## **CHAPTER IV**

## **RESPONSES TO CPUC DATA REQUESTS**

## SAN DIEGO GAS AND ELECTRIC COMPANY (U 902 G)

## **RESPONSES TO CPUC DATA REQUESTS**



## OIR TO ESTABLISH POLICIES AND RULES TO ENSURE RELIABLE, LONG-TERM SUPPLIES OF NATURAL GAS TO CALIFORNIA

R.04-01-025

#### **QUESTION 1**

Please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 Your Utility's demand forecasts for its service territory under the following scenarios.<sup>1</sup>

- a. Average Year Scenarios
  - i. Average Year
  - ii. Average Year + 10%
  - iii. Average Year + 20%
- b. Abnormally Cold Year Scenarios
  - i. 1 in 10 years
  - ii. 1 in 10 years + 10%
  - iii. 1 in 35 years
  - iv. 1 in 35 years + 10%
- c. Abnormally Dry Year Scenarios
  - i. 1 in 10 years
  - ii. 1 in 10 years + 10%
  - iii. 1 in 35 years
  - iv. 1 in 35 years + 10%
- d. Abnormally Cold and Dry Year Scenarios
  - i. 1 in 10 years
  - ii. 1 in 10 years + 10%
  - iii. 1 in 35 years
  - iv. 1 in 35 years + 10%

#### **RESPONSE 1**

See Table Q.1 for the demand forecasts for all of the above scenarios. The data is provided for Total Demand and also shown for Core Demand, Noncore Non-EG Demand and EG Demand.

Forecasted annual demand for 2006 and 2016 is shown in columns (a) and (b), respectively. Annual demand expressed on an MMcfd basis for 2006 and 2016 is shown in columns (c) and (d), respectively. SDG&E has also provided forecasted peak-day demand for 2006 and 2016. This is shown in columns (e) and (f), respectively. The later was not specifically requested but this information is relevant in responding to Question 2 of the Commission's Data Request.

In preparing these demand forecasts, SDG&E made use of certain existing modeling as follows: For <u>core</u> demand, the forecasts are based on the forecast models used to produce SDG&E's 2005 Biennial Cost Allocation Proceeding, Application No. (A.) 03-09-031. These models were (1) updated with a more recent gas price forecast and economic assumptions and (2) extended to 2016 in order to determine the demand for that year. For <u>noncore</u> demand (EG and noncore, non-EG), the 2005 BCAP models were used to forecast demand for 2006 and the forecasting models used to produce the 2002 California Gas Report (CGR) were used to forecast demand for 2016. Both sets of models were updated with a more recent gas price forecast and economic assumptions.

<sup>&</sup>lt;sup>1</sup> In answering this data request, please provide your assumptions in your forecasts as to electric generation plants retired, re-powered, or constructed in your utility's service territory.

#### <u>RESPONSE 1</u> (continued)

It should be noted that the respondent gas utilities in R.04-01-025 will be preparing a more comprehensive long-term demand forecast later this year as part of the 2004 CGR.

It should also be noted that the Commission's current adopted peak-day criteria for service reliability is as follows: for <u>firm noncore</u> service, 1-in-10 cold year (i.e., all core demand and firm noncore demand is served); for <u>core</u> service, 1-in-35 cold year (i.e., all core demand is served and all noncore service is curtailed).

Table Q.1-EG indicates the assumptions used by SDG&E with regard to electric generating plants retired, re-powered, or constructed. This table reflects the assumptions for both SDG&E and SoCalGas.

Attachments:

- Table Q.1
- Table Q.1-EG

## SDG&E Responses to CPUC Data Requests, R.04-01-025 Table Q.1 -- Total Demand

			ANNU	AL	ANNUAL/365		PEAK-DAY	
			2006	2016	2006	2016	2006	2016
<u>T0T</u>	AL		MDTH	MDTH	MMCFD	MMCFD	MMCFD	MMCFD
			(a)	(b)	(c) = (a)/365	(d) = (b)/365	(e)	(f)
a.	Avera	age Year Scenarios						
	i.	Average Year	1,217,622	1,423,447	329	385	538	604
	ii.	Average Year + 10%	1,339,384	1,565,792	362	424	592	664
	iii.	Average Year + 20%	1,461,147	1,708,137	395	462	645	724
b.	Abno	ormally Cold Year Scenarios						
	i.	1 in 10 years	1,247,296	1,457,408	337	394	588	661
	ii.	1 in 10 years + 10%	1,372,026	1,603,148	371	434	647	727
	iii.	1 in 35 years	1,262,583	1,474,902	342	399	615	691
	iv.	1 in 35 years + 10%	1,388,841	1,622,393	376	439	676	760
c.	Abno	ormally Dry Year Scenarios						
	i.	1 in 10 years	1,236,355	1,512,842	334	409	548	648
	ii.	1 in 10 years + 10%	1,359,990	1,664,126	368	450	603	712
	iii.	1 in 35 years	1,246,777	1,551,864	337	420	550	638
	iv.	1 in 35 years + 10%	1,371,455	1,707,050	371	462	605	702
d.	Abno	ormally Cold and Dry Year Scenarios						
	i.	1 in 10 years	1,266,029	1,546,802	343	418	599	705
	ii.	1 in 10 years + 10%	1,392,632	1,701,482	377	460	659	776
	iii.	1 in 35 years	1,291,738	1,603,319	349	434	627	726
	iv.	1 in 35 years + 10%	1,420,912	1,763,651	384	477	689	798

## SDG&E Responses to CPUC Data Requests, R.04-01-025 Table Q.1 -- Core Demand

	ANNUA	AL .	ANNUAL/365		PEAK-D	AY
	2006	2016	2006	2016	2006	2016
CORE	MDTH	MDTH	MMCFD	MMCFD	MMCFD	MMCFD
	(a)	(b)	(c) = (a)/365	(d) = (b)/365	(e)	(f)
a. Average Year Scenarios						
i. Average Year	513,240	584,798	139	158	324	369
ii. Average Year + 10%	564,564	643,278	153	174	356	406
iii. Average Year + 20%	615,888	701,758	167	190	388	443
b. Abnormally Cold Year Scenarios						
i. 1 in 10 years	542,914	618,758	147	167	374	426
ii. 1 in 10 years + 10%	597,206	680,634	162	184	412	469
iii. 1 in 35 years	558,201	636,253	151	172	400	456
iv. 1 in 35 years + 10%	614,021	699,878	166	189	440	502
c. Abnormally Dry Year Scenarios						
i. 1 in 10 years	513,240	584,798	139	158	324	369
ii. 1 in 10 years + 10%	564,564	643,278	153	174	356	406
iii. 1 in 35 years	513,240	584,798	139	158	324	369
iv. 1 in 35 years + 10%	564,564	643,278	153	174	356	406
d. Abnormally Cold and Dry Year Scenarios						
i. 1 in 10 years	542,914	618,758	147	167	374	426
ii. 1 in 10 years + 10%	597,206	680,634	162	184	412	469
iii. 1 in 35 years	558,201	636,253	151	172	400	456
iv. 1 in 35 years + 10%	614,021	699,878	166	189	440	502

## SDG&E Responses to CPUC Data Requests, R.04-01-025 Table Q.1 -- Noncore, Non-EG Demand

	ANNUA	AL .	ANNUAL/365		PEAK-DAY	
	2006	2016	2006	2016	2006	2016
NON-CORE, NON-EG	MDTH	MDTH	MMCFD	MMCFD	MMCFD	MMCFD
	(a)	(b)	(c) = (a)/365	(d) = (b)/365	(e)	(f)
a. Average Year Scenarios						
i. Average Year	245,588	256,319	66	69	74	77
ii. Average Year + 10%	270,146	281,951	73	76	82	85
iii. Average Year + 20%	294,705	307,583	80	83	89	93
b. Abnormally Cold Year Scenarios						
i. 1 in 10 years	245,588	256,319	66	69	74	77
ii. 1 in 10 years + 10%	270,146	281,951	73	76	82	85
iii. 1 in 35 years	245,588	256,319	66	69	74	77
iv. 1 in 35 years + 10%	270,146	281,951	73	76	82	85
c. Abnormally Dry Year Scenarios						
i. 1 in 10 years	245,588	256,319	66	69	74	77
ii. 1 in 10 years + 10%	270,146	281,951	73	76	82	85
iii. 1 in 35 years	245,588	256,319	66	69	74	77
iv. 1 in 35 years + 10%	270,146	281,951	73	76	82	85
d. Abnormally Cold and Dry Year Scenarios						
i. 1 in 10 years	245,588	256,319	66	69	74	77
ii. 1 in 10 years + 10%	270,146	281,951	73	76	82	85
iii. 1 in 35 years	245,588	256,319	66	69	74	77
iv. 1 in 35 years + 10%	270,146	281,951	73	76	82	85

## SDG&E Responses to CPUC Data Requests, R.04-01-025 Table Q.1 -- EG Demand

		ANNUA	L	ANNUAL/365		PEAK-DAY	
		2006	2016	2006	2016	2006	2016
		MDTH	MDTH	MMCFD	MMCFD	MMCFD	MMCFD
		(a)	(b)	(c) = (a)/365	(d) = (b)/365	(e)	(f)
Aver	age Year Scenarios						
i.	Average Year	458,794	582,330	124	158	140	157
ii.	Average Year + 10%	504,674	640,563	137	173	154	173
iii.	Average Year + 20%	550,553	698,796	149	189	168	189
Abno	ormally Cold Year Scenarios						
i.	1 in 10 years	458,794	582,330	124	158	140	157
ii.	1 in 10 years + 10%	504,674	640,563	137	173	154	173
iii.	1 in 35 years	458,794	582,330	124	158	140	157
iv.	1 in 35 years + 10%	504,674	640,563	137	173	154	173
Abno	ormally Dry Year Scenarios						
i.	1 in 10 years	477,527	671,725	129	182	151	201
ii.	1 in 10 years + 10%	525,280	738,897	142	200	166	222
iii.	1 in 35 years	487,950	710,747	132	192	152	192
iv.	1 in 35 years + 10%	536,745	781,821	145	212	167	211
Abno	ormally Cold and Dry Year Scenarios						
i.	1 in 10 years	477,527	671,725	129	182	151	201
ii.	1 in 10 years + 10%	525,280	738,897	142	200	166	222
iii.	1 in 35 years	487,950	710,747	132	192	152	192
iv.	1 in 35 years + 10%	536,745	781,821	145	212	167	211
	i. ii. iii. Abno i. iii. iv. Abno i. ii. iv. Abno i. ii. ii. ii.	<ul> <li>ii. Average Year + 10%</li> <li>iii. Average Year + 20%</li> <li>Abnormally Cold Year Scenarios <ol> <li>1 in 10 years</li> <li>1 in 10 years + 10%</li> </ol> </li> <li>iii. 1 in 35 years + 10%</li> <li>Abnormally Dry Year Scenarios <ol> <li>1 in 10 years</li> <li>1 in 10 years + 10%</li> </ol> </li> <li>Abnormally Dry Year Scenarios <ol> <li>1 in 10 years + 10%</li> </ol> </li> <li>Abnormally Cold and Dry Year Scenarios <ol> <li>1 in 10 years + 10%</li> </ol> </li> <li>Abnormally Cold and Dry Year Scenarios <ol> <li>1 in 10 years + 10%</li> </ol> </li> </ul>	$\begin{tabular}{ c c c c c } \hline $2006$ \\ MDTH$ \\ (a) \\ \hline $MDTH$ \\ (a) \\ \hline $Average Year Scenarios$ \\ $$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$

#### SDG&E Responses to CPUC Data Requests, R.04-01-025 Table Q.1-EG

State	Trans Area	Unit Name	Unit No	Max Rating	Fuel Name	Full Load HR	Installation Date
	Additions:	(expected after Jan 1, 2004)					
CA	CSCE	MtView	1	264.00	NG CA/AZ	7100	01/01/2006
CA	CSCE	MtView	2	264.00	NG CA/AZ	7100	01/01/2006
CA	CSCE	MtView	3	264.00	NG CA/AZ	7100	01/01/2006
CA	CSCE	MtView	4	264.00	NG CA/AZ	7100	01/01/2006
CA	CSCE	Generic	1	360.00	NG CA/AZ	7100	06/01/2012
CA	CSCE	Generic	2	360.00	NG CA/AZ	7100	06/01/2012
CA	CSCE	Generic	3	360.00	NG CA/AZ	7100	06/01/2012
CA	CSCE	Generic	4	260.00	NG CA/AZ	7100	01/01/2014
CA	CSCE	Generic	5	260.00	NG CA/AZ	7100	01/01/2014
CA	CSCE	Generic	6	360.00	NG CA/AZ	7100	12/31/2014
CA	CSCE	Generic	7	360.00	NG CA/AZ	7100	12/31/2014
CA	CSCE	Generic	8	360.00	NG CA/AZ	7100	12/31/2014
CA	CSDGE	Generic-Palomar	1	255.00	NG OtayMesa	7100	06/01/2006
CA	CSDGE	Generic-Palomar	2	255.00	NG OtayMesa	7100	06/01/2006
CA	CSDGE	Generic	3	250.00	NG Sempra	7100	06/01/2014
CA	CSDGE	Generic	4	250.00	NG Sempra	7100	06/01/2014
CA	LADWP	Haynes CC	3	250.00	NG Sempra	7100	07/01/2006
CA	LADWP	Haynes CC	4	250.00	NG Sempra	7100	07/01/2006
CA	LADWP	Generic	1	250.00	NG Sempra	7100	06/01/2012
	Retirements:						Retirement Date
CA	LADWP	Valley WSCC	3	160	NG Sempra		06/01/2003
CA	LADWP	Valley WSCC	4	160	NG Sempra		06/01/2003
CA	LADWP	Haynes	3	222	NG Sempra		01/01/2006
CA	LADWP	Haynes	4	222	NG Sempra		01/01/2006

#### **QUESTION 2.a**

For each of the scenarios in Question 1, a. (i-iii) through d. (i-iv) above please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 the infrastructure needed for Your Utility's forecasts identified below.

- a. Intrastate pipeline capacity necessary to meet demand in service territory:
  - i. Total intrastate pipeline capacity necessary for service territory.
  - ii. Intrastate pipeline capacity necessary for core customers.
  - iii. Intrastate pipeline capacity necessary for noncore customers.

#### **RESPONSE 2.a**

2.a.i. Question 1, a. i-iii through d. i-iv request both annual average daily demand forecasts. SDG&E has also provided its peak-day demand forecasts. The annual average demand forecasts provided in SDG&E's Response 1 are not used in assessing the intrastate capacity of the SDG&E system to meet its customers' needs. The SDG&E system is a local transmission system that must be designed to meet the peak-day demand of its customers. This is because SDG&E does not have on-system storage. All demand must be met on the day it occurs so, as a result, only the peak day is relevant.

The majority of the peak day demand forecasts presented in 1.a.i-iii through 1.d.i-iv do not represent the SDG&E design conditions as approved by the Commission in its Decision No. (D.) 02-11-073. SDG&E designs its system to provide uninterrupted service to core customers only during a 1-in-35 year cold day event, and to both core and firm noncore customers during a 1-in-10 year cold day event. The peak-day demand forecasts that most represent SDG&E's design conditions are those provided for scenario 1.b.i.  $^1$ 

Table Q.2.a indicates the additional total intrastate capacity that might be needed for each of the hypothetical demand scenarios provided in Question 1.a.i-iii through 1.d.i-iv. These peak-day demand forecasts were compared to SDG&E's current transmission system sendout capacity of 655 MMcfd in the winter operating season.

SDG&E has not evaluated any of the scenarios presented in Response 1.a.i-iii through 1.d.i-iv in detail in order to identify the specific infrastructure improvements needed to meet the demand scenario. Such an analysis would be dependent upon the type, location, and seasonality of the incremental load. It would also depend on whether and to what extent deliveries were being received at Otay Mesa as discussed in response to Question 6.

However, in its Cost of Service Application, A.02-12-028, and its Biennial Cost Allocation Proceeding (BCAP) Application, A.03-09-031, SDG&E identified a contingency project that could expand the system capacity during the winter operating season if demand conditions warrant. These projects involve installing 24 miles of 36-inch diameter transmission pipeline from Rainbow Station to Escondido, which increases the system capacity by 50 MMcfd and is estimated to cost \$64.9 million, and installing 26 miles of 36-inch diameter transmission pipeline from Escondido to Santee, which adds another 170 MMcfd of system capacity and is estimated to cost \$69.9 million.

<sup>&</sup>lt;sup>1</sup> The 1-in-35 year peak day forecasts provided for scenario b.iii do not represent SDG&E's design condition because service to both core and noncore customer classes are provided.

- 2.a.ii Both core and noncore demand are included in all of SDG&E's demand forecasts prepared for in response to Question 1.a.i-iii through 1.d.i-iv. Any intrastate capacity additions identified in Response 2.a.i, above, for these hypothetical peak-day forecasts are required to meet the demand forecasts for both core and noncore customer classes. Individually, sufficient capacity exists to serve either customer class by itself. Intrastate capacity additions are only required when service to both customer classes is provided.
- 2.a.iii Please see Response 2.a.ii, above.

Attachment:

- Table Q.2.a

### SDG&E Responses to CPUC Data Request, R.04-01-025 Table Q.2.a

- Question 2.a For each of the scenarios in 1. a. i-iii through d. i-iv above please provide in aggregate amounts on an MMcfd basis for Calendar Years 2006 and 2016 the infrastructure needed for Your Utility's forecasts identified below.
  - a. Intrastate pipeline capacity necessary to meet demand in service territory
    - i. Total intrastate pipeline capacity necessary for service territory
    - ii. Intrastate pipeline capacity necessary for core customers
    - iii. Intrastate pipeline capacity necessary for noncore customers

#### Response 2.a.i-iii

PEAK-DAY - 655 MMc		55 MMcfd		
			2006	2016
<u>T01</u>	AL		MMCFD	MMCFD
a.	Average	e Year Scenarios		
	i.	Average Year	0	0
	ii.	Average Year + 10%	0	9
	iii.	Average Year + 20%	0	69
b.	Abnorm	ally Cold Year Scenarios		
	i.	1 in 10 years	0	6
	ii.	1 in 10 years + 10%	0	72
	iii.	1 in 35 years	0	36
	iv.	1 in 35 years + 10%	21	105
c.	Abnorm	ally Dry Year Scenarios		
	i.	1 in 10 years	0	0
	ii.	1 in 10 years + 10%	0	57
	iii.	1 in 35 years	0	0
	iv.	1 in 35 years + 10%	0	47
d.	Abnorm	ally Cold and Dry Year Scenarios		
	i.	1 in 10 years	0	50
	ii.	1 in 10 years + 10%	4	121
	iii.	1 in 35 years	0	71
	iv.	1 in 35 years + 10%	34	143

#### **QUESTION 2.b and 2.c**

For each of the scenarios in Question 1, a. (i-iii) through d. (i-iv) above please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 the infrastructure needed for Your Utility's forecasts identified below.

- b. Storage capacity necessary to meet demand:
  - i. Total storage capacity necessary for service territory.
  - ii. Storage capacity necessary for core customers.
  - iii. Storage capacity necessary for noncore customers.
- c. Interstate pipeline capacity necessary to meet demand: <sup>1</sup>
  - i. Total interstate capacity necessary for service territory.
  - ii. Interstate pipeline capacity necessary for core customers.
  - lii Interstate pipeline capacity necessary for noncore customers.

#### **RESPONSE 2.b and 2.c**

- b. i-iii See Table Q.2.b.
- c. I-iii See Table Q.2.c.

#### Attachment:

- Table Q.2.b
- Table Q.2.c

<sup>&</sup>lt;sup>1</sup> "Interstate pipeline capacity" as used in this particular data request refers to firm transportation rights on interstate pipelines for Calendar Year 2006, but for Calendar Year 2016 more generally refers to access to out-of-state supplies of natural gas, whether transported on interstate pipelines to California or imported and shipped to Liquefied Natural Gas (LNG) facilities which access California's natural gas market.

#### Table Q.2.b Total SDG&E Storage Capacity for Years 2006 and 2016

#### Question 2.

For each of the scenarios in 1.a.i-iii through d.i-iv above, please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 the infrastructure needed for Your Utility's forecasts identified below

- b. Storage capacity necessary to meet demand
  - i. Total storage capacity necessary for service territory

		STORAGE I	NVENTORY	STORAGE INJECTION		STORAGE W	ITHDRAWAL
		SDO	G&E	SDO	G&E	SDC	G&E
		2006	2016	2006	2016	2006	2016
<b>TOTAL</b>		MMCF	MMCF	MMCFD	MMCFD	MMCFD	MMCFD
a. Ave	rage Year Scenarios						
i.	Average Year	7,722	8,847	36	42	185	211
ii.	Average Year + 10%	8,494	9,732	40	46	204	232
iii.	Average Year + 20%	9,266	10,617	43	50	222	253
b. Abn	ormally Cold Year Scenarios						
i.	1 in 10 years	8,971	10,279	41	48	228	259
ii.	1 in 10 years + 10%	9,868	11,307	45	53	250	285
iii.	1 in 35 years	8,971	10,279	41	48	250	284
iv.	1 in 35 years + 10%	9,868	11,307	45	53	275	313
c. Abn	ormally Dry Year Scenarios						
i.	1 in 10 years	7,722	8,847	36	42	185	211
ii.	1 in 10 years + 10%	8,494	9,732	40	46	204	232
iii.	1 in 35 years	7,722	8,847	36	42	185	211
iv.	1 in 35 years + 10%	8,494	9,732	40	46	204	232
d. Abn	ormally Cold and Dry Year Scenarios						
i.	1 in 10 years	8,971	10,279	41	48	228	259
ii.	1 in 10 years + 10%	9,868	11,307	45	53	250	285
iii.	1 in 35 years	8,971	10,279	41	48	250	284
iv.	1 in 35 years + 10%	9,868	11,307	45	53	275	313

\* SDG&E is not able to project storage capacity requirements for its entire service territory since it is not aware of storage requirements for noncore transport-only customers.

#### Table Q.2.b SDG&E Core Storage Capacity Projection for Years 2006 & 2016

#### Question 2.

For each of the scenarios in 1.a.i-iii through d.i-iv above, please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 the infrastructure needed for Your Utility's forecasts identified below

- b. Storage capacity necessary to meet demand
  - ii. Storage capacity necessary for core customers

	STORAGE I	NVENTORY	STORAGE INJECTION		STORAGE W	ITHDRAWAL
	SDO	G&E	SDO	G&E	SDC	G&E
	2006	2016	2006	2016	2006	2016
<u>CORE</u>	MMCF	MMCF	MMCFD	MMCFD	MMCFD	MMCFD
a. Average Year Scenarios						
i. Average Year	7,722	8,847	36	42	185	211
ii. Average Year + 10%	8,494	9,732	40	46	204	232
iii. Average Year + 20%	9,266	10,617	43	50	222	253
b. Abnormally Cold Year Scenarios						
i. 1 in 10 years	8,971	10,279	41	48	228	259
ii. 1 in 10 years $+ 10\%$	9,868	11,307	45	53	250	285
iii. 1 in 35 years	8,971	10,279	41	48	250	284
iv. 1 in 35 years $+ 10\%$	9,868	11,307	45	53	275	313
c. Abnormally Dry Year Scenarios						
i. 1 in 10 years	7,722	8,847	36	42	185	211
ii. 1 in 10 years $+ 10\%$	8,494	9,732	40	46	204	232
iii. 1 in 35 years	7,722	8,847	36	42	185	211
iv. 1 in 35 years $+ 10\%$	8,494	9,732	40	46	204	232
d. Abnormally Cold and Dry Year Scenarios		·				
i. 1 in 10 years	8,971	10,279	41	48	228	259
ii. 1 in 10 years $+$ 10%	9,868	11,307	45	53	250	285
iii. 1 in 35 years	8,971	10,279	41	48	250	284
iv. 1 in 35 years + 10%	9,868	11,307	45	53	275	313
* SDG&E Storage Inventory & Injection f	or Average/day De	emand				
NORMAL-YEAR	7,722	8,847	36	42		
<b>COLD-YEAR</b>	8,971	10,279	41	48		

\* SDG&E Storage Withdrawal equals Peak Day Demand minus Interstate Capacity

\* SDG&E filed in its 2005 BCAP Application 03-09-031 for storage capacity necessary for its core customer requirements, based upon its proportional average core demand to SoCalGas:

#### Table Q.2.b SDG&E Noncore Storage Capacity Projection for Years 2006 & 2016

#### Question 2.

For each of the scenarios in 1.a.i-iii through d.i-iv above, please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 the infrastructure needed for Your Utility's forecasts identified below

- b. Storage capacity necessary to meet demand
  - iii. Storage capacity necessary for noncore customers

	STORAGE I	NVENTORY	STORAGE INJECTION		STORAGE W	ITHDRAWAL
	SDC	G&E	SDO	G&E	SDG&E	
	2006	2016	2006	2016	2006	2016
<u>NONCORE</u>	MMCF	MMCF	MMCFD	MMCFD	MMCFD	MMCFD
a. Average Year Scenarios						
i. Average Year	0	0	0	0	0	0
ii. Average Year + 10%	0	0	0	0	0	0
iii. Average Year + 20%	0	0	0	0	0	0
b. Abnormally Cold Year Scenarios						
i. 1 in 10 years	0	0	0	0	0	0
ii. 1 in 10 years $+ 10\%$	0	0	0	0	0	0
iii. 1 in 35 years	0	0	0	0	0	0
iv. 1 in 35 years + 10%	0	0	0	0	0	0
c. Abnormally Dry Year Scenarios						
i. 1 in 10 years	0	0	0	0	0	0
ii. 1 in 10 years $+ 10\%$	0	0	0	0	0	0
iii. 1 in 35 years	0	0	0	0	0	0
iv. 1 in 35 years $+ 10\%$	0	0	0	0	0	0
d. Abnormally Cold and Dry Year Scenarios						
i. 1 in 10 years	0	0	0	0	0	0
ii. 1 in 10 years $+ 10\%$	0	0	0	0	0	0
iii. 1 in 35 years	0	0	0	0	0	0
iv. 1 in 35 years + 10%	0	0	0	0	0	0
* SDG&E assumption for Noncore Storag	e Capacity					
All Scenarios	0	0	0	0	0	0

\* SDG&E is responsible only for obtaining storage capacity for its bundled utility-procurement core customers by contract with SoCalGas. SDG&E assumes no storage requirements for noncore self-procurement transport-only gas customers in its service territory.

#### Table Q.2.c. SDG&E Total Interstate Pipeline Capacity Projection for Years 2006 & 2016

#### Question 2.

For each of the scenarios in 1.a.i-iii through d.i-iv above, please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 the infrastructure needed for Your Utility's forecasts identified below

- c. Interstate pipeline capacity necessary to meet demand
  - i. Total interstate pipeline capacity necessary for service territory

			SDG&E		
			2006	2016	
TO	ΓAL		Avg. MMCFD	Avg. MMCFD	
a.	Avera	age Year Scenarios			
	i.	Average Year	188	225	
	ii.	Average Year + 10%	207	247	
	iii.	Average Year + 20%	226	270	
b.	Abno	rmally Cold Year Scenarios			
	i.	1 in 10 years	188	225	
	ii.	1 in 10 years + 10%	207	247	
	iii.	1 in 35 years	188	225	
	iv.	1 in 35 years + 10%	207	247	
c.	Abno	rmally Dry Year Scenarios			
	i.	1 in 10 years	194	249	
	ii.	1 in 10 years + 10%	213	274	
	iii.	1 in 35 years	196	259	
	iv.	1 in 35 years + 10%	216	285	
d.	Abno	rmally Cold and Dry Year Scenarios			
	i.	1 in 10 years	194	249	
	ii.	1 in 10 years + 10%	213	274	
	iii.	1 in 35 years	196	259	
	iv.	1 in 35 years + 10%	216	285	

# Table Q.2.c.SDG&E Core Interstate Pipeline Capacity Projectionfor Years 2006 & 2016

#### Question 2.

For each of the scenarios in 1.a.i-iii through d.i-iv above, please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 the infrastructure needed for Your Utility's forecasts identified below

- c. Interstate pipeline capacity necessary to meet demand
  - ii. Interstate pipeline capacity necessary for core customers

			SDG&E		
			2006	2016	
<u>CO</u>	RE		Avg. MMCFD	Avg. MMCFD	
a.	Avera	age Year Scenarios			
	i.	Average Year	0	0	
	ii.	Average Year + 10%	0	0	
	iii.	Average Year + 20%	0	0	
b.	Abno	rmally Cold Year Scenarios			
	i.	1 in 10 years	0	0	
	ii.	1 in 10 years + 10%	0	0	
	iii.	1 in 35 years	0	0	
	iv.	1 in 35 years + 10%	0	0	
c.	Abno	rmally Dry Year Scenarios			
	i.	1 in 10 years	0	0	
	ii.	1 in 10 years + 10%	0	0	
	iii.	1 in 35 years	0	0	
	iv.	1 in 35 years + 10%	0	0	
d.	Abno	rmally Cold and Dry Year Scenarios			
	i.	1 in 10 years	0	0	
	ii.	1 in 10 years + 10%	0	0	
	iii.	1 in 35 years	0	0	
	iv.	1 in 35 years + 10%	0	0	

# Table Q.2.c.SDG&E Noncore Interstate Pipeline Capacity Projectionfor Years 2006 & 2016

#### **Question 2.**

For each of the scenarios in 1.a.i-iii through d.i-iv above, please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 the infrastructure needed for Your Utility's forecasts identified below

- c. Interstate pipeline capacity necessary to meet demand
  - iii. Interstate pipeline capacity necessary for noncore customers

			SDG&E		
			2006	2016	
NO	NCOR	<u>E</u>	Avg. MMCFD	Avg. MMCFD	
a.	Avera	age Year Scenarios			
	i.	Average Year	188	225	
	ii.	Average Year + 10%	207	247	
	iii.	Average Year + 20%	226	270	
b.	Abno	rmally Cold Year Scenarios			
	i.	1 in 10 years	188	225	
	ii.	1 in 10 years + 10%	207	247	
	iii.	1 in 35 years	188	225	
	iv.	1 in 35 years + 10%	207	247	
c.	Abno	rmally Dry Year Scenarios			
	i.	1 in 10 years	194	249	
	ii.	1 in 10 years + 10%	213	274	
	iii.	1 in 35 years	196	259	
	iv.	1 in 35 years + 10%	216	285	
d.	Abno	rmally Cold and Dry Year Scenarios			
	i.	1 in 10 years	194	249	
	ii.	1 in 10 years + 10%	213	274	
	iii.	1 in 35 years	196	259	
	iv.	1 in 35 years + 10%	216	285	

\* SDG&E Noncore Interstate Capacity equal to Noncore demand

#### **QUESTION 3**

Please provide information concerning the firm interstate pipeline transportation contracts (with California primary delivery points) held by California Natural Gas Public Utilities and by Other Entities <sup>1</sup>

- a. Provide the amount of firm transportation rights Your Utility currently has on each interstate pipeline to California.
- b. Provide the total amount of firm interstate pipeline transportation rights currently held by Other Entities (with primary delivery points to California) on each of the following interstate pipelines:
  - i. El Paso Natural Gas Company
  - ii. Transwestern Pipeline Company
  - iii. Gas Transmission Northwest Corporation
  - iv. Kern River Gas Transmission Company (Kern River)
- c. Provide the total amount of firm interstate pipeline transportation rights held by California Natural Gas Public Utilities or Other Entities which had primary delivery points to California in Calendar Year 2000 but now have primary delivery points to markets other than California due to long-term capacity releases on each of the following interstate pipelines: <sup>2</sup>
  - i. El Paso Natural Gas Company
  - ii. Transwestern Pipeline Company
  - iii. Gas Transmission Northwest Corporation
  - iv. Kern River
- d. Provide the total amount of firm interstate pipeline transportation rights which will be held by Other Entities (with primary delivery points to California) on each of the following interstate pipelines in Calendar Years 2005, 2006 and 2007.<sup>3</sup>
  - i. El Paso Natural Gas Company
  - ii. Transwestern Pipeline Company
  - iii. Gas Transmission Northwest Corporation
  - iv. Kern River
- e. Please provide a general description of any contingency plan Your Utility currently has in place to the extent that Other Entities do not subscribe to a sufficient amount of firm interstate pipeline transportation rights to California in order to serve the noncore market in Calendar Years 2005, 2006 and 2007.

