

1 Application No: A.13-12-013  
2 Exhibit No.: \_\_\_\_\_  
3 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)

4 **PREPARED REBUTTAL TESTIMONY ON RATESETTING AND SAFETY OF**  
5 **SHARIM CHAUDHURY**  
6 **SAN DIEGO GAS & ELECTRIC COMPANY**  
7 **AND**  
8 **SOUTHERN CALIFORNIA GAS COMPANY**

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

12 June 12, 2015

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2 **PREPARED REBUTTAL TESTIMONY ON RATESETTING AND SAFETY OF**  
3 **SHARIM CHAUDHURY**  
4

5 **I. PURPOSE AND OVERVIEW**

6 The purpose of my prepared rebuttal testimony on ratesetting and safety issues on behalf  
7 of Southern California Gas Company (SoCalGas) and San Diego Gas & Electric Company  
8 (SDG&E) is to address the May 8, 2015 testimony of the Office of Ratepayer Advocates (ORA)  
9 and its concerns with respect to gas exports to Mexico and the need for electric generation on the  
10 SoCalGas Southern System.

11 As discussed below, ORA’s “significant indicators” do not alleviate SoCalGas and  
12 SDG&E’s concerns about the potentially growing exports of natural gas to Mexico via the El  
13 Paso South Mainline and the possible ramifications on flowing supply to SoCalGas’ Southern  
14 System at Ehrenberg. In assessing the need for electric generation in SoCalGas’ Southern  
15 System due to the closure of the SONGS units, as discussed below, SoCalGas and SDG&E are  
16 not ignoring decreasing electricity demand forecasts by the California Energy Commission.

17 **II. GROWING U.S. GAS EXPORTS TO MEXICO THREATEN THE DELIVERY**  
18 **OF FLOWING SUPPLIES INTO THE SOUTHERN SYSTEM**

19 ORA notes that: “Applicants’ Fears about the Threat of Growing U.S. Gas Exports to  
20 Mexico and Growing Demand for Gas in Mexico Do Not Account for Significant Indicators.”<sup>1</sup>  
21 The “significant indicators” mentioned by ORA are: (1) projections of pipeline gas exports to  
22 Mexico by the U.S. Energy Information Administration (EIA); (2) a February 2015 study by  
23 Kenneth Medlock on behalf of the UC Davis Institute of Transportation Studies on the future of  
24 shale gas and oil resources in the U.S. and natural gas supply to California; (3) an April 2014  
25 Kinder Morgan presentation to the CEC Natural Gas Stakeholder Working Group meeting; (4) a

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<sup>1</sup> Prepared Testimony of Office of Ratepayer Advocates, dated May 8, 2015, page 31.

1 March 2015 Bentek report on the impact of Mexican energy sector reform; and (5) articles by  
2 The Wall Street Journal and a Congressional Research Service report focusing on Mexico's  
3 energy industry reform and its impact on Mexico's domestic gas production. I address each of  
4 these "significant indicators" below.

5 ORA explains its position as follows:

6 A visit to the website of the U.S. Energy Information Administration  
7 (EIA) confirms the rising trend of exports of gas to Mexico. But while  
8 there are currently rising exports of gas to Mexico, ORA notes that the  
9 U.S. EIA projections through the year 2040 point to a longer term decline  
10 in net export outlook. These EIA projections were contained in two  
11 successive recent reports by the agency, the Annual Energy Outlook 2014  
12 (AEO2014) and Annual Energy Outlook 2015 (AEO2015).<sup>2</sup>

13 ORA also presents the following quote from the AEO2015:<sup>3</sup>

14 Net pipeline exports to Mexico increase almost twofold in the AEO2015  
15 Reference case from 2017 to 2040, with additional pipeline infrastructure  
16 added to enable the Mexican market to receive more natural gas via  
17 pipeline from the United States. However, pipeline exports to Mexico in  
18 the later years of the AEO2015 Reference case are lower than projected in  
19 the AEO2014 Reference case, because Mexico is assumed to increase  
20 domestic production as a result of constitutional reforms that permit more  
21 foreign investment in its oil and natural gas industry.<sup>4</sup>

22 This information does not change the conclusion that natural gas exports to Mexico are  
23 forecasted to increase. Rather, the information simply shows that the annual *increase* may be  
24 slightly lower than originally anticipated. The following chart shows the EIA's AEO2014 and  
25 AEO2015 projections of natural gas export to Mexico,<sup>5</sup> from the two reports referenced by ORA.

