

1 Application No: _____
2 Exhibit No.: _____
3 Witness: Thanathep E. Trinooson

4 _____)
5 In the Matter of the Application of Southern)
6 California Gas Company (U 904 G), San Diego Gas)
7 & Electric Company (U 902 M) and Southern)
8 California Edison Company (U 338 E) for Approval)
9 of Changes to Natural Gas Operations and Service)
10 Offerings)

A.06-07-____
(Filed August 28, 2006)

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13 **PREPARED DIRECT TESTIMONY**
14
15 **OF THANATHEP E. TRINOOSON**
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17 **SAN DIEGO GAS & ELECTRIC COMPANY**
18
19 **AND**
20
21 **SOUTHERN CALIFORNIA GAS COMPANY**

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27 **BEFORE THE PUBLIC UTILITIES COMMISSION**
28 **OF THE STATE OF CALIFORNIA**
August 28, 2006

TABLE OF CONTENTS

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28

Page

A. QUALIFICATIONS 1

B. PURPOSE 1

C. SOUTHERN TRANSMISSION SYSTEM 1

D. MINIMUM FLOW REQUIREMENTS 2

E. SYSTEM EXPANSION STUDIES 3

1
2
3
4 **PREPARED DIRECT TESTIMONY
OF THANATHEP E. TRINOOSON**

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8 **A. QUALIFICATIONS**

9 My name is Thanathep E. Trinooson. I am employed by Southern California Gas
10 Company (SoCalGas) as a Senior Engineer in the Gas Transmission Planning Department. My
11 business address is 555 West Fifth Street, Los Angeles, California, 90013-1011.

12 I received a Bachelor of Science degree in Mechanical Engineering from the University
13 of California at Riverside in 2001. I have been employed by SoCalGas since 2000, and have
14 held positions within the Gas Distribution, Gas Engineering, and Pipeline System Control and
15 Planning departments.

16 I have held my current position since November, 2005. My current responsibilities
17 include the design and planning of SoCalGas and San Diego Gas & Electric Company's
18 (SDG&E's) gas transmission and storage systems.

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22 **B. PURPOSE**

23 The purpose of my testimony is to: (1) discuss the Southern Transmission System and its
24 minimum flow requirements that will shift to the System Operator under the Edison Settlement;
25 and (2) to describe the system expansion studies SoCalGas and SDG&E will perform for the
26 SDG&E and SoCalGas interconnect points, backbone system, and storage facilities as a result of
27 the Edison Settlement.

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31 **C. SOUTHERN TRANSMISSION SYSTEM**

32 A schematic of the SoCalGas gas transmission system is shown in Figure 1. The
33 SoCalGas Southern Transmission System consists primarily of three high-pressure pipelines
34 extending westward from the Colorado River near Blythe to Moreno Station in the City of
35 Moreno Valley and two high-pressure pipelines extending westward from Moreno Station to the
36 Los Angeles Basin. Three high-pressure pipelines also extend southward from Moreno Station

1 to the SDG&E gas transmission system.¹ Additionally, compressor stations are located near
2 Blythe, Desert Center and Cactus City to boost pressures westward along the system and near
3 Moreno Valley and Temecula to boost pressures south into San Diego.

4 The Southern Transmission System was primarily designed to receive gas from El Paso
5 Natural Gas (El Paso) at the Colorado River near Blythe and redeliver it to load centers in the
6 Imperial Valley, San Diego and the Los Angeles basin. Furthermore, the system consists of
7 pipelines with “telescoping” operating pressures as gas moves from the receipt point towards the
8 load centers. Specifically, the pipelines’ Minimum Operating Pressures (MinOPs) and
9 Maximum Allowable Operating Pressures (MAOPs) are higher at the Blythe receipt point and
10 lower near the load centers.

11 The Southern Transmission System can receive additional supplies from other pipelines
12 within the SoCalGas transmission system by the use of two valve stations located along each of
13 the two high-pressure pipelines extending westward from Moreno Station. These two valve
14 stations are Chino and Prado Stations near the cities of Chino and Corona, respectively. Supplies
15 from Chino and Prado Stations can flow both westward to the Los Angeles basin and eastward to
16 Moreno Station. Lastly, scheduled supplies can also be delivered on the Southern Transmission
17 System at Otay Mesa, if improvements are made to receive supplies at this receipt point.

