

Application No: A.13-12-013
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.13-12-013
(Filed December 20, 2013)

**PREPARED REBUTTAL TESTIMONY ON PROJECT ALTERNATIVES OF
SHARIM CHAUDHURY
SAN DIEGO GAS & ELECTRIC COMPANY
AND
SOUTHERN CALIFORNIA GAS COMPANY
(CORRECTED VERSION WITH MAY 21, 2015 REVISIONS)**

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

May 8, 2015

1 **PREPARED REBUTTAL TESTIMONY ON PROJECT ALTERNATIVES OF**
2 **SHARIM CHAUDHURY**

3 **I. PURPOSE AND OVERVIEW**

4 The purpose of my prepared rebuttal testimony on project alternatives on behalf of
5 Southern California Gas Company (SoCalGas) and San Diego Gas & Electric Company
6 (SDG&E) is to address the March 23, 2015 testimony of The Utility Reform Network (TURN)
7 and Southern California Generation Coalition (SCGC) and their claims that my assessment
8 regarding the potential for increased exports of natural gas to Mexico and the effect of such
9 exports on gas deliveries into Ehrenberg are overstated. As discussed below, both TURN and
10 SCGC fail to consider facts that clearly demonstrate that the potential for increasing natural gas
11 exports to Mexico is likely to impact deliveries into Ehrenberg.

12 **II. TURN’S CLAIM THAT ACTUAL NATURAL GAS SUPPLIES INTO THE**
13 **SOUTHERN EL PASO PIPELINE SYSTEM THAT WILL BE AVAILABLE AT**
14 **EHRENBURG ARE PLENTIFUL IS CONTRARY TO THE FACTS**

15 In his Updated Prepared Direct Testimony, TURN witness Mr. Emmrich contends that
16 greater competition for El Paso South Mainline pipeline capacity due to growing natural gas
17 demand in Mexico will not contribute to the Southern System reliability problem in the future.¹
18 Mr. Emmrich reaches this conclusion because of his belief that “actual natural gas supplies into
19 the southern EPNG system are so plentiful in the U.S. that companies are proposing exports of
20 natural gas to Mexico and/or LNG exports to the rest of the world.”² This belief about the
21 reasons behind future natural gas exports to Mexico, and Mr. Emmrich’s related conclusions, are
22 not well founded. While it is true that there is plentiful gas supply in the U.S., this does not

¹ A.13-12-013, Updated Direct Testimony of Herbert Emmrich on behalf of The Utility Reform Network, dated March 23, 2015, p.4.

² A.13-12-013, Updated Direct Testimony of Herbert Emmrich on behalf of The Utility Reform Network, dated March 23, 2015, p.4.

1 necessarily translate into plenty of flowing gas into the southern EPNG system reaching
2 Ehrenberg. Mr. Emmrich relies on two market announcements for his assertion that growing
3 natural gas demand in Mexico will not contribute to a decrease in the availability of supplies
4 reaching SoCalGas' Southern System, one by Kinder Morgan (owner of El Paso Natural Gas)
5 and the other by Sempra Energy.³ When critically evaluated, however, neither announcement
6 stands for the proposition Mr. Emmrich wishes it to.

7 In July of 2014, Kinder Morgan announced that its subsidiary El Paso had entered into a
8 21-year firm transportation agreement with Mexico's Comision Federal de Electricidad (CFE) to
9 provide approximately 163,000 decatherms per day (Dthd) of capacity in the United States to
10 facilitate deliveries of natural gas to Mexico. This contracted capacity will increase to 200,000
11 Dthd by October 2017 and 550,000 Dthd by October 2020. This agreement provides for
12 deliveries primarily to an interconnection point with El Paso's existing Sierrita Pipeline, and also
13 to California. The Sierrita Pipeline is a lateral off of El Paso's South Mainline, and runs from
14 west of Tucson, Arizona to the U.S.-Mexico border near Sasabe, Arizona. The Kinder Morgan
15 announcement states that since the El Paso South Mainline has limited available capacity, "[i]n
16 order to facilitate the full 550,000 Dthd of service by October 2020, EPNG is planning an
17 expansion that would consist of looping its Havasu Crossover line and installing new
18 compression, as well as undertaking modifications at several existing compressor stations to
19 facilitate west-to-east flows along the South Mainline." Subsequently, in its January 2015
20 analyst conference, Kinder Morgan seems to clarify the scope of this announcement by
21 specifying that this additional capacity is simply to service continued growth in Mexican demand

³ The referenced market announcements are provided as Attachment 2 to the Updated Prepared Direct Testimony of Mr. Emmrich.