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<sup>2</sup> Prepared Testimony of Office of Ratepayer Advocates, dated May 8, 2015, page 32.

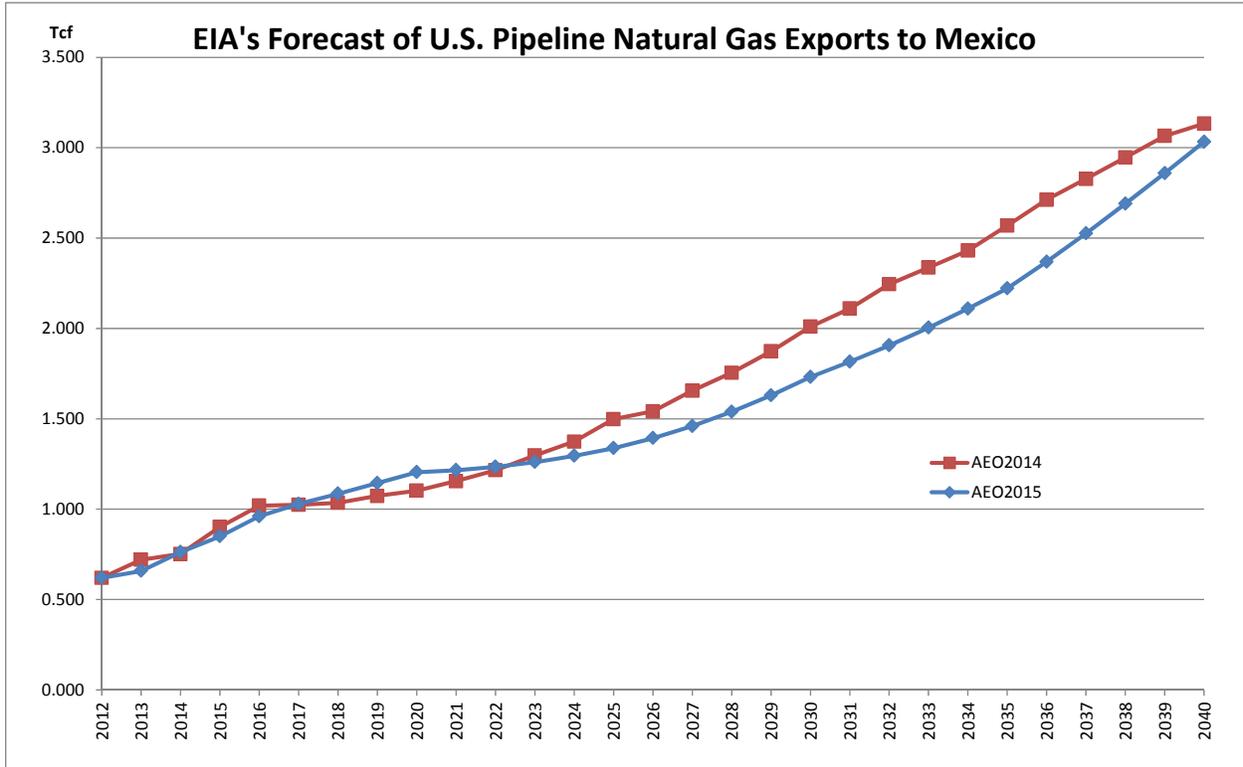
<sup>3</sup> U.S. Energy Information Administration Annual Energy Outlook 2015 dated April 2015, p.E-11 available at <http://www.eia.gov/forecasts/aeo>.

<sup>4</sup> Prepared Testimony of Office of Ratepayer Advocates, dated May 8, 2015, page 33.

<sup>5</sup> The link below contains the EIA 2014AEO and 2015AEO data and the chart under the heading "Pipeline Exports to Mexico."

<http://www.eia.gov/oiaf/aeo/tablebrowser/#release=AEO2015&subject=8-AEO2015&table=76-AEO2015&region=0-0&cases=aeo2014full-d102413a,ref2015-d021915a>.

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3 This chart shows that the EIA projects pipeline exports to Mexico in the later years of the  
4 AEO2015 Reference case to be lower than projected in the AEO2014 Reference case. However,  
5 it also clearly shows that, in both reference cases, the EIA projects significantly *increasing*  
6 pipeline gas exports to Mexico over time, even after taking into account the potential increase in  
7 Mexican domestic gas production as a result of its oil and natural gas industry reforms. It is  
8 important to make this point clear. The projections certainly do not point to a *decrease* in  
9 exports to Mexico, as ORA’s reference to a “longer term decline in net export outlook” might  
10 imply. EIA is clearly projecting continued long-term growth, not a decline.

