

Application No: A.13-12-xxx
Exhibit No.: _____
Witness: Sharim Chaudhury

)
Application of Southern California Gas Company)
(U 904 G) and San Diego Gas & Electric Company)
(U 902 G) For Authority To Recover North-South)
Project Revenue Requirement In Customer Rates)
And For Approval Of Related Cost Allocation And)
Rate Design Proposals)
_____)

A.13-12-xxx
(Filed December 20, 2013)

DIRECT TESTIMONY OF

SHARIM CHAUDHURY

SAN DIEGO GAS & ELECTRC COMPANY

AND

SOUTHERN CALIFORNIA GAS COMPANY

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

December 20, 2013

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1 2024. Mexico’s domestic gas production – already insufficient to meet the country’s current
2 demand – is expected to average relatively slow 0.5% annual growth, from just under 7 Bcfd in
3 2009 to about 8 Bcfd by 2024. The growing gap between Mexico’s domestic natural gas supply
4 and demand must be met by gas imports.

5 In its Annual Energy Outlook 2013, the U.S. Energy Information Administration (EIA)
6 projected that the U.S. will become a net exporter of natural gas in 2020 under the Reference
7 Case.² The EIA explains that most of the forecasted export growth will be in the form of
8 pipeline exports to Mexico to meet the growing gap between Mexico’s production and
9 consumption. The EIA forecasted that exports to Mexico will increase from 0.5 trillion cubic
10 feet (Tcf) annually in 2011 to 1.1 Tcf in 2020, and to 2.4 Tcf in 2040. In a December 16, 2013
11 update, the EIA has increased its forecast of gas export to Mexico to 3.1 Tcf in 2040, roughly
12 29% higher than its earlier 2013 forecast.³

13 The California Energy Commission (CEC), in its 2013 Integrated Energy Policy Report,
14 projected natural gas export from U.S. to Mexico to grow from 1.7 Bcfd in 2012 to 3.3 Bcfd by
15 2018.⁴ The CEC expects most of the increase in demand is likely to be due to increased gas
16 demand for power generation in Mexico.

17 In May 2013, Bentek Energy completed an energy market fundamental report titled,
18 “Growing Mexican Gas Market Creates Southwest Price Premiums.” While the report is not
19 public, the Overview of the report is. In the Overview, Bentek forecasts gas demand in Mexico
20 to increase about 30%, or 2.7 Bcfd, between 2013 and 2018.⁵ This growth in gas demand is

² U.S. Energy Information Administration | Annual Energy Outlook 2013, page 79.

³ U.S. Energy Information Administration | Annual Energy Outlook 2014 Early Release Overview, page 2.

⁴ 2013 Integrated Energy Policy Report, Draft Lead Commissioner Report, October 2013, page 167.

⁵ http://www.bentekenergy.com/documents/BENTEK_GrowingMexicanGasMarket_MarketAlert_Overview.pdf, page 5.

1 primarily due to the proposed addition of more than 17,000 MW of gas-fired power capacity
2 through 2025 to meet growing power load and to replace older fuel-oil generation.

3 Kinder Morgan, owner of El Paso, recently noted that nearly 2 Bcfd of natural gas
4 produced in the U.S. is currently being exported to Mexico.⁶ Kinder Morgan sees the potential
5 for an additional 2 to 4 Bcfd of Mexican gas demand over the next 10 years driven by industrial
6 and power plant demand for natural gas.

7 **III. A LARGE PORTION OF THESE FUTURE EXPORTS TO MEXICO ARE**
8 **LIKELY TO BE DELIVERED VIA EL PASO'S SOUTH MAINLINE**

9 During a January 2013 analyst conference, Kinder Morgan discussed its pending 2013-
10 2014 lateral expansion/addition projects from its El Paso South Mainline in order to provide
11 expanded gas service to Mexico. The total capacity expansion from these projects is expected to
12 be 576 thousand decatherms per day (MDthd) by the end of 2014. The projects include:

- 13 • Willcox Lateral Expansion: This expansion offers 185 MDthd of additional
14 capacity from the Wilcox compressor station in Cochise County, Arizona to two
15 delivery points at the U.S.-Mexico border. In a July 2013 Second Quarter
16 Earnings News Release, Kinder Morgan reported that the expansion was
17 completed and put into service in April of 2013.⁷
- 18 • Samalayuca Lateral Expansion: This additional 97 MDthd of capacity is a new
19 interconnection from the Samalayuca Lateral to the U.S.-Mexico border in El
20 Paso County, Texas. The project went into service in July of 2013.⁸

⁶ Kinder Morgan presentation at the Morgan Stanley Houston Energy Summit, August 27, 2013, page 5.

