

**SAN DIEGO GAS & ELECTRIC COMPANY
SOUTHERN CALIFORNIA GAS COMPANY
PIPELINE SAFETY & RELIABILITY PROJECT (PSRP)
(A.15-09-013)
(4th DATA REQUEST FROM TURN)
Date Requested: May 2, 2016
Date Responded: May 16, 2016**

PRELIMINARY STATEMENT

1. These responses and objections are made without prejudice to, and are not a waiver of, SDG&E's and SoCalGas' right to rely on other facts or documents in these proceedings.
2. By making the accompanying responses and objections to these requests for data, SDG&E and SoCalGas do not waive, and hereby expressly reserves, its right to assert any and all objections as to the admissibility of such responses into evidence in this action, or in any other proceedings, on any and all grounds including, but not limited to, competency, relevancy, materiality, and privilege. Further, SDG&E and SoCalGas makes the responses and objections herein without in any way implying that it considers the requests, and responses to the requests, to be relevant or material to the subject matter of this action.
3. SDG&E and SoCalGas will produce responses only to the extent that such response is based upon personal knowledge or documents in the possession, custody, or control of SDG&E and SoCalGas, as set forth in the California Public Utilities Commission ("Commission or CPUC") Rules of Practice and Procedure. SDG&E and SoCalGas possession, custody, or control does not include any constructive possession that may be conferred by SDG&E's and SoCalGas' right or power to compel the production of documents or information from third parties or to request their production from other divisions of the Commission.
4. A response stating an objection shall not be deemed or construed that there are, in fact, responsive information or documents which may be applicable to the data request, or that SDG&E and SoCalGas acquiesces in the characterization of the premise, conduct or activities contained in the data request, or definitions and/or instructions applicable to the data request.
5. SDG&E and SoCalGas expressly reserves the right to supplement, clarify, revise, or correct any or all of the responses and objections herein, and to assert additional objections or privileges, in one or more subsequent supplemental response(s).
6. SDG&E and SoCalGas will make available for inspection at their offices any responsive documents. Alternatively, SDG&E and SoCalGas will produce copies of the documents.
7. Publicly available information and documents including, but not limited to, documents that are part of the proceeding record, newspaper clippings, court papers, and materials available on the Internet, will not be produced.

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GENERAL OBJECTIONS

1. SDG&E and SoCalGas object to each instruction, definition, and request to the extent that it purports to impose any requirement or discovery obligation greater than or different from those under the CPUC Rules of Practice and Procedure, Statutes, and the applicable Orders of the Commission.
2. SDG&E and SoCalGas object to each request that is overly broad, unduly burdensome, or not reasonably calculated to lead to the discovery of admissible evidence.
3. SDG&E and SoCalGas object to each instruction, definition and data request to the extent that it seeks information protected from disclosure by the attorney-client privilege, deliberative process privilege, attorney work product doctrine, or any other applicable privilege. Should any such disclosure by SDG&E and SoCalGas occur, it is inadvertent and shall not constitute a waiver of any privilege.
4. SDG&E and SoCalGas object to each instruction, definition and data request as overbroad and unduly burdensome to the extent it seeks documents or information that are readily or more accessible to TURN from TURN's own files, from documents or information in TURN's possession, or from documents or information that SDG&E and SoCalGas previously released to the public or produced to TURN. Responding to such requests would be oppressive, unduly burdensome, and unnecessarily expensive, and the burden of responding to such requests is substantially the same or less for TURN as for SDG&E and SoCalGas.
5. SDG&E and SoCalGas object to each instruction, definition and data request to the extent that it seeks the production of documents and information that were produced to SDG&E and SoCalGas by other entities and that may contain confidential, proprietary, or trade secret information.
6. To the extent any of TURN's data requests seek documents or answers that include expert material, including but not limited to analysis or survey materials, SDG&E and SoCalGas object to any such requests as premature and expressly reserves the right to supplement, clarify, revise, or correct any or all responses to such requests, and to assert additional objections or privileges, in one or more subsequent supplemental response(s) in accordance with the time period for exchanging expert reports set by the Commission.
7. SDG&E and SoCalGas incorporate by reference every general objection set forth above into each specific response set forth below. A specific response may repeat a general objection for emphasis or some other reason. The failure to include any general objection in any specific response does not waive any general objection to that request. Moreover, SDG&E and SoCalGas do not waive their right to amend any responses.

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QUESTION 1:

Please provide all workpapers for Vol. III (Cost Effectiveness Analysis) of the Amended Application.

RESPONSE 1:

Please refer to SDG&E's and SoCalGas' website where workpapers for the Cost Effectiveness Analysis have been posted.