11 According to ORA, the Medlock study:

12 [P]rojects that the US LNG exports could approach 6 bcfd by the mid-  
13 2020s. However, the study projects overall U.S. production to plateau  
14 later in this decade ‘not for lack of resources, but because Canadian  
15 natural gas production begins to grow’ and ‘international market

1 rebalancing limits the commercial opportunity for LNG exports from the  
2 U.S.’<sup>6</sup> The study predicts that production growth in Canada will  
3 ultimately push gas supply into northern California through the PGT  
4 system at Malin. In addition, the study also projects that the ‘production  
5 growth in the Permian Basin finds its way into southern California along  
6 the El Paso north and south lines’.<sup>7</sup>

7 This study does not change our conclusions regarding future natural gas exports to  
8 Mexico. It is informative to note that Figure 11 of the Medlock report projects lower gas supply  
9 into California from the El Paso South Mainline after 2026. However, a more important point is  
10 the fact that the Medlock report does not discuss current or potential future pipeline gas exports  
11 to Mexico. In its concluding remarks, the Medlock report simply notes that:

12 Although beyond the scope of this analysis, energy reform in Mexico bear  
13 [sic] mention. In particular, reform of the energy sector in Mexico has the  
14 potential to be yet another game changing stimulus to the North American  
15 production outlook. Moreover, this has direct implications for the state of  
16 California. But, uncertainty prevails with regard to the future of energy  
17 production in Mexico and the degree to which the Mexican energy sector  
18 integrates with the rest of North America.<sup>8</sup>

19 The Medlock report does not address the issue of potential future pipeline gas exports to  
20 Mexico via the El Paso South Mainline.

21 With respect to the April 2014 Kinder Morgan presentation to the CEC Natural Gas  
22 Stakeholder Working Group, ORA states:

23 Kinder Morgan presented its outlook for Mexican exports to grow and  
24 continue to take up pipeline space; however, Kinder Morgan points out  
25 that growth is occurring at a time when regional supply is growing and  
26 Southwest demand is declining. According to Kinder Morgan, if Mexico  
27 develops its shale gas resources sooner, then expect more of [sic] impact  
28 (downward pressure) on US exports in Southeast Mexico.<sup>9</sup>

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<sup>6</sup> “North American Resources and Natural Gas Supply to the State of California”, A White Paper by Kenneth Medlock III, Ph.D., UC Davis Institute of Transportation Studies dated February 18, 2015. Available at <http://steps.ucdavis.edu/>.

<sup>7</sup> Prepared Testimony of Office of Ratepayer Advocates, Dated May 8, 2015, page 35-36.

<sup>8</sup> Medlock report, page 25-26.

<sup>9</sup> Prepared Testimony of Office of Ratepayer Advocates, dated May 8, 2015, page 36.

1 The first sentence above regarding the Kinder Morgan presentation seems to imply that  
2 increasing export to Mexico will not limit the ability of the El Paso South Mainline to supply gas  
3 to Ehrenberg. However, as explained in my Rebuttal Testimony on Project Alternatives, in a  
4 July 2014 announcement, Kinder Morgan stated that its subsidiary El Paso had entered into a 21-  
5 year firm transportation agreement with Mexico's Comision Federal de Electricidad (CFE) to  
6 provide approximately 163,000 decatherms per day (Dthd) of capacity in the United States to  
7 facilitate deliveries of natural gas to Mexico. This contracted capacity will increase to 200,000  
8 Dthd by October 2017 and 550,000 Dthd by October 2020. This agreement provides for  
9 deliveries primarily to an interconnection point with El Paso's existing Sierrita Pipeline, and also  
10 to California. The Sierrita Pipeline is a lateral off of El Paso's South Mainline, and runs from  
11 west of Tucson, Arizona to the U.S.–Mexico border near Sasabe, Arizona.