<sup>&</sup>lt;sup>1</sup> The phrase "Other Entities" as used in this data request refers to participants in the noncore market in California, whether end-users (e.g., generators or industrial customers) or marketers which sell natural gas to end-users in California. Southwest Gas only needs to identify for its response to this data request the firm transportation rights Your Utility has on interstate pipelines to serve its California customers, and a breakdown of its core customers and noncore customers' demand (by volumes and percentages).

 $<sup>\</sup>frac{2}{2}$  If Your Utility is unable to answer some or all of this particular data request, please provide partial answers where you can and explain why you are unable to provide fuller requests.

 $<sup>\</sup>frac{3}{2}$  If Your Utility is unable to answer some or all of this particular data request, please provide partial answers where you can and explain why you are unable to provide fuller responses.

#### **RESPONSE 3**

a. - d. See Table Q.4 provided in response to Question 4.a. This table indicates the current interstate pipeline capacity contracts held by SDG&E.

Information regarding pipeline contracts held by Other Entities is provided in the Response of SoCalGas to Question 3 and is not restated here.

e. SDG&E does not have any contingency plans in place to the extent that Other Entities do not subscribe to a sufficient amount of firm interstate pipeline transportation rights to California in order to serve the noncore market. SDG&E does not believe it is appropriate for it to hold firm interstate pipeline capacity to meet the needs of its noncore customers.

#### **QUESTION 4**

Please provide the deadlines facing each of the California Natural Gas Public Utilities and others identified below:

- a. For each contract which Your Utility currently has with interstate pipelines for firm transportation rights to California primary delivery points (identified by pipeline & Contract Demand amount, and pipeline delivery points) provide:
  - i. Date of expiration of contract.
  - ii. Notice of termination date or exercise of first refusal date.
- b. Provide any current interstate pipeline's open season deadline for expansions to California.
- c. Provide LNG-related deadlines for access in Baja California.
- d. Provide any other deadlines affecting long-term supply options.

#### **RESPONSE 4**

- a. Table Q.4 provides the requested information regarding SDG&E's current firm transportation rights on the El Paso and the Canadian path between Canada and the SoCalGas system.
- b. On February 4, 2004 El Paso Natural Gas Company announced an open season which will end on March 4, 2004, to allow parties to submit bids for transportation service involving Line 1903, capacity on Mojave, and EPNG's existing pipeline system. Line 1903 refers to the portion of the All American Pipeline which lies within California. This open season contemplates moving gas from Topock or Daggett to Ehrenberg or East of California (EOC) markets either under extensions of existing contracts or through new contracts with EPNG.
- c. SDG&E is only aware of the deadline referenced by the Commission in its OIR: "There is currently an open season deadline of September 1, 2004 for use of pipelines in Mexico and the United States for this natural gas to be transported to Arizona and other East of California locations." (p.14)
- d. SDG&E is not aware of any other deadlines affecting long-term supply options at this time.

Attachment:

- Table Q.4

#### SDG&E Responses to CPUC Data Requests (R.04-01-025) Table Q.4

Pipeline	Acquired Agreement Code	Capacity Mcf/Day	Capacity MMBtu/Day	Term Beginning Date	Term End Date	Termination Notice Date	ROFR Date	Primary Delivery Point(s)
Southwest								
El Paso Natural Gas Company	9844	10,000	10,230	11/11/1991	02/28/2007	02/28/2006		SoCal Ehrenberg
El Paso Natural Gas Company	9MDF	3,607	3,690	06/01/2001	05/31/2006	05/31/2005	12/02/2005	SoCal Ehrenberg
El Paso Natural Gas Company	9NKE	12,230	12,512	11/01/2002	12/31/2004	12/31/2003	No ROFR	SoCal Topock
Canadian Path								
Trans-Canada Nova Gas Transmission Ltd.		3,408	3,454	11/01/2002	10/31/2008	10/31/2007	N/A	Alberta/BC Border
Trans-Canada Nova Gas Transmission Ltd.		21,888	22,185	08/01/2003	10/31/2008	10/31/2007	N/A	Alberta/BC Border
Trans-Canada Nova Gas Transmission Ltd.		4,979	5,047	11/01/2003	10/31/2012	10/31/2011	N/A	Alberta/BC Border
Trans-Canada Nova Gas Transmission Ltd.		5,968	6,049	11/01/2003	10/31/2013	10/31/2012	N/A	Alberta/BC Border
Trans-Canada Nova Gas Transmission Ltd.		17,375	17,611	12/01/2003	10/31/2005	10/31/2004	N/A	Alberta/BC Border
Trans-Canada Pipeline Limited - B.C. System		53,105	53,826	11/01/1993	10/31/2008	10/31/2007	N/A	US Border/Kingsgate, BC
Gas Transmission Northwest Corporation (GTN)	SDGE	51,804	52,508	11/01/1993	10/31/2023			Malin, Oregon
Pacific Gas & Electric Company (PG&E)	00172	51,236	51,932	11/01/1993	10/31/2023			SoCal Wheeler Ridge
SoCalGas Wheeler Ridge Compressor Sta.	0900	51,236	51,932	11/01/1993	10/31/2006			SoCalGas pipeline system

#### **QUESTION 5**

Provide the following information concerning increasing access to Kern River: <sup>1</sup>

- a. Locations where intrastate pipelines currently interconnect with Kern River and their current interconnection capacity.
- b. Estimate of costs of expansions at each interconnection at different amounts of capacity expansions (e.g., 100 MMcf/d, 200 MMcf/d).
- c. Amount of Kern River capacity available throughout the year to California Natural Gas Public Utilities.<sup>2</sup>

#### RESPONSE 5

This question is not applicable to the SDG&E system. A response is provided by SoCalGas as these questions relate to its system, or an integrated SoCalGas/SDG&E transmission system.

 $<sup>^{1}</sup>$  PG&E and SoCalGas are the only utilities which need to respond to this request.

 $<sup>^{2}</sup>$  Assume for this data request that capacity under contracts with Nevada companies and capacity under contracts to direct connection customers are not available throughout the year to the California Natural Gas Public Utilities.

#### **QUESTION 6**

Please provide the range of new supply access costs for proposed LNG facilities at Otay Mesa, Long Beach and Oxnard that represent the best estimate of Your Utility.  $\frac{1}{2}$ 

#### **RESPONSE 6**

The costs discussed below are the best estimates available at this point in time given the large number of potential combinations and permutations of options. SDG&E's and SoCalGas current systems are depicted in Map Q.6.1 and Q.6.2, respectively.

The magnitude of intrastate facility costs depends largely upon the interconnect location of the new or expanded supply source, the size of the new or expanded source, and whether the source is allowed to displace existing supply sources such that the total 3,875 MMcf/d firm receipt point and redelivery capacity remains the same, or whether the new or expanded interconnect location is allowed to increase the firm receipt point and redelivery capacity of the entire system.

The costs set forth below are factored estimates (generally +/- 30%) based on recent like projects in similar areas. They do not represent detailed construction estimates. The estimates do not include the costs of facilities necessary to reach the SoCalGas/SDG&E systems. Costs assume that the delivery pressure is sufficient to enter the SoCalGas/SDG&E systems. Finally, the cost estimates assume that each project was built on an individual basis; that is, only the project in question is being added to the SoCalGas/SDG&E system. If multiple projects are built at once or sequentially, costs are not necessarily the sum of the individual projects but are likely to require facilities in addition to those included in these cost estimates. This effect is discussed below in more detail.

In R.04-01-025, the Commission directed SoCalGas and SDG&E to address the costs of capacity expansion for interconnecting facilities and intrastate pipelines to facilitate LNG supply availability to California at Otay Mesa or at any receipt point in or near the utilities' service territory (i.e., onshore or offshore California).

SoCalGas and SDG&E have examined three locations on the SoCalGas/SDG&E transmission system for the receipt of LNG supplies. These sites are:

- Otay Mesa meter station on the SDG&E system near the U.S./Mexico border;
- Salt Works Station on the SoCalGas system near Long Beach; and
- Center Road Station on the SoCalGas system near Oxnard.

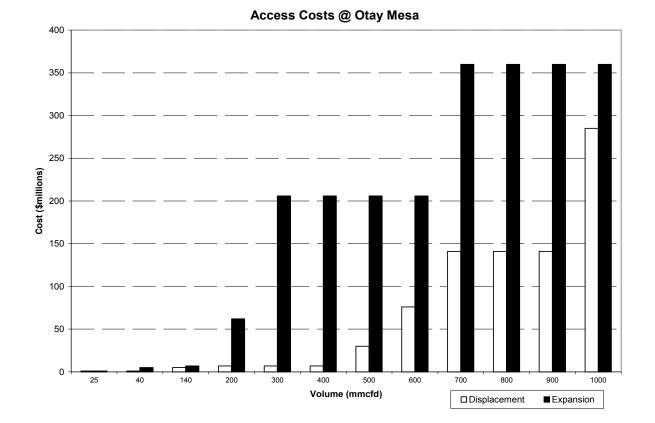
Each of these potential locations was evaluated at several levels of new supply, and system improvements were identified based on both a "displacement" and an "expansion" basis. On a displacement basis, new supplies would compete for existing pipeline delivery capacity and potentially displace current supplies, i.e. the SoCalGas system firm receipt and redelivery capacity would remain 3,875 MMcf/d. On an expansion basis, the SoCalGas system firm receipt and redelivery capacity would be expanded beyond 3,875 MMcf/d to accommodate the new supply without displacing the receipt of current supplies. Each potential receipt point is discussed in detail below.

 $<sup>^{1}</sup>$  This request applies to SoCalGas and SDG&E only. It can be the presentation by David G. Taylor on December 10, 2003 at the CPUC-CEC workshop (Panel II D-LNG Facilities) or updated information in the same format and methodology as used in that presentation.

#### **Otay Mesa**

The SDG&E gas transmission system terminates at the Otay Mesa meter station near the U.S./Mexico border. The current SDG&E transmission system is indicated in Map Q.6.1. The SDG&E transmission system was originally designed and constructed to receive gas supplies in the north from SoCalGas and move those supplies to load centers in the south.

With system improvements on the SoCalGas/SDG&E system, including at the Otay Mesa meter station, gas supplies could be received at Otay Mesa and moved north for use by SDG&E or SoCalGas customers from a Mexican pipeline, such as the Transportadora de Gas Natural (TGN) pipeline. Supplies in excess of the local San Diego demand would need to be redelivered into the SoCalGas system at Rainbow Station. Figure Q.6.1 and Table Q.6.1 below present the preliminary cost estimates for the facilities necessary to accept and redeliver supplies at Otay Mesa for several assumed levels of delivered supply.



#### Figure Q.6.1

	Cost	Delivered volume (MMCF/D)											
Facility Improvement	\$MM	25	40	140	200	300	400	500	600	700	800	900	1000
Reverse existing meter at Otay Mesa	1	0	0	$\bigcirc ullet$									
Minor improvements to SDG&E system	4		•	$\bigcirc ullet$									
Modify Moreno compressor station	2			•	$\bigcirc ullet$	$\circ \bullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$				
Santee-Miramar pipeline	23							0					
Santee-Escondido pipeline	69					•	•	•	$\bigcirc ullet$				
Escondido-Rainbow pipeline	65									$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$
Border-Santee pipeline	89									•	•		$\bigcirc igodot$
Moreno-Chino looping on SoCalGas system	55				•	•	•	•	•	•	•	•	$\bigcirc ullet$
Moreno-Prado looping on SoCalGas system	75					•	•	•	•	•	•	•	•

Table Q.6.1 Access Costs Detail, Otay Mesa

O Displacement basis

Expansion basis

A basic set of facility improvements is required on the SDG&E system to reverse the flow of gas in the SDG&E system and accept any significant volume of supply delivered at Otay Mesa. These improvements include changes to the piping and valving at the Otay Mesa meter station to "reverse" the station and flow gas from the south to the north; minor improvements on the SDG&E system such as the removal of check valves and the construction of new pressure limiting stations; and for all but a nominal level of supply delivered at Otay Mesa, modifications to SDG&E's Moreno compressor station to enable it to compress gas supply from the SDG&E system so that it can enter the SoCalGas system.<sup>2</sup> This is required because any supply delivered into the SDG&E system in excess of the SDG&E system demand must be redelivered into the SDG&E system. SoCalGas and SDG&E have estimated the minimum level of demand on the SDG&E system to be approximately 140 MMcf/d.

Improvements to the SDG&E/SoCalGas system beyond this basic set are determined by the level of supply delivered at Otay Mesa and whether or not that supply expands SoCalGas' system receipt and redelivery capacity of 3,875 MMcf/d. Volumes received at Otay Mesa would be delivered ultimately into a single 36-inch diameter pipeline that runs from the Otay Mesa meter station to Santee. At Santee, the 36-inch diameter pipeline interconnects with a 20-inch diameter pipeline, which supplies SDG&E's 30- and 16-inch diameter transmission mains running south from Rainbow Station. As the volumes delivered at Otay Mesa increase, the 20-inch diameter pipeline becomes a constraint to transporting supply to the SDG&E load centers and for redelivery to SoCalGas, requiring looping on the SDG&E system.

 $<sup>\</sup>frac{2}{2}$  All improvements except the modification to the Moreno compressor station are currently underway. These projects were presented as Project Number 2466, Pressure Betterment – Otay Mesa Meter Station in A.02-12-028 and SDG&E agreed to proceed with Project Number 2466 as part of a settlement agreement.

On the SoCalGas system, the capacity west of Moreno Station is 760 MMcf/d. Therefore, at the highest volumes delivered at Otay Mesa (or for all but nominal volumes delivered at Otay Mesa on an expansion basis), looping on the SoCalGas system west of Moreno Station is also required.

Delivery pressure requirements at Otay Mesa range from 700 to 800 psig, depending upon the volume delivered.

#### Salt Works Station – Long Beach

SoCalGas' transmission Line 765 terminates at Salt Works Station near the Long Beach/L.A. Harbor area. Line 765 is a relatively new 30-inch diameter pipeline that runs in a north/south direction across the Los Angeles basin. Most of the transmission pipelines in the Los Angeles basin have a Maximum Allowable Operating Pressure (MAOP) of 465 psig. Line 765, however, has an MAOP of 650 psig. This large diameter pipeline with a higher MAOP and close proximity to the L.A. Harbor is an ideal receipt point for new supplies delivered into the Los Angeles basin. Figure Q.6.2 and Table Q.6.2 below present the preliminary cost estimates for accepting supplies at Salt Works Station at various assumed volume levels on both a displacement and expansion basis. These cost estimates only include costs necessary to improve the SoCalGas system; they do not include any costs upstream of the receipt point, such as pipeline between the supplier (such as an LNG plant) and Salt Works Station or compression to meet delivery pressure requirements.

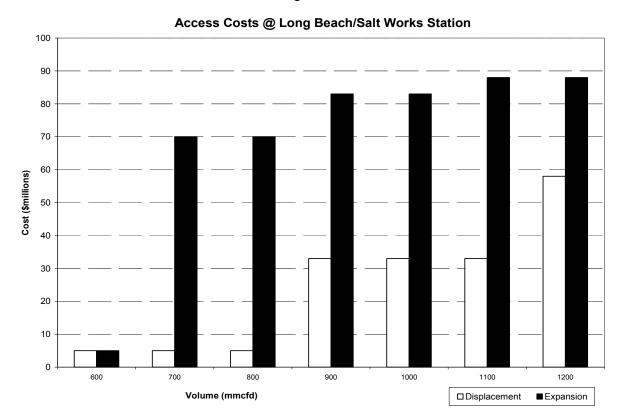


Figure Q.6.2

		,						
Cost Delivered volume (MMCF/								
Facility Improvement	\$MM	600	700	800	900	1000	1100	1200
Improvements at Salt Works Station	5	$\bigcirc igodot$	$\bigcirc lacebox$	$\bigcirc igodot$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc igodot$
Partially loop Line 765	13			•	$\bigcirc igodot$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$
Rebuild existing pressure limiting stations	2		•		$\bigcirc igodot$	$\bigcirc ullet$	$\bigcirc igodot$	$\bigcirc igodot$
New compressor station at Quigley	20 - 50		•		•			$\bigcirc igodot$
New compressor station at Brea	13				$\bigcirc lacksquare$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$
Modify Moreno compressor station	2							$\bigcirc ullet$
New compressor station at Shaver Summit	3						•	$\bigcirc \bullet$

#### Table Q.6.2

Access Costs Detail, Long Beach

 $\bigcirc$  Displacement basis

• Expansion basis

Approximately 60% of the entire SoCalGas system demand and nearly all of the southern California electric generation demand is located in the Los Angeles basin. This high concentration of demand allows for relatively large volumes of supply to be accepted at Salt Works Station without significant facility investment, particularly on a displacement basis. However, under low demand conditions when the supply delivered at Salt Works Station exceeds the Los Angeles basin demand, the excess supply has no access to load centers outside of the Los Angeles basin because the piping in the Los Angeles basin operates at a lower pressure than the remainder of the SoCalGas transmission system. New compression therefore would be required to transport the excess supply out of the Los Angeles basin, into one of SoCalGas' high pressure transmission pipelines, and redeliver the gas to other SoCalGas or SDG&E load centers.

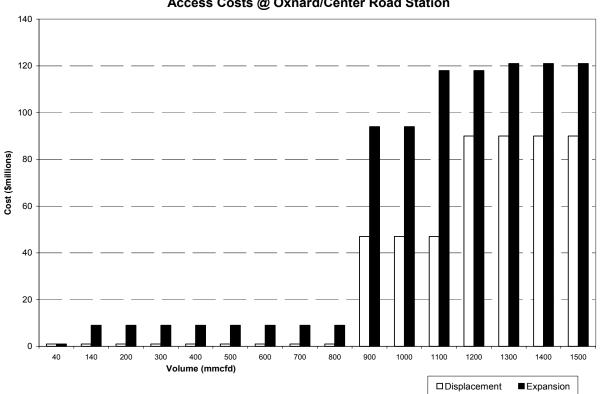
SoCalGas has identified locations at two of its "city gates" where new compression could be sited – a 25,000 HP compressor station at Quigley Station <sup>3</sup> in the north of the Los Angeles basin and an 8,000 HP compressor station at Brea Station in the east. Gas compressed out of the Los Angeles basin at Quigley Station could be used to meet customer demand in the San Joaquin Valley, in the Ventura/Oxnard area, and in the Inland Empire and High Desert communities. A compressor station at Brea Station can be used to redeliver the excess Los Angeles basin supply to communities in Riverside and San Diego counties. By adding a smaller 850 HP compressor station at Shaver Summit, this excess supply could even serve communities in the Imperial Valley. Note, however, that compressors at Brea and Shaver Summit, as well as modifications to the Moreno compressor station so that gas can flow east, are only necessary for the higher volumes assumed to be delivered at Salt Works Station.

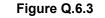
As noted above, SoCalGas' pipeline system at Salt Works Station has an MAOP of 650 psig. Therefore, new suppliers must be able to deliver at pressures up to this MAOP at Salt Works Station.

 $<sup>\</sup>frac{3}{10,000}$  HP under the displacement scenario.

#### **Center Road Station – Oxnard**

Figure Q.6.3 and Table Q.6.3 below present the preliminary cost estimates for accepting supplies at Center Road Station for varying assumed volumes of delivered supply on both a displacement and expansion basis. As in the case with a receipt point at Otay Mesa or Salt Works Station, these cost estimates do not include any costs upstream of the receipt point.





#### Access Costs @ Oxnard/Center Road Station

#### <u>RESPONSE 6</u> (continued)

	Cost	Delivered volume (MMCF/D)									
Facility Improvement	\$MM	40	140	200	300	400	500	600	700	800	900
Improvements at Center Road Station	1	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc igodot$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc igodot$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$
Loop Line 225, Saugus to Quigley	8 - 10		•	•	•	•	•	•	•	•	•
Loop Line 324	40 - 60										$\bigcirc ullet$
Rebuild existing PLS/crossovers	6										$\bigcirc ullet$
Loop Line 225, Honor to Saugus	3										•
Extend Line 3008	6 - 10										•
New compression at Brea (10,000 HP)	25										•
New compression at Shaver (300 HP)	1										•
Modify Moreno compressor station	2										•

Table Q.6.3

Access Costs Detail, Oxnard

O Displacement basis

• Expansion basis

	Cost	Delivered volume (MMCF/D)								
Facility Improvement	\$MM	1000	1100	1200	1300	1400	1500			
Improvements at Center Road Station	1	$\bigcirc igodot$	$\bigcirc igodot$	$\bigcirc igodot$	$\bigcirc igodot$	$\bigcirc ullet$	$\bigcirc ullet$			
Loop Line 225, Saugus to Quigley	8 - 10	•	•	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$			
Loop Line 324	40 - 60	$\bigcirc igodot$	$\bigcirc igodot$	$\bigcirc igodot$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$			
Rebuild existing PLS/crossovers	6	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$			
Loop Line 225, Honor to Saugus	3	•	•	$\bigcirc ullet$	$\bigcirc igodot$	$\bigcirc$	$\bigcirc ullet$			
Extend Line 3008	6 - 10	•	•	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$			
New compression at Brea (10,000 HP)	25	•	•	•	•	•	•			
New compression at Shaver (300 HP)	1	•	•	•	•	•	•			
Modify Moreno compressor station	2	•	•	•	•	•	•			
New compression at Wheeler Ridge (1,000 HP)	3				•	•	•			

○ Displacement basis

• Expansion basis

SoCalGas' Center Road Station in Oxnard interconnects transmission Lines 324, 404, and 406. This feature makes Center Road Station a logical point to receive new supplies delivered in the Oxnard/Ventura area. Supplies delivered at Center Road Station would have access to load centers in Ventura and Santa Barbara Counties, and communities north of Gaviota along the California coast.

With improvement to the SoCalGas system, supply in excess of the local Coastal System demand (minimum local demand estimated to be 50 MMcf/d) can be redelivered to the Los Angeles basin load centers via Lines 404 and 406, or transported to Line 225 via Line 324 and redelivered to load centers in the San Joaquin Valley, Inland Empire, and High Desert communities.

Receipts at Center Road Station must be able to meet the MAOP of the SoCalGas transmission system, which is approximately 800 psig at this location. If a new pipeline is required in order to deliver supplies to Center Road Station, delivered pressure into that pipeline by the supplier may need to be significantly greater than 800 psig in order to meet this pressure requirement at Center Road Station. The level of delivered pressure into this new pipeline would be a function of the distance from the supplier to Center Road Station, the diameter of the new pipeline, and the volume of supply transported to Center Road Station.

It should be noted that the "displacement" and "expansion" cases are not mutually exclusive at all assumed volume levels. Some of the facility improvements necessary to accept and redeliver supplies on a displacement basis also have the effect of increasing SoCalGas' overall system receipt and redelivery capacity of 3,875 MMcf/d as the figures and tables shown above demonstrate.

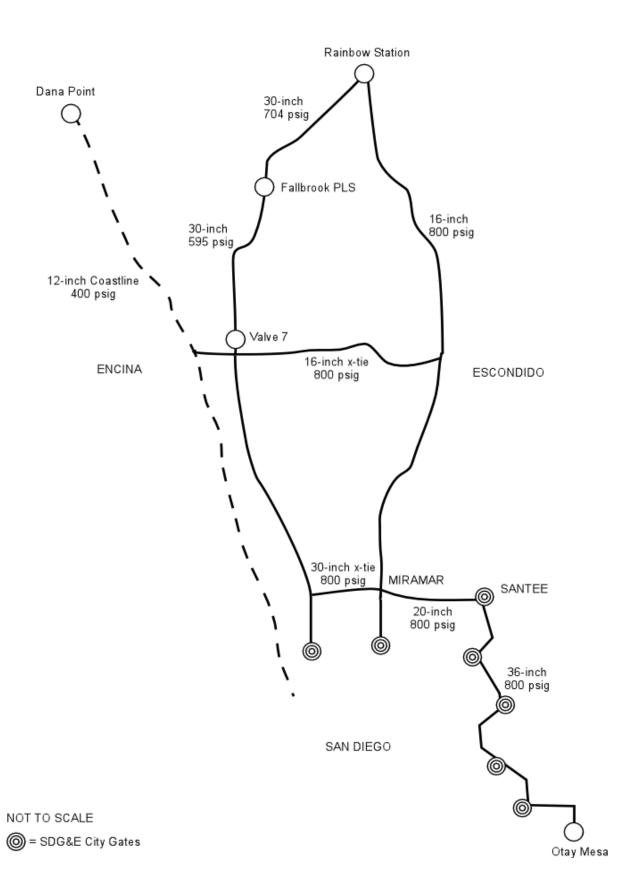
For example, it would not cost significantly more to accept 140 MMcf/d at Otay Mesa on an expansion basis than a displacement basis. At Salt Works Station, it costs the same to accept and redeliver 600 MMcf/d on either a displacement or expansion basis. At Center Road Station, it costs the same to increase the receipt point and redelivery capacity by 40 MMcf/d on either a displacement or expansion basis, but it also should be noted that SoCalGas' total system receipt and redelivery capacity can be increased by 800 MMcf/d by adding facilities costing less than \$20 million to accept supplies at Salt Works Station as depicted in Figure Q.6.3 and Table Q.6.3 above. Of course, at higher volumes at each of these receipt points, the cost of facilities necessary to increase the system receipt and redelivery capacity is much greater than the cost of facilities necessary to accept and redeliver volumes that would displace supplies from existing receipt points.

#### **Multiple LNG Receipt Points**

SoCalGas and SDG&E have also examined the system improvements necessary to establish two receipt points simultaneously for LNG on the SoCalGas/SDG&E transmission system. For this assessment, SoCalGas examined potential volumes delivered at Otay Mesa, Salt Works Station, and Center Road Station. The scenarios examined were (1) 600 MMcf/d delivered at Otay Mesa and 800 MMcf/d delivered at Center Road Station; and (2) 600 MMcf/d delivered at Otay Mesa and 800 MMcf/d delivered at Salt Works Station. Of course, many other scenarios are possible, but SoCalGas has not attempted to examine every possible combination. These cost figures are intended to illustrate how facility costs do or do not increase if significant volumes are received at multiple receipt points.