1 along the Sierrita Pipeline.⁴ Note that this additional Havasu pipeline capacity to explicitly serve
2 growing natural gas exports to Mexico will not be for the entire 550,000 Dth/d to be delivered
3 into Mexico and thus will be utilizing capacity which currently delivers supplies to Ehrenberg.
4 Therefore, contrary to Mr. Emmrich's assertion that this announcement somehow will lead to
5 plentiful gas supplies reaching SoCalGas' Southern System, this announcement in fact points to
6 additional gas exports to Mexico resulting in lower flowing supply at Ehrenberg.

7 Mr. Emmrich also refers to a March 2014 Sempra Energy announcement and subsequent
8 signing of a Memorandum of Understanding (MOU) in February 2015 between Sempra Energy
9 and a subsidiary of PEMEX.⁵ In its March 2014 announcement, Sempra discussed the
10 possibility of building smaller-scale LNG export capabilities at the existing Energia Costa Azul
11 LNG receiving terminal site along the Pacific Coast of North Baja California in Mexico. The
12 February 2015 MOU defined the basis for the parties to explore PEMEX's participation in the
13 potential Energia Costa Azul liquefaction project that would permit PEMEX to become a
14 customer, natural gas supplier and investor. Nothing in the announcement suggests that this
15 project might lead to plentiful gas supply reaching SoCalGas' Southern System at Ehrenberg.
16 To the contrary, this Sempra Energy project to export LNG, if built, is likely to compete for gas
17 supplies which can flow to SoCalGas' Southern System at Ehrenberg. This announcement,
18 therefore, does not lessen SoCalGas' concern that the increasing natural gas exports to Mexico
19 via the El Paso South Mainline will compete with the flowing supply at Ehrenberg.

⁴ <http://ir.kindermorgan.com/sites/kindermorgan.investorhq.businesswire.com/files/event/additional/KM2-02AnalystConfNatGas2015TM.pdf>, p.25.

⁵ PEMEX is Mexico's state-owned oil and gas monopoly and controls exploration, processing and sales.

1 **III. SCGC’S CLAIM THAT THE INCREASE IN GAS SUPPLY FROM THE**
2 **PERMIAN BASIN WILL MORE THAN MEET THE INCREASED EXPORTS TO**
3 **MEXICO IS NOT SUPPORTED BY FACTS**

4 SCGC witness Ms. Yap states that even under the worst case Permian Basin production
5 scenario, the increase in gas supply from the Permian Basin will more than meet the increased
6 exports to Mexico.⁶ This assertion is not supported by the facts.

7 For her Permian Basin gas production forecasts, Ms. Yap relies on a Kinder Morgan
8 presentation at the California Energy Commission (CEC) Natural Gas Stakeholder Working
9 Group meeting on April 16, 2014.⁷ The Kinder Morgan presentation, based on information
10 available at that time, had forecasted West Texas Intermediate (WTI) and Brent crude oil prices
11 staying above \$80 and \$100 per barrel, respectively.⁸ With oil prices plummeting by about 40%
12 since June 2014, clearly the Kinder Morgan oil price forecast is not consistent with the current
13 oil market conditions. In fact, Ms. Yap noted in her testimony that, “[g]as production in the
14 Permian is projected to increase dramatically as gas is produced in association with the rapidly
15 rising levels of oil production.”⁹ The plummeting crude oil price has led to a significant decline
16 in U.S. oil drilling activities, particularly in the Permian Basin, with current rig counts at less
17 than 50% compared to its peak last year. The current low oil and gas price environment will
18 have differing impacts on gas production in each basin, which introduces additional uncertainties
19 with respect to the future volume of crude oil and associated gas production in the Permian
20 Basin.

⁶ A.13-12-013, Updated Direct Testimony of Catherine E. Yap on behalf of Southern California Generation Coalition, dated March 23, 2015, p.10.

