SAN DIEGO GAS & ELECTRIC COMPANY
SOUTHERN CALIFORNIA GAS COMPANY

PIPELINE SAFETY & RELIABILITY PROJECT (PSRP)

(A.15-09-013)

(DATA REQUEST ORA-41)

Date Requested: September 6, 2016
Date Responded: September 20, 2016

PRELIMINARY STATEMENT

1. These responses and objections are made without prejudice to, and are not a waiver of, SDG&E 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 does 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. SDG&E and SoCalGas possession, custody, or control does not include any constructive possession that may be conferred by SDG&E or 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 objects to the production of documents or information protected by the attorney-client communication privilege or the attorney work product doctrine.
6. SDG&E and SoCalGas expressly reserve 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).
7. 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. SDG&E and SoCalGas will Bates-number such documents only if SDG&E and SoCalGas deem it necessary to ensure proper identification of the source of such documents.
8. Publicly available information and documents including, but not limited to, newspaper clippings, court papers, and materials available on the Internet, will not be produced.

9. SDG&E and SoCalGas object to any assertion that the data requests are continuing in nature and will respond only upon the information and documents available after a reasonably diligent search on the date of its responses. However, SDG&E and SoCalGas will supplement its answers to include information acquired after serving its responses to the Data Requests if it obtains information upon the basis of which it learns that its response was incorrect or incomplete when made.
10. In accordance with the CPUC's Discovery: Custom And Practice Guidelines, SDG&E and SoCalGas will endeavor to respond to ORA's data requests by the identified response date or within 10 business days. If it cannot do so, it will so inform ORA.
11. SDG&E and SoCalGas object to any ORA contact of SDG&E and SoCalGas officers or employees, who are represented by counsel. ORA may seek to contact such persons only through counsel.
12. SDG&E and SoCalGas objects to ORA's instruction to send copies of responses to entities other than ORA.

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Subject: Cost Effectiveness Analysis in A.15-09-013 by PWC and Mr. Neil Navin Prepared Testimony Attachment A & B PSRP Report

QUESTION 1:

With respect to the "Otay Mesa Alternatives" referenced on page 13 of the CEA and shown in Table 6 on page 22 of the CEA as Alt. E/F with combined fixed costs of $977.1 million and combined annual operating costs of $45 million, please provide the separate breakdown of the estimated fixed costs and operating costs for each one of Alternatives E and F. Please state any assumptions you make in order to provide the separate cost breakdown for each alternative.

RESPONSE 1:

As explained in the Cost-Effectiveness Analysis (CEA) at page 13, Alternative F is indistinguishable in terms of costs and benefits to Alternative E because both alternatives rely upon the use of Otay Mesa capacity in place of the Proposed Project and require the same physical construction of new pipeline facilities via an expansion of the North Baja Pipeline system in order to deliver 400 MMcfd, which would provