,000	0	$20
Needles (North)	Expand Kelso compressor, loop transmission between Needles & Kelso & south of Quigley Station	15,000	58	$100
Kramer Jnct.	Loop transmission system south of Quigley Station	0	30	$62
Wheeler Ridge	Expand Wheeler compressor, loop transmission south of Wheeler & south of Quigley Station	9,000	50	$100

Assumptions: $1.5 MM/1000 HP; $0.9 MM/mi. 36-inch pipeline direct; 120% indirect adder. All except Blythe expansion include costs for 30 miles of 36-inch pipeline south of Quigley Station, estimated at $1.7 MM/mi. direct.

[5] D.02-11-073, p.49, Ordering Paragraph 10.

As authorized in D.02-11-073, SoCalGas held open seasons for firm noncore service on its Imperial Valley and San Joaquin Valley local transmission systems in early 2003. Customers bid for firm transportation capacity for a 24 month period beginning April 1, 2003. All requests for firm service were awarded in the San Joaquin Valley, and only moderate prorationing was required in the Imperial Valley[6]. Based on the open season results and lack of customer interest in long-term service commitments, SoCalGas presently has no plans to expand either local transmission system. SoCalGas has, however, identified certain contingency projects that, if needed, could hypothetically increase modestly the capacity of these systems if in the future that becomes necessary. These projects are presented in Table 4.

Table 4: Local Transmission Expansion Options

System	Project	Current capacity (MMcfd)	Expanded capacity (MMcfd)	Total cost ($ million)
San Joaquin Valley	3200 HP near Lemoore, CA	180	210	$8
Imperial Valley	10 miles 24-inch pipeline, Brawley, CA to El Centro, CA	90	105	$10

This concludes my testimony.

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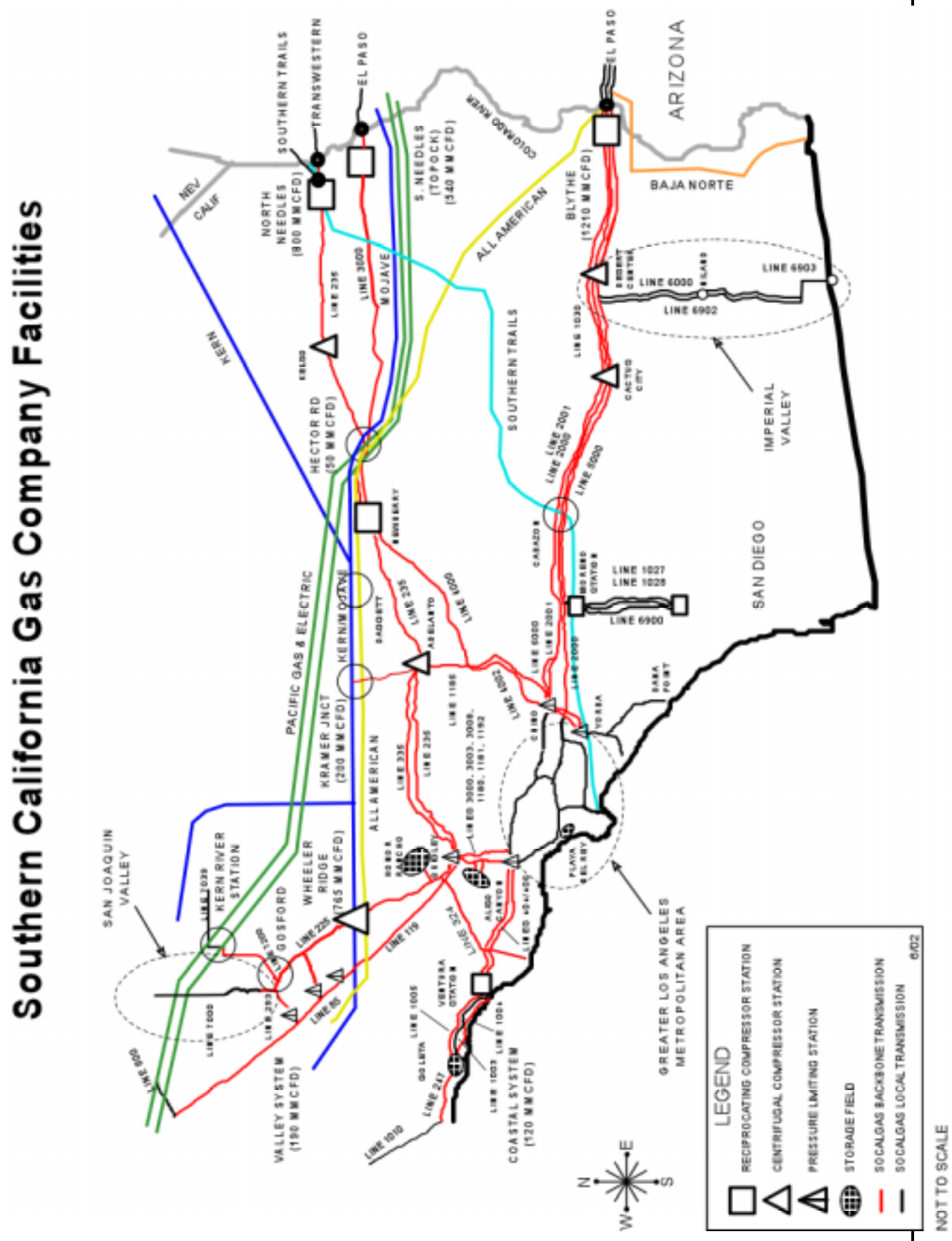
[6] Customer bids for firm capacity in the Imperial Valley exceeded the system capacity by only 416 thousand cubic feet per hour (Mcfh) from 9 AM to 12 PM, May 15th through September 15th. At all other times, bids for firm service were within the system capacity, and were awarded. After pro-rating the applicable summer season bids to the system capacity, SoCalGas was able to award 95% of the firm volumes requested over the 24-month period.