<http://www.sdge.com/regulatory-filing/15786/pipeline-safety-reliability-project>

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QUESTION 2:

Please provide the annual operating costs of the Moreno Compressor Station, disaggregated by the cost elements shown in Table 7 of p. 31 of Vol. III, for each year 2006-2015.

RESPONSE 2:

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
O&M Non-Labor	\$ 1,312,233	\$ 1,396,899	\$ 1,043,854	\$ 1,042,239	\$ 800,592	\$ 808,127	\$ 1,415,652	\$ 1,499,216	\$ 1,532,431	\$ 1,366,985
Fuel ¹										
NOx Purchases ²	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 24,876	\$ 41,335	\$ 20,694	\$ 349
NOx Sales ²	\$ (45,775)	\$ (87,977)	\$ (3,510)	\$ (3,800)	\$ (4,563)	\$ (7,881)	\$ -	\$ -	\$ -	\$ -
GHG ³										
Sub-total	\$ 1,266,458	\$ 1,308,922	\$ 1,040,344	\$ 1,038,439	\$ 796,029	\$ 800,246	\$ 1,440,528	\$ 1,540,551	\$ 1,553,125	\$ 1,367,334
Capital Spending	\$ 1,354,259	\$ 731,344	\$ 1,813,282	\$ 2,962,609	\$ 3,495,905	\$ 1,354,842	\$ 1,406,702	\$ 1,770,251	\$ 2,892,646	\$ 2,287,017
TOTAL	\$ 2,620,717	\$ 2,040,266	\$ 2,853,626	\$ 4,001,048	\$ 4,291,934	\$ 2,155,088	\$ 2,847,230	\$ 3,310,802	\$ 4,445,771	\$ 3,654,351

Notes

1) Customers provide the in-kind fuel for compressor stations per Schedule No. G-BTS Backbone Transportation Service, therefore SDG&E and SoCalGas does not record the fuel cost and cannot provide the historic cost of fuel.

2) The Regional Clean Air Incentives Market (RECLAIM) Program provides Moreno Compressor Station with an allocation RECLAIM trading credits (RTCs). To the extent the credit allocation or holding is either lower than or greater than the amount of NOx emitted for the year, credits are purchased or sold. These figures reflect actual purchase costs or sales revenue. The South Coast Air Quality Management District (SCAQMD) has recently passed RECLAIM amendments that have reduced Moreno's RECLAIM holdings by 7% in 2016, growing to a 42% reduction in 2022, which will lead to rising credit purchase amounts and costs.

3) The Moreno Compressor Station became a compliance entity under the California Cap-and-Trade Program beginning January 1, 2013. Moreno is not allocated any free allowances and thus must purchase enough compliance instruments to cover its annual emissions. **The costs incurred by Moreno are "ARB Confidential" and is provided separately to TURN pursuant to the Nondisclosure and Protection Agreement (NDA) between TURN and SDG&E/SoCalGas.**

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QUESTION 3:

Re. the Moreno Compressor Station – Operations Analysis (Navin Testimony, Attachment A, Attachment XII):

- a. P. 8 – Please explain the estimated 55% capital cost annual avoided cost. Please provide any supporting documents or analyses.
- b. P. 6 – Please explain the basis for the assumption that the Proposed Project will allow a reduction in operations of 80-95%. Please provide any supporting documents or analyses.

RESPONSE 3:

- a. The estimated 55% capital annual avoided cost was based on engineering judgement and a review of the actual annual capital expenditures by management at Moreno Compressor Station and Transmission Department. (See the Prepared Direct Testimony of Neil Navin, Attachment A Pipeline Safety & Reliability Project Report, Attachment XII Moreno Compressor Station PSRP Report, Table 7 Annual Capital Spend on page 6)
- b. SDG&E and SoCalGas estimated based on engineering judgement that Line 3010 and the Proposed Project can provide sufficient capacity to meet forecast customer demand in San Diego without the operation of the Moreno Compressor Station, except during times of system constraints due to third party damages, pipeline outages and other routine maintenance. Management at Moreno Compressor Station and in Transmission Department reviewed these assumptions and estimated the annual reduction in hours of operations at the compressor station to between 80% and 95% under this scenario.

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Date Responded: May 19, 2016**

QUESTION 4:

Please explain in detail the relationship between the Moreno Compressor Station and flow through existing Lines 3010 and 1600, including, at a minimum,

- a. The location of inflow and outflow from MCS;
- b. The historical relationship between MCS fuel consumption and flow through both 3010 and 1600.

RESPONSE 4:

Moreno Compressor Station, located in Moreno Valley, CA (the site of the “inflow” and “outflow” from the compression station), compresses gas supplies destined for the SDG&E customer meter located at the Rainbow Meter Station. Gas supplies are then transported from the Rainbow Meter Station via Transmission Lines 3010 and 1600.