⁷ <http://phx.corporate-ir.net/phoenix.zhtml?c=119776&p=irol-newsArticle&ID=1838635&highlight>.

⁸ <http://www.bentekenergy.com/BentekTopStories.aspx?e=3&rpt=136&dt=7/10/2013>.

- 1 • Willcox II Lateral Expansion: This additional 90 MDthd of capacity reflects a
2 loop on the eastern leg of the Wilcox Lateral, with a proposed in-service date of
3 January 2014.⁹
- 4 • Sierrita Pipeline: This will be a new pipeline from west of Tucson, Arizona to the
5 U.S.-Mexico border near Sasabe, with 204 MDthd capacity in Phase 1. The
6 proposed in-service date for Phase 1 was originally April 2014. On December 6,
7 2013, Kinder Morgan issued an update on this project. Construction for Phase 1 is
8 now expected to begin in the second quarter 2014 with a planned in-service date
9 of September 2014.¹⁰ The capacity of this project can be increased to 812 MDthd
10 with additional compression.

11 The above expansions and additions from the El Paso South Mainline represents Kinder
12 Morgan's announced plan only through the end of 2014, although Kinder Morgan appears poised
13 to undertake more expansions and additions from the El Paso South Mainline to meet growing
14 Mexican natural gas demand in the future. In a February 2013 presentation, Kinder Morgan
15 shared a list of the planned future gas-fired power plants in Mexico, both new and converted
16 from fuel oil, that are likely to rely on gas delivered from the El Paso South Mainline.¹¹ The list
17 includes 6,561 megawatts (MWs), and 8,831 MWs of planned gas-fired power plants that would
18 be brought on-line between 2013-2019, and between 2013-2025, respectively. Conservative

⁹ See link to Kinder Morgan July 2013 Second Quarter Earnings News Release provided in Footnote 7 above, which indicates that the Willcox II Lateral expansion remains on schedule for a January 2014 in-service date .

¹⁰ http://www.kindermorgan.com/business/gas_pipelines/projects/sasabelateral/.

¹¹ ENPG Business Update (page 8), February 2013. These proposed plants are located in the Mexico states of Sonora, Sinaloa and Chihuahua.

1 estimates of the natural gas demand of these power plants alone could be around 1,039 MDthd
2 by 2025.¹²

3 During 2012 the daily gas flows from the U.S. to Mexico via the El Paso South Mainline
4 averaged approximately 637 MMcfd.¹³ As a result of these referenced projects, this gas flow
5 may increase to as much as 1,200 MMcfd by the end of 2014,¹⁴ and to as much as 1,653 MMcfd
6 by the end of 2025.¹⁵ The following chart provides potential exports via the South Mainline for
7 selected years.¹⁶