FIGURE 1


Southern California Gas Company Facilities
ARIZONA
BAJA NORTE
IMPERIAL VALLEY
SAN DIEGO
GREATER LOS ANGELES METROPOLITAN AREA
SAN JOAQUIN VALLEY
EL PASO
TRANSWESTERN
SOUTHERN TRAILS
NORTH NEEDLES (300 MMCFD)
S. NEEDLES (TOPOCK) (340 MMCFD)
BLYTHE (1210 MMCFD)
ALL AMERICAN
MOJAVE
NEV
CALIF
KERN
HECTOR RD (50 MMCFD)
PACIFIC GAS & ELECTRIC
KRAMER JNCT (200 MMCFD)
WHEELER RIDGE (765 MMCFD)
KERN RIVER STATION
GOSFORD
VALLEY SYSTEM (190 MMCFD)
COASTAL SYSTEM (120 MMCFD)
LINE 6000
LINE 6903
LINE 6902
LINE 1027
LINE 1028
LINE 6900
LEGEND
RECIPROCATING COMPRESSOR STATION
CENTRIFUGAL COMPRESSOR STATION
PRESSURE LIMITING STATION
STORAGE FIELD
SOCALGAS BACKBONE TRANSMISSION
SOCALGAS LOCAL TRANSMISSION
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F. QUALIFICATIONS

My name is David M. Bisi. I am employed by SoCalGas as a Project Manager in the Gas Transmission Planning Department. My business address is 555 West Fifth Street, Los Angeles, California 90013-1011.

I received a Bachelor of Science degree in Mechanical Engineering from the University of California at Irvine in 1989. I have been employed by SoCalGas since 1989, and have held positions within the Engineering, Customer Services, and Gas Transmission departments.

I have held my current position since April, 2002. My current responsibilities include the management of the Gas Transmission Planning group responsible for design and planning of SoCalGas' and San Diego Gas & Electric Company's (SDG&E's) gas transmission and storage systems. I have previously testified before the Commission.