⁷ http://www.energy.ca.gov/naturalgas/documents/2014-04-16_meeting/presentations/07-NGWG_Kinder_Morgan_Mexican_Energy_Reform.pdf

⁸ Id., p.15.

⁹ A.13-12-013, Updated Direct Testimony of Catherine E. Yap on behalf of Southern California Generation Coalition, dated March 23, 2015, p.7.

1 In making her claim that even under the worst case scenario the increased gas supply
2 from the Permian Basin will more than meet the increased exports to Mexico, Ms. Yap also
3 relies on the projected 1.0 billion cubic feet per day (Bcf/d) increase in deliveries by 2025 to
4 Mexico off of the El Paso's South Mainline that I presented in my Direct Testimony.¹⁰
5 However, the 2025 forecast reflects gas demand for gas-fired plants only and does not include
6 any additional gas demand for potential growth in Mexico's industrial sector¹¹ or potential
7 Mexican LNG exports. Thus, it is likely to understate gas exports to Mexico via the El Paso
8 South Mainline. In fact, in its January 2015 analyst conference, Kinder Morgan projected total
9 incremental Mexico gas demand growth up to 2.2 Bcf/d by 2025 that can be served from the El
10 Paso footprint.¹² During the same presentation, Kinder Morgan also noted that the expected
11 incremental Mexican power generation demand growth to be served on its Wilcox and
12 Samalayuca laterals and on the Sierrita pipeline creates opportunity above and beyond current
13 planned capacity additions.¹³

14 Contrary to Ms. Yap's position, the facts I have discussed above demonstrate that there is
15 considerable uncertainty regarding future gas supply growth in the Permian Basin and the
16 potential for significantly higher gas exports to Mexico than the conservative estimates presented
17 in my Direct Testimony. The increasing gas exports to Mexico via the El Paso South Mainline
18 create a very real concern that adequate gas flows might not be available in the future at
19 Ehrenberg to maintain the reliability of SoCalGas' Southern System.

¹⁰ A.13-12-013, Direct Testimony of Sharim Chaudhury, p.5-6.

¹¹ A.13-12-013, Direct Testimony of Sharim Chaudhury, p. 5.

¹²

<http://ir.kindermorgan.com/sites/kindermorgan.investorhq.businesswire.com/files/event/additional/KM2-02AnalystConfNatGas2015TM.pdf>, p.26.

¹³ Id., p.26.

1 **IV. SCGC'S CLAIM THAT CALIFORNIA REMAINS AN ATTRACTIVE MARKET**
2 **FOR PERMIAN BASIN GAS WILL NOT HOLD TRUE IF MEXICO IS**
3 **WILLING AND ABLE TO PAY A HIGHER PRICE FOR FLOWING SUPPLY**

4 SCGC witness Ms. Yap states that California remains an attractive market for the
5 producers of Permian gas.¹⁴ However, economic theory and experience suggest that gas will
6 flow to higher-priced markets, which means that an increasingly large percentage of Permian
7 Basin gas is likely to flow to Mexico, not Ehrenberg. Evidence indicates that Mexico is willing
8 and able to pay higher prices for natural gas as natural gas is increasingly displacing Mexico's
9 more expensive, dirtier, and less efficient fuel oil and is becoming the fuel of choice for an
10 increasingly large portion of Mexico's electric generation plants.

11 To encourage increasing use of cleaner, more efficient natural gas, rather than dirtier
12 fuel-oil within the country, the Mexican government, through PEMEX, purchases natural gas
13 from the U.S. and LNG from other countries to meet the country's natural gas demand and then
14 resells the gas at subsidized retail rates to residential, commercial and industrial sectors. In an
15 interview in October 2013, Francisco Salazar, the President of Mexico's Energy Regulatory
16 Commission (CRE), mentioned that in February 2013 PEMEX "paid upwards of US\$21/MM-
17 BTU for natural gas in LNG cargos, when, in the U.S. the same gas was at \$4."¹⁵

18 Thus, there is clear evidence that Mexico has paid much higher prices for natural gas
19 thorough its LNG imports than the prices prevailing in the U.S. Consequently, it makes
20 economic sense for Mexico to replace higher-priced LNG imports with lower-priced U.S. gas as
21 infrastructure develops to import more gas through pipelines from the U.S. For Permian Basin
22 gas, Mexico is indeed a more attractive market compared to California. As Permian gas flows to

¹⁴ A.13-12-013, Updated Direct Testimony of Catherine E. Yap on behalf of Southern California Generation Coalition, dated March 23, 2015, p.7.