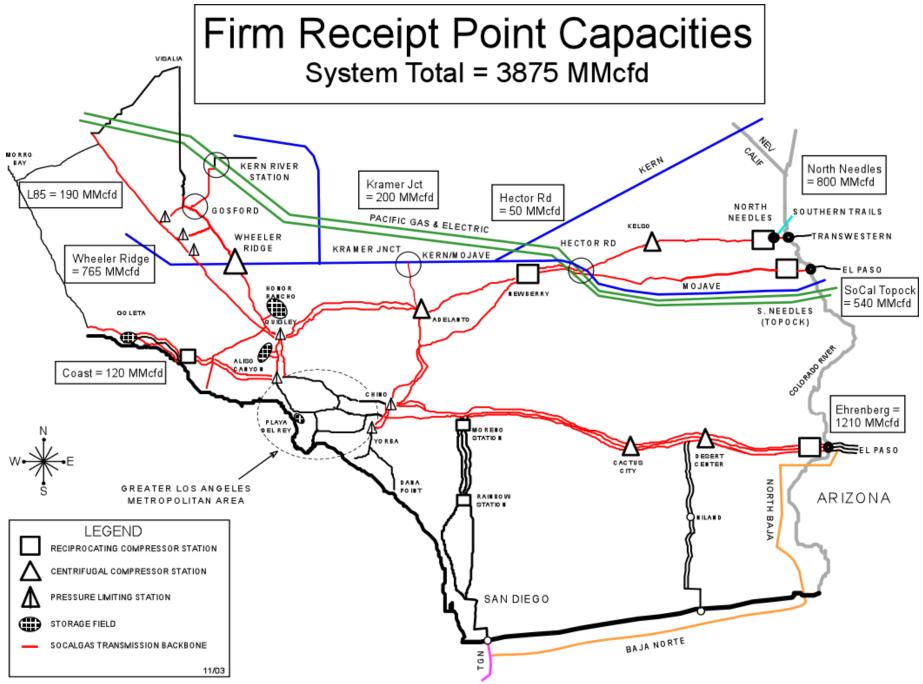
For the Otay Mesa/Center Road Station combination, the facility improvements amount to the sum of the improvements identified for each individual receipt point. As shown in Tables Q.6.1 and Q.6.3 above, \$90 million in facility improvements is required for access on a displacement basis, and \$220 million in facility improvements on an expansion basis at the assumed volumes. This result is due to the fact that both projects largely utilize separate facilities to reach ultimate load centers and for the most part serve separate load centers.

For the Otay Mesa/Salt Works Station combination, the facility improvements are greater than the sum of the individual improvements for each of the individual receipt points on an expansion basis, but they are the sum of each individual project cost on a displacement basis. Individually, both receipt points make use of the same existing transmission facilities to access the same load centers under this scenario. Transmission capacity is therefore insufficient for a scenario that assumes that significant volumes are delivered at both receipt points. In addition to the facility improvements shown in Tables Q.6.1 and Q.6.2, a new 36-inch diameter pipeline between Blythe and Needles on the SoCalGas system, and additional looping on Line 765, is required on an expansion basis. These additional improvements are estimated to cost approximately \$135 million. Therefore, using the figures shown in Tables Q.6.1 and Q.6.2, \$85 million in facility improvements is required under a displacement basis, and \$410 million is required on an expansion basis under this scenario.



MAP Q.6.1 - CURRENT SDG&E GAS SYSTEM

#### MAP Q.6.2 – CURRENT SOCALGAS SYSTEM



NOT TO SCALE

## SOUTHERN CALIFORNIA GAS COMPANY (U 904 G)

## **RESPONSES TO CPUC DATA REQUESTS**



## OIR TO ESTABLISH POLICIES AND RULES TO ENSURE RELIABLE, LONG-TERM SUPPLIES OF NATURAL GAS TO CALIFORNIA

R.04-01-025

## **QUESTION 1**

Please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 Your Utility's demand forecasts for its service territory under the following scenarios.<sup>1</sup>

- a. Average Year Scenarios
  - i. Average Year
  - ii. Average Year + 10%
  - iii. Average Year + 20%
- b. Abnormally Cold Year Scenarios
  - i. 1 in 10 years
  - ii. 1 in 10 years + 10%
  - iii. 1 in 35 years
  - iv. 1 in 35 years + 10%
- c. Abnormally Dry Year Scenarios
  - i. 1 in 10 years
  - ii. 1 in 10 years + 10%
  - iii. 1 in 35 years
  - iv. 1 in 35 years + 10%
- d. Abnormally Cold and Dry Year Scenarios
  - i. 1 in 10 years
  - ii. 1 in 10 years + 10%
  - iii. 1 in 35 years
  - iv. 1 in 35 years + 10%

## **RESPONSE 1**

See Table Q.1 for the demand forecasts for all of the above scenarios. The data is provided for All Markets (core and noncore), and also shown for Core, Noncore Retail, and Wholesale.

Forecasted annual demand for 2006 and 2016 is shown in columns (a) and (b), respectively. Annual demand expressed on an MMcfd basis for 2006 and 2016 is shown in columns (c) and (d), respectively. SoCalGas has also provided forecasted peak-day demand for 2006 and 2016. This is shown in columns (e), (g), (f), and (h). The later was not specifically requested but this information is relevant in responding to Question 2 of the Commission's Data Request.

In preparing these demand forecasts, SoCalGas made use of certain existing modeling as follows: For <u>core</u> demand, the forecasts are based on the forecast models used to produce SoCalGas' 2005 Biennial Cost Allocation Proceeding, Application No. (A.) 03-09-008. These models were (1) updated with a more recent gas price forecast and economic assumptions and (2) extended to 2016 in order to determine the demand for that year. For <u>noncore</u> demand, the 2005 BCAP models were used to forecast demand for 2006 and the forecasting models used to produce the 2002 California Gas Report (CGR) were used to forecast demand for 2016. Both sets of models were updated with a more recent gas price forecast and economic assumptions.

<sup>&</sup>lt;sup>1</sup> In answering this data request, please provide your assumptions in your forecasts as to electric generation plants retired, re-powered, or constructed in your utility's service territory.

# **RESPONSE 1** (continued)

It should be noted that the respondent gas utilities in R.04-01-025 will be preparing a more comprehensive long-term demand forecast later this year as part of the 2004 CGR.

It should also be noted that the Commission's current adopted peak-day criteria for service reliability is as follows: for <u>firm noncore</u> service, 1-in-10 cold year (i.e., all core demand and firm noncore demand is served); for <u>core</u> service, 1-in-35 cold year (i.e., all core demand is served and all noncore service is curtailed).

Table Q.1-EG indicates the assumptions used by SoCalGas with regard to electric generating plants retired, re-powered, or constructed. This table reflects the assumptions for both SDG&E and SoCalGas.

Attachments:

- Table Q.1
- Table Q.1-EG

- Question 1. Please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 Your Utility's demand forecasts for its service territory under the following scenarios.
- Response 1. SoCalGas' 2006 and 2016 demand forecast on a MMCFD basis for each scenario is shown in columns "c" and "d" in the table below. For the core markets the demand forecast is based on SoCalGas' 05BCAP models updaetd as follows: (1) gas prices have been updated and (2) the forecast was extended to 2016 since the as-filed BCAP only has data out to 2006. For the noncore markets the 02CGR models were used for 2016 and the 05BCAP models for 2006. All noncore demand foreast models were updated for gas prices.

Columns "e" and "f" represent the peak day in a cold month of December for all customer classes. Columns "e" and "f" represent hypothetical cases curtailment is not considered; these are provided in response to the spirit of the Gas Market OIR. Columns "g" and "h" are consistent with SoCalGas policy that noncore classes will be curtailed in a 1-in-35 peak day event. As a result, all noncore load in is zero for the 1-in-35 case in columns "g" and "h".

							Peak-D	5	Peak-D	5
	<ul> <li>i. Average Year</li> <li>ii. Average Year + 10%</li> <li>iii. Average Year + 20%</li> <li>Abnormally Cold Year Scenarios</li> <li>i. 1 in 10 years</li> <li>ii. 1 in 10 years + 10%</li> <li>iii. 1 in 35 years + 10%</li> </ul>	ario	Annual De		Annual Der		All Segments		Noncore = Zero	
			2006	2016	2006	2016	2006	2016	2006	2016
			MDTH	MDTH	MMCFD	MMCFD	MMCFD	MMCFD	MMCFD	MMCFD
		-	(a)	(b)	(c)=(a)/365	(d)=(b)/365	(e)	(f)	(g)	(h)
a.	Avera	age Year Scenarios								
	i.	Average Year	947,360	1,043,283	2,536	2,793	$N/A^1$	N/A	N/A	N/A
	ii.	Average Year + 10%	1,042,096	1,147,611	2,790	3,072	N/A	N/A	N/A	N/A
	iii.	Average Year + 20%	1,136,832	1,251,940	3,043	3,351	N/A	N/A	N/A	N/A
b.	Abno	rmally Cold Year Scenarios								
	i.	1 in 10 years	973,183	1,071,587	2,605	2,868	4,810	5,538	4,810	5,538
	ii.	1 in 10 years + 10%	1,070,501	1,178,745	2,866	3,155	5,292	6,092	5,292	6,092
	iii.	1 in 35 years	985,886	1,085,740	2,639	2,906	5,136	5,900	3,846	4,269
	iv.	1 in 35 years + 10%	1,084,475	1,194,314	2,903	3,197	5,649	6,490	4,230	4,695
c.	Avera	age Year and Abnormally Dry Year S	cenarios							
	i.	1 in 10 years	1,006,540	1,117,689	2,694	2,992	N/A	N/A	N/A	N/A
	ii.	1 in 10 years + 10%	1,107,194	1,229,457	2,964	3,291	N/A	N/A	N/A	N/A
	iii.	1 in 35 years	1,027,874	1,144,896	2,751	3,065	N/A	N/A	N/A	N/A
	iv.	1 in 35 years + 10%	1,130,661	1,259,385	3,027	3,371	N/A	N/A	N/A	N/A
d.	Abno	rmally Cold and Dry Year Scenarios								
	i.	1 in 10 years	1,032,363	1,145,992	2,763	3,068	4,954	6,135	4,954	6,135
	ii.	1 in 10 years + 10%	1,135,599	1,260,591	3,040	3,374	5,450	6,748	5,450	6,748
	iii.	1 in 35 years	1,066,400	1,187,353	2,855	3,178	5,394	6,487	3,846	4,269
	iv.	1 in 35 years + 10%	1,173,040	1,306,088	3,140	3,496	5,933	7,136	4,230	4,695

#### SoCalGas (All Markets)

Notes

<sup>1</sup> Peak day calculations not meaningful for average-temperature-year HDD scenarios

BTU Factor

1.0235

- Question 1. Please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 Your Utility's demand forecasts for its service territory under the following scenarios.
- Response 1. SoCalGas' 2006 and 2016 demand forecast on a MMCFD basis for each scenario is shown in columns "c" and "d" in the table below. For the core markets the demand forecast is based on SoCalGas' 05BCAP models updaetd as follows: (1) gas prices have been updated and (2) the forecast was extended to 2016 since the as-filed BCAP only has data out to 2006. For the noncore markets the 02CGR models were used for 2016 and the 05BCAP models for 2006. All noncore demand foreast models were updated for gas prices.

Columns "e" and "f" represent the peak day in a cold month of December for all customer classes. Columns "e" and "f" represent hypothetical cases curtailment is not considered; these are provided in response to the spirit of the Gas Market OIR. Columns "g" and "h" are consistent with SoCalGas policy that noncore classes will be curtailed in a 1-in-35 peak day event. As a result, all noncore load in is zero for the 1-in-35 case in columns "g" and "h".

						Peak-D	5	Peak-D	5
	<ul> <li>i. 1 in 10 years</li> <li>ii. 1 in 10 years + 10%</li> <li>iii. 1 in 35 years</li> <li>iv. 1 in 35 years + 10%</li> </ul>	Annual De		Annual Der		All Segments		Noncore = Zero	
		2006	2016	2006	2016	2006	2016	2006	2016
		MDTH	MDTH	MMCFD	MMCFD	MMCFD	MMCFD	MMCFD	MMCFD
	-	(a)	(b)	(c)=(a)/365	(d)=(b)/365	(e)	(f)	(g)	(h)
a.	Average Year Scenarios								
	i. Average Year	384,149	429,082	1,028	1,149	N/A <sup>1</sup>	N/A	N/A	N/A
	ii. Average Year + 10%	422,564	471,990	1,131	1,263	N/A	N/A	N/A	N/A
	iii. Average Year + 20%	460,978	514,898	1,234	1,378	N/A	N/A	N/A	N/A
b.	Abnormally Cold Year Scenarios								
	i. 1 in 10 years	405,053	452,351	1,084	1,211	2,999	3,347	2,999	3,347
	ii. 1 in 10 years + 10%	445,559	497,587	1,193	1,332	3,299	3,682	3,299	3,682
	iii. 1 in 35 years	415,897	464,425	1,113	1,243	3,290	3,671	3,290	3,671
	iv. 1 in 35 years + 10%	457,487	510,867	1,225	1,367	3,619	4,038	3,619	4,038
c.	Average Year and Abnormally Dry Year S	cenarios							
	i. 1 in 10 years	384,149	429,082	1,028	1,149	N/A	N/A	N/A	N/A
	ii. 1 in 10 years + 10%	422,564	471,990	1,131	1,263	N/A	N/A	N/A	N/A
	iii. 1 in 35 years	384,149	429,082	1,028	1,149	N/A	N/A	N/A	N/A
	iv. 1 in 35 years + 10%	422,564	471,990	1,131	1,263	N/A	N/A	N/A	N/A
d.	Abnormally Cold and Dry Year Scenarios								
	i. 1 in 10 years	405,053	452,351	1,084	1,211	2,999	3,347	2,999	3,347
	ii. 1 in 10 years + 10%	445,559	497,587	1,193	1,332	3,299	3,682	3,299	3,682
	iii. 1 in 35 years	415,897	464,425	1,113	1,243	3,290	3,671	3,290	3,671
	iv. 1 in 35 years + 10%	457,487	510,867	1,225	1,367	3,619	4,038	3,619	4,038

#### SoCalGas (Core)

Notes

<sup>1</sup> Peak day calculations not meaningful for average-temperature-year HDD scenarios

1.0235

BTU Factor

- Question 1. Please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 Your Utility's demand forecasts for its service territory under the following scenarios.
- Response 1. SoCalGas' 2006 and 2016 demand forecast on a MMCFD basis for each scenario is shown in columns "c" and "d" in the table below. For the core markets the demand forecast is based on SoCalGas' 05BCAP models updaetd as follows: (1) gas prices have been updated and (2) the forecast was extended to 2016 since the as-filed BCAP only has data out to 2006. For the noncore markets the 02CGR models were used for 2016 and the 05BCAP models for 2006. All noncore demand foreast models were updated for gas prices.

Columns "e" and "f" represent the peak day in a cold month of December for all customer classes. Columns "e" and "f" represent hypothetical cases curtailment is not considered; these are provided in response to the spirit of the Gas Market OIR. Columns "g" and "h" are consistent with SoCalGas policy that noncore classes will be curtailed in a 1-in-35 peak day event. As a result, all noncore load in is zero for the 1-in-35 case in columns "g" and "h".

							5		2
Scena	ario					U			
									2016
		MDTH	MDTH	MMCFD		MMCFD		MMCFD	MMCFD
		(a)	(b)	(c)=(a)/365	(d)=(b)/365	(e)	(f)	(g)	(h)
Avera	age Year Scenarios								
i.	Average Year	406,947	440,537	1,089	1,179	$N/A^1$	N/A	N/A	N/A
ii.	Average Year + 10%	447,642	484,591	1,198	1,297	N/A	N/A	N/A	N/A
iii.	Average Year + 20%	488,337	528,645	1,307	1,415	N/A	N/A	N/A	N/A
Abno	rmally Cold Year Scenarios								
i.	1 in 10 years	407,585	441,175	1,091	1,181	1,027	1,371	1,027	1,371
ii.	1 in 10 years + 10%	448,344	485,293	1,200	1,299	1,130	1,508	1,130	1,508
iii.	1 in 35 years	407,916	441,506	1,092	1,182	1,036	1,380	0	0
iv.	1 in 35 years + 10%	448,708	485,657	1,201	1,300	1,139	1,518	0	0
Avera	age Year and Abnormally Dry Year	Scenarios							
i.	1 in 10 years	462,916	505,993	1,239	1,354	N/A	N/A	N/A	N/A
ii.	1 in 10 years + 10%	509,208	556,593	1,363	1,490	N/A	N/A	N/A	N/A
iii.	1 in 35 years	483,081	529,292	1,293	1,417	N/A	N/A	N/A	N/A
iv.	1 in 35 years + 10%	531,389	582,221	1,422	1,559	N/A	N/A	N/A	N/A
Abno	rmally Cold and Dry Year Scenario	os							
i.	1 in 10 years	463,554	506,631	1,241	1,356	1,160	1,924	1,160	1,924
ii.	1 in 10 years + 10%	509,910	557,295	1,365	1,492	1,276	2,116	1,276	2,116
iii.	1 in 35 years	484,050	530,261	1,296	1,419	1,282	1,932	0	0
iv.	1 in 35 years + 10%	532,455	583,287	1,425	1,561	1,410	2,125	0	0
	Avera i. ii. iii. Abno i. ii. iv. Avera i. ii. iii. iv. Abno i. ii. ii. ii. ii. ii. ii. ii. ii. ii.	<ul> <li>ii. Average Year + 10%</li> <li>iii. Average Year + 20%</li> <li>Abnormally Cold Year Scenarios <ol> <li>1 in 10 years</li> <li>1 in 10 years + 10%</li> <li>1 in 35 years</li> <li>1 in 35 years + 10%</li> </ol> </li> <li>Average Year and Abnormally Dry Year <ol> <li>1 in 10 years</li> <li>1 in 10 years + 10%</li> </ol> </li> <li>Average Year and Abnormally Dry Year <ol> <li>1 in 10 years</li> <li>1 in 10 years + 10%</li> </ol> </li> <li>Abnormally Cold and Dry Year Scenarion <ol> <li>1 in 10 years</li> <li>1 in 10 years + 10%</li> </ol> </li> </ul>	$\begin{tabular}{ c c c c c c } \hline & & & & & & & & & & & & & & & & & & $	$\begin{tabular}{ c c c c c c } \hline & & & & & & & & & & & & & & & & & & $	$\begin{array}{ c c c c c c } \hline & \hline $	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $

#### SoCalGas (Noncore-Retail)

Notes

<sup>1</sup> Peak day calculations not meaningful for average-temperature-year HDD scenarios

1.0235

BTU Factor

# SoCalGas Responses to CPUC Data Requests, R.04-01-025 Table Q.1-EG

State	Trans Area	Unit Name	Unit No	Max Rating	Fuel Name	Full Load HR	Installation Date
	Additions:	(expected after Jan 1, 2004)					
CA	CSCE	MtView	1	264.00	NG CA/AZ	7100	01/01/2006
CA	CSCE	MtView	2	264.00	NG CA/AZ	7100	01/01/2006
CA	CSCE	MtView	3	264.00	NG CA/AZ	7100	01/01/2006
CA	CSCE	MtView	4	264.00	NG CA/AZ	7100	01/01/2006
CA	CSCE	Generic	1	360.00	NG CA/AZ	7100	06/01/2012
CA	CSCE	Generic	2	360.00	NG CA/AZ	7100	06/01/2012
CA	CSCE	Generic	3	360.00	NG CA/AZ	7100	06/01/2012
CA	CSCE	Generic	4	260.00	NG CA/AZ	7100	01/01/2014
CA	CSCE	Generic	5	260.00	NG CA/AZ	7100	01/01/2014
CA	CSCE	Generic	6	360.00	NG CA/AZ	7100	12/31/2014
CA	CSCE	Generic	7	360.00	NG CA/AZ	7100	12/31/2014
CA	CSCE	Generic	8	360.00	NG CA/AZ	7100	12/31/2014
CA	CSDGE	Generic-Palomar	1	255.00	NG OtayMesa	7100	06/01/2006
CA	CSDGE	Generic-Palomar	2	255.00	NG OtayMesa	7100	06/01/2006
CA	CSDGE	Generic	3	250.00	NG Sempra	7100	06/01/2014
CA	CSDGE	Generic	4	250.00	NG Sempra	7100	06/01/2014
CA	LADWP	Haynes CC	3	250.00	NG Sempra	7100	07/01/2006
CA	LADWP	Haynes CC	4	250.00	NG Sempra	7100	07/01/2006
CA	LADWP	Generic	1	250.00	NG Sempra	7100	06/01/2012
	Retirements:						Retirement Date
CA	LADWP	Valley WSCC	3	160	NG Sempra		06/01/2003
CA	LADWP	Valley WSCC	4	160	NG Sempra		06/01/2003
CA	LADWP	Haynes	3	222	NG Sempra		01/01/2006
CA	LADWP	Haynes	4	222	NG Sempra		01/01/2006

#### **QUESTION 2.a**

For each of the scenarios in Question 1, a. (i-iii) through d. (i-iv) above please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 the infrastructure needed for Your Utility's forecasts identified below.

- a. Intrastate pipeline capacity necessary to meet demand in service territory:
  - i. Total intrastate pipeline capacity necessary for service territory.
  - ii. Intrastate pipeline capacity necessary for core customers.
  - iii. Intrastate pipeline capacity necessary for noncore customers.

# **RESPONSE 2.a**

2.a.i Response 1.a.i-iii through 1d.i-iv contains both annual average daily demand forecasts and peak day forecasts for a variety of service scenarios. The annual average daily demand forecasts provided in columns (c) and (d) in Response 1 would be used to assess the receipt capacity of the SoCalGas system. The peak day forecasts (1-in-10 year cold day and 1-in-35 year cold day) provided in columns (e), (f), (g) and (h) would be used to assess the adequacy of the SoCalGas system to serve customer demand.

The majority of the demand forecasts provided in Response 1.a.i-iii through 1.d.i-iv do not represent SoCalGas' design conditions as approved by the Commission in Decision No. (D.) 02-11-073. SoCalGas designs its system to provide uninterrupted service to core customers only during a 1-in-35 year cold day event, and to both core and firm noncore customers during a 1-in-10 year cold day event. SoCalGas also designs its system to maintain a 15-20% "slack capacity" for gas deliveries (receipts) relative to average year – normal hydro conditions. The demand forecasts that most represent SoCalGas' design conditions are those presented in columns (g) and (h) for scenario 1.b.i and 1.b.iii (1-in-10 and 1-in-35 year cold day), and those in columns (c) and (d) for scenario 1.a.i (slack capacity).

Table Q.2.a indicates the additional total intrastate capacity that might be needed for each hypothetical demand scenario provided in 1.a.i-iii through 1.d.i-iv. Annual average forecasts were compared to SoCalGas' current receipt point capacity of 3,875 MMcfd in order to assess slack capacity. Peak-day demand forecasts were compared to SoCalGas' current system sendout capacity of 6.0 BCFD. SoCalGas has not evaluated in detail any of the scenarios presented in 1.a.i-iii through 1.d.i-iv in order to identify the specific infrastructure improvements needed to meet the hypothetical demand scenario. Such an analysis would be dependent upon the type, location, and seasonality of the incremental load.

However, in its Cost of Service Application, A.02-12-027, and its Biennial Cost Allocation Proceeding (BCAP) Application, A.03-09-008, SoCalGas identified several contingency projects for its backbone transmission system that would add 200 MMcfd of receipt capacity and could be completed if demand conditions warrant. These improvements involved incremental compression and/or pipeline on the SoCalGas system, and ranged from \$8 million to \$153 million estimated. These projects are also shown in Table Q.5.b.

#### **RESPONSE 2.a.** (continued)

SoCalGas also identified improvements in constrained areas of its local transmission system that modestly increase the capacity to serve customer demand. These projects in the Imperial Valley and San Joaquin Valley increase the local transmission capacities by approximately 10 MMcfd each, involve new pipeline in the Imperial Valley and new compression in the San Joaquin Valley, and expand the local transmission capacity by 30 MMcfd (San Joaquin Valley) and 15 MMcfd (Imperial Valley).

- 2.a.ii Please refer to the 1-in-35 year peak day demand scenarios presented in columns (g) and (h) as shown in Table Q.2.a.
- 2.a.iii Noncore demand is included in all forecasts prepared for 1.a.i-iii through 1.d.i-iv, except for the 1-in-35 year peak day demand scenarios presented in columns (g) and (h). Any capacity additions identified in 2.a.i, above, for these forecasts are required to meet the demand forecasts for both core and noncore customer classes. Individually, sufficient capacity exists to serve either customer class by itself. Capacity additions are only required when service to both customer classes is provided.

#### Attachment:

- Table Q.2.

#### SoCalGas Responses to CPUC Data Requests, R.04-01-025 Table Q.2.a

- Question 2. For each of the scenarios in 1. a. i-iii through d. i-iv above please provide in aggregate amounts on an MMcfd basis for Calendar Years 2006 and 2016 the infrastructure needed for Your Utility's forecasts identified below
  - a. Intrastate pipeline capacity necessary to meet demand in service territory
    - i. Total intrastate pipeline capacity necessary for service territory
    - ii. Intrastate pipeline capacity necessary for core customers
    - iii. Intrastate pipeline capacity necessary for noncore customers

#### Response 2.a.i-iii

# SoCalGas (All Markets)

			Capacity needed for	slack analysis	Capacity needed for	or Peak-Day	Capacity needed for	or Peak-Day
	Scena	ario	Demand Forea	acst/365	All segments I	included	Noncore curtailed	for 1-in-35
			2006	2016	2006	2016	2006	2016
			MMCFD	MMCFD	MMCFD	MMCFD	MMCFD	MMCFD
			(c)	(d)	(e)	(f)	(g)	(h)
a.	Avera	age Year Scenarios						
	i.	Average Year	0	0	$N/A^1$	N/A	N/A	N/A
	ii.	Average Year + 10%	0	0	N/A	N/A	N/A	N/A
	iii.	Average Year + 20%	0	0	N/A	N/A	N/A	N/A
b.	Abno	rmally Cold Year Scenarios						
	i.	1 in 10 years	0	0	0	0	0	0
	ii.	1 in 10 years + 10%	0	0	0	92	0	92
	iii.	1 in 35 years	0	0	0	0	0	0
	iv.	1 in 35 years + 10%	0	0	0	490	0	0
c.	Avera	age Year and Abnormally Dry Yea	r Scenarios					
	i.	1 in 10 years	0	0	N/A	N/A	N/A	N/A
	ii.	1 in 10 years + 10%	0	0	N/A	N/A	N/A	N/A
	iii.	1 in 35 years	0	0	N/A	N/A	N/A	N/A
	iv.	1 in 35 years + 10%	0	0	N/A	N/A	N/A	N/A
d.	Abno	rmally Cold and Dry Year Scenari	os					
	i.	1 in 10 years	0	0	0	135	0	135
	ii.	1 in 10 years + 10%	0	0	0	748	0	748
	iii.	1 in 35 years	0	0	0	487	0	0
	iv.	1 in 35 years + 10%	0	0	0	1,136	0	0

#### Notes

<sup>1</sup> Peak day calculations not meaningful for average-temperature-year HDD scenarios

#### **QUESTION 2.b and 2.c**

For each of the scenarios in Question 1, a. (i-iii) through d. (i-iv) above please provide in aggregate amounts on an MMcf/d basis for Calendar Years 2006 and 2016 the infrastructure needed for Your Utility's forecasts identified below.

- b. Storage capacity necessary to meet demand:
  - i. Total storage capacity necessary for service territory.
  - ii. Storage capacity necessary for core customers.
  - iii. Storage capacity necessary for noncore customers.
- c. Interstate pipeline capacity necessary to meet demand: <sup>1</sup>
  - i. Total interstate capacity necessary for service territory.
  - ii. Interstate pipeline capacity necessary for core customers.
  - iii Interstate pipeline capacity necessary for noncore customers.

## **RESPONSE 2.b and 2.c**

- b. Please see Table Q.2.b/c.
- c. Please see Table Q.2.b/c.

Attachment:

- Table Q.2.b/c

<sup>&</sup>lt;sup>1</sup> "Interstate pipeline capacity" as used in this particular data request refers to firm transportation rights on interstate pipelines for Calendar Year 2006, but for Calendar Year 2016 more generally refers to access to out-of-state supplies of natural gas, whether transported on interstate pipelines to California or imported and shipped to Liquefied Natural Gas (LNG) facilities which access California's natural gas market.

#### SoCalGas Responses to CPUC Data Requests, R.04-01-025 Table Q.2.b/c -- Total Capacity

Question 2. For each of the scenarios in 1.a I-111 through d. I-iv above please provide in aggregate amounts on an MMcf/d basis for Calendar

Years 2006 and 2016 the infrastructure needed for Your Utility's forecasts identified below.

a. Intrastate Capacity necessary to meet demand in service territory - Total, core, non core

b. Storage Capacity necessary to meet demand - Total, core, non-core

c. Interstate pieline capacity necessary to meet demand - Total, core non-core

Response 2. Please see spreadsheet below.

# Please note that under SoCalGas' Commission approved planning guidelines service is provided to all core and non-core customers on a 1 in 10 cold peak day and non-core service is curtailed on a 1 in 35 year cold peak day.