Fuel consumption at Moreno will increase proportionally as compressed volumes increase. Because there is other demand between the Moreno Compressor Station and Rainbow Meter Station, flow through Lines 3010 and 1600 may not always correlate to fuel use at Moreno. Please refer to Response 5 of this data request for historical fuel and throughput data at Moreno Compressor Station.

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**Date Requested: May 2, 2016
Date Responded: May 19, 2016**

QUESTION 5:

Please provide daily for 2012-2015

- a. Fuel consumption at the MCS
- b. Volume of gas inflow at MCS
- c. Volume of gas send out at MCS

RESPONSE 5:

Please refer to the attached data. Daily fuel use at Moreno Compressor Station is unavailable prior to 3/1/2013. Gas volumes out of Moreno Compressor Station are not measured.



TURN DR4 Q5.xlsx

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QUESTION 6:

Re. Vol. III, p. 32, fn. 79. Please provide a specific page citation for the “straight line reduction in operations.”

RESPONSE 6:

Prepared Direct Testimony of Neil Navin, Attachment A Pipeline Safety & Reliability Project Report, Attachment XII Moreno Compressor Station PSRP Report, Figure 1 Moreno Compressor Station Savings by Pipeline Diameter on page 10.

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QUESTION 7:

Re. Vol. III, p. 27, fn. 64. Please provide the useful life for Transmission pipeline used by Sempra for depreciation purposes.

RESPONSE 7:

Transmission pipeline book life (used for depreciation calculations) is 45 years.

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QUESTION 8:

Re. Vol. III, p. 32, Table 8: Please reproduce the analysis with the following changes to assumed parameters:

- a. Assume a useful life for the Proposed Project of 60 years;
- b. Assume a useful life for the Proposed Project equal to the depreciation life of transmission pipe, as provided in response to Q07 above

RESPONSE 8:

Table 1.a – 60 Year Avoided Costs (Millions of 2015 Dollars)

Alt No.	Project Name	Fixed Cost	Total O&M Cost ¹	Avoided Cost	Net Cost
A	Proposed Project (36" pipeline Rainbow to Line 2010 Route)	\$441.9	\$4.3	(\$185.7)	\$260.5
B	Hydrotest Alternative	\$112.9	\$5.6	\$0.0	\$118.5
C1	Alt Diameter Pipeline, Proposed Route (10")	\$297.6	\$100.0	(\$100.3)	\$297.4
C2	Alt Diameter Pipeline, Proposed Route (12")	\$320.1	\$68.1	(\$100.3)	\$288.0
C3	Alt Diameter Pipeline, Proposed Route (16")	\$337.1	\$4.3	(\$100.3)	\$241.1
C4	Alt Diameter Pipeline, Proposed Route (20")	\$352.9	\$4.3	(\$117.4)	\$239.8
C5	Alt Diameter Pipeline, Proposed Route (24")	\$361.2	\$4.3	(\$134.5)	\$231.1
C6	Alt Diameter Pipeline, Proposed Route (30")	\$392.2	\$4.3	(\$160.1)	\$236.5
C7	Alt Diameter Pipeline, Proposed Route (42")	\$527.5	\$4.3	(\$185.7)	\$346.1
D	Replace Line 1600 in Place with a New 16" Transmission Pipeline	\$556.1	\$4.1	(\$100.3)	\$459.9
E/F	Otay Mesa Alternatives	\$977.1	\$0.0	(\$100.3)	\$876.8
G	LNG Storage (Peak-Shaver) Alternative	\$2,669.7	\$14.5	(\$100.3)	\$2,583.9
H1	Alternate Energy Alternative: Grid-Scale Batteries	\$8,415.1	\$14.5	(\$100.3)	\$8,329.3
H2	Alternate Energy Alternative: Smaller-Scale Batteries	\$10,095.1	\$14.5	(\$100.3)	\$10,009.3
I	Offshore Route	\$1,449.9	\$4.9	(\$156.6)	\$1,298.3
J1	Blythe to Santee Alternative 1	\$1,377.5	\$15.9	(\$171.3)	\$1,222.2
J2	Blythe to Santee Alternative 2	\$1,315.5	\$15.9	(\$171.3)	\$1,160.2
J3	Cactus City to San Diego Alternative	\$1,143.4	\$12.0	(\$171.3)	\$984.2
K	Second Pipeline Along Line 3010 Alternative	\$595.2	\$3.3	(\$168.0)	\$430.4

¹ Present value of O&M and TIMP costs over 60 years. Also includes present value of gas transportation costs via Otay Mesa for Alternatives C1 and C2.