12 The Kinder Morgan announcement also states that since the El Paso South Mainline has  
13 limited available capacity, "In order to facilitate the full 550,000 Dthd of service by October  
14 2020, EPNG is planning an expansion that would consist of looping its Havasu Crossover line  
15 and installing new compression, as well as undertaking modifications at several existing  
16 compressor stations to facilitate west-to-east flows along the South Mainline." Subsequently, in  
17 its January 2015 analyst conference, Kinder Morgan seemed to clarify the scope of this  
18 announcement by specifying that this additional capacity is simply to service continued growth  
19 in Mexican demand along the Sierrita Pipeline.<sup>10</sup> Note that this additional Havasu pipeline  
20 capacity to explicitly serve growing natural gas exports to Mexico will not be for the entire  
21 550,000 Dth/d to be delivered into Mexico and thus will be utilizing capacity which currently  
22 delivers supplies to Ehrenberg. Therefore, contrary to the Kinder Morgan assertion at the CEC

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<sup>10</sup> <http://ir.kindermorgan.com/sites/kindermorgan.investorhq.businesswire.com/files/event/additional/KM2-02AnalystConfNatGas2015TM.pdf>, p.25.

1 Natural Gas Stakeholder Working Group meeting that Mexican gas export growth via the El  
2 Paso South Mainline is taking place at a time when Southwest demand is declining, the  
3 subsequent Kinder Morgan announcements, in fact point to additional gas exports to Mexico  
4 resulting in lower flowing supply at Ehrenberg.

5 As I explained in my Rebuttal Testimony on Project Alternatives, the Kinder Morgan  
6 presentation at the CEC Natural Gas Stakeholder Working Group meeting states that while  
7 Mexico has considerable natural gas reserves available for development,<sup>11</sup> gas production is not a  
8 priority for PEMEX as PEMEX remains focused on higher-value oil exploration and oil  
9 production activities.<sup>12</sup> This Kinder Morgan presentation also shows increasing U.S. natural gas  
10 exports to Mexico, from about 2.4 Bcfd in 2014 climbing to 4 Bcfd by 2017, then increasing up  
11 to 4.9 Bcfd in 2027.<sup>13</sup> ORA also states as follows:

12 But while the outlook is for increased U.S. exports of gas to countries such  
13 as Mexico, the long-term forecast sees lower pipeline exports in later years  
14 as Mexico begins to increase its domestic production that could be made  
15 possible by recent constitutional reforms for allowing for foreign  
16 investment in production of Mexican gas and other energy sectors.”<sup>14</sup>

17 ORA ends this sentence with a footnote referring to a Bentek report.<sup>15</sup> But that Bentek  
18 report does not support the proposition that pipeline exports to Mexico will decrease. In fact, the  
19 Bentek report notes that Mexico is embarking on one of the largest pipeline construction periods  
20 in his history:

21 These projects include a number of new or expanded US border crossings  
22 to facilitate increased natural gas imports from the US. The US exported  
23 2.0 Bcf/d of natural gas to Mexico in 2014, more than twice the volumes  
24 recorded for 2010. US natural gas exports to Mexico are likely to

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<sup>11</sup> [http://www.energy.ca.gov/naturalgas/documents/2014-04-16\\_meeting/presentations/07-NGWG\\_Kinder\\_Morgan\\_Mexican\\_Energy\\_Reform.pdf](http://www.energy.ca.gov/naturalgas/documents/2014-04-16_meeting/presentations/07-NGWG_Kinder_Morgan_Mexican_Energy_Reform.pdf), p.18.

<sup>12</sup> Id., page14.

<sup>13</sup> Id., page 17.

<sup>14</sup> Prepared Testimony of Office of Ratepayer Advocates, dated May 8, 2015, page 31.

<sup>15</sup> A report by Bentek titled “Mexico’s New Energy Landscape” dated March 2015.

1 continue growing over the next decade to fuel the country's demand  
2 growth in the power, industrial, and residential and commercial sectors.  
3 Rising imports from the US will help displace more expensive liquefied  
4 natural gas (LNG) imports at Mexico's three import terminals."<sup>16</sup>

5 Therefore, the Bentek report validates SoCalGas and SDG&E's concerns that increasing  
6 exports to Mexico via the El Paso South Mainline will likely result in substantially lower flowing  
7 supply available to reach Ehrenberg.

8 With respect to the possibility of increased domestic gas production in Mexico resulting  
9 from its energy sector reforms, ORA also refers to several reports from The Wall Street Journal,  
10 The Economist, Bloomberg Energy, and a Congressional Research Service Report on Mexico's  
11 Oil and Gas Sector.<sup>17</sup> However, none of these reports suggest that the gas pipeline exports to  
12 Mexico via the El Paso South Mainline are likely to decline in the future.