		Avg Annual Intrast Require	e Cap.	Avg Annual Intersta Require	te Cap.	Avg Annual Stor. W Require	/drwl ements	Avg Annual & Invent Requirer	ory nents	Require	etion ements
		2006	2016	2006	2016	2006	2016	2006	2016	2006	2016
		MMCFD (i)	MMCFD (j)	MMCFD (k)	MMCFD (l)	MMCFD (m)	MMCFD (n)	BCF (0)	BCF (p)	MMCFD (q)	MMCFD (r)
a Average	Year Scenarios	(1)	0)	(K)	(1)	(11)	(11)	(0)	(P)		(1)
i.	Average Year	2,536	2,793	2,536	2,793	856	949	109	120	581	647
ii.	Average Year + 10%	2,790	3,072	3,016	3,072	915	1,017	116	128	585	651
iii.	Average Year + 20%	3,043	3,351	3,290	3,351	933	1,038	117	120	620	693
	Ily Cold Year Scenarios	-,	-,	-,	-,		-,				
i.	1 in 10 years Peak Day	4,810	5,538	2,755	2,868	2,237	2,503	110	122	585	651
ii.	1 in 10 years $+$ 10% Peak Day	5,292	6,092	3,030	3,155	2,439	2,730	117	130	589	694
iii.	1 in 35 years Peak Day	5,136	5,900	2,760	2,906	2,549	2,852	110	122	585	651
iv.	1 in 35 years + 10% Peak Day	5,649	6,490	3,036	3,197	2,784	3,114	117	130	621	694
c. Average	Year and Abnormally Dry Year Scenarios										
i.	1 in 10 years	2,694	2,992	2,900	2,992	856	948	109	120	581	645
ii.	1 in 10 years + 10%	2,964	3,291	3,190	3,291	915	1,015	116	128	617	687
iii.	1 in 35 years	2,751	3,065	2,957	3,065	856	948	109	120	581	645
iv.	1 in 35 years + 10%	3,027	3,371	3,253	3,371	915	1,015	116	128	617	687
d. Abnorma	Ily Cold and Dry Year Scenarios										
i.	1 in 10 years Peak Day	4,954	6,135	2,913	3,068	2,238	2,503	110	121	586	651
ii.	1 in 10 years + 10% Peak Day	5,450	6,748	3,204	3,374	2,440	2,730	117	130	622	694
iii.	1 in 35 years Peak day	5,394	6,487	3,352	3,178	2,550	2,851	110	121	586	651
iv.	1 in 35 years + 10% peak Day	5,933	7,136	3,687	3,496	2,785	3,113	117	130	622	694
	Current SoCalGas Core Capacities	3,355		1,062		1,935		70		327	
	Current Total SoCalGas Capacities	6,000		1,608		3,177		118		825	
	Current SoCalGas System Receipt Caj	pacities		3,875							

#### SoCalGas Responses to CPUC Data Requests, R.04-01-025 Table Q.2.b/c -- Core Capacity

Question 2. For each of the scenarios in 1.a I-111 through d. I-iv above please provide in aggregate amounts on an MMcf/d basis for Calendar

Years 2006 and 2016 the infrastructure needed for Your Utilitiy's forecasts identified below.

a. Intrastate Capacity necessary to meet demand in service territory - core

b. Storage Capacity necessary to meet demand - core

c. Interstate pieline capacity necessary to meet demand - core

Response: Please see spreadsheet below.

		Avg. Yr & Core Intra Require	aste Cap.	Avg. Yr & Core Inter Require	state Cap.	Avg. Yr & Core Stor Require	. Wdrwl	Avg. Yr & Core Inv Require	rentory	Avg. Yr & Core In Require	jection
		2006	2016	2006	2016	2006	2016	2006	2016	2006	2016
		MMCFD (i)	MMCFD (j)	MMCFD (k)	MMCFD (l)	MMCFD (m)	MMCFD (n)	BCF (0)	BCF (p)	MMCFD (q)	MMCFD (r)
a Average	Year Scenarios	(1)	0)	(K)	(1)	(11)	(II)	(0)	(P)	(q)	(1)
i.	Average Year	1,049	1,172	1,234	1,378	464	503	70	76	337	370
ii.	Average Year + 10%	1,154	1,289	1,357	1,516	503	550	76	83	337	370
iii.	Average Year + 20%	1,259	1,406	1,481	1,654	503	550	76	83	370	408
	lly Cold Year Scenarios	-,>	-,	-,	-,						
i.	1 in 10 years Peak Day	3,059	3,414	1,234	1,378	1,802	2,010	70	76	337	370
ii.	1 in 10 years + 10% Peak Day	3,365	3,756	1,357	1,516	1,983	2,212	76	83	337	408
iii.	1 in 35 years Peak Day	3,355	3,744	1,234	1,378	2,093	2,334	70	76	337	370
iv.	1 in 35 years + 10% Peak Day	3,691	4,119	1,357	1,516	2,302	2,567	76	83	370	408
c. Average	Year and Abnormally Dry Year Scenarios										
i.	1 in 10 years	1,049	1,172	1,234	1,378	464	503	70	76	337	370
ii.	1 in 10 years + 10%	1,154	1,289	1,357	1,516	503	550	76	83	370	408
iii.	1 in 35 years	1,154	1,289	1,234	1,378	464	503	70	76	337	370
iv.	1 in 35 years + 10%	1,269	1,418	1,357	1,516	503	550	76	83	370	408
d. Abnorma	lly Cold and Dry Year Scenarios										
i.	1 in 10 years Peak Day	3,059	3,414	1,234	1,378	1,802	2,010	70	76	337	370
ii.	1 in 10 years + 10% Peak Day	3,365	3,756	1,357	1,516	1,983	2,212	76	83	370	408
iii.	1 in 35 years Peak Day	3,355	3,744	1,234	1,378	2,093	2,334	70	76	337	370
iv.	1 in 35 years + 10% Peak Day	3,691	4,119	1,357	1,516	2,302	2,567	76	83	370	408
	Current SoCalGas Core Capacities	3,355		1,062		1,935		70		327	
	Current Total SoCalGas Capacities	6,000		1,608		3,177		118		825	
	Current SoCalGas System Receipt Car	<u>pacities</u>		3,875							

#### SoCalGas Responses to CPUC Data Requests, R.04-01-025 Table Q.2.b/c -- Illustrative Noncore Capacity

Question 2. For each of the scenarios in 1.a I-111 through d. I-iv above please provide in aggregate amounts on an MMcf/d basis for Calendar

Years 2006 and 2016 the infrastructure needed for Your Utilitiy's forecasts identified below.

a. Intrastate Capacity necessary to meet demand in service territory - non core

b. Storage Capacity necessary to meet demand - non-core

c. Interstate pieline capacity necessary to meet demand - non-core

Response: Please see spreadsheet below.

			Requirements		Non Core In Require		Core Stor Requirer		Core Inv Requiren	5	Core In Require
			2006 MMCFD (i)*	<b>2016</b> MMCFD (j)*	2006 MMCFD (k)	2016 MMCFD (l)	2006 MMCFD (m)	<b>2016</b> MMCFD (n)	2006 BCF (0)	<b>2016</b> BCF (p)	<b>2006</b> MMCFD (q)
a.	Average	Year Scenarios	`				· · · · ·		· · · · ·		
	i.	Average Year	1,144	1,238	1,089	1,179	208	235	31	36	208
	ii.	Average Year + 10%	1,258	1,362	1,198	1,297	208	235	31	36	208
	iii.	Average Year + 20%	1,373	1,486	1,307	1,415	208	235	31	36	208
b.	Abnorma	ally Cold Year Scenarios									
	i.	1 in 10 years	1,146	1,240	1,091	1,181	207	234	31	35	207
	ii.	1 in 10 years + 10%	1,260	1,364	1,200	1,299	207	234	31	35	207
	iii.	1 in 35 years	1,147	1,241	1,092	1,182	207	234	31	35	207
	iv.	1 in 35 years + 10%	1,261	1,365	1,201	1,300	207	234	31	35	207
c.	Average	Year and Abnormally Dry Year Scenarios									
	i.	1 in 10 years	1,301	1,422	1,239	1,354	208	234	31	35	208
	ii.	1 in 10 years + 10%	1,431	1,564	1,363	1,490	208	234	31	35	208
	iii.	1 in 35 years	1,358	1,488	1,293	1,417	208	234	31	35	208
	iv.	1 in 35 years + 10%	1,494	1,636	1,422	1,559	208	234	31	35	208
d.	Abnorma	ally Cold and Dry Year Scenarios									
	i.	1 in 10 years	1,303	1,424	1,241	1,356	208	233	31	35	208
	ii.	1 in 10 years + 10%	1,433	1,566	1,365	1,492	208	233	31	35	208
	iii.	1 in 35 years	1,361	1,490	1,296	1,419	208	233	31	35	208
	iv.	1 in 35 years + 10%	1,497	1,639	1,425	1,561	208	233	31	35	208
			*Includes 5%	Balancing					* Based on Ex		
		Current SoCalGas Core Capacities	3,691		1,044		1,935		Monthly Den 70	nand	327
			,		,		,				
		Current Total SoCalGas Capacities	6,000		1,608		3,177		118		825
		Current SoCalGas System Receipt Capa	acities		3,875						

# SoCalGas Responses to CPUC Data Requests, R.04-01-025 Table Q.2.b/c -- Illustrative Noncore Capacity

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#### SoCalGas Responses to CPUC Data Requests, R.04-01-025 Table Q.2.b/c -- Illustrative Wholesale Capacity

Question 2. For each of the scenarios in 1.a I-111 through d. I-iv above please provide in aggregate amounts on an MMcf/d basis for Calendar

Years 2006 and 2016 the infrastructure needed for Your Utility's forecasts identified below.

a. Intrastate Capacity necessary to meet demand in service territory - non core - (Wholesale)

b. Storage Capacity necessary to meet demand - non-core (Wholesale)

c. Interstate pieline capacity necessary to meet demand - non-core (Wholesale)

Response: Please see spreadsheet below.

		Peak Noncore Int Require	rastate Cap. ements	Peak Noncore Int Require	erstate Cap. ements	Peak Core Stor Require	. Wdrwl ments*	Core Inv Requiren	nents*	Core In Require	ments*
		2006 MMCFD	2016 MMCFD	2006 MMCFD	2016 MMCFD	2006 MMCFD	2016 MMCFD	2006 BCF	2016 BCF	2006 MMCFD	2016 MMCFD
a Avaraga	Voor Soonarios	(i)*	(j)*	(k)	(1)	(m)	(n)	(0)	(p)	(q)	(r)
	Year Scenarios Average Year	439	488	418	465	185	211	8	9	36	42
1.	C					204					
ii. 	Average Year + 10%	483	537	460	511		232	8	10	40	46
iii.	Average Year + 20%	527	586	502	558	222	253	9	11	43	50
	ally Cold Year Scenarios		-00	120			2.50	0	10		10
i.	1 in 10 years	451	500	430	477	228	259	9	10	41	48
ii.	1 in 10 years + 10%	496	551	473	524	250	285	10	11	45	53
iii.	1 in 35 years	456	505	434	481	250	284	9	10	41	48
iv.	1 in 35 years + 10%	501	556	477	529	275	313	10	11	45	53
c. Average	Year and Abnormally Dry Year Scenarios										
i.	1 in 10 years	448	513	427	489	185	211	8	9	36	42
ii.	1 in 10 years + 10%	493	565	470	538	204	232	8	10	40	46
iii.	1 in 35 years	452	524	430	499	185	211	8	9	36	42
iv.	1 in 35 years + 10%	497	577	473	549	204	232	8	10	40	46
d. Abnorma	ally Cold and Dry Year Scenarios										
i.	1 in 10 years	460	526	438	501	228	259	9	10	41	48
ii.	1 in 10 years $+$ 10%	506	578	482	551	250	285	10	11	45	53
iii.	1 in 35 years	468	542	446	516	250	284	9	10	41	48
iv.	1  in  35  years + 10%	515	596	490	567	275	313	10	11	45	53

\*Includes 5% Balancing

\* Based on Excess Monthly Demand

#### **QUESTION 3**

Please provide information concerning the firm interstate pipeline transportation contracts (with California primary delivery points) held by California Natural Gas Public Utilities and by Other Entities <sup>1</sup>

- a. Provide the amount of firm transportation rights Your Utility currently has on each interstate pipeline to California.
- b. Provide the total amount of firm interstate pipeline transportation rights currently held by Other Entities (with primary delivery points to California) on each of the following interstate pipelines:
  - i. El Paso Natural Gas Company
  - ii. Transwestern Pipeline Company
  - iii. Gas Transmission Northwest Corporation
  - iv. Kern River Gas Transmission Company (Kern River)
- c. Provide the total amount of firm interstate pipeline transportation rights held by California Natural Gas Public Utilities or Other Entities which had primary delivery points to California in Calendar Year 2000 but now have primary delivery points to markets other than California due to long-term capacity releases on each of the following interstate pipelines: <sup>2</sup>
  - i. El Paso Natural Gas Company
  - ii. Transwestern Pipeline Company
  - iii. Gas Transmission Northwest Corporation
  - iv. Kern River
- d. Provide the total amount of firm interstate pipeline transportation rights which will be held by Other Entities (with primary delivery points to California) on each of the following interstate pipelines in Calendar Years 2005, 2006 and 2007.<sup>3</sup>
  - i. El Paso Natural Gas Company
  - ii. Transwestern Pipeline Company
  - iii. Gas Transmission Northwest Corporation
  - iv. Kern River
- e. Please provide a general description of any contingency plan Your Utility currently has in place to the extent that Other Entities do not subscribe to a sufficient amount of firm interstate pipeline transportation rights to California in order to serve the noncore market in Calendar Years 2005, 2006 and 2007.

<sup>&</sup>lt;sup>1</sup> The phrase "Other Entities" as used in this data request refers to participants in the noncore market in California, whether end-users (e.g., generators or industrial customers) or marketers which sell natural gas to end-users in California. Southwest Gas only needs to identify for its response to this data request the firm transportation rights Your Utility has on interstate pipelines to serve its California customers, and a breakdown of its core customers and noncore customers' demand (by volumes and percentages).

 $<sup>\</sup>frac{2}{2}$  If Your Utility is unable to answer some or all of this particular data request, please provide partial answers where you can and explain why you are unable to provide fuller requests.

 $<sup>\</sup>frac{3}{2}$  If Your Utility is unable to answer some or all of this particular data request, please provide partial answers where you can and explain why you are unable to provide fuller responses.

#### **RESPONSE 3**

- a. Please see Table Q.4 in SoCalGas Response to Question 4.
- b. Please see Table Q.3. This information was obtain from each of the pipelines electronic bulletin boards and does not include any capacity release transactions. SoCalGas did not provide information regarding interstate capacity customers on the Gas Transmission Northwest Corporation as it does not connect to the SoCalGas system.
- c. The only long-term capacity release known by SoCalGas where there has been a primary delivery point change is as follows:

Panda Gila River, L. P.	
Quantity:	100,000 MMBtu/d
Term:	May 1, 2003 – August 31, 2006
Original Delivery Point:	Mojave Topock
New Delivery Point:	Panda Gila River, Maricopa County, Arizona

The primary delivery point will revert back to the original California delivery point (Mojave Topock) at the termination of the capacity release, August 31, 2006.

- d. Please see response to Question 3b, above, and Table Q.3.
- e. SoCalGas does not have any contingency plans in place to the extent that Other Entities do not subscribe to a sufficient amount of firm interstate pipeline transportation rights to California in order to serve the noncore market. SoCalGas does not believe it is appropriate for it to hold firm interstate pipeline capacity to meet the needs of its noncore customers.

#### Attachment:

- Table Q.3

#### SoCalGas Responses to CPUC Data Requests, R.04-01-025 Table Q.3 Transwestern Pipeline Interstate Transportation Contracts (with California primary delivery points) as of 2/4/2004

Shipper	Contract #	Rate Schedule	Effective Date	Expiration Date	Point Name	Transport Quantity (MMBtu)
ABQ ENERGY GROUP	100094	FTS-1	04/01/2003	10/31/2004	SOCAL NEEDLES	1,054
AGAVE ENERGY CO.	100248	FTS-1	01/01/2004		SOCAL NEEDLES	70,000
AGAVE ENERGY CO.	100248	FTS-1	02/01/2004	10/31/2005	SOCAL NEEDLES	70,000
ASTRA POWER LLC	100137	FTS-1	12/12/2003	03/31/2004	SOCAL NEEDLES	30,000
ASTRA POWER LLC	100137	FTS-1	04/01/2004	10/31/2004	SOCAL NEEDLES	30,000
ASTRA POWER LLC	100137	FTS-1	11/01/2004	05/31/2005	SOCAL NEEDLES	30,000
BP ENERGY COMPANY	25071	FTS-1	11/01/2003	11/30/2008	SOCAL NEEDLES	90,000
BP ENERGY COMPANY	27803	FTS-1	05/22/2003	12/31/2004	SOCAL NEEDLES	25,000
BP ENERGY COMPANY	100050	FTS-1	11/01/2002	06/14/2012	SOCAL NEEDLES	15,000
BP ENERGY COMPANY	100249	FTS-1	01/01/2004	01/31/2004	THOREAU/SAN JUAN AREA BOUNDARY	50,000
BP ENERGY COMPANY	100749	FTS-1	10/01/2003	10/31/2005	SOCAL NEEDLES	40,000
BURLINGTON RESOURCES TRADING	100204	FTS-1	01/01/2004	01/31/2004	THOREAU/SAN JUAN AREA BOUNDARY	3,500
CHEVRON U.S.A. INC.	25923	FTS-1	05/03/2001	02/28/2007	THOREAU/SAN JUAN AREA BOUNDARY	20,000
CHEVRON U.S.A. INC.	25924	FTS-1	03/06/2001	02/28/2007	MOJAVE TOPOCK	20,000
CONOCOPHILLIPS COMPANY	27566	FTS-1	06/01/2003	03/31/2007	SOCAL NEEDLES	20,000
CONOCOPHILLIPS COMPANY	100823	FTS-1	01/01/2004	04/30/2005	SOCAL NEEDLES	40,000
CONOCOPHILLIPS COMPANY	100825	FTS-1	01/01/2004	12/31/2005	SOCAL NEEDLES	10,000
DUKE ENERGY TRADING AND MARKETING	26371	FTS-1	11/01/1999	03/31/2007	THOREAU/SAN JUAN AREA BOUNDARY	25,000
DUKE ENERGY TRADING AND MARKETING	26372	FTS-1	05/17/2001	03/31/2007	THOREAU/SAN JUAN AREA BOUNDARY	25,000
DUKE ENERGY TRADING AND MARKETING	100119	FTS-1	11/01/2002	12/31/2004	THOREAU/SAN JUAN AREA BOUNDARY	25,000
EL PASO MERCHANT ENERGY	26677	FTS-1	06/01/2003	03/31/2007	THOREAU/SAN JUAN AREA BOUNDARY	15,000
EL PASO MERCHANT ENERGY	26678	FTS-1	06/01/2003	03/31/2007	THOREAU/SAN JUAN AREA BOUNDARY	15,000
EL PASO MERCHANT ENERGY	100109	FTS-1	06/01/2003	05/31/2004	SOCAL NEEDLES	8,600
FRITO LAY INC	100048	FTS-1	06/15/2002	06/14/2017	SOCAL NEEDLES	2,700
MIRANT CORPORATION	26719	FTS-1	06/17/2000	04/30/2005	SOCAL NEEDLES	25,000
ONEOK ENERGY MARKETING AND TRADING	100054	FTS-1	06/15/2003	03/31/2004	SOCAL NEEDLES	5,000
PPL ENERGYPLUS	100052	FTS-1	06/15/2002	07/14/2032	SOCAL NEEDLES	12,000
RELIANT ENERGY SERVICES	26819	FTS-1	12/01/2003	04/30/2005	SOCAL NEEDLES	10,000
SEMPRA ENERGY TRADING CORP.	26816	FTS-1	01/01/2004	04/30/2005	SOCAL NEEDLES	21,500
SEMPRA ENERGY TRADING CORP.	26816	FTS-1	04/30/2005	04/30/2005	SOCAL NEEDLES	21,500
SEMPRA ENERGY TRADING CORP.	27504	FTS-1	01/01/2004	01/31/2004	SOCAL NEEDLES	6,500
SEMPRA ENERGY TRADING CORP.	27504	FTS-1	02/01/2004	12/31/2005	SOCAL NEEDLES	35,000
SOUTHERN CALIFORNIA GAS COMPANY	8255	FTS-1	11/01/2002	10/31/2005	SOCAL NEEDLES	306,000
SOUTHERN CALIFORNIA GAS COMPANY	20715	FTS-1	05/22/1997		THOREAU/SAN JUAN AREA BOUNDARY	200,000
SOUTHWEST GAS CORPORATION	27252	FTS-1	11/01/2003	03/31/2004	TW/SGTC MOJAVE DEL.	14,000
SOUTHWEST GAS CORPORATION	27252	FTS-1	11/01/2004	03/31/2005	TW/SGTC MOJAVE DEL.	14,000
SOUTHWEST GAS CORPORATION	27252	FTS-1	11/01/2005	03/31/2006	TW/SGTC MOJAVE DEL.	14,000

#### SoCalGas Responses to CPUC Data Requests, R.04-01-025 Table Q.3 Transwestern Pipeline Interstate Transportation Contracts (with California primary delivery points) as of 2/4/2004

Shipper	Contract #	Rate Schedule	Effective Date	Expiration Date	Point Name	Transport Quantity (MMBtu)
SOUTHWEST GAS CORPORATION	27252	FTS-1	11/01/2006	03/31/2007	TW/SGTC MOJAVE DEL.	14,000
SOUTHWEST GAS CORPORATION	27252	FTS-1	11/01/2007		TW/SGTC MOJAVE DEL.	14,000
		FTS-1				,
SOUTHWEST GAS CORPORATION	27252		11/01/2008		TW/SGTC MOJAVE DEL.	14,000
SOUTHWEST GAS CORPORATION	27252	FTS-1	11/01/2009		TW/SGTC MOJAVE DEL.	14,000
TXU ENERGY TRADING COMPANY LP	26960	FTS-1	04/01/2002	03/31/2004	SOCAL NEEDLES	20,000
UNITED STATES GYPSUM COMPANY	100051	FTS-1	07/03/2002	09/14/2014	SOCAL NEEDLES	4,500
UNS GAS	20822	FTS-1	11/01/2003	02/28/2007	THOREAU/SAN JUAN AREA BOUNDARY	25,000
UNS GAS	20834	FTS-1	11/01/2003	02/28/2007	THOREAU/SAN JUAN AREA BOUNDARY	25,000
VIRGINIA POWER ENERGY MARKETING	100220	FTS-1	11/01/2003	03/31/2004	THOREAU/SAN JUAN AREA BOUNDARY	50,000
VIRGINIA POWER ENERGY MARKETING	100220	FTS-1	04/01/2004	06/30/2004	THOREAU/SAN JUAN AREA BOUNDARY	50,000
VIRGINIA POWER ENERGY MARKETING	100220	FTS-1	07/01/2004	09/30/2004	THOREAU/SAN JUAN AREA BOUNDARY	50,000
VIRGINIA POWER ENERGY MARKETING	100220	FTS-1	10/01/2004	03/31/2005	THOREAU/SAN JUAN AREA BOUNDARY	50,000
VIRGINIA POWER ENERGY MARKETING	100220	FTS-1	04/01/2005	06/30/2005	THOREAU/SAN JUAN AREA BOUNDARY	50,000
VIRGINIA POWER ENERGY MARKETING	100220	FTS-1	07/01/2005	09/30/2005	THOREAU/SAN JUAN AREA BOUNDARY	50,000
VIRGINIA POWER ENERGY MARKETING	100220	FTS-1	10/01/2005	03/31/2005	THOREAU/SAN JUAN AREA BOUNDARY	50,000
WESTERN GAS RESOURCES INC	27745	FTS-1	06/01/2002		THOREAU/SAN JUAN AREA BOUNDARY	10,000
WESTERN GAS RESOURCES INC	100049	FTS-1	01/01/2004		SOCAL NEEDLES	10,000

Shipper Name	Contract #	Contract MDQ	Rate Schedule	Contract Effective Date	Contract Termination Date	Evergreen Indicator	Point Name	Individual Point Quantity	Total CA Point Quantity (9)	Footnote
AERA ENERGY LLC	1007	51,750	SH-1	05/06/1992	09/30/2016	Y	SE Kern River - Chevron USA	6,000		
							N Kern River - Chevron USA	2,500		
							Mt Poso - Chevron USA	275		
							Wheeler Ridge - SoCal Gas	8,750		
							North Midway - Aera Energy	4,775	- 4	
		45 400		05/04/0000	0.4/00/0040		17Z Shell - Aera Energy	41,450	51,750	
ALLEGHENY ENERGY SUPPLY COMPANY, LLC	1711	45,122	KRF-1	05/01/2003	04/30/2018		Wheeler Ridge - SoCal Gas	25,122		
	1005			05/04/4000	00/00/0040		Kramer Junction - SoCal	20,000	45,122	1
ANADARKO E&P COMPANY LP	1005	77,625	UP-1	05/01/1992	09/30/2016	Y	China Grade - Duke ET&M	15,600	00-	
	4700	00.000		05/04/0000	04/00/0040		Wheeler Ridge - SoCal Gas	67,350	77,625	
BP ENERGY COMPANY	1702	20,000	KRF-1	05/01/2003	04/30/2013	X	17Z Chevron - Chevron USA	20,000	20,000	)
BP ENERGY COMPANY	1000	51,750	KRF-1	03/01/1992	09/30/2011	Y	Wheeler Ridge - SoCal Gas	31,569		
							Midway Santa Fe - Chevron USA	8,900		
							Oxford - Aera Energy	10,000		
							Crocker Springs - Aera Energy Kern River Santa Fe - Chevron USA	17,500 1,100	51.750	
CALIFORNIA DEPARTMENT OF WATER RESOURCES	1724	85,000	KRF-1	05/01/2003	04/30/2018		Sunrise - Sunrise Power	,	85,000	
CALIFORNIA DEPARTMENT OF WATER RESOURCES	1724	50,000 50,000	KRF-1	05/01/2003	04/30/2018		Wheeler Ridge - SoCal Gas	85,000 50,000	50,000	
CALPINE ENERGY SERVICES, L.P. CALPINE ENERGY SERVICES, L.P.	1703	50,000 50,000	KRF-1	05/01/2003	04/30/2018		Daggett - PG&E	50,000 42,835	50,000	,
CALFINE ENERGY SERVICES, L.F.	1705	50,000		05/01/2003	04/30/2018		Wheeler Ridge - SoCal Gas	42,835	50,000	
CHEVRON USA INC.	1002	77,625	CH-1	06/01/1992	09/30/2016	Y	Coolwater - Reliant Energy	1,000	50,000	,
CHEVICON USA INC.	1002	11,025	CH-1	00/01/1992	09/30/2010		Racetrack - Chevron USA	1,000		
							Kern River Chevron - Chevron USA	15,500		
							Kern Front - El Paso Merchant	20,000		
							Wheeler Ridge - SoCal Gas	65,000		
							South Midway - Aera Energy	5,000		
							Taft - Chevron USA	15,000		
							Midway Santa Fe - Chevron USA	1,000		
							17Z Chevron - Chevron USA	34,000		
							Kern River Santa Fe - Chevron USA	1,000	77.625	5
CHEVRON USA INC.	1101	3,500	KRF-1	05/01/2002	04/30/2012		Wheeler Ridge - SoCal Gas	35,000	35,000	
CITY OF REDDING	1704	1,000	KRF-1	05/01/2003	04/30/2018		Daggett - PG&E	1,000	10,000	
CORAL ENERGY RESOURCES, L.P.	1004	16,560	KRF-1	03/01/1992	09/30/2016	Y	Daggett - PG&E	5,000	,	
		, -					Wheeler Ridge - SoCal Gas	16,000		
							South Midway - Aera Energy	3,000	16,560	)

Shipper Name	Contract #	Contract MDQ	Rate Schedule	Contract Effective Date	Contract Termination Date	Evergreen Indicator	Point Name	Individual Point Quantity	Total CA Point Quantity (9)	Footnote
CORAL ENERGY RESOURCES, L.P.	1502	37,933	MO-1	05/16/1992	09/30/2016	Y	Daggett - PG&E Wheeler Ridge - SoCal Gas South Midway - Aera Energy North Midway - Aera Energy	15,795 6,650 27,075 11,925	07.000	
DEPT OF WATER & POWER CITY OF L.A.	1006	112,815	KRF-1	03/01/1992	09/30/2016	Y	17Z Mobil - Aera Energy Wheeler Ridge - SoCal Gas Kramer Junction - SoCal	36,650 86,954 23,899	37,933 110,853	
DEPT OF WATER & POWER CITY OF L.A.	1706	39,000	KRF-1	05/01/2003	04/30/2018		Kramer Junction - SoCal	39,000	39,000	
DUKE ENERGY TRADING & MARKETING, L.L.C. DUKE ENERGY TRADING & MARKETING, L.L.C.	1087 1503	12,500 37,933	KRF-1 MO-1	05/01/2002 05/16/1992	04/30/2017 09/30/2011	Y	Wheeler Ridge - SoCal Gas Daggett - PG&E Wheeler Ridge - SoCal Gas South Midway - Aera Energy North Midway - Aera Energy	12,500 15,795 6,650 27,075 11,925	12,500	
	4700	40 500		05/04/0000	04/00/0040		17Z Mobil - Aera Energy	36,650	37,933	
EDISON MISSION ENERGY EL PASO MERCHANT ENERGY, L.P.	1709 1710	42,500 78,659	KRF-1 KRF-1	05/01/2003 05/01/2003	04/30/2018 04/30/2013		Crocker Springs - Aera Energy Kern Front - El Paso Merchant Wheeler Ridge - SoCal Gas	42,500 40,000 28,659	42,500	
HIGH DESERT POWER TRUST	2001	282.000	KRF-L1	09/01/2002	08/31/2023	Y	Bear Mountain - El Paso Merchant Victorville - High Desert Power Project	10,000 282,000	78,659 282,000	
NEVADA COGENERATION ASSOCIATES #1	1011	13,455	KRF-L1	03/01/1992	09/30/2016	Y	Sycamore - Texaco Natural Gas Wheeler Ridge - SoCal Gas	4,000 9,000	13,000	. ,
NEVADA COGENERATION ASSOCIATES #2	1012	13,455	KRF-1	03/01/1992	09/30/2016	Y	Sycamore - Texaco Natural Gas	9,000	,	
NEVADA POWER COMPANY	1707	75,000	KRF-1 KRF-1	03/01/1992 05/01/2003	09/30/2016 04/30/2018	Y	Wheeler Ridge - SoCal Gas Wheeler Ridge - SoCal Gas	4,000 75,000	13,000 75.000	
NEVADA POWER COMPANY	1720	50,000	KRF-1	05/01/2003	04/30/2018		Wheeler Ridge - SoCal Gas	15,000	15,000	
DCCIDENTAL ENERGY MARKETING, INC.	1092	50,000	KRF-1	05/01/2002	04/30/2017		Wheeler Ridge - SoCal Gas	50,000	50,000	
PINNACLE WEST CAPITAL CORPORATION	1714	19,345	KRF-1	05/01/2003	04/30/2013		Wheeler Ridge - SoCal Gas	19,345	19,345	
PINNACLE WEST CAPITAL CORPORATION	1723 1094	4,000 1,500	KRF-1 KRF-1	06/01/2003 05/01/2003	11/30/2004 04/30/2018		Daggett - PG&E Wheeler Ridge - SoCal Gas	4,000 1,500	4,000 1,500	
QUESTAR ENERGY TRADING	1094	10,000	KRF-1	05/01/2003	04/30/2018		Wheeler Ridge - SoCal Gas	10,000	10.000	
QUESTAR ENERGY TRADING	1721	10,000	KRF-1	05/01/2003	04/30/2018		Wheeler Ridge - SoCal Gas	10,000	10,000	
QUESTAR GAS COMPANY	1715	53,000	KRF-1	05/01/2003	04/30/2018		Wheeler Ridge - SoCal Gas	15,000	15,000	
RELIANT ENERGY SERVICES, INC.	1504	10,350	KRF-1	11/01/2000	09/30/2016	Y	Kern Front - El Paso Merchant South Midway - Aera Energy McKittrick - El Paso Merchant	10,000 2,486 2,486	10,350	