18 19 **D. MINIMUM FLOW REQUIREMENTS**

20 Unlike other transmission systems within SoCalGas’ system,² the Southern Transmission
21 System requires minimum flow volumes at the Blythe receipt point to maintain service to its
22 customers in the Imperial Valley and San Diego load centers and other communities in San
23 Bernardino and Riverside Counties. While supplies from the Chino and Prado Stations can flow
24 eastward, these stations cannot entirely meet the demand of the Southern Transmission System
25 during peak periods. Additionally, due to the telescoping operating pressures of the pipelines,

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27 ¹ SoCalGas’ Gas Control department operates the SDG&E gas transmission system on behalf of SDG&E, and the
SDG&E gas transmission system has been essentially part of the SoCalGas Southern Transmission System for
operating purposes since the Pacific Enterprises/Enova Corp. merger.

28 ² Other transmission systems within SoCalGas’ system are highly interconnected with a large degree of redundancy
and allow flow in multiple directions. The Southern Transmission System from the Colorado River to Moreno
Station, however, only allows flow in the east-to-west direction.

1 higher MinOPs of the pipelines east of Moreno Station restrict further eastward flow. In other
2 words, supplies delivered at the pipeline MAOP from Chino and Prado Stations arrive at Moreno
3 Station at pressures lower than the MinOP east of Moreno Station. As a result, the remainder of
4 supplies not met by the Chino and Prado Station volumes establishes the level of minimum
5 flowing supplies that must be delivered from El Paso at the Blythe receipt point to maintain
6 service to customers on the Southern Transmission System.

7 Furthermore, under current operating conditions, new supplies delivered at Otay Mesa
8 will not affect the Blythe minimum flow requirement. SoCalGas' Gas Operations department
9 (System Operator) will maintain the flow requirement at the Blythe receipt point until there is
10 reliability assurance and certainty that gas would be delivered at Otay Mesa under all operating
11 conditions and at uniform, hourly rates. At such a time, supplies from Otay Mesa may decrease
12 the minimum flow requirement at the Blythe receipt point and a minimum flow requirement at
13 Otay Mesa will be established for any displaced volume.

14 Lastly, the minimum flow requirements on the Southern Transmission System vary with
15 the demand on the system. As demand increases, the minimum flow requirements increase and
16 vice versa. Currently, SoCalGas' Gas Procurement Department is responsible for ensuring that
17 the Blythe minimum flow requirement is met. As described in the testimony of Mr. Rodger
18 Schwecke this responsibility will shift to the System Operator under the Edison Settlement.

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20 **E. SYSTEM EXPANSION STUDIES**

21 Per the Settlement Agreement with Edison, SDG&E and SoCalGas will, within one year
22 after Commission approval and at least once every three years thereafter, perform a system
23 expansion study of the SDG&E and SoCalGas interconnect points, backbone system, and storage
24 facilities. SDG&E and SoCalGas will make the results of this study public, including key
25 assumptions and reliability parameters.

26 The expansion study will:
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- 1 1. Address various increments of expansion at each interconnect point on the
2 SDG&E and SoCalGas backbone system, including required system expansions
3 to accommodate an interconnect point expansion.
- 4 2. Address various increments of storage inventory, injection, and withdrawal
5 capacity expansion, including required system expansions to accommodate a
6 storage capacity expansion.
- 7 3. Provide data sufficient for any interested party to confirm the reasonableness of
8 the projected costs for all studied expansions.

9 Per the Edison Settlement, SDG&E and SoCalGas will select an independent third party,
10 approved by the Commission’s Energy Division, to review the study results. All costs related to
11 performing this study and having the study results reviewed by an independent third party will be
12 recovered from all customers.

13 SDG&E and SoCalGas cannot forecast the costs of these studies as their scope has not
14 been defined. To the extent possible, SoCalGas and SDG&E will utilize the results of previous
15 assessments to help reduce the costs and resource requirements for these studies.

16 This concludes my testimony.

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FIGURE 1

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