13 Therefore, ORA's "significant indicators" do not alleviate SoCalGas and SDG&E's  
14 concerns about the threat of growing U.S. gas exports to Mexico. As pointed out in both my  
15 Direct Testimony and Rebuttal Testimony on Project Alternatives, the projected increasing gas  
16 exports to Mexico via the El Paso South Mainline create a very real concern that adequate gas  
17 flows might not be available in the future at Ehrenberg to maintain the reliability of SoCalGas'  
18 Southern System.<sup>18</sup>

19 **III. SOCALGAS AND SDG&E ARE NOT IGNORING DECREASING ENERGY**  
20 **DEMAND FORECASTS IN ASSESSING GAS-FIRED ELECTRIC**  
21 **GENERATION NEED**

22 ORA states, "Applicants' Assertions of Increasing Electric Generation Demand Ignore  
23 Decreasing Energy Demand Forecasts."<sup>19</sup> ORA's claim is not supported by the facts.

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<sup>16</sup> Bentek report, page 4.

<sup>17</sup> Prepared Testimony of Office of Ratepayer Advocates, dated May 8, 2015, page 36-37.

<sup>18</sup> Direct Testimony of Sharim Chaudhury, dated December 20, 2013, page 6. Rebuttal Testimony on Project Alternatives of Sharim Chaudhury, dated May 8, 2015, page 5.

<sup>19</sup> Id., page 37.

1 Referring to SoCalGas and SDG&E witness Ms. Marelli's Updated Direct Testimony,<sup>20</sup>  
2 ORA notes, "Applicants assert the threat from increases in EG demand particularly since the  
3 closure of the SONGS plant."<sup>21</sup> Apparently, ORA questions SoCalGas and SDG&E's  
4 assessment of increases in Southern System EG demand particularly since the closure of the  
5 SONGS units. However, ORA acknowledges that it "does not expect increases in EG demand  
6 from the permanent closure of SONGS to be met *only* by increases in gas-fired generation as  
7 explained below."<sup>22</sup> SoCalGas and SDG&E also do not believe that the lost electric generation  
8 due to the permanent closure of SONGS will be achieved by *only* increases in gas fired  
9 generation in southern California, as explained in Ms. Marelli's Updated Direct Testimony:  
10 "Although some of the available 2,150 MW of lost SONGS power will likely be met by out-of-  
11 state generation, expected increases in overall electric generation demand lead us to believe that  
12 Southern System demand will not decline below recent (2012/13) levels."<sup>23</sup> In effect, ORA's  
13 position appears to be not that different from SoCalGas and SDG&E's position, in that at least a  
14 portion of lost electric generation load due to the closure of the SONGS units will be met  
15 through new gas-fired generation in Southern California.

16 In an attempt to further discredit SoCalGas and SDG&E's assertion of increasing EG  
17 load post-SONGS closure, ORA refers to the California Energy Commission's 2014 Integrated  
18 Energy Policy Report (IEPR) Update. ORA notes, "Furthermore, the Applicants' assertions of  
19 increasing electric generation demand are unwarranted given the lower forecasts of energy  
20 demand based on the latest forecast report by the California Energy Commission (CEC)."<sup>24</sup>  
21 Even if the SoCalGas' Southern System peak demand were projected to be lower by a

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<sup>20</sup> Updated Direct Testimony of Gwen Marelli, dated November 12, 2014, page 6.

<sup>21</sup> Prepared Testimony of Office of Ratepayer Advocates, dated May 8, 2015, page 37.

<sup>22</sup> Id., page 38.

<sup>23</sup> Updated Direct Testimony of Gwen Marelli, dated November 12, 2014, page 7.

<sup>24</sup> Prepared Testimony of Office of Ratepayer Advocates, dated May 8, 2015, page 39.

1 comparable percentage, this would not negate the need for increasing gas-fired EG in the  
2 Southern System, as the need for increasing gas-fired EG is primarily to replace lost electricity  
3 supply from the permanent closure of SONGS units.

4           The facts I have discussed above demonstrate that ORA's position appears to be not that  
5 different from SoCalGas and SDG&E's position, in that at least a portion of lost electric  
6 generation load due to the closure of the SONGS units will be met through new gas-fired  
7 generation in Southern California. Further, SoCalGas and SDG&E are not ignoring the impact  
8 of decreasing demand forecasts by the CEC on gas-fired EG need in SoCalGas' Southern  
9 System.

10           This concludes my prepared rebuttal testimony on ratesetting and safety issues.