Shipper Name	Contract #	Contract MDQ	Rate Schedule	Contract Effective Date	Contract Termination Date	Evergreen Indicator	Point Name	Individual Point Quantity	Total CA Point Quantity (9) Footno
RELIANT ENERGY SERVICES, INC.	1506	87,975	KRF-1	11/01/2001	09/30/2016		Coolwater - Reliant Energy	14,000	(5)
							Wheeler Ridge - SoCal Gas	44,000	
							17Z Chevron - Chevron USA	9,000	
							17Z Mobil - Aera Energy	9,000	
							17Z Shell - Aera Energy	9,000	85,000
RELIANT ENERGY SERVICES, INC.	1716	200,000	KRF-1	05/01/2003	04/30/2018		Wheeler Ridge - SoCal Gas	65,278	
							Kramer Junction - SoCal	134,722	200,000
ACRAMENTO MUNICIPAL UTILITY DISTRICT	1717	20,000	KRF-1	05/01/2003	04/30/2018		Daggett - PG&E	20,000	20,000
EMPRA ENERGY TRADING CORP.	1014	11,075	KRF-1	03/01/1992	09/30/2016	Y	Wheeler Ridge - SoCal Gas	11,096	11,096
EMPRA ENERGY TRADING CORP.	1505	10,350	KRF-1	03/01/1992	09/30/2011	Y	Kern Front - El Paso Merchant	5,014	
							Wheeler Ridge - SoCal Gas	10,000	10,350
EMPRA ENERGY TRADING CORP.	1507	10,350	KRF-1	03/01/1992	09/30/2016	Y	Kern Front - El Paso Merchant	5,014	
							Wheeler Ridge - SoCal Gas	10,000	10,350
ENECA RESOURCES CORPORATION	1009	4,658	CH-1	05/01/1992	09/30/2016	Y	Kern River Chevron - Chevron USA	2,750	
							Wheeler Ridge - SoCal Gas	4,500	
							North Midway - Aera Energy	3,000	4,658
OUTHWEST GAS CORPORATION	1010	14,490	KRF-1	06/01/1992	09/30/2016	Y	Daggett - PG&E	7,000	
							Wheeler Ridge - SoCal Gas	7,000	14,000
OUTHWEST GAS CORPORATION	1073	18,630	KRF-1	04/08/1999	09/30/2016		Wheeler Ridge - SoCal Gas	18,882	18,630 (6)
OUTHWEST GAS CORPORATION	1085	87,975	KRF-1	11/01/2001	09/30/2016		Coolwater - Reliant Energy	14,000	
							Wheeler Ridge - SoCal Gas	44,000	
							17Z Chevron - Chevron USA	9,000	
							17Z Mobil - Aera Energy	9,000	
							17Z Shell - Aera Energy	9,000	85,000 (7)
/ILLIAMS POWER COMPANY, INC.	1016	56,925	KRF-1	03/01/1992	09/30/2016	Y	Wheeler Ridge - SoCal Gas	30,000	, ()
,							South Midway - Aera Energy	5,000	
							McKittrick - El Paso Merchant	5,000	
							Kramer Junction - SoCal	25,000	56,925
ILLIAMS POWER COMPANY, INC.	1074	25,875	KRF-1	03/01/2002	09/30/2016		Kramer Junction - SoCal	25,625	25,625 (8)
VILLIAMS POWER COMPANY, INC.	1089	27,000	KRF-1	05/01/2002	04/30/2017		Kramer Junction - SoCal	27,000	27,000
) High Desert Power Trust agreement can only be utili	zed on the High	Desert Late	aral not on K	orn Divor's m	vinlino facilitios				2.016.639

1) High Desert Power Trust agreement can only be utilized on the High Desert Lateral, not on Kern River's mainline facilities

2) Nevada Power seasonal agreement for the period April - October

3) Pinnacle West short-term firm agreement; terminates November 30, 2004

4) Questar Gas seasonal agreement for the period November - March

5) Reliant Energy Services seasonal agreement for the period April - October

6) Southwest Gas seasonal agreement with variable maximum daily quantity of: Dec - 12,588; Jan - 18,882; Feb - 13,637

7) Southwest Gas seasonal agreement for the period November - March

8) Williams Power seasonal agreement for the period March - November

9) Total CA Point Quantity is the lessor of the Contract MDQ and the Total Individual Point Quantity

2,016,639

Customer TSA Start Date Delivery MDQ Agent End Date Receipt 97YK Aera Energy LLC Coral Energy Resources, L.P. 04/01/1992 03/31/2007 **BLANCO** DMOJAVE 6.073 Mcf/d Burlington Resources Trading Inc. Burlington Resources Trading Inc. 97YG 04/01/1992 03/31/2007 **BLANCO** DMOJAVE 30,997 Mcf/d Los Angeles, City of 04/01/1992 03/31/2007 BLANCO 10.357 Mcf/d Los Angeles, City of 9836 DMOJAVE Southern California Gas Company Southern California Gas Company 97VT 09/01/1991 08/31/2006 BLANCO DMOJAVE 8.892 Mcf/d Chevron U.S.A. Inc. Texaco Natural Gas Inc. 97YF 04/01/1992 03/31/2007 BLANCO DMOJAVE 18,562 Mcf/d U.S. Borax & Chemical Corporation **BP Energy Company** 04/01/1992 97YH 03/31/2007 **BLANCO** DMOJAVE 7.592 Mcf/d Coral Energy Resources, L.P. 04/01/1992 03/31/2007 BONDAD Aera Energy LLC 97YK DMOJAVE 288 Mcf/d Los Angeles, City of Los Angeles, City of 9836 04/01/1992 03/31/2007 BONDAD DMOJAVE 517 Mcf/d Texaco Natural Gas Inc. Chevron U.S.A. Inc. 97YF 04/01/1992 03/31/2007 BONDAD DMOJAVE 2,877 Mcf/d Aera Energy LLC Coral Energy Resources, L.P. 97YK 04/01/1992 03/31/2007 BONDADST DMOJAVE 1.093 Mcf/d Los Angeles, City of Los Angeles, City of 9836 04/01/1992 03/31/2007 BONDADST DMOJAVE 1,968 Mcf/d Southern California Gas Company Southern California Gas Company 97VT 09/01/1991 08/31/2006 BONDADST DMOJAVE 14.951 Mcf/d Texaco Natural Gas Inc. Chevron U.S.A. Inc. 97YF 04/01/1992 03/31/2007 DMOJAVE BONDADST 2.877 Mcf/d 97VT Southern California Gas Company Southern California Gas Company 09/01/1991 08/31/2006 IMILAGRO DMOJAVE 2.322 Mcf/d Burlington Resources Trading Inc. Burlington Resources Trading Inc. 97YG 04/01/1992 03/31/2007 IMOITRKA DMOJAVE 479 Mcf/d Southern California Gas Company Southern California Gas Company 97VT 09/01/1991 08/31/2006 IMOITRKA 2,322 Mcf/d DMOJAVE Southern California Gas Company Southern California Gas Company 97VT 09/01/1991 08/31/2006 INNKEYST DMOJAVE 1.138 Mcf/d U.S. Borax & Chemical Corporation **BP Energy Company** 97YH 04/01/1992 03/31/2007 INWPLBLA DMOJAVE 1,794 Mcf/d Burlington Resources Trading Inc. Burlington Resources Trading Inc. 97YG 04/01/1992 03/31/2007 **ISJCMPLX** DMOJAVE 7.326 Mcf/d Southern California Gas Company Southern California Gas Company 97VT 09/01/1991 08/31/2006 **ISJCMPLX** DMOJAVE 4,641 Mcf/d Texaco Natural Gas Inc. Chevron U.S.A. Inc. 97YF 04/01/1992 03/31/2007 ISJCMPLX DMOJAVE 4,251 Mcf/d **BP Energy Company** 03/31/2007 U.S. Borax & Chemical Corporation 97YH 04/01/1992 ISJCMPLX DMOJAVE 117 Mcf/d **BP Energy Company** U.S. Borax & Chemical Corporation 97YH 04/01/1992 03/31/2007 ITCOLBLA DMOJAVE 26 Mcf/d Coral Energy Resources, L.P. 04/01/1992 Aera Energy LLC 97YK 03/31/2007 **KEYSTONE** DMOJAVE 2.100 Mcf/d Los Angeles, City of Los Angeles, City of 9836 04/01/1992 03/31/2007 **KEYSTONE** DMOJAVE 3,554 Mcf/d Southern California Gas Company Southern California Gas Company 97VT 09/01/1991 08/31/2006 **KEYSTONE** DMOJAVE 8.844 Mcf/d Texaco Natural Gas Inc. Chevron U.S.A. Inc. 97YF 04/01/1992 03/31/2007 **KEYSTONE** DMOJAVE 437 Mcf/d U.S. Borax & Chemical Corporation **BP Energy Company** 97YH 04/01/1992 03/31/2007 KEYSTONE DMOJAVE 9 Mcf/d Los Angeles, City of 9836 04/01/1992 03/31/2007 227 Mcf/d Los Angeles, City of PLAINS DMOJAVE Texaco Natural Gas Inc. Chevron U.S.A. Inc. 97YF 04/01/1992 03/31/2007 PLAINS DMOJAVE 106 Mcf/d Los Angeles, City of Los Angeles, City of 9836 04/01/1992 03/31/2007 RIOVISTA DMOJAVE 574 Mcf/d Aera Energy LLC Coral Energy Resources, L.P. 04/01/1992 97YK 03/31/2007 WAHA DMOJAVE 3.241 Mcf/d Burlington Resources Trading Inc. Burlington Resources Trading Inc. 97YG 04/01/1992 03/31/2007 WAHA DMOJAVE 10.829 Mcf/d Los Angeles, City of 9836 04/01/1992 DMOJAVE Los Angeles, City of 03/31/2007 WAHA 5,836 Mcf/d Southern California Gas Company Southern California Gas Company 97VT 09/01/1991 08/31/2006 WAHA DMOJAVE 90.017 Mcf/d 97YF Texaco Natural Gas Inc. Chevron U.S.A. Inc. 04/01/1992 03/31/2007 WAHA DMOJAVE 13,389 Mcf/d 97YH 04/01/1992 U.S. Borax & Chemical Corporation **BP Energy Company** 03/31/2007 WAHA DMOJAVE 2.619 Mcf/d

TOTAL TO MOJAVE = 273,242 Mcf/d

<u>Customer</u>	Agent	<u>TSA</u>	Start Date	End Date	<b>Receipt</b>	Delivery	MDQ
BHP Copper Inc.	Occidental Energy Marketing, Inc.	822P	10/01/1991	09/30/2013	ANADARKO	DPG&ETOP	3 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9MEN	06/01/2001	06/30/2006	ANADARKO	DPG&ETOP	1 Mcf/d
Aguila Long Term, Inc.	Aguila Long Term, Inc.	9MGB	04/01/2002	03/31/2017	BLANCO	DPG&ETOP	10,307 Mcf/d
Arizona Electric Power Cooperative, Inc.	Arizona Electric Power Cooperative, Inc.	822M	10/01/1991	09/30/2016	BLANCO	DPG&ETOP	2,104 Mcf/d
Arizona Public Service Company	Arizona Public Service Company	822T	10/01/1991	09/30/2013	BLANCO	DPG&ETOP	15,267 Mcf/d
ASARCO Incorporated	Chevron U.S.A. Inc.	822W	10/01/1991	12/31/2001	BLANCO	DPG&ETOP	1,017 Mcf/d
ASARCO Incorporated	Chevron U.S.A. Inc.	8234	10/01/1991	12/31/2001	BLANCO	DPG&ETOP	701 Mcf/d
BHP Copper Inc.	Occidental Energy Marketing, Inc.	822P	10/01/1991	09/30/2013	BLANCO	DPG&ETOP	1,727 Mcf/d
Burlington Resources Trading Inc.	Burlington Resources Trading Inc.	97YG	04/01/1992	03/31/2007	BLANCO	DPG&ETOP	8,960 Mcf/d
City of Las Cruces, New Mexico	Coral Energy Resources, L.P.	822Z	11/01/1991	10/31/2011	BLANCO	DPG&ETOP	4,311 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9MEN	06/01/2001	06/30/2006	BLANCO	DPG&ETOP	6,377 Mcf/d
El Paso Electric Company	El Paso Electric Company	8235	09/01/1991	12/31/2001	BLANCO	DPG&ETOP	10,441 Mcf/d
El Paso Merchant Energy, L.P.	El Paso Merchant Energy, L.P.	9MEB	06/01/2001	10/31/2006	BLANCO	DPG&ETOP	764 Mcf/d
Harquahala Generating Company, LLC	Entergy-Koch Trading, LP	9NQM	04/01/2003	03/31/2007	BLANCO	DPG&ETOP	25,684 Mcf/d
Mexicana de Cobre, S. A. de C. V.	ConocoPhillips Company	9MW5	01/01/2003	05/31/2006	BLANCO	DPG&ETOP	2,348 Mcf/d
Mirant Americas Energy Marketing, LP	Mirant Americas Energy Marketing, LP	9MEK	06/01/2001	05/31/2006	BLANCO	DPG&ETOP	1,278 Mcf/d
Occidental Energy Marketing, Inc.	Occidental Energy Marketing, Inc.	9MEA	06/01/2001	05/31/2006	BLANCO	DPG&ETOP	1,357 Mcf/d
Occidental Energy Marketing, Inc.	Occidental Energy Marketing, Inc.	9MED	06/01/2001	06/01/2006	BLANCO	DPG&ETOP	1,253 Mcf/d
Occidental Energy Marketing, Inc.	Occidental Energy Marketing, Inc.	9MEF	06/01/2001	06/02/2006	BLANCO	DPG&ETOP	1,324 Mcf/d
Pacific Gas and Electric Company, Gas	Pacific Gas and Electric Company, Gas	9NK4	11/01/2002	12/31/2004	BLANCO	DPG&ETOP	39,924 Mcf/d
Pacific Gas and Electric Company, Gas	Pacific Gas and Electric Company, Gas	9NK7	11/01/2002	03/31/2007	BLANCO	DPG&ETOP	25,136 Mcf/d
Pacific Gas and Electric Company, Gas	Pacific Gas and Electric Company, Gas	9Q7P	12/01/2003	04/30/2005	BLANCO	DPG&ETOP	62,841 Mcf/d
Phelps Dodge Corporation	BP Energy Company	822X	09/01/1991	08/31/2013	BLANCO	DPG&ETOP	6,153 Mcf/d
PNM Gas Services, A Division of Public	PNM Gas Services, A Division of Public	822L	10/01/1991	09/30/2011	BLANCO	DPG&ETOP	6,606 Mcf/d
Public Service Company of New Mexico	Public Service Company of New Mexico	9MVX	10/01/2003	05/31/2006	BLANCO	DPG&ETOP	5,578 Mcf/d
Saguaro Power Company	Coral Energy Resources, L.P.	97YE	04/01/1992	03/31/2007	BLANCO	DPG&ETOP	7,992 Mcf/d
Salt River Project Agricultural	Salt River Project Agricultural	822Q	01/01/1992	12/31/2013	BLANCO	DPG&ETOP	10,407 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	BLANCO	DPG&ETOP	26,513 Mcf/d
Southwest Gas Corporation	Southwest Gas Corporation	822Y	09/01/1991	08/31/2011	BLANCO	DPG&ETOP	59,659 Mcf/d
Texaco Natural Gas Inc.	Chevron U.S.A. Inc.	9MDZ	06/01/2001	05/31/2006	BLANCO	DPG&ETOP	18,361 Mcf/d
Texaco Natural Gas Inc.	Chevron U.S.A. Inc.	97YF	04/01/1992	03/31/2007	BLANCO	DPG&ETOP	7,637 Mcf/d
Texas Gas Service Company, a division	ONEOK, Inc.	822V	09/01/1991	08/31/2011	BLANCO	DPG&ETOP	19,207 Mcf/d
UNS Gas, Inc.	BP Energy Company	822U	09/01/1991	08/31/2011	BLANCO	DPG&ETOP	11,922 Mcf/d
Arizona Electric Power Cooperative, Inc.	Arizona Electric Power Cooperative, Inc.	822M	10/01/1991	09/30/2016	BONDAD	DPG&ETOP	104 Mcf/d
Arizona Public Service Company	Arizona Public Service Company	822T	10/01/1991	09/30/2013	BONDAD	DPG&ETOP	764 Mcf/d
ASARCO Incorporated	Chevron U.S.A. Inc.	822W	10/01/1991	12/31/2001	BONDAD	DPG&ETOP	50 Mcf/d
ASARCO Incorporated	Chevron U.S.A. Inc.	8234	10/01/1991	12/31/2001	BONDAD	DPG&ETOP	35 Mcf/d

Customer	Agent	<u>TSA</u>	Start Date	End Date	<u>Receipt</u>	Delivery	MDQ
BHP Copper Inc.	Occidental Energy Marketing, Inc.	822P	10/01/1991	09/30/2013	BONDAD	DPG&ETOP	76 Mcf/d
El Paso Electric Company	El Paso Electric Company	8235	09/01/1991	12/31/2001	BONDAD	DPG&ETOP	522 Mcf/d
Mirant Americas Energy Marketing, LP	Mirant Americas Energy Marketing, LP	9MEK	06/01/2001	05/31/2006	BONDAD	DPG&ETOP	2,657 Mcf/d
Occidental Energy Marketing, Inc.	Occidental Energy Marketing, Inc.	9MEA	06/01/2001	05/31/2006	BONDAD	DPG&ETOP	122 Mcf/d
Occidental Energy Marketing, Inc.	Occidental Energy Marketing, Inc.	9MED	06/01/2001	06/01/2006	BONDAD	DPG&ETOP	62 Mcf/d
Occidental Energy Marketing, Inc.	Occidental Energy Marketing, Inc.	9MEF	06/01/2001	06/02/2006	BONDAD	DPG&ETOP	119 Mcf/d
Phelps Dodge Corporation	BP Energy Company	822X	09/01/1991	08/31/2013	BONDAD	DPG&ETOP	304 Mcf/d
PNM Gas Services, A Division of Public	PNM Gas Services, A Division of Public	822L	10/01/1991	09/30/2011	BONDAD	DPG&ETOP	330 Mcf/d
Salt River Project Agricultural	Salt River Project Agricultural	822Q	01/01/1992	12/31/2013	BONDAD	DPG&ETOP	2,812 Mcf/d
Texaco Natural Gas Inc.	Chevron U.S.A. Inc.	9MDZ	06/01/2001	05/31/2006	BONDAD	DPG&ETOP	2,834 Mcf/d
Texaco Natural Gas Inc.	Chevron U.S.A. Inc.	97YF	04/01/1992	03/31/2007	BONDAD	DPG&ETOP	1,178 Mcf/d
Aquila Long Term, Inc.	Aquila Long Term, Inc.	9MGB	04/01/2002	03/31/2017	BONDADST	DPG&ETOP	2,474 Mcf/d
Arizona Electric Power Cooperative, Inc.	Arizona Electric Power Cooperative, Inc.	822M	10/01/1991	09/30/2016	BONDADST	DPG&ETOP	400 Mcf/d
Arizona Public Service Company	Arizona Public Service Company	822T	10/01/1991	09/30/2013	BONDADST	DPG&ETOP	3,361 Mcf/d
ASARCO Incorporated	Chevron U.S.A. Inc.	822W	10/01/1991	12/31/2001	BONDADST	DPG&ETOP	193 Mcf/d
ASARCO Incorporated	Chevron U.S.A. Inc.	8234	10/01/1991	12/31/2001	BONDADST	DPG&ETOP	133 Mcf/d
BHP Copper Inc.	Occidental Energy Marketing, Inc.	822P	10/01/1991	09/30/2013	BONDADST	DPG&ETOP	234 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9MEN	06/01/2001	06/30/2006	BONDADST	DPG&ETOP	13,266 Mcf/d
El Paso Electric Company	El Paso Electric Company	8235	09/01/1991	12/31/2001	BONDADST	DPG&ETOP	1,985 Mcf/d
Mexicana de Cobre, S. A. de C. V.	ConocoPhillips Company	9MW5	01/01/2003	05/31/2006	BONDADST	DPG&ETOP	1,691 Mcf/d
Occidental Energy Marketing, Inc.	Occidental Energy Marketing, Inc.	9MEA	06/01/2001	05/31/2006	BONDADST	DPG&ETOP	122 Mcf/d
Occidental Energy Marketing, Inc.	Occidental Energy Marketing, Inc.	9MED	06/01/2001	06/01/2006	BONDADST	DPG&ETOP	237 Mcf/d
Occidental Energy Marketing, Inc.	Occidental Energy Marketing, Inc.	9MEF	06/01/2001	06/02/2006	BONDADST	DPG&ETOP	119 Mcf/d
Phelps Dodge Corporation	BP Energy Company	822X	09/01/1991	08/31/2013	BONDADST	DPG&ETOP	1,168 Mcf/d
PNM Gas Services, A Division of Public	PNM Gas Services, A Division of Public	822L	10/01/1991	09/30/2011	BONDADST	DPG&ETOP	1,255 Mcf/d
Salt River Project Agricultural	Salt River Project Agricultural	822Q	01/01/1992	12/31/2013	BONDADST	DPG&ETOP	4,686 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	BONDADST	DPG&ETOP	44,574 Mcf/d
Southwest Gas Corporation	Southwest Gas Corporation	822Y	09/01/1991	08/31/2011	BONDADST	DPG&ETOP	42,985 Mcf/d
Texaco Natural Gas Inc.	Chevron U.S.A. Inc.	9MDZ	06/01/2001	05/31/2006	BONDADST	DPG&ETOP	2,834 Mcf/d
Texaco Natural Gas Inc.	Chevron U.S.A. Inc.	97YF	04/01/1992	03/31/2007	BONDADST	DPG&ETOP	1,178 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	IMILAGRO	DPG&ETOP	6,921 Mcf/d
Burlington Resources Trading Inc.	Burlington Resources Trading Inc.	97YG	04/01/1992	03/31/2007	IMOITRKA	DPG&ETOP	138 Mcf/d
Pacific Gas and Electric Company, Gas	Pacific Gas and Electric Company, Gas	9NK4	11/01/2002	12/31/2004	IMOITRKA	DPG&ETOP	368 Mcf/d
Pacific Gas and Electric Company, Gas	Pacific Gas and Electric Company, Gas	9NK7	11/01/2002	03/31/2007	IMOITRKA	DPG&ETOP	232 Mcf/d
Pacific Gas and Electric Company, Gas	Pacific Gas and Electric Company, Gas	9Q7P	12/01/2003	04/30/2005	IMOITRKA	DPG&ETOP	579 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	IMOITRKA	DPG&ETOP	6,921 Mcf/d
Arizona Public Service Company	Arizona Public Service Company	822T	10/01/1991	09/30/2013	ISJCMPLX	DPG&ETOP	564 Mcf/d
Burlington Resources Trading Inc.	Burlington Resources Trading Inc.	97YG	04/01/1992	03/31/2007	ISJCMPLX	DPG&ETOP	2,118 Mcf/d

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ASARCO IncorporatedChevron U.S.A. Inc.822W10/01/199112/31/2001KEYSTONEDPG&ETOP350 Mcf/dASARCO IncorporatedChevron U.S.A. Inc.823410/01/199112/31/2001KEYSTONEDPG&ETOP241 Mcf/dBHP Copper Inc.Occidental Energy Marketing, Inc.822E10/01/199109/30/2013KEYSTONEDPG&ETOP30 Mcf/dBHP Copper Inc.Occidental Energy Marketing, Inc.822P10/01/199109/30/2013KEYSTONEDPG&ETOP335 Mcf/dDuke Energy Trading and Marketing,Duke Energy Field Services LLC9MC206/01/200106/30/2006KEYSTONEDPG&ETOP1,953 Mcf/dDuke Energy Trading and Marketing,Duke Energy Field Services LLC9MEN06/01/200106/30/2006KEYSTONEDPG&ETOP236 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MBV06/01/200110/31/2006KEYSTONEDPG&ETOP10,795 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MEB06/01/200110/31/2006KEYSTONEDPG&ETOP181 Mcf/dHarquahala Generating Company, LLCEntergy-Koch Trading, LP9NQM04/01/200303/31/2007KEYSTONEDPG&ETOP114 Mcf/d
ASARCO IncorporatedChevron U.S.A. Inc.823410/01/199112/31/2001KEYSTONEDPG&ETOP241 Mcf/dBHP Copper Inc.Occidental Energy Marketing, Inc.822E10/01/199109/30/2013KEYSTONEDPG&ETOP30 Mcf/dBHP Copper Inc.Occidental Energy Marketing, Inc.822P10/01/199109/30/2013KEYSTONEDPG&ETOP335 Mcf/dDuke Energy Trading and Marketing,Duke Energy Field Services LLC9MC206/01/200106/30/2006KEYSTONEDPG&ETOP1,953 Mcf/dDuke Energy Trading and Marketing,Duke Energy Field Services LLC9MEN06/01/200106/30/2006KEYSTONEDPG&ETOP236 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MBV06/01/200110/31/2006KEYSTONEDPG&ETOP10,795 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MEB06/01/200110/31/2006KEYSTONEDPG&ETOP181 Mcf/dHarquahala Generating Company, LLCEntergy-Koch Trading, LP9NQM04/01/200303/31/2007KEYSTONEDPG&ETOP114 Mcf/d
BHP Copper Inc.Occidental Energy Marketing, Inc.822E10/01/199109/30/2013KEYSTONEDPG&ETOP30 Mcf/dBHP Copper Inc.Occidental Energy Marketing, Inc.822P10/01/199109/30/2013KEYSTONEDPG&ETOP335 Mcf/dDuke Energy Trading and Marketing,Duke Energy Field Services LLC9MC206/01/200106/30/2006KEYSTONEDPG&ETOP1,953 Mcf/dDuke Energy Trading and Marketing,Duke Energy Field Services LLC9MEN06/01/200106/30/2006KEYSTONEDPG&ETOP236 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MBV06/01/200110/31/2006KEYSTONEDPG&ETOP10,795 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MEB06/01/200110/31/2006KEYSTONEDPG&ETOP181 Mcf/dHarquahala Generating Company, LLCEntergy-Koch Trading, LP9NQM04/01/200303/31/2007KEYSTONEDPG&ETOP114 Mcf/d
BHP Copper Inc.Occidental Energy Marketing, Inc.822P10/01/199109/30/2013KEYSTONEDPG&ETOP335 Mcf/dDuke Energy Trading and Marketing, Duke Energy Trading and Marketing, LP as o Merchant Energy, L.P.Duke Energy Field Services LLC9MC206/01/200106/30/2006KEYSTONEDPG&ETOP1,953 Mcf/d0// 2001Duke Energy Field Services LLC9MEN06/01/200106/30/2006KEYSTONEDPG&ETOP236 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MBV06/01/200110/31/2006KEYSTONEDPG&ETOP10,795 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MEB06/01/200110/31/2006KEYSTONEDPG&ETOP181 Mcf/dHarquahala Generating Company, LLCEntergy-Koch Trading, LP9NQM04/01/200303/31/2007KEYSTONEDPG&ETOP114 Mcf/d
BHP Copper Inc.Occidental Energy Marketing, Inc.822P10/01/199109/30/2013KEYSTONEDPG&ETOP335 Mcf/dDuke Energy Trading and Marketing, Duke Energy Trading and Marketing, LP aso Merchant Energy, L.P.Duke Energy Field Services LLC9MC206/01/200106/30/2006KEYSTONEDPG&ETOP1,953 Mcf/d0// 2001Duke Energy Field Services LLC9MEN06/01/200106/30/2006KEYSTONEDPG&ETOP236 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MBV06/01/200110/31/2006KEYSTONEDPG&ETOP10,795 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MEB06/01/200110/31/2006KEYSTONEDPG&ETOP181 Mcf/dHarquahala Generating Company, LLCEntergy-Koch Trading, LP9NQM04/01/200303/31/2007KEYSTONEDPG&ETOP114 Mcf/d
Duke Energy Trading and Marketing, Duke Energy Field Services LLC9MC206/01/200106/30/2006KEYSTONEDPG&ETOP1,953 Mcf/dDuke Energy Trading and Marketing, El Paso Merchant Energy, L.P.Duke Energy Field Services LLC9MEN06/01/200106/30/2006KEYSTONEDPG&ETOP236 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MBV06/01/200110/31/2006KEYSTONEDPG&ETOP10,795 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MEB06/01/200110/31/2006KEYSTONEDPG&ETOP181 Mcf/dHarquahala Generating Company, LLCEntergy-Koch Trading, LP9NQM04/01/200303/31/2007KEYSTONEDPG&ETOP114 Mcf/d
Duke Energy Trading and Marketing, El Paso Merchant Energy, L.P.Duke Energy Field Services LLC9MEN06/01/200106/30/2006KEYSTONEDPG&ETOP236 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MEV06/01/200110/31/2006KEYSTONEDPG&ETOP10,795 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MEB06/01/200110/31/2006KEYSTONEDPG&ETOP181 Mcf/dHarquahala Generating Company, LLCEntergy-Koch Trading, LP9NQM04/01/200303/31/2007KEYSTONEDPG&ETOP114 Mcf/d
El Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MBV06/01/200110/31/2006KEYSTONEDPG&ETOP10,795 Mcf/dEl Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MEB06/01/200110/31/2006KEYSTONEDPG&ETOP181 Mcf/dHarquahala Generating Company, LLCEntergy-Koch Trading, LP9NQM04/01/200303/31/2007KEYSTONEDPG&ETOP114 Mcf/d
El Paso Merchant Energy, L.P.El Paso Merchant Energy, L.P.9MEB06/01/200110/31/2006KEYSTONEDPG&ETOP181 Mcf/dHarquahala Generating Company, LLCEntergy-Koch Trading, LP9NQM04/01/200303/31/2007KEYSTONEDPG&ETOP114 Mcf/d
Harquahala Generating Company, LLC Entergy-Koch Trading, LP 9NQP 04/01/2003 05/31/2006 KEYSTONE DPG&ETOP 53,969 Mcf/d
Mexicana de Cobre, S. A. de C. V. ConocoPhillips Company 9MW5 01/01/2003 05/31/2006 KEYSTONE DPG&ETOP 1,368 Mcf/d
MGI Supply, Ltd 822N 01/01/1992 12/31/2002 KEYSTONE DPG&ETOP 4,098 Mcf/d
Mirant Americas Energy Marketing, LP Mirant Americas Energy Marketing, LP 9MEK 06/01/2001 05/31/2006 KEYSTONE DPG&ETOP 63 Mcf/d
Occidental Energy Marketing, Inc. Occidental Energy Marketing, Inc. 9MBZ 06/01/2001 05/31/2006 KEYSTONE DPG&ETOP 10,795 Mcf/d
Occidental Energy Marketing, Inc. Occidental Energy Marketing, Inc. 9MEA 06/01/2001 05/31/2006 KEYSTONE DPG&ETOP 412 Mcf/d
Occidental Energy Marketing, Inc. Occidental Energy Marketing, Inc. 9MED 06/01/2001 06/01/2006 KEYSTONE DPG&ETOP 430 Mcf/d
Occidental Energy Marketing, Inc. Occidental Energy Marketing, Inc. 9MEF 06/01/2001 06/02/2006 KEYSTONE DPG&ETOP 403 Mcf/d
Phelps Dodge Corporation BP Energy Company 822X 09/01/1991 08/31/2013 KEYSTONE DPG&ETOP 2,116 Mcf/d
Phelps Dodge Corporation BP Energy Company 822H 09/01/1991 08/31/2013 KEYSTONE DPG&ETOP 186 Mcf/d
Public Service Company of New Mexico Public Service Company of New Mexico 9MVX 10/01/2003 05/31/2006 KEYSTONE DPG&ETOP 1,318 Mcf/d
Public Service Company of New Mexico Public Service Company of New Mexico 9MW3 11/01/2002 05/31/2006 KEYSTONE DPG&ETOP 1,217 Mcf/d
Public Service Company of New Mexico Public Service Company of New Mexico 9MW4 07/01/2002 05/31/2006 KEYSTONE DPG&ETOP 9,577 Mcf/d
Saguaro Power Company Coral Energy Resources, L.P. 97YE 04/01/1992 03/31/2007 KEYSTONE DPG&ETOP 1,888 Mcf/d
Texaco Natural Gas Inc.       Chevron U.S.A. Inc.       9MDZ       06/01/2001       05/31/2006       KEYSTONE       DPG&ETOP       438 Mcf/d