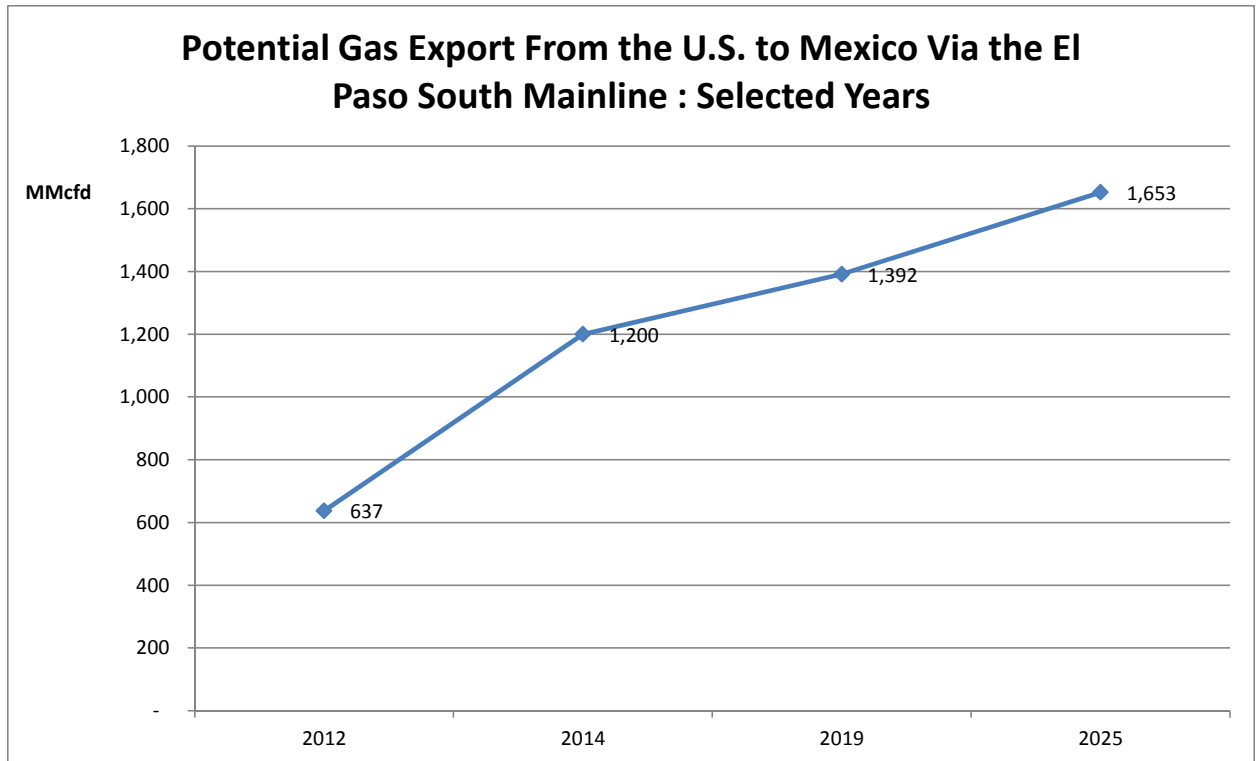
¹² Assuming all these are efficient combined cycle gas-fired power plants with heat rates of 7.0 MMBtu per MWh and 70% capacity factor. For example, average daily gas demand in 2025 is calculated as follows: 8831 MW * 24 hours per day * 7.0 MMBtu/MWh * 0.7 capacity factor = 1038,526 Dthd = 1039 MDthd.

¹³ Based on El Paso's electronic bulletin board postings of daily gas flows to Mexico off of its South Mainline at Ogilby, Wilcox, Samalayuca, and Norte Crossing delivery points.

¹⁴ 637 MMcfd + 576 MDthd (South Mainline Lateral Extensions & Additions) / 1.023 MDth to MMcf conversion factor = 1,200 MMcfd.

¹⁵ 637 MMcfd + 1,039 MDthd (gas demand from new gas-fired power plants) / 1.023 MDth to MMcf conversion factor = 1,653 MMcfd.

¹⁶ The 2019 and 2025 forecasts are likely to understate the gas export to Mexico via the South Mainline because the forecasts reflect gas demand for gas-fired power plants only and do not include any gas demand associated with potential growth in Mexico's industrial sector. The data on Mexico's industrial gas demand that is likely to be served from the El Paso South Mainline is not available.



1 The additional exports associated with the expansions into Mexico off of the El Paso
 2 South Mainline will directly compete with available supplies into Ehrenberg. As entities serving
 3 the new gas load in Mexico sign long term contracts for capacity with El Paso, the likely result
 4 will be substantially lower flowing supplies available to reach Ehrenberg.

5 **IV. QUALIFICATIONS**

6 My name is Iftekharul (Sharim) Bar Chaudhury. I am employed by SoCalGas as the
 7 Manager of Demand Forecasting and Economic Analysis within the Regulatory Affairs
 8 Department, which supports gas regulatory activities of both SoCalGas and SDG&E. My
 9 business address is 555 West Fifth Street, Los Angeles, California 90013-1011.

10 I hold a Bachelor of Arts degree in Economics from Illinois State University. I received
 11 my Masters and Ph.D. degrees in Economics from the University of California, San Diego.

12 I have held my current position since April 2013. Prior to joining SoCalGas, I worked at
 13 Southern California Edison Company from June 1999 to March 2013, holding several positions

1 of increasing responsibility, from Senior Analyst to Manager of Price Forecasting to Manager of
2 Long-Term Demand Forecasting. From October 1998 to May 1999, I worked at National
3 Economic Research Associates (NERA) as a Senior Consultant. Prior to joining NERA, I
4 worked at SoCalGas from 1991 to 1998, holding several positions of increasing responsibility,
5 starting as Marketing Analyst to Senior Economist in the Rate Design group to Manager of Rate
6 Design. I also worked for about a year at the California Energy Commission (CEC) in the
7 Demand Analysis Office.

8 I have previously testified before the Commission.

9 This concludes my prepared direct testimony.