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RESPONSE 8 (cont.):

Table 2.b – 45 Year Avoided Costs (Millions of 2015 Dollars)

Alt No.	Project Name	Fixed Cost	Total O&M Cost ²	Avoided Cost	Net Cost
A	Proposed Project (36" pipeline Rainbow to Line 2010 Route)	\$441.9	\$4.1	(\$180.4)	\$265.6
B	Hydrotest Alternative	\$112.9	\$5.3	\$0.0	\$118.2
C1	Alt Diameter Pipeline, Proposed Route (10")	\$297.6	\$93.7	(\$100.3)	\$291.1
C2	Alt Diameter Pipeline, Proposed Route (12")	\$320.1	\$63.8	(\$100.3)	\$283.7
C3	Alt Diameter Pipeline, Proposed Route (16")	\$337.1	\$4.1	(\$100.3)	\$240.8
C4	Alt Diameter Pipeline, Proposed Route (20")	\$352.9	\$4.1	(\$116.3)	\$240.6
C5	Alt Diameter Pipeline, Proposed Route (24")	\$361.2	\$4.1	(\$132.3)	\$233.0
C6	Alt Diameter Pipeline, Proposed Route (30")	\$392.2	\$4.1	(\$156.3)	\$239.9
C7	Alt Diameter Pipeline, Proposed Route (42")	\$527.5	\$4.1	(\$180.4)	\$351.2
D	Replace Line 1600 in Place with a New 16" Transmission Pipeline	\$556.1	\$3.9	(\$100.3)	\$459.7
E/F	Otay Mesa Alternatives	\$977.1	\$0.0	(\$100.3)	\$876.8
G	LNG Storage (Peak-Shaver) Alternative	\$2,669.7	\$13.6	(\$100.3)	\$2,583.0
H1	Alternate Energy Alternative: Grid-Scale Batteries	\$8,415.1	\$13.6	(\$100.3)	\$8,328.4
H2	Alternate Energy Alternative: Smaller-Scale Batteries	\$10,095.1	\$13.6	(\$100.3)	\$10,008.4
I	Offshore Route	\$1,449.9	\$4.6	(\$153.0)	\$1,301.5
J1	Blythe to Santee Alternative 1	\$1,377.5	\$14.9	(\$166.8)	\$1,225.6
J2	Blythe to Santee Alternative 2	\$1,315.5	\$14.9	(\$166.8)	\$1,163.6
J3	Cactus City to San Diego Alternative	\$1,143.4	\$11.2	(\$166.8)	\$987.9
K	Second Pipeline Along Line 3010 Alternative	\$595.2	\$3.1	(\$163.8)	\$434.5

² Present value of O&M and TIMP costs over 45 years. Also includes present value of gas transportation costs via Otay Mesa for Alternatives C1 and C2.

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QUESTION 9:

Re. Vol. III, p. 23-24, Alternatives C: For alternative diameter pipelines, please explain how costs “were scaled from the proposed project.” Please provide all relevant data and assumptions.

RESPONSE 9:

Alternatives C1-C7 were calculated at the project component level, following the methodology used for Alternative A and is discussed in the Cost-Effectiveness Analysis-Volume III on pages 23-25.

Material Costs:

- Pipe, valves and fittings cost estimates were based on vendor quotes or historical pricing.

Construction Costs:

- C3, C6 and C7 - Construction estimates were based on vendor quotes.
- C1 and C2 – Construction estimates were scaled from C3 vendor provided estimates by adjusting pipeline installation activity costs down 5% for C2 and adjusting down 10% for C1.
- C4 and C5 – Construction estimates for C4 and C5 were scaled from C6 estimates by adjusting down pipeline installation activity costs down 15 % for C4 and adjusting down 10% and C5.

Adjustment percentages are high level estimates due to the limited time to complete the analysis of alternatives and were based on discussions with vendors.

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QUESTION 10:

Re. Vol. III, p. 25, Alternative G: Please provide details on all “actual costs for an existing LNG storage facility” used for the estimate. Please provide all available data for the actual storage facilities, including at a minimum the name, size, location, and type of facility.

RESPONSE 10:

Project Name	Energia Costa Azul
Years Built	2005-2008
Location	Ensenada, Baja California, Mexico
Type of Facility	LNG Storage Facility
Regasification Sendout Capacity (MMSCFD)	1,000
LNG Storage Capacity (cubic meters LNG)	320,000
# of Storage Tanks	2
Storage Tank Capacity (cubic meters LNG)	160,000
Storage Tank Capacity (BCF)	6.78
Capital Cost (\$MM)	975
Capital Cost (\$MM) reduced to 75% to account for terminal port not utilized in this scenario	731

Source: <http://abarrelfull.wikidot.com/costa-azul-lng>

Source: <http://web.archive.org/web/20140822161728/http://www.sempralng.com/our-terminals.html>