#### Customer TSA Start Date End Date MDQ Agent Receipt Delivery 97YF 03/31/2007 Texaco Natural Gas Inc. Chevron U.S.A. Inc. 04/01/1992 **KEYSTONE** DPG&ETOP 182 Mcf/d Aguila Long Term, Inc. Aguila Long Term, Inc. 9MGB 04/01/2002 03/31/2017 PLAINS DPG&ETOP 236 Mcf/d Arizona Electric Power Cooperative, Inc. 8223 10/01/1991 09/30/2016 DPG&ETOP 4 Mcf/d Arizona Electric Power Cooperative, Inc. PLAINS Arizona Electric Power Cooperative, Inc. Arizona Electric Power Cooperative, Inc. 822M 10/01/1991 09/30/2016 PLAINS DPG&ETOP 45 Mcf/d Arizona Public Service Company Arizona Public Service Company 822T 10/01/1991 09/30/2013 PLAINS DPG&ETOP 56 Mcf/d Arizona Public Service Company Arizona Public Service Company 8225 10/01/1991 09/30/2013 PLAINS DPG&ETOP 30 Mcf/d Chevron U.S.A. Inc. 10/01/1991 DPG&ETOP ASARCO Incorporated 8226 12/31/2001 PLAINS 2 Mcf/d ASARCO Incorporated Chevron U.S.A. Inc. 8229 10/01/1991 12/31/2001 PLAINS DPG&ETOP 1 Mcf/d ASARCO Incorporated Chevron U.S.A. Inc. 822W 10/01/1991 12/31/2001 PLAINS DPG&ETOP 23 Mcf/d ASARCO Incorporated Chevron U.S.A. Inc. 8234 10/01/1991 12/31/2001 PLAINS DPG&ETOP 14 Mcf/d BHP Copper Inc. Occidental Energy Marketing, Inc. 822P 10/01/1991 09/30/2013 PLAINS DPG&ETOP 21 Mcf/d Duke Energy Trading and Marketing, Duke Energy Field Services LLC 9MEN 06/01/2001 06/30/2006 PLAINS DPG&ETOP 55 Mcf/d Occidental Energy Marketing, Inc. Occidental Energy Marketing, Inc. 06/01/2001 05/31/2006 PLAINS DPG&ETOP 26 Mcf/d 9MEA Occidental Energy Marketing, Inc. Occidental Energy Marketing, Inc. 9MED 06/01/2001 06/01/2006 PLAINS DPG&ETOP 27 Mcf/d Occidental Energy Marketing, Inc. Occidental Energy Marketing, Inc. 9MEF 06/01/2001 06/02/2006 PLAINS DPG&ETOP 25 Mcf/d Phelps Dodge Corporation **BP Energy Company** 822X 09/01/1991 08/31/2013 DPG&ETOP PLAINS 133 Mcf/d BP Energy Company Phelps Dodge Corporation 822H 09/01/1991 08/31/2013 PLAINS DPG&ETOP 12 Mcf/d Texaco Natural Gas Inc. Chevron U.S.A. Inc. 9MDZ 06/01/2001 05/31/2006 PLAINS DPG&ETOP 102 Mcf/d Texaco Natural Gas Inc. Chevron U.S.A. Inc. 97YF 04/01/1992 03/31/2007 PLAINS DPG&ETOP 42 Mcf/d Arizona Electric Power Cooperative, Inc. Arizona Electric Power Cooperative, Inc. 822M 10/01/1991 09/30/2016 RIOVISTA DPG&ETOP 117 Mcf/d Arizona Public Service Company Arizona Public Service Company 822T 10/01/1991 09/30/2013 RIOVISTA DPG&ETOP 211 Mcf/d ASARCO Incorporated Chevron U.S.A. Inc. 822W 10/01/1991 12/31/2001 RIOVISTA DPG&ETOP 56 Mcf/d ASARCO Incorporated Chevron U.S.A. Inc. 8234 10/01/1991 12/31/2001 RIOVISTA DPG&ETOP 38 Mcf/d Duke Energy Trading and Marketing, **Duke Energy Field Services LLC** 9MEN 06/01/2001 06/30/2006 RIOVISTA DPG&ETOP 3 Mcf/d El Paso Electric Company El Paso Electric Company 8235 09/01/1991 12/31/2001 RIOVISTA DPG&ETOP 579 Mcf/d Occidental Energy Marketing, Inc. Occidental Energy Marketing, Inc. 9MED 06/01/2001 06/01/2006 RIOVISTA DPG&ETOP 69 Mcf/d Phelps Dodge Corporation **BP Energy Company** 822X 09/01/1991 08/31/2013 RIOVISTA DPG&ETOP 341 Mcf/d PNM Gas Services. A Division of Public PNM Gas Services. A Division of Public 822L 10/01/1991 09/30/2011 RIOVISTA DPG&ETOP 367 Mcf/d Salt River Project Agricultural Salt River Project Agricultural 822Q 01/01/1992 12/31/2013 RIOVISTA DPG&ETOP 397 Mcf/d Aguila Long Term, Inc. Aguila Long Term, Inc. 04/01/2002 03/31/2017 DPG&ETOP 9MGB WAHA 5.359 Mcf/d Arizona Electric Power Cooperative, Inc. Arizona Electric Power Cooperative, Inc. 822M 10/01/1991 09/30/2016 WAHA DPG&ETOP 1.189 Mcf/d Arizona Public Service Company 10/01/1991 Arizona Public Service Company 822T 09/30/2013 WAHA DPG&ETOP 9.273 Mcf/d ASARCO Incorporated Chevron U.S.A. Inc. 822W 10/01/1991 12/31/2001 WAHA DPG&ETOP 577 Mcf/d ASARCO Incorporated Chevron U.S.A. Inc. 8234 10/01/1991 DPG&ETOP 12/31/2001 WAHA 399 Mcf/d 822E BHP Copper Inc. Occidental Energy Marketing, Inc. 10/01/1991 09/30/2013 WAHA DPG&ETOP 20 Mcf/d BHP Copper Inc. Occidental Energy Marketing, Inc. 822P 10/01/1991 09/30/2013 WAHA DPG&ETOP 1,062 Mcf/d Burlington Resources Trading Inc. 97YG 04/01/1992 DPG&ETOP Burlington Resources Trading Inc. 03/31/2007 WAHA 3.132 Mcf/d Duke Energy Trading and Marketing, **Duke Energy Field Services LLC** 9MEN 06/01/2001 06/30/2006 WAHA DPG&ETOP 9.550 Mcf/d

<u>Customer</u>	Agent	<u>TSA</u>	Start Date	End Date	<u>Receipt</u>	Delivery	MDQ
El Paso Merchant Energy, L.P.	El Paso Merchant Energy, L.P.	9MEB	06/01/2001	10/31/2006	WAHA	DPG&ETOP	279 Mcf/d
Harquahala Generating Company, LLC	Entergy-Koch Trading, LP	9NQM	04/01/2003	03/31/2007	WAHA	DPG&ETOP	14,673 Mcf/d
Mexicana de Cobre, S. A. de C. V.	ConocoPhillips Company	9MW5	01/01/2003	05/31/2006	WAHA	DPG&ETOP	2,112 Mcf/d
Mirant Americas Energy Marketing, LP	Mirant Americas Energy Marketing, LP	9MEK	06/01/2001	05/31/2006	WAHA	DPG&ETOP	1,911 Mcf/d
Occidental Energy Marketing, Inc.	Occidental Energy Marketing, Inc.	9MEA	06/01/2001	05/31/2006	WAHA	DPG&ETOP	679 Mcf/d
Occidental Energy Marketing, Inc.	Occidental Energy Marketing, Inc.	9MED	06/01/2001	06/01/2006	WAHA	DPG&ETOP	708 Mcf/d
Occidental Energy Marketing, Inc.	Occidental Energy Marketing, Inc.	9MEF	06/01/2001	06/02/2006	WAHA	DPG&ETOP	661 Mcf/d
Pacific Gas and Electric Company, Gas	Pacific Gas and Electric Company, Gas	9NK4	11/01/2002	12/31/2004	WAHA	DPG&ETOP	13,862 Mcf/d
Pacific Gas and Electric Company, Gas	Pacific Gas and Electric Company, Gas	9NK7	11/01/2002	03/31/2007	WAHA	DPG&ETOP	8,728 Mcf/d
Pacific Gas and Electric Company, Gas	Pacific Gas and Electric Company, Gas	9Q7P	12/01/2003	04/30/2005	WAHA	DPG&ETOP	21,819 Mcf/d
Phelps Dodge Corporation	BP Energy Company	822X	09/01/1991	08/31/2013	WAHA	DPG&ETOP	3,478 Mcf/d
Public Service Company of New Mexico	Public Service Company of New Mexico	9MVX	10/01/2003	05/31/2006	WAHA	DPG&ETOP	2,035 Mcf/d
Saguaro Power Company	Coral Energy Resources, L.P.	97YE	04/01/1992	03/31/2007	WAHA	DPG&ETOP	2,916 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	WAHA	DPG&ETOP	56,340 Mcf/d
Texaco Natural Gas Inc.	Chevron U.S.A. Inc.	9MDZ	06/01/2001	05/31/2006	WAHA	DPG&ETOP	13,191 Mcf/d
Texaco Natural Gas Inc.	Chevron U.S.A. Inc.	97YF	04/01/1992	03/31/2007	WAHA	DPG&ETOP	5,485 Mcf/d
					τοτΑ	AL TO PG&E =	906,872 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9N5A	04/01/2002	02/28/2007	BLANCO	DSCALEHR	53,029 Mcf/d
Reliant Energy Services, Inc.	Reliant Energy Services, Inc.	9LY5	11/01/2000	02/28/2007	BLANCO	DSCALEHR	39,972 Mcf/d
San Diego Gas and Electric Company	San Diego Gas and Electric Company	9844	03/01/1992	02/28/2007	BLANCO	DSCALEHR	4,600 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	BLANCO	DSCALEHR	389,737 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NK6	11/01/2002	02/28/2007	BLANCO	DSCALEHR	4,471 Mcf/d
San Diego Gas and Electric Company	San Diego Gas and Electric Company	9844	03/01/1992	02/28/2007	BONDAD	DSCALEHR	230 Mcf/d
Reliant Energy Services, Inc.	Reliant Energy Services, Inc.	9LY5	11/01/2000	02/28/2007	BONDADST	DSCALEHR	7,199 Mcf/d
San Diego Gas and Electric Company	San Diego Gas and Electric Company	9844	03/01/1992	02/28/2007	BONDADST	DSCALEHR	874 Mcf/d
Reliant Energy Services, Inc.	Reliant Energy Services, Inc.	9LY5	11/01/2000	02/28/2007	IMILAGRO	DSCALEHR	1,051 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	INNKEYST	DSCALEHR	6,290 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NK6	11/01/2002	02/28/2007	INNKEYST	DSCALEHR	71 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9N5A	04/01/2002	02/28/2007	ISJCMPLX	DSCALEHR	1,276 Mcf/d
AEP Energy Services, Inc.	AEP Energy Services, Inc.	9MDU	06/01/2001	05/31/2006	KEYSTONE	DSCALEHR	10,733 Mcf/d
Arizona Electric Power Cooperative, Inc.	Arizona Electric Power Cooperative, Inc.	8238	10/01/1991	09/30/2016	KEYSTONE	DSCALEHR	97 Mcf/d
ASARCO Incorporated	Chevron U.S.A. Inc.	823B	10/01/1991	12/31/2001	KEYSTONE	DSCALEHR	47 Mcf/d
ASARCO Incorporated	Chevron U.S.A. Inc.	823E	10/01/1991	12/31/2001	KEYSTONE	DSCALEHR	33 Mcf/d
BHP Copper Inc.	Occidental Energy Marketing, Inc.	823K	10/01/1991	09/30/2013	KEYSTONE	DSCALEHR	46 Mcf/d
BP Energy Company	BP Energy Company	9M3B	05/01/2001	12/31/2005	KEYSTONE	DSCALEHR	994 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9MC2	06/01/2001	06/30/2006	KEYSTONE	DSCALEHR	4,867 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9N5A	04/01/2002	02/28/2007	KEYSTONE	DSCALEHR	3,830 Mcf/d

# SoCalGas Responses to CPUC Data Request, R.04-01-025 Table Q.3 El Paso Natural Gas Company

Interstate Transportation Contracts (with California primary delivery points) as of 2/4/2004

Customer	Agent	<u>TSA</u>	Start Date	End Date	<u>Receipt</u>	Delivery	MDQ
Dynegy Marketing and Trade	Dynegy Marketing and Trade	9MD9	06/01/2001	10/31/2007	KEYSTONE	DSCALEHR	6,417 Mcf/d
El Paso Merchant Energy, L.P.	El Paso Merchant Energy, L.P.	9MD5	06/01/2001	10/31/2006	KEYSTONE	DSCALEHR	11,418 Mcf/d
Harquahala Generating Company, LLC	Entergy-Koch Trading, LP	9NQL	04/01/2003	05/31/2016	KEYSTONE	DSCALEHR	35,029 Mcf/d
Mexicana de Cobre, S. A. de C. V.	ConocoPhillips Company	9MDG	06/01/2001	05/31/2006	KEYSTONE	DSCALEHR	11,418 Mcf/d
MGI Supply, Ltd	MGI Supply, Ltd	9NH6	08/01/2002	10/31/2007	KEYSTONE	DSCALEHR	27,836 Mcf/d
MGI Supply, Ltd	MGI Supply, Ltd	9MDQ	06/01/2001	12/30/2010	KEYSTONE	DSCALEHR	11,418 Mcf/d
PG&E Energy Trading-Gas Corporation	PG&E Energy Trading-Gas Corporation	9MCU	06/01/2001	05/31/2016	KEYSTONE	DSCALEHR	22,060 Mcf/d
Phelps Dodge Corporation	BP Energy Company	823N	09/01/1991	08/31/2013	KEYSTONE	DSCALEHR	282 Mcf/d
PNM Gas Services, A Division of Public	PNM Gas Services, A Division of Public	8237	10/01/1991	09/30/2011	KEYSTONE	DSCALEHR	323 Mcf/d
PPL EnergyPlus, LLC	PPL EnergyPlus, LLC	9MGD	04/01/2002	08/31/2031	KEYSTONE	DSCALEHR	5,000 Mcf/d
Public Service Company of New Mexico	Public Service Company of New Mexico	9MW2	11/01/2002	05/31/2006	KEYSTONE	DSCALEHR	10,230 Mcf/d
Reliant Energy Services, Inc.	Reliant Energy Services, Inc.	9LY5	11/01/2000	02/28/2007	KEYSTONE	DSCALEHR	4,208 Mcf/d
San Diego Gas and Electric Company	San Diego Gas and Electric Company	9844	03/01/1992	02/28/2007	KEYSTONE	DSCALEHR	643 Mcf/d
San Diego Gas and Electric Company	San Diego Gas and Electric Company	9MDF	06/01/2001	05/31/2006	KEYSTONE	DSCALEHR	3,469 Mcf/d
Sempra Energy Trading Corp.	Sempra Energy Trading Corp.	9MDP	06/01/2001	05/31/2006	KEYSTONE	DSCALEHR	3,075 Mcf/d
Sempra Energy Trading Corp.	Sempra Energy Trading Corp.	9MJY	06/01/2001	05/31/2006	KEYSTONE	DSCALEHR	1,231 Mcf/d
Sempra Energy Trading Corp.	Sempra Energy Trading Corp.	9MK2	06/01/2001	05/31/2006	KEYSTONE	DSCALEHR	309 Mcf/d
Sierra Southwest Cooperative Services,	Sierra Southwest Cooperative Services,	9N4E	12/01/2001	05/31/2006	KEYSTONE	DSCALEHR	771 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	KEYSTONE	DSCALEHR	88,868 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NK6	11/01/2002	02/28/2007	KEYSTONE	DSCALEHR	431 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKH	11/01/2002	06/30/2006	KEYSTONE	DSCALEHR	5,808 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKK	10/01/2003	05/31/2006	KEYSTONE	DSCALEHR	7,697 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKM	11/01/2002	05/31/2006	KEYSTONE	DSCALEHR	2,665 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKN	11/01/2002	05/31/2006	KEYSTONE	DSCALEHR	13,108 Mcf/d
Southern California Gas Company	Southern California Gas Company	9MMF	06/01/2001	08/31/2006	KEYSTONE	DSCALEHR	11,420 Mcf/d
Southwest Gas Corporation	Southwest Gas Corporation	9MD2	06/01/2001	06/30/2006	KEYSTONE	DSCALEHR	926 Mcf/d
United States Gypsum Company	Houston Energy Services Company, L.L.C.	9MCZ	06/01/2001	10/31/2007	KEYSTONE	DSCALEHR	194 Mcf/d
Williams Power Company, Inc.	Williams Power Company, Inc.	9MDN	06/01/2001	06/30/2006	KEYSTONE	DSCALEHR	5,273 Mcf/d
AEP Energy Services, Inc.	AEP Energy Services, Inc.	9MDU	06/01/2001	05/31/2006	PLAINS	DSCALEHR	685 Mcf/d
Arizona Electric Power Cooperative, Inc.	Arizona Electric Power Cooperative, Inc.	8238	10/01/1991	09/30/2016	PLAINS	DSCALEHR	6 Mcf/d
ASARCO Incorporated	Chevron U.S.A. Inc.	823B	10/01/1991	12/31/2001	PLAINS	DSCALEHR	3 Mcf/d
ASARCO Incorporated	Chevron U.S.A. Inc.	823E	10/01/1991	12/31/2001	PLAINS	DSCALEHR	2 Mcf/d
Phelps Dodge Corporation	BP Energy Company	823N	09/01/1991	08/31/2013	PLAINS	DSCALEHR	19 Mcf/d
San Diego Gas and Electric Company	San Diego Gas and Electric Company	9844	03/01/1992	02/28/2007	PLAINS	DSCALEHR	41 Mcf/d
San Diego Gas and Electric Company	San Diego Gas and Electric Company	9MDF	06/01/2001	05/31/2006	PLAINS	DSCALEHR	221 Mcf/d
Sierra Southwest Cooperative Services,	Sierra Southwest Cooperative Services,	9N4E	12/01/2001	05/31/2006	PLAINS	DSCALEHR	49 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	PLAINS	DSCALEHR	1,471 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NK6	11/01/2002	02/28/2007	PLAINS	DSCALEHR	16 Mcf/d

Customer	Agent	<u>TSA</u>	Start Date	End Date	<u>Receipt</u>	Delivery	MDQ
Southwest Gas Corporation	Southwest Gas Corporation	9MD2	06/01/2001	06/30/2006	PLAINS	DSCALEHR	59 Mcf/d
United States Gypsum Company	Houston Energy Services Company, L.L.C.	9MCZ	06/01/2001	10/31/2007	PLAINS	DSCALEHR	12 Mcf/d
Williams Power Company, Inc.	Williams Power Company, Inc.	9MDN	06/01/2001	06/30/2006	PLAINS	DSCALEHR	337 Mcf/d
San Diego Gas and Electric Company	San Diego Gas and Electric Company	9844	03/01/1992	02/28/2007	RIOVISTA	DSCALEHR	255 Mcf/d
BHP Copper Inc.	Occidental Energy Marketing, Inc.	823K	10/01/1991	09/30/2013	WAHA	DSCALEHR	30 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9N5A	04/01/2002	02/28/2007	WAHA	DSCALEHR	26,774 Mcf/d
Reliant Energy Services, Inc.	Reliant Energy Services, Inc.	9LY5	11/01/2000	02/28/2007	WAHA	DSCALEHR	27,570 Mcf/d
San Diego Gas and Electric Company	San Diego Gas and Electric Company	9844	03/01/1992	02/28/2007	WAHA	DSCALEHR	3,587 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	WAHA	DSCALEHR	188,996 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NK6	11/01/2002	02/28/2007	WAHA	DSCALEHR	2,172 Mcf/d
				т	OTAL TO SoCa	l Ehrenberg =	1,073,279 Mcf/d
Aera Energy LLC	Coral Energy Resources, L.P.	97YK	04/01/1992	03/31/2007	BLANCO	DSCALTOP	3,638 Mcf/d
BP Energy Company	BP Energy Company	9M24	05/01/2001	12/31/2005	BLANCO	DSCALTOP	5,983 Mcf/d
BP Energy Company	BP Energy Company	9MEX	06/01/2001	05/31/2006	BLANCO	DSCALTOP	2,131 Mcf/d
Burlington Resources Trading Inc.	Burlington Resources Trading Inc.	97YG	04/01/1992	03/31/2007	BLANCO	DSCALTOP	3,023 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9MEZ	06/01/2001	06/30/2006	BLANCO	DSCALTOP	2,015 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9MEN	06/01/2001	06/30/2006	BLANCO	DSCALTOP	504 Mcf/d
El Paso Merchant Energy, L.P.	El Paso Merchant Energy, L.P.	9MF2	06/01/2001	10/31/2006	BLANCO	DSCALTOP	2,130 Mcf/d
Kerr-McGee Corporation	Kerr-McGee Corporation	9MEP	06/01/2001	05/31/2006	BLANCO	DSCALTOP	211 Mcf/d
Los Angeles, City of	Los Angeles, City of	9836	04/01/1992	03/31/2007	BLANCO	DSCALTOP	6,203 Mcf/d
PG&E Energy Trading-Gas Corporation	PG&E Energy Trading-Gas Corporation	9MER	06/01/2001	03/31/2007	BLANCO	DSCALTOP	10,657 Mcf/d
Saguaro Power Company	Coral Energy Resources, L.P.	97YE	04/01/1992	03/31/2007	BLANCO	DSCALTOP	4,786 Mcf/d
San Diego Gas and Electric Company	San Diego Gas and Electric Company	9NKE	11/01/2002	12/31/2004	BLANCO	DSCALTOP	5,625 Mcf/d
Sempra Energy Trading Corp.	Sempra Energy Trading Corp.	9MJZ	06/01/2001	05/31/2006	BLANCO	DSCALTOP	2 Mcf/d
Sempra Energy Trading Corp.	Sempra Energy Trading Corp.	9MMU	06/01/2001	05/31/2007	BLANCO	DSCALTOP	17 Mcf/d
Southern California Edison Company	Southern California Edison Company	9NKD	11/01/2002	12/31/2004	BLANCO	DSCALTOP	5,756 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKF	11/01/2002	12/31/2004	BLANCO	DSCALTOP	2,854 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKB	11/01/2002	05/31/2006	BLANCO	DSCALTOP	738 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	BLANCO	DSCALTOP	59,120 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NK8	11/01/2002	05/31/2006	BLANCO	DSCALTOP	738 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NK9	11/01/2002	03/31/2007	BLANCO	DSCALTOP	8,014 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NK5	11/01/2002	03/31/2007	BLANCO	DSCALTOP	7,240 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKL	11/01/2002	10/01/2006	BLANCO	DSCALTOP	738 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKP	11/01/2002	12/31/2005	BLANCO	DSCALTOP	828 Mcf/d
Southwest Gas Corporation	Southwest Gas Corporation	9NKQ	11/01/2002	12/31/2005	BLANCO	DSCALTOP	1,196 Mcf/d
Southwest Gas Corporation	Southwest Gas Corporation	9MZC	04/01/2003	05/31/2006	BLANCO	DSCALTOP	946 Mcf/d
Southwest Gas Corporation	Southwest Gas Corporation	9NKG	11/01/2002	12/31/2004	BLANCO	DSCALTOP	975 Mcf/d

Interstate Transportation Contracts (with California primary delivery points) as of 2/4/2004