¹⁵ http://www.energia.com/wp-content/uploads/2013/12/2013-111-30-Interview-with-Francisco-Salazar_v2.pdf, p.6.

1 higher priced Mexico, it will drive gas flows away from SoCalGas' Southern System at
2 Ehrenberg.

3 **V. SCGC'S RELIANCE ON THE CEC FORECAST OF EXPORTS TO MEXICO IS**
4 **CONTRARY TO GROWING EVIDENCE OF PROJECTED INCREASING**
5 **EXPORTS TO MEXICO**

6 In its 2013 "Natural Gas Issues, Trends, and Outlook Report", the California Energy
7 Commission (CEC) projects a likely flattening of U.S. exports to Mexico beyond 2019 under its
8 reference case scenario.¹⁶ By relying on the CEC's Mexican export forecast, Ms. Yap questions
9 the prospect of increasing natural gas exports to Mexico.

10 In developing its Mexican export forecast, the CEC recognized that "Mexico produces its
11 own natural gas, but most analysts do not believe the country can increase its production at a
12 pace that can match its growth in demand. Petroleos Mexicanos (PEMEX), the state-owned oil
13 company that controls all oil and gas reserves in Mexico, has long focused its efforts on oil
14 production, given the higher price for oil versus natural gas. Furthermore, liquid markets with
15 robust gas transmission and distribution infrastructure in Mexico do not exist. In December
16 2013, Mexico passed a constitutional reform that will allow foreign companies to share profits
17 with PEMEX and explore and drill for oil and natural gas in Mexico. This reform could provide
18 PEMEX with some of the expertise and equipment to properly extract its natural gas resources
19 instead of having to rely on imports from the United States."¹⁷

20 Thus, the flattening of the CEC's projected gas export of Mexico critically hinges on the
21 success of Mexico's energy infrastructure reform and PEMEX's interest in natural gas

¹⁶ http://www.energy.ca.gov/naturalgas/documents/2014-04-16_meeting/presentations/01-Kennedy_Robert_Summary_of_Outlook.pdf, p.8. Reference case scenario is the CEC's expected or likely case scenario. The CEC also forecasts declining exports to Mexico beyond 2019 but only under an extremely unlikely scenario.

¹⁷ 2013 NATURAL GAS ISSUES, TRENDS, AND OUTLOOK, California Energy Commission Draft Staff Report, April 2014, p.76. This document was the source of Mr. Robert's Kennedy's presentation referenced in footnote 14.

1 extraction. The aforementioned Kinder Morgan presentation at the CEC Natural Gas
2 Stakeholder Working Group meeting on April 16, 2014 notes that while Mexico has considerable
3 natural gas reserves available for development,¹⁸ gas production is not a priority for PEMEX as
4 PEMEX remains focused on higher-value oil exploration and oil production activities.¹⁹ This
5 Kinder Morgan presentation also shows increasing U.S. natural gas exports to Mexico, from
6 about 2.4 Bcfd in 2014 climbing to 4 Bcfd by 2017, then increasing up to 4.9 Bcfd in 2027.²⁰ In
7 its 2014 Annual Energy Outlook, the U.S. Energy Information Administration (EIA) predicts
8 steady growth of gas pipeline exports to Mexico from 2.5 billion cubic feet per day (Bcfd) in
9 2015 to 4.0 Bcfd in 2025 and 8.1 Bcfd in 2040.²¹ Therefore, reliance on one CEC forecast to
10 project a flattening of U.S. exports to Mexico beyond 2019 fails to capture the consensus of the
11 natural gas market that in fact, natural gas exports to Mexico will continue to increase beyond
12 2019.

13 This concludes my prepared rebuttal testimony on project alternatives.

¹⁸ http://www.energy.ca.gov/naturalgas/documents/2014-04-16_meeting/presentations/07-NGWG_Kinder_Morgan_Mexican_Energy_Reform.pdf, p.18.

¹⁹ Id, p.14.

²⁰ Id., at p. 17.

²¹ U. S. Energy Information Administration | Annual Energy Outlook 2014, page 133, Table 10.3.