Customer	<u>Agent</u>	<u>TSA</u>	Start Date	End Date	<u>Receipt</u>	Delivery	MDQ
Texaco Natural Gas Inc.	Chevron U.S.A. Inc.	97YF	04/01/1992	03/31/2007	BLANCO	DSCALTOP	13,117 Mcf/d
U.S. Borax & Chemical Corporation	BP Energy Company	97YH	04/01/1992	03/31/2007	BLANCO	DSCALTOP	4,546 Mcf/d
United States Gypsum Company	Houston Energy Services Company, L.L.C.	9MEV	06/01/2001	10/31/2007	BLANCO	DSCALTOP	105 Mcf/d
Aera Energy LLC	Coral Energy Resources, L.P.	97YK	04/01/1992	03/31/2007	BONDAD	DSCALTOP	171 Mcf/d
Kerr-McGee Corporation	Kerr-McGee Corporation	9MEP	06/01/2001	05/31/2006	BONDAD	DSCALTOP	10 Mcf/d
Los Angeles, City of	Los Angeles, City of	9836	04/01/1992	03/31/2007	BONDAD	DSCALTOP	310 Mcf/d
San Diego Gas and Electric Company	San Diego Gas and Electric Company	9NKE	11/01/2002	12/31/2004	BONDAD	DSCALTOP	281 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKF	11/01/2002	12/31/2004	BONDAD	DSCALTOP	5,939 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKB	11/01/2002	05/31/2006	BONDAD	DSCALTOP	1,535 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NK8	11/01/2002	05/31/2006	BONDAD	DSCALTOP	1,535 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NK9	11/01/2002	03/31/2007	BONDAD	DSCALTOP	16,677 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NK5	11/01/2002	03/31/2007	BONDAD	DSCALTOP	15,065 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKL	11/01/2002	10/01/2006	BONDAD	DSCALTOP	1,535 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKP	11/01/2002	12/31/2005	BONDAD	DSCALTOP	1,724 Mcf/d
Texaco Natural Gas Inc.	Chevron U.S.A. Inc.	97YF	04/01/1992	03/31/2007	BONDAD	DSCALTOP	2,023 Mcf/d
United States Gypsum Company	Houston Energy Services Company, L.L.C.	9MEV	06/01/2001	10/31/2007	BONDAD	DSCALTOP	5 Mcf/d
Aera Energy LLC	Coral Energy Resources, L.P.	97YK	04/01/1992	03/31/2007	BONDADST	DSCALTOP	654 Mcf/d
Kerr-McGee Corporation	Kerr-McGee Corporation	9MEP	06/01/2001	05/31/2006	BONDADST	DSCALTOP	40 Mcf/d
Los Angeles, City of	Los Angeles, City of	9836	04/01/1992	03/31/2007	BONDADST	DSCALTOP	1,178 Mcf/d
San Diego Gas and Electric Company	San Diego Gas and Electric Company	9NKE	11/01/2002	12/31/2004	BONDADST	DSCALTOP	1,069 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	BONDADST	DSCALTOP	91,998 Mcf/d
Southern California Gas Company	Southern California Gas Company	9MME	06/01/2001	08/31/2006	BONDADST	DSCALTOP	3,414 Mcf/d
Southern California Gas Company	Southern California Gas Company	9MMG	06/01/2001	08/31/2006	BONDADST	DSCALTOP	3,975 Mcf/d
Southwest Gas Corporation	Southwest Gas Corporation	9NKQ	11/01/2002	12/31/2005	BONDADST	DSCALTOP	861 Mcf/d
Southwest Gas Corporation	Southwest Gas Corporation	9MZC	04/01/2003	05/31/2006	BONDADST	DSCALTOP	682 Mcf/d
Southwest Gas Corporation	Southwest Gas Corporation	9NKG	11/01/2002	12/31/2004	BONDADST	DSCALTOP	701 Mcf/d
Texaco Natural Gas Inc.	Chevron U.S.A. Inc.	97YF	04/01/1992	03/31/2007	BONDADST	DSCALTOP	2,023 Mcf/d
United States Gypsum Company	Houston Energy Services Company, L.L.C.	9MEV	06/01/2001	10/31/2007	BONDADST	DSCALTOP	19 Mcf/d
Sempra Energy Trading Corp.	Sempra Energy Trading Corp.	9MJZ	06/01/2001	05/31/2006	IIGNACIO	DSCALTOP	211 Mcf/d
Sempra Energy Trading Corp.	Sempra Energy Trading Corp.	9MMU	06/01/2001	05/31/2007	IIGNACIO	DSCALTOP	1,536 Mcf/d
PG&E Energy Trading-Gas Corporation	PG&E Energy Trading-Gas Corporation	9MER	06/01/2001	03/31/2007	IMILAGRO	DSCALTOP	271 Mcf/d
Sempra Energy Trading Corp.	Sempra Energy Trading Corp.	9MMU	06/01/2001	05/31/2007	IMILAGRO	DSCALTOP	6 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	IMILAGRO	DSCALTOP	15,431 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	IMOITRKA	DSCALTOP	15,431 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKF	11/01/2002	12/31/2004	INNKEYST	DSCALTOP	33 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKB	11/01/2002	05/31/2006	INNKEYST	DSCALTOP	8 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NK8	11/01/2002	05/31/2006	INNKEYST	DSCALTOP	8 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NK9	11/01/2002	03/31/2007	INNKEYST	DSCALTOP	92 Mcf/d

Customer	Agent	<u>TSA</u>	Start Date	End Date	<u>Receipt</u>	Delivery	MDQ
Southern California Gas Company	Southern California Gas Company	9NK5	11/01/2002	03/31/2007	INNKEYST	DSCALTOP	83 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKL	11/01/2002	10/01/2006	INNKEYST	DSCALTOP	8 Mcf/d
Southern California Gas Company	Southern California Gas Company	9NKP	11/01/2002	12/31/2005	INNKEYST	DSCALTOP	9 Mcf/d
BP Energy Company	BP Energy Company	9M24	05/01/2001	12/31/2005	INWPLBLA	DSCALTOP	1,413 Mcf/d
BP Energy Company	BP Energy Company	9MEX	06/01/2001	05/31/2006	INWPLBLA	DSCALTOP	504 Mcf/d
Sempra Energy Trading Corp.	Sempra Energy Trading Corp.	9MJZ	06/01/2001	05/31/2006	INWPLBLA	DSCALTOP	11 Mcf/d
Sempra Energy Trading Corp.	Sempra Energy Trading Corp.	9MMU	06/01/2001	05/31/2007	INWPLBLA	DSCALTOP	79 Mcf/d
U.S. Borax & Chemical Corporation	BP Energy Company	97YH	04/01/1992	03/31/2007	INWPLBLA	DSCALTOP	1,074 Mcf/d
BP Energy Company	BP Energy Company	9M24	05/01/2001	12/31/2005	ISJCMPLX	DSCALTOP	92 Mcf/d
BP Energy Company	BP Energy Company	9MEX	06/01/2001	05/31/2006	ISJCMPLX	DSCALTOP	33 Mcf/d
Burlington Resources Trading Inc.	Burlington Resources Trading Inc.	97YG	04/01/1992	03/31/2007	ISJCMPLX	DSCALTOP	714 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9MEZ	06/01/2001	06/30/2006	ISJCMPLX	DSCALTOP	8,524 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9MEN	06/01/2001	06/30/2006	ISJCMPLX	DSCALTOP	2,129 Mcf/d
Southern California Edison Company	Southern California Edison Company	9NKD	11/01/2002	12/31/2004	ISJCMPLX	DSCALTOP	34 Mcf/d
Southern California Gas Company	Southern California Gas Company	97VT	09/01/1991	08/31/2006	ISJCMPLX	DSCALTOP	24,953 Mcf/d
Texaco Natural Gas Inc.	Chevron U.S.A. Inc.	97YF	04/01/1992	03/31/2007	ISJCMPLX	DSCALTOP	3,028 Mcf/d
U.S. Borax & Chemical Corporation	BP Energy Company	97YH	04/01/1992	03/31/2007	ISJCMPLX	DSCALTOP	70 Mcf/d
BP Energy Company	BP Energy Company	9M24	05/01/2001	12/31/2005	ITCOLBLA	DSCALTOP	20 Mcf/d
BP Energy Company	BP Energy Company	9MEX	06/01/2001	05/31/2006	ITCOLBLA	DSCALTOP	7 Mcf/d
Sempra Energy Trading Corp.	Sempra Energy Trading Corp.	9MJZ	06/01/2001	05/31/2006	ITCOLBLA	DSCALTOP	2 Mcf/d
Sempra Energy Trading Corp.	Sempra Energy Trading Corp.	9MMU	06/01/2001	05/31/2007	ITCOLBLA	DSCALTOP	15 Mcf/d
U.S. Borax & Chemical Corporation	BP Energy Company	97YH	04/01/1992	03/31/2007	ITCOLBLA	DSCALTOP	15 Mcf/d
Aera Energy LLC	Coral Energy Resources, L.P.	97YK	04/01/1992	03/31/2007	KEYSTONE	DSCALTOP	1,259 Mcf/d
Allegheny Energy Supply Company, LLC	Allegheny Energy Supply Company, LLC	9MCA	06/01/2001	09/30/2006	KEYSTONE	DSCALTOP	3,975 Mcf/d
BP Energy Company	BP Energy Company	9M24	05/01/2001	12/31/2005	KEYSTONE	DSCALTOP	17 Mcf/d
BP Energy Company	BP Energy Company	9MEX	06/01/2001	05/31/2006	KEYSTONE	DSCALTOP	6 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9MC2	06/01/2001	06/30/2006	KEYSTONE	DSCALTOP	3,975 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9MC9	06/01/2001	06/30/2006	KEYSTONE	DSCALTOP	13,948 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9MEZ	06/01/2001	06/30/2006	KEYSTONE	DSCALTOP	74 Mcf/d
Duke Energy Trading and Marketing,	Duke Energy Field Services LLC	9MEN	06/01/2001	06/30/2006	KEYSTONE	DSCALTOP	18 Mcf/d
Dynegy Marketing and Trade	Dynegy Marketing and Trade	9MCC	06/01/2001	10/31/2007	KEYSTONE	DSCALTOP	11,926 Mcf/d
El Paso Merchant Energy, L.P.	El Paso Merchant Energy, L.P.	9MCB	06/01/2001	10/31/2006	KEYSTONE	DSCALTOP	3,975 Mcf/d
El Paso Merchant Energy, L.P.	El Paso Merchant Energy, L.P.	9MF2	06/01/2001	10/31/2006	KEYSTONE	DSCALTOP	504 Mcf/d
Harquahala Generating Company, LLC	Entergy-Koch Trading, LP	9NQN	04/01/2003	03/31/2007	KEYSTONE	DSCALTOP	19,877 Mcf/d
Kerr-McGee Corporation	Kerr-McGee Corporation	9MEP	06/01/2001	05/31/2006	KEYSTONE	DSCALTOP	72 Mcf/d
Los Angeles, City of	Los Angeles, City of	9836	04/01/1992	03/31/2007	KEYSTONE	DSCALTOP	2,128 Mcf/d
MGI Supply, Ltd	MGI Supply, Ltd	9NH4	08/01/2002	10/31/2007	KEYSTONE	DSCALTOP	10,238 Mcf/d
PG&E Energy Trading-Gas Corporation	PG&E Energy Trading-Gas Corporation	9MER	06/01/2001	03/31/2007	KEYSTONE	DSCALTOP	47 Mcf/d

Customer TSA Start Date End Date Delivery MDQ Agent Receipt PPL EnergyPlus. LLC 05/31/2006 PPL EnergyPlus, LLC 9MC7 06/01/2001 **KEYSTONE** DSCALTOP 1.832 Mcf/d Saguaro Power Company Coral Energy Resources, L.P. 97YE 04/01/1992 03/31/2007 **KEYSTONE** DSCALTOP 1,131 Mcf/d San Diego Gas and Electric Company San Diego Gas and Electric Company 9NKE 11/01/2002 12/31/2004 KEYSTONE DSCALTOP 1.931 Mcf/d Sempra Energy Trading Corp. Sempra Energy Trading Corp. 9MJX 06/01/2001 05/31/2006 KEYSTONE DSCALTOP 524 Mcf/d Sempra Energy Trading Corp. Sempra Energy Trading Corp. KEYSTONE 9MJZ 06/01/2001 05/31/2006 DSCALTOP 3 Mcf/d Sempra Energy Trading Corp. Sempra Energy Trading Corp. 9MMU 06/01/2001 05/31/2007 KEYSTONE DSCALTOP 21 Mcf/d Southern California Edison Company Southern California Edison Company 11/01/2002 12/31/2004 DSCALTOP 9NKD KEYSTONE 1 Mcf/d Southern California Gas Company Southern California Gas Company 9NKF 11/01/2002 12/31/2004 KEYSTONE DSCALTOP 140 Mcf/d Southern California Gas Company Southern California Gas Company 9NKB 11/01/2002 05/31/2006 KEYSTONE DSCALTOP 36 Mcf/d Southern California Gas Company Southern California Gas Company 9NKC 11/01/2002 05/31/2006 KEYSTONE DSCALTOP 3.975 Mcf/d Southern California Gas Company Southern California Gas Company 9NK8 11/01/2002 05/31/2006 KEYSTONE DSCALTOP 36 Mcf/d Southern California Gas Company Southern California Gas Company 9NK9 11/01/2002 03/31/2007 KEYSTONE DSCALTOP 395 Mcf/d Southern California Gas Company Southern California Gas Company 9NK5 11/01/2002 03/31/2007 357 Mcf/d KEYSTONE DSCALTOP Southern California Gas Company Southern California Gas Company 9NKJ 11/01/2002 05/31/2006 KEYSTONE DSCALTOP 3.975 Mcf/d Southern California Gas Company Southern California Gas Company 9NKL 11/01/2002 10/01/2006 KEYSTONE DSCALTOP 36 Mcf/d Southern California Gas Company Southern California Gas Company 9NKP 11/01/2002 12/31/2005 DSCALTOP 41 Mcf/d KEYSTONE Southwest Gas Corporation Southwest Gas Corporation 9NKQ 11/01/2002 12/31/2005 KEYSTONE DSCALTOP 279 Mcf/d Southwest Gas Corporation Southwest Gas Corporation 9MZB 11/01/2002 05/31/2006 KEYSTONE DSCALTOP 3,736 Mcf/d Southwest Gas Corporation Southwest Gas Corporation KEYSTONE 9MZC 04/01/2003 05/31/2006 DSCALTOP 220 Mcf/d Southwest Gas Corporation Southwest Gas Corporation 9NKG 11/01/2002 12/31/2004 KEYSTONE DSCALTOP 227 Mcf/d Texaco Natural Gas Inc. Chevron U.S.A. Inc. 97YF 04/01/1992 03/31/2007 KEYSTONE DSCALTOP 313 Mcf/d U.S. Borax & Chemical Corporation **BP Energy Company** 97YH 04/01/1992 03/31/2007 KEYSTONE DSCALTOP 5 Mcf/d Houston Energy Services Company, L.L.C. United States Gypsum Company 9MEV 06/01/2001 10/31/2007 KEYSTONE DSCALTOP 37 Mcf/d Duke Energy Trading and Marketing, **Duke Energy Field Services LLC** 9MEZ 06/01/2001 06/30/2006 PLAINS DSCALTOP 17 Mcf/d Duke Energy Trading and Marketing, **Duke Energy Field Services LLC** 9MEN 06/01/2001 06/30/2006 PLAINS DSCALTOP 4 Mcf/d Kerr-McGee Corporation Kerr-McGee Corporation 9MEP 06/01/2001 05/31/2006 PLAINS DSCALTOP 4 Mcf/d Los Angeles, City of Los Angeles, City of 9836 04/01/1992 03/31/2007 PLAINS DSCALTOP 135 Mcf/d San Diego Gas and Electric Company San Diego Gas and Electric Company 9NKE 11/01/2002 12/31/2004 PLAINS DSCALTOP 123 Mcf/d Southwest Gas Corporation Southwest Gas Corporation 11/01/2002 12/31/2005 3 Mcf/d 9NKQ PLAINS DSCALTOP Southwest Gas Corporation Southwest Gas Corporation 11/01/2002 PLAINS 239 Mcf/d 9MZB 05/31/2006 DSCALTOP Southwest Gas Corporation Southwest Gas Corporation 9MZC 04/01/2003 05/31/2006 PLAINS DSCALTOP 2 Mcf/d Southwest Gas Corporation Southwest Gas Corporation 9NKG 11/01/2002 12/31/2004 PLAINS DSCALTOP 2 Mcf/d Texaco Natural Gas Inc. Chevron U.S.A. Inc. 97YF 04/01/1992 03/31/2007 PLAINS DSCALTOP 73 Mcf/d United States Gypsum Company Houston Energy Services Company, L.L.C. 9MEV 06/01/2001 2 Mcf/d 10/31/2007 PLAINS DSCALTOP **BP Energy Company BP Energy Company** 9M24 05/01/2001 12/31/2005 RIOVISTA DSCALTOP 7 Mcf/d **BP Energy Company BP Energy Company** 9MEX 06/01/2001 05/31/2006 RIOVISTA DSCALTOP 2 Mcf/d Duke Energy Trading and Marketing. **Duke Energy Field Services LLC** 06/01/2001 06/30/2006 9MEN RIOVISTA DSCALTOP 2 Mcf/d Kerr-McGee Corporation Kerr-McGee Corporation 9MEP 06/01/2001 05/31/2006 RIOVISTA DSCALTOP 12 Mcf/d

Customer TSA Start Date End Date Delivery MDQ Agent Receipt Los Angeles, City of Los Angeles. City of 9836 04/01/1992 03/31/2007 RIOVISTA DSCALTOP 345 Mcf/d San Diego Gas and Electric Company San Diego Gas and Electric Company 9NKE 11/01/2002 12/31/2004 RIOVISTA DSCALTOP 312 Mcf/d Southern California Edison Company Southern California Edison Company 11/01/2002 12/31/2004 DSCALTOP 13 Mcf/d 9NKD RIOVISTA United States Gypsum Company Houston Energy Services Company, L.L.C. 9MEV 06/01/2001 10/31/2007 RIOVISTA DSCALTOP 5 Mcf/d Aera Energy LLC Coral Energy Resources, L.P. 03/31/2007 97YK 04/01/1992 WAHA DSCALTOP 1,943 Mcf/d **BP Energy Company BP Energy Company** 05/01/2001 9M24 12/31/2005 WAHA DSCALTOP 2.048 Mcf/d **BP Energy Company BP Energy Company** DSCALTOP 9MEX 06/01/2001 05/31/2006 WAHA 730 Mcf/d Burlington Resources Trading Inc. Burlington Resources Trading Inc. 97YG 04/01/1992 03/31/2007 WAHA DSCALTOP 1.104 Mcf/d Duke Energy Trading and Marketing, **Duke Energy Field Services LLC** 9MEZ 06/01/2001 06/30/2006 WAHA DSCALTOP 3,021 Mcf/d Duke Energy Trading and Marketing, Duke Energy Field Services LLC 9MEN 06/01/2001 06/30/2006 WAHA DSCALTOP 755 Mcf/d El Paso Merchant Energy, L.P. El Paso Merchant Energy, L.P. 9MF2 06/01/2001 10/31/2006 WAHA DSCALTOP 779 Mcf/d Kerr-McGee Corporation Kerr-McGee Corporation 9MEP 06/01/2001 05/31/2006 WAHA DSCALTOP 122 Mcf/d Los Angeles. City of Los Angeles. City of 9836 04/01/1992 03/31/2007 WAHA DSCALTOP 3.496 Mcf/d PG&E Energy Trading-Gas Corporation PG&E Energy Trading-Gas Corporation 9MER 06/01/2001 03/31/2007 WAHA DSCALTOP 6.089 Mcf/d Saguaro Power Company Coral Energy Resources, L.P. 97YE 04/01/1992 03/31/2007 WAHA DSCALTOP 1.747 Mcf/d San Diego Gas and Electric Company San Diego Gas and Electric Company 9NKE 11/01/2002 12/31/2004 WAHA DSCALTOP 3,171 Mcf/d Sempra Energy Trading Corp. Sempra Energy Trading Corp. 9MJZ 06/01/2001 05/31/2006 WAHA DSCALTOP 242 Mcf/d Sempra Energy Trading Corp. Sempra Energy Trading Corp. 9MMU 06/01/2001 05/31/2007 WAHA DSCALTOP 1,740 Mcf/d Southern California Edison Company Southern California Edison Company 9NKD 11/01/2002 12/31/2004 WAHA DSCALTOP 3.414 Mcf/d Southern California Gas Company Southern California Gas Company 9NKF 11/01/2002 12/31/2004 WAHA DSCALTOP 4,235 Mcf/d Southern California Gas Company Southern California Gas Company 9NKB 11/01/2002 05/31/2006 WAHA DSCALTOP 1,096 Mcf/d Southern California Gas Company Southern California Gas Company 9NK8 11/01/2002 05/31/2006 WAHA DSCALTOP 1,096 Mcf/d Southern California Gas Company Southern California Gas Company 9NK9 11/01/2002 03/31/2007 WAHA DSCALTOP 11,884 Mcf/d Southern California Gas Company Southern California Gas Company 9NK5 11/01/2002 03/31/2007 WAHA DSCALTOP 10.735 Mcf/d Southern California Gas Company Southern California Gas Company 9NKL 11/01/2002 10/01/2006 WAHA DSCALTOP 1,096 Mcf/d Southern California Gas Company Southern California Gas Company 9NKP 11/01/2002 12/31/2005 WAHA DSCALTOP 1.230 Mcf/d Southwest Gas Corporation Southwest Gas Corporation 9NKQ 11/01/2002 12/31/2005 WAHA DSCALTOP 1,493 Mcf/d Southwest Gas Corporation Southwest Gas Corporation 9MZC 04/01/2003 05/31/2006 WAHA DSCALTOP 1.183 Mcf/d Southwest Gas Corporation Southwest Gas Corporation 11/01/2002 9NKG 12/31/2004 WAHA DSCALTOP 1.217 Mcf/d Texaco Natural Gas Inc. Chevron U.S.A. Inc. 97YF 04/01/1992 03/31/2007 WAHA DSCALTOP 9.422 Mcf/d U.S. Borax & Chemical Corporation **BP Energy Company** 97YH 04/01/1992 03/31/2007 WAHA DSCALTOP 1.570 Mcf/d Houston Energy Services Company, L.L.C. United States Gypsum Company 9MEV 06/01/2001 10/31/2007 WAHA DSCALTOP 63 Mcf/d TOTAL TO SoCal Topock = 552,417 Mcf/d 11/01/2002 02/28/2007 City of Las Cruces. New Mexico Coral Energy Resources, L.P. 9NJW **BLANCO INORBAJA** 23.827 Mcf/d City of Las Cruces, New Mexico Coral Energy Resources, L.P. 9NJW 11/01/2002 02/28/2007 BONDAD **INORBAJA** 1,191 Mcf/d Coral Energy Resources, L.P. 11/01/2002 02/28/2007 INORBAJA City of Las Cruces. New Mexico 9NJW BONDADST 4.530 Mcf/d City of Las Cruces, New Mexico Coral Energy Resources, L.P. 9MD8 06/01/2001 05/31/2006 **KEYSTONE** INORBAJA 11.418 Mcf/d

Customer	Agent	<u>TSA</u>	Start Date	End Date	<u>Receipt</u>	Delivery	MDQ
City of Las Cruces, New Mexico City of Las Cruces, New Mexico City of Las Cruces, New Mexico	Coral Energy Resources, L.P. Coral Energy Resources, L.P. Coral Energy Resources, L.P.	9NJW 9NJW 9NJW	11/01/2002 11/01/2002 11/01/2002	02/28/2007 02/28/2007 02/28/2007	KEYSTONE RIOVISTA WAHA Total to	INORBAJA INORBAJA INORBAJA <b>North Baja =</b>	3,544 Mcf/d 1,323 Mcf/d 18,575 Mcf/d <b>64,408 Mcf/d</b>

#### **QUESTION 4**

Please provide the deadlines facing each of the California Natural Gas Public Utilities and others identified below:

- a. For each contract which Your Utility currently has with interstate pipelines for firm transportation rights to California primary delivery points (identified by pipeline & Contract Demand amount, and pipeline delivery points) provide:
  - i. Date of expiration of contract
  - ii. Notice of termination date or exercise of first refusal date
- b. Provide any current interstate pipeline's open season deadline for expansions to California
- c. Provide LNG-related deadlines for access in Baja California
- d. Provide any other deadlines affecting long-term supply options

# RESPONSE 4

- a. Please see Table Q.4.
- b. On February 4, 2004 El Paso Natural Gas Company announced an open season which will end on March 4, 2004, to allow parties to submit bids for transportation service involving Line 1903, capacity on Mojave, and EPNG's existing pipeline system. Line 1903 refers to the portion of the All American Pipeline which lies within California. This open season contemplates moving gas from Topock or Daggett to Ehrenberg or East of California (EOC) markets either under extensions of existing contracts or through new contracts with EPNG.
- c. SoCalGas is only aware of the deadline referenced by the Commission in its OIR: "There is currently an open season deadline of September 1, 2004 for use of pipelines in Mexico and the United States for this natural gas to be transported to Arizona and other East of California locations." (R.04-01-025, at p.14)
- d. SoCalGas is not aware of any other deadlines affecting long-term supply options at this time.

Attachment:

- Table Q.4

# SoCalGas Responses to CPUC Data Requests, R.04-01-025 Table Q.4

	Acquired	Capacity	Capacity	Term Beginning		Termination		
Pipeline	Agreement Code	Mcf/Day	MMBtu/Day	Date	Term End Date	Notice Date	ROFR Date	Primary Delivery Point(s)
Transwestern	8255	300,676	306,000	10/01/1989	10/31/2005	11/01/2003	11/01/2004	North Needles
TW - San Juan Lateral	20715	196,520	200,000	01/09/1992	10/31/2005	11/01/2003	11/01/2004	Thoreau
El Paso	9M7N	202,281	206,934	04/01/2001	08/31/2006	03/01/2005	03/01/2006	SoCal Topock
El Paso	9M7M	157,407	161,027	04/01/2001	08/31/2006	03/01/2005	03/01/2006	PG&E Topock*
El Paso	9M7P	130,134	133,127	04/01/2001	08/31/2006	03/01/2005	03/01/2006	Mojave Topock
El Paso	9M7Q	50,178	51,332	04/01/2001	08/31/2006	03/01/2005	03/01/2006	Ehrenberg
El Paso	9M7L	610,000	624,030	04/01/2001	08/31/2006	03/01/2005	03/01/2006	Ehrenberg
El Paso	9MME	3,337	3,414	06/01/2001	08/31/2006	03/01/2005	03/01/2006	SoCal Topock
El Paso	9MMF	11,163	11,420	06/01/2001	08/31/2006	03/01/2005	03/01/2006	Ehrenberg
El Paso	9MMG	3,886	3,975	06/01/2001	08/31/2006	03/01/2005	03/01/2006	SoCal Topock
El Paso Turnback	9NK5	32,727	33,480	11/01/2002	03/31/2007	N/A	10/01/2006	SoCal Topock
El Paso Turnback	9NK6	7,000	7,161	11/01/2002	02/28/2007	N/A	09/01/2006	Ehrenberg
El Paso Turnback	9NK8	3,336	3,413	11/01/2002	05/31/2006	N/A	12/01/2005	SoCal Topock
El Paso Turnback	9NK9	36,229	37,062	11/01/2002	03/31/2007	N/A	10/01/2006	SoCal Topock
El Paso Turnback	9NKB	3,336	3,413	11/01/2002	05/31/2006	N/A	12/01/2005	SoCal Topock
El Paso Turnback	9NKC	3,886	3,975	11/01/2002	05/31/2006	N/A	12/01/2005	SoCal Topock
El Paso Turnback	9NKF	12,904	13,201	11/01/2002	12/31/2004	N/A	N/A	SoCal Topock
El Paso Turnback	9NKH	5,677	5,808	11/01/2002	06/30/2006	N/A	01/01/2006	Ehrenberg
El Paso Turnback	9NKJ	3,886	3,975	11/01/2002	05/31/2006	N/A	12/01/2005	SoCal Topock
El Paso Turnback	9NKL	3,336	3,413	11/01/2002	10/01/2006	N/A	04/01/2006	SoCal Topock
El Paso Turnback	9NKM	2,605	2,665	11/01/2002	05/31/2006	N/A	12/01/2005	Ehrenberg
El Paso Turnback	9NKN	12,813	13,108	11/01/2002	05/31/2006	N/A	12/01/2005	Ehrenberg
El Paso Turnback	9NKP	3,746	3,832	11/01/2002	12/31/2005	N/A	N/A	SoCal Topock
El Paso Turnback	9NKK	7,524	7,697	10/01/2003	05/31/2006	N/A	12/01/2005	Ehrenberg

Please note that the above is not adjusted for capacity currently under release by SoCalGas.

\* There is a pending primary delivery point change from PG&E Topock to Ehrenberg for an annual average of 60,385 Mcf/d.

## **QUESTION 5**

Provide the following information concerning increasing access to Kern River.<sup>1</sup>

- a. Locations where intrastate pipelines currently interconnect with Kern River and their current interconnection capacity.
- b. Estimate of costs of expansions at each interconnection at different amounts of capacity expansions (e.g., 100 MMcf/d, 200 MMcf/d).
- c. Amount of Kern River capacity available throughout the year to California Natural Gas Public Utilities.  $\frac{2}{3}$

### **RESPONSE 5**

- a. SoCalGas' transmission system interconnects with the Kern River Pipeline at its Kramer Junction receipt point, located in T10N-R6W-S4. SoCalGas also interconnects with the common Kern/Mojave pipeline at its Wheeler Ridge receipt point, located in T11N-R20W-S4. SoCalGas can receive 200 MMcfd at Kramer Junction and 765 MMcfd at Wheeler Ridge on a firm basis.
- b. In its Cost of Service Application, A.02-12-027, and its 2005 Biennial Cost Allocation Proceeding (BCAP) Application, A.03-09-008, SoCalGas sponsored testimony addressing, in part, the facility improvements necessary to provide an expansion of 200 MMcf/d of additional take-away capacity at any one of its existing interstate receipt points. The costs shown below would likely be higher if more than one of these receipt points is expanded. Any one of these improvements would expand the SoCalGas system receipt and redelivery capacity to 4,075 MMcf/d (see Table Q.5.b).

200 MMcf/d 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 Junction	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

Table Q.5.b: Backbone Transmission Ex	pansion Options
---------------------------------------	-----------------

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.

 $<sup>^{1}</sup>$  PG&E and SoCalGas are the only utilities which need to respond to this request.

 $<sup>^{2}</sup>$  Assume for this data request that capacity under contracts with Nevada companies and capacity under contracts to direct connection customers are not available throughout the year to the California Natural Gas Public Utilities.

As noted in SoCalGas' Firm Right for California Application, A.03-06-040, there is an additional interconnect capacity with the Kern River pipeline at Kramer Junction of 300 MMcf/d in existence today. Since this interconnect capacity already exists, there is no incremental cost. However, that capacity competes for access to the SoCalGas transmission system with existing supplies delivered by El Paso at Topock, Southern Trails and Transwestern at North Needles, Mojave at Hector Road, and with the existing 200 MMcf/d of capacity at Kramer Junction. Hence this capacity is only available on a "displacement" basis. To allow this 200 MMcf/d to be accepted and redelivered without displacing other supplies, facility improvements described in Table 4 for Kramer Junction are required. As discussed in our proposal in more detail, the system of firm access rights proposed by SDG&E and SoCalGas would permit an additional 300 MMcf/d of supplies to be accepted and redelivered from Kern River on a firm basis in competition with other firm "North Desert" deliveries.

c. Please see Table Q.5.c. This table shows contracts on the Kern River Pipeline system. This response eliminates any capacity under contract with Nevada and Utah companies and capacity under contract to direct connection customers that may not be available throughout the year to the California Natural Gas Public Utilities.

#### Attachment:

- Table Q.5.c

					Contract			Individual	Total CA	
	Contract	Contract	Rate	Contract	Termination	Evoraroon		Point	Point	
Shipper Name	#	MDQ	Schedule		Date	Indicator	Point Name	Quantity	Quantity (3)	Footnote
					2400			~~~····	Quantity (0)	
AERA ENERGY LLC	1007	51,750	SH-1	05/06/1992	09/30/2016	Y	Wheeler Ridge - SoCal Gas	8,750		
ALLEGHENY ENERGY SUPPLY COMPANY, LLC	1711	45,122	KRF-1	05/01/2003	04/30/2018		Wheeler Ridge - SoCal Gas	25,122		
							Kramer Junction - SoCal	20,000	45,122	
ANADARKO E&P COMPANY LP	1005	77,625	UP-1	05/01/1992	09/30/2016	Y	Wheeler Ridge - SoCal Gas	67,350		
BP ENERGY COMPANY	1000	51,750	KRF-1	03/01/1992	09/30/2011	Y	Wheeler Ridge - SoCal Gas	31,569		
CALPINE ENERGY SERVICES, L.P.	1703	50,000	KRF-1	05/01/2003	04/30/2018		Wheeler Ridge - SoCal Gas	50,000		
CALPINE ENERGY SERVICES, L.P.	1705	50,000	KRF-1	05/01/2003	04/30/2018		Daggett - PG&E	42,835		
							Wheeler Ridge - SoCal Gas	7,165	50,000	
CHEVRON USA INC.	1002	77,625	CH-1	06/01/1992	09/30/2016	Y	Wheeler Ridge - SoCal Gas	65,000		
CHEVRON USA INC.	1101	3,500	KRF-1	05/01/2002	04/30/2012		Wheeler Ridge - SoCal Gas	35,000		
CITY OF REDDING	1704	1,000	KRF-1	05/01/2003	04/30/2018		Daggett - PG&E	1,000		
CORAL ENERGY RESOURCES, L.P.	1004	16,560	KRF-1	03/01/1992	09/30/2016	Y	Daggett - PG&E	5,000		
							Wheeler Ridge - SoCal Gas	16,000	16,560	
CORAL ENERGY RESOURCES, L.P.	1502	37,933	MO-1	05/16/1992	09/30/2016	Y	Daggett - PG&E	15,795		
							Wheeler Ridge - SoCal Gas	6,650	22,445	
DEPT OF WATER & POWER CITY OF L.A.	1006	112,815	KRF-1	03/01/1992	09/30/2016	Y	Wheeler Ridge - SoCal Gas	86,954		
							Kramer Junction - SoCal	23,899	110,853	
DEPT OF WATER & POWER CITY OF L.A.	1706	39,000	KRF-1	05/01/2003	04/30/2018		Kramer Junction - SoCal	39,000		
DUKE ENERGY TRADING & MARKETING, L.L.C.	1087	12,500	KRF-1	05/01/2002	04/30/2017		Wheeler Ridge - SoCal Gas	12,500		
DUKE ENERGY TRADING & MARKETING, L.L.C.	1503	37,933	MO-1	05/16/1992	09/30/2011	Y	Daggett - PG&E	15,795		
							Wheeler Ridge - SoCal Gas	6,650	22,445	
EL PASO MERCHANT ENERGY, L.P.	1710	78,659	KRF-1	05/01/2003	04/30/2013		Wheeler Ridge - SoCal Gas	28,659		
OCCIDENTAL ENERGY MARKETING, INC.	1092	50,000	KRF-1	05/01/2002	04/30/2017		Wheeler Ridge - SoCal Gas	50,000		
QUESTAR ENERGY TRADING	1094	1,500	KRF-1	05/01/2003	04/30/2018		Wheeler Ridge - SoCal Gas	1,500		
QUESTAR ENERGY TRADING	1721	10,000	KRF-1	05/01/2003	04/30/2013		Wheeler Ridge - SoCal Gas	10,000		
QUESTAR ENERGY TRADING	1722	10,000	KRF-1	05/01/2003	04/30/2018		Wheeler Ridge - SoCal Gas	10,000		
RELIANT ENERGY SERVICES, INC.	1506	87,975	KRF-1	11/01/2001	09/30/2016		Wheeler Ridge - SoCal Gas	44,000		(1)
RELIANT ENERGY SERVICES, INC.	1716	200,000	KRF-1	05/01/2003	04/30/2018		Wheeler Ridge - SoCal Gas	65,278		
							Kramer Junction - SoCal	134,722	200,000	
SACRAMENTO MUNICIPAL UTILITY DISTRICT	1717	20,000	KRF-1	05/01/2003	04/30/2018		Daggett - PG&E	20,000		
SEMPRA ENERGY TRADING CORP.	1014	11,075	KRF-1	03/01/1992	09/30/2016	Y	Wheeler Ridge - SoCal Gas	11,096		
SEMPRA ENERGY TRADING CORP.	1505	10,350	KRF-1	03/01/1992	09/30/2011	Y	Wheeler Ridge - SoCal Gas	10,000		
SEMPRA ENERGY TRADING CORP.	1507	10,350	KRF-1	03/01/1992	09/30/2016	Y	Wheeler Ridge - SoCal Gas	10,000		
SENECA RESOURCES CORPORATION	1009	4,658	CH-1	05/01/1992	09/30/2016	Y	Wheeler Ridge - SoCal Gas	4,500		
WILLIAMS POWER COMPANY, INC.	1016	56,925	KRF-1	03/01/1992	09/30/2016	Y	Wheeler Ridge - SoCal Gas	30,000		
							Kramer Junction - SoCal	25,000	55,000	
WILLIAMS POWER COMPANY, INC.	1074	25,875	KRF-1	03/01/2002	09/30/2016		Kramer Junction - SoCal	25,625		(2)
WILLIAMS POWER COMPANY, INC.	1089	27,000	KRF-1	05/01/2002	04/30/2017		Kramer Junction - SoCal	27,000		

#### SoCalGas Responses to CPUC Data Requests, R.04-01-025

Table Q.5.c: Kern River Gas Transmission Company Interstate Transportation Contracts (with California primary delivery points) as of 2/4/2004

1) Reliant Energy Services seasonal agreement for the period April - October

2) Williams Power seasonal agreement for the period March - November

3) Total CA Point Quantity is the lessor of the Contract MDQ and the Total Individual Point Quantity

## **QUESTION 6**

Please provide the range of new supply access costs for proposed LNG facilities at Otay Mesa, Long Beach and Oxnard that represent the best estimate of Your Utility.  $\frac{1}{2}$ 

### **RESPONSE 6**

The costs discussed below are the best estimates available at this point in time given the large number of potential combinations and permutations of options. SDG&E's and SoCalGas current systems are depicted in Map Q.6.1 and Q.6.2, respectively.

The magnitude of intrastate facility costs depends largely upon the interconnect location of the new or expanded supply source, the size of the new or expanded source, and whether the source is allowed to displace existing supply sources such that the total 3,875 MMcf/d firm receipt point and redelivery capacity remains the same, or whether the new or expanded interconnect location is allowed to increase the firm receipt point and redelivery capacity of the entire system.

The costs set forth below are factored estimates (generally +/- 30%) based on recent like projects in similar areas. They do not represent detailed construction estimates. The estimates do not include the costs of facilities necessary to reach the SoCalGas/SDG&E systems. Costs assume that the delivery pressure is sufficient to enter the SoCalGas/SDG&E systems. Finally, the cost estimates assume that each project was built on an individual basis; that is, only the project in question is being added to the SoCalGas/SDG&E system. If multiple projects are built at once or sequentially, costs are not necessarily the sum of the individual projects but are likely to require facilities in addition to those included in these cost estimates. This effect is discussed below in more detail.

In R.04-01-025, the Commission directed SoCalGas and SDG&E to address the costs of capacity expansion for interconnecting facilities and intrastate pipelines to facilitate LNG supply availability to California at Otay Mesa or at any receipt point in or near the utilities' service territory (i.e., onshore or offshore California).

SoCalGas and SDG&E have examined three locations on the SoCalGas/SDG&E transmission system for the receipt of LNG supplies. These sites are:

- Otay Mesa meter station on the SDG&E system near the U.S./Mexico border;
- Salt Works Station on the SoCalGas system near Long Beach; and
- Center Road Station on the SoCalGas system near Oxnard.

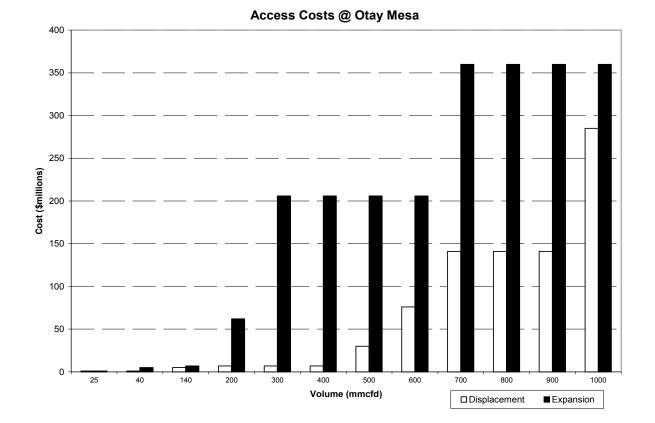
Each of these potential locations was evaluated at several levels of new supply, and system improvements were identified based on both a "displacement" and an "expansion" basis. On a displacement basis, new supplies would compete for existing pipeline delivery capacity and potentially displace current supplies, i.e. the SoCalGas system firm receipt and redelivery capacity would remain 3,875 MMcf/d. On an expansion basis, the SoCalGas system firm receipt and redelivery capacity would be expanded beyond 3,875 MMcf/d to accommodate the new supply without displacing the receipt of current supplies. Each potential receipt point is discussed in detail below.

 $<sup>^{1}</sup>$  This request applies to SoCalGas and SDG&E only. It can be the presentation by David G. Taylor on December 10, 2003 at the CPUC-CEC workshop (Panel II D-LNG Facilities) or updated information in the same format and methodology as used in that presentation.

#### **Otay Mesa**

The SDG&E gas transmission system terminates at the Otay Mesa meter station near the U.S./Mexico border. The current SDG&E transmission system is indicated in Map Q.6.1. The SDG&E transmission system was originally designed and constructed to receive gas supplies in the north from SoCalGas and move those supplies to load centers in the south.

With system improvements on the SoCalGas/SDG&E system, including at the Otay Mesa meter station, gas supplies could be received at Otay Mesa and moved north for use by SDG&E or SoCalGas customers from a Mexican pipeline, such as the Transportadora de Gas Natural (TGN) pipeline. Supplies in excess of the local San Diego demand would need to be redelivered into the SoCalGas system at Rainbow Station. Figure Q.6.1 and Table Q.6.1 below present the preliminary cost estimates for the facilities necessary to accept and redeliver supplies at Otay Mesa for several assumed levels of delivered supply.



#### Figure Q.6.1

	Cost	Delivered volume (MMCF/D)											
Facility Improvement	\$MM	25	40	140	200	300	400	500	600	700	800	900	1000
Reverse existing meter at Otay Mesa	1	0	0	$\bigcirc ullet$									
Minor improvements to SDG&E system	4		•	$\bigcirc ullet$									
Modify Moreno compressor station	2			•	$\bigcirc ullet$	$\circ \bullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$				
Santee-Miramar pipeline	23							0					
Santee-Escondido pipeline	69					•	•	•	$\bigcirc ullet$				
Escondido-Rainbow pipeline	65									$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$
Border-Santee pipeline	89									•			$\bigcirc ullet$
Moreno-Chino looping on SoCalGas system	55				•	•	•	•	•	•	•	•	$\bigcirc ullet$
Moreno-Prado looping on SoCalGas system	75					•	•	•	•	•	•	•	

Table Q.6.1 Access Costs Detail, Otay Mesa

O Displacement basis

Expansion basis

A basic set of facility improvements is required on the SDG&E system to reverse the flow of gas in the SDG&E system and accept any significant volume of supply delivered at Otay Mesa. These improvements include changes to the piping and valving at the Otay Mesa meter station to "reverse" the station and flow gas from the south to the north; minor improvements on the SDG&E system such as the removal of check valves and the construction of new pressure limiting stations; and for all but a nominal level of supply delivered at Otay Mesa, modifications to SDG&E's Moreno compressor station to enable it to compress gas supply from the SDG&E system so that it can enter the SoCalGas system.<sup>2</sup> This is required because any supply delivered into the SDG&E system in excess of the SDG&E system demand must be redelivered into the SDG&E system. SoCalGas and SDG&E have estimated the minimum level of demand on the SDG&E system to be approximately 140 MMcf/d.

Improvements to the SDG&E/SoCalGas system beyond this basic set are determined by the level of supply delivered at Otay Mesa and whether or not that supply expands SoCalGas' system receipt and redelivery capacity of 3,875 MMcf/d. Volumes received at Otay Mesa would be delivered ultimately into a single 36-inch diameter pipeline that runs from the Otay Mesa meter station to Santee. At Santee, the 36-inch diameter pipeline interconnects with a 20-inch diameter pipeline, which supplies SDG&E's 30- and 16-inch diameter transmission mains running south from Rainbow Station. As the volumes delivered at Otay Mesa increase, the 20-inch diameter pipeline becomes a constraint to transporting supply to the SDG&E load centers and for redelivery to SoCalGas, requiring looping on the SDG&E system.

 $<sup>\</sup>frac{2}{2}$  All improvements except the modification to the Moreno compressor station are currently underway. These projects were presented as Project Number 2466, Pressure Betterment – Otay Mesa Meter Station in A.02-12-028 and SDG&E agreed to proceed with Project Number 2466 as part of a settlement agreement.

On the SoCalGas system, the capacity west of Moreno Station is 760 MMcf/d. Therefore, at the highest volumes delivered at Otay Mesa (or for all but nominal volumes delivered at Otay Mesa on an expansion basis), looping on the SoCalGas system west of Moreno Station is also required.

Delivery pressure requirements at Otay Mesa range from 700 to 800 psig, depending upon the volume delivered.

### Salt Works Station – Long Beach

SoCalGas' transmission Line 765 terminates at Salt Works Station near the Long Beach/L.A. Harbor area. Line 765 is a relatively new 30-inch diameter pipeline that runs in a north/south direction across the Los Angeles basin. Most of the transmission pipelines in the Los Angeles basin have a Maximum Allowable Operating Pressure (MAOP) of 465 psig. Line 765, however, has an MAOP of 650 psig. This large diameter pipeline with a higher MAOP and close proximity to the L.A. Harbor is an ideal receipt point for new supplies delivered into the Los Angeles basin. Figure Q.6.2 and Table Q.6.2 below present the preliminary cost estimates for accepting supplies at Salt Works Station at various assumed volume levels on both a displacement and expansion basis. These cost estimates only include costs necessary to improve the SoCalGas system; they do not include any costs upstream of the receipt point, such as pipeline between the supplier (such as an LNG plant) and Salt Works Station or compression to meet delivery pressure requirements.

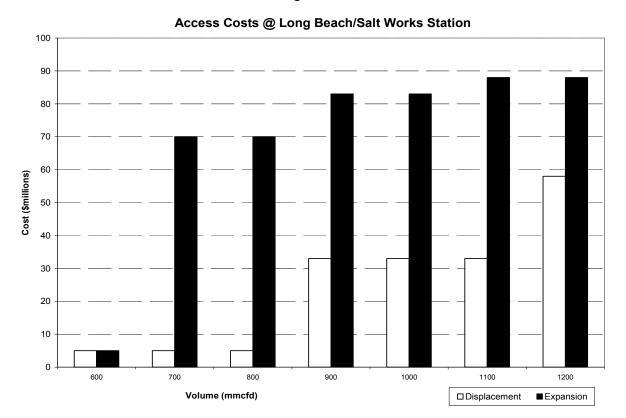


Figure Q.6.2

			-					
	Cost	Delivered volume (MMCF/D)						
Facility Improvement	\$MM	600	700	800	900	1000	1100	1200
Improvements at Salt Works Station	5	$\bigcirc igodot$	$\bigcirc lacksquare$	$\bigcirc igodot$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc igodot$	$\bigcirc igodot$
Partially loop Line 765	13				$\bigcirc igodot$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$
Rebuild existing pressure limiting stations	2		•	•	$\bigcirc igodot$	$\bigcirc ullet$	$\bigcirc igodot$	$\bigcirc igodot$
New compressor station at Quigley	20 - 50						•	$\bigcirc igodot$
New compressor station at Brea	13				$\bigcirc ullet$	$\bigcirc igodot$	$\bigcirc igodot$	$\bigcirc igodot$
Modify Moreno compressor station	2						•	$\bigcirc igodot$
New compressor station at Shaver Summit	3						•	$\bigcirc igodot$

### Table Q.6.2

#### Access Costs Detail, Long Beach

 $\bigcirc$  Displacement basis

Expansion basis

Approximately 60% of the entire SoCalGas system demand and nearly all of the southern California electric generation demand is located in the Los Angeles basin. This high concentration of demand allows for relatively large volumes of supply to be accepted at Salt Works Station without significant facility investment, particularly on a displacement basis. However, under low demand conditions when the supply delivered at Salt Works Station exceeds the Los Angeles basin demand, the excess supply has no access to load centers outside of the Los Angeles basin because the piping in the Los Angeles basin operates at a lower pressure than the remainder of the SoCalGas transmission system. New compression therefore would be required to transport the excess supply out of the Los Angeles basin, into one of SoCalGas' high pressure transmission pipelines, and redeliver the gas to other SoCalGas or SDG&E load centers.

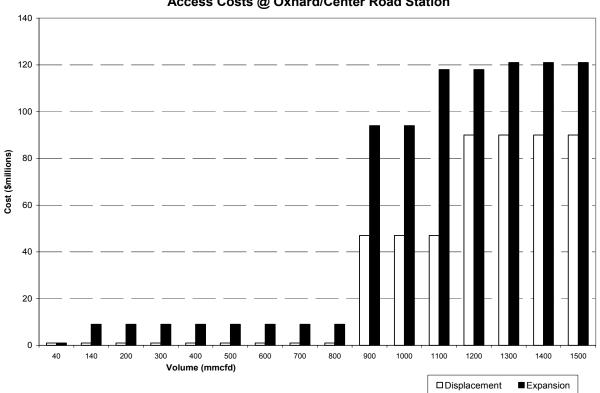
SoCalGas has identified locations at two of its "city gates" where new compression could be sited – a 25,000 HP compressor station at Quigley Station <sup>3</sup> in the north of the Los Angeles basin and an 8,000 HP compressor station at Brea Station in the east. Gas compressed out of the Los Angeles basin at Quigley Station could be used to meet customer demand in the San Joaquin Valley, in the Ventura/Oxnard area, and in the Inland Empire and High Desert communities. A compressor station at Brea Station can be used to redeliver the excess Los Angeles basin supply to communities in Riverside and San Diego counties. By adding a smaller 850 HP compressor station at Shaver Summit, this excess supply could even serve communities in the Imperial Valley. Note, however, that compressors at Brea and Shaver Summit, as well as modifications to the Moreno compressor station so that gas can flow east, are only necessary for the higher volumes assumed to be delivered at Salt Works Station.

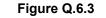
As noted above, SoCalGas' pipeline system at Salt Works Station has an MAOP of 650 psig. Therefore, new suppliers must be able to deliver at pressures up to this MAOP at Salt Works Station.

 $<sup>\</sup>frac{3}{10,000}$  HP under the displacement scenario.

#### **Center Road Station – Oxnard**

Figure Q.6.3 and Table Q.6.3 below present the preliminary cost estimates for accepting supplies at Center Road Station for varying assumed volumes of delivered supply on both a displacement and expansion basis. As in the case with a receipt point at Otay Mesa or Salt Works Station, these cost estimates do not include any costs upstream of the receipt point.





#### Access Costs @ Oxnard/Center Road Station

# <u>RESPONSE 6</u> (continued)

	Cost	Cost Delivered volume (MMCF/D)									
Facility Improvement	\$MM	40	140	200	300	400	500	600	700	800	900
Improvements at Center Road Station	1	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc igodot$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$
Loop Line 225, Saugus to Quigley	8 - 10		•	•	•	•	•	•	•	•	•
Loop Line 324	40 - 60										$\bigcirc igodot$
Rebuild existing PLS/crossovers	6										$\bigcirc ullet$
Loop Line 225, Honor to Saugus	3										•
Extend Line 3008	6 - 10										
New compression at Brea (10,000 HP)	25										•
New compression at Shaver (300 HP)	1										•
Modify Moreno compressor station	2										•

Table Q.6.3

Access Costs Detail, Oxnard

O Displacement basis

• Expansion basis

	Cost	Delivered volume (MMCF/D)								
Facility Improvement	\$MM	1000	1100	1200	1300	1400	1500			
Improvements at Center Road Station	1	$\bigcirc igodot$	$\bigcirc igodot$	$\bigcirc igodot$	$\bigcirc igodot$	$\bigcirc ullet$	$\bigcirc ullet$			
Loop Line 225, Saugus to Quigley	8 - 10	•	•	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$			
Loop Line 324	40 - 60	$\bigcirc igodot$	$\bigcirc igodot$	$\bigcirc igodot$	$\bigcirc igodot$	$\bigcirc ullet$	$\bigcirc igodot$			
Rebuild existing PLS/crossovers	6	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$			
Loop Line 225, Honor to Saugus	3	•	•	$\bigcirc ullet$	$\bigcirc igodot$	$\bigcirc ullet$	$\bigcirc ullet$			
Extend Line 3008	6 - 10	•	•	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc ullet$	$\bigcirc igodot$			
New compression at Brea (10,000 HP)	25	•	•	•	•	•	•			
New compression at Shaver (300 HP)	1	•	•	•	•	•	•			
Modify Moreno compressor station	2	•	•	•	•	•	•			
New compression at Wheeler Ridge (1,000 HP)	3				•	•	•			

○ Displacement basis

• Expansion basis

SoCalGas' Center Road Station in Oxnard interconnects transmission Lines 324, 404, and 406. This feature makes Center Road Station a logical point to receive new supplies delivered in the Oxnard/Ventura area. Supplies delivered at Center Road Station would have access to load centers in Ventura and Santa Barbara Counties, and communities north of Gaviota along the California coast.

With improvement to the SoCalGas system, supply in excess of the local Coastal System demand (minimum local demand estimated to be 50 MMcf/d) can be redelivered to the Los Angeles basin load centers via Lines 404 and 406, or transported to Line 225 via Line 324 and redelivered to load centers in the San Joaquin Valley, Inland Empire, and High Desert communities.

Receipts at Center Road Station must be able to meet the MAOP of the SoCalGas transmission system, which is approximately 800 psig at this location. If a new pipeline is required in order to deliver supplies to Center Road Station, delivered pressure into that pipeline by the supplier may need to be significantly greater than 800 psig in order to meet this pressure requirement at Center Road Station. The level of delivered pressure into this new pipeline would be a function of the distance from the supplier to Center Road Station, the diameter of the new pipeline, and the volume of supply transported to Center Road Station.

It should be noted that the "displacement" and "expansion" cases are not mutually exclusive at all assumed volume levels. Some of the facility improvements necessary to accept and redeliver supplies on a displacement basis also have the effect of increasing SoCalGas' overall system receipt and redelivery capacity of 3,875 MMcf/d as the figures and tables shown above demonstrate.

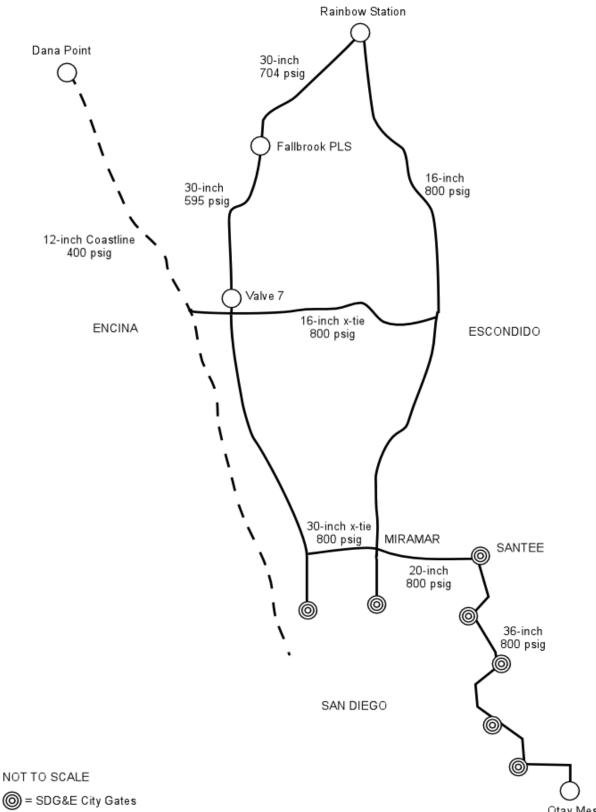
For example, it would not cost significantly more to accept 140 MMcf/d at Otay Mesa on an expansion basis than a displacement basis. At Salt Works Station, it costs the same to accept and redeliver 600 MMcf/d on either a displacement or expansion basis. At Center Road Station, it costs the same to increase the receipt point and redelivery capacity by 40 MMcf/d on either a displacement or expansion basis, but it also should be noted that SoCalGas' total system receipt and redelivery capacity can be increased by 800 MMcf/d by adding facilities costing less than \$20 million to accept supplies at Salt Works Station as depicted in Figure Q.6.3 and Table Q.6.3 above. Of course, at higher volumes at each of these receipt points, the cost of facilities necessary to increase the system receipt and redelivery capacity is much greater than the cost of facilities necessary to accept and redeliver volumes that would displace supplies from existing receipt points.

### **Multiple LNG Receipt Points**

SoCalGas and SDG&E have also examined the system improvements necessary to establish two receipt points simultaneously for LNG on the SoCalGas/SDG&E transmission system. For this assessment, SoCalGas examined potential volumes delivered at Otay Mesa, Salt Works Station, and Center Road Station. The scenarios examined were (1) 600 MMcf/d delivered at Otay Mesa and 800 MMcf/d delivered at Center Road Station; and (2) 600 MMcf/d delivered at Otay Mesa and 800 MMcf/d delivered at Salt Works Station. Of course, many other scenarios are possible, but SoCalGas has not attempted to examine every possible combination. These cost figures are intended to illustrate how facility costs do or do not increase if significant volumes are received at multiple receipt points.

For the Otay Mesa/Center Road Station combination, the facility improvements amount to the sum of the improvements identified for each individual receipt point. As shown in Tables Q.6.1 and Q.6.3 above, \$90 million in facility improvements is required for access on a displacement basis, and \$220 million in facility improvements on an expansion basis at the assumed volumes. This result is due to the fact that both projects largely utilize separate facilities to reach ultimate load centers and for the most part serve separate load centers.

For the Otay Mesa/Salt Works Station combination, the facility improvements are greater than the sum of the individual improvements for each of the individual receipt points on an expansion basis, but they are the sum of each individual project cost on a displacement basis. Individually, both receipt points make use of the same existing transmission facilities to access the same load centers under this scenario. Transmission capacity is therefore insufficient for a scenario that assumes that significant volumes are delivered at both receipt points. In addition to the facility improvements shown in Tables Q.6.1 and Q.6.2, a new 36-inch diameter pipeline between Blythe and Needles on the SoCalGas system, and additional looping on Line 765, is required on an expansion basis. These additional improvements are estimated to cost approximately \$135 million. Therefore, using the figures shown in Tables Q.6.1 and Q.6.2, \$85 million in facility improvements is required under a displacement basis, and \$410 million is required on an expansion basis under this scenario.

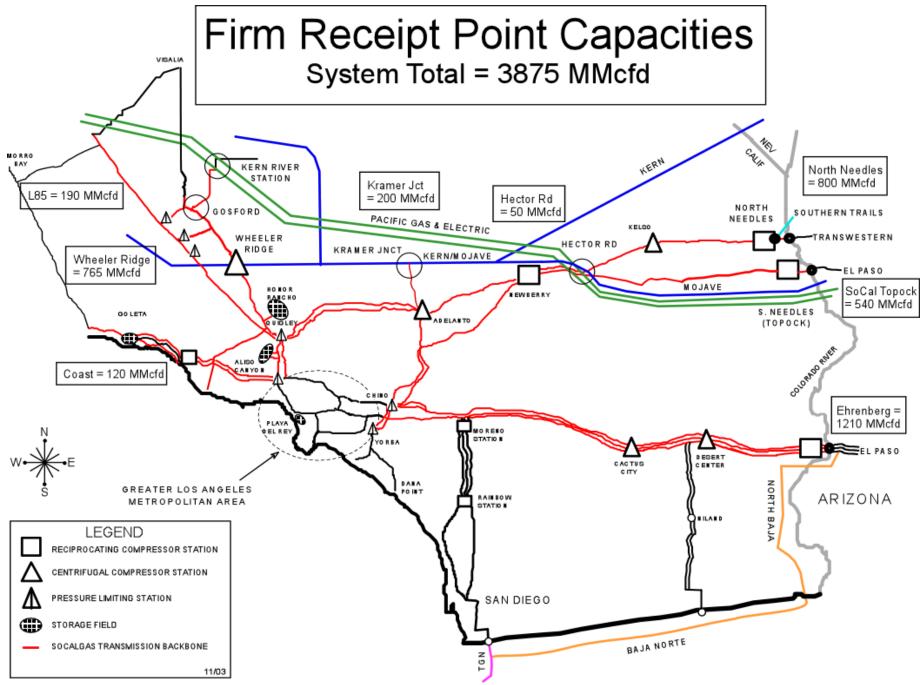


MAP Q.6.1 - CURRENT SDG&E GAS SYSTEM

SDG&E City Gates

Otay Mesa

# MAP Q.6.2 – CURRENT SOCALGAS SYSTEM



NOT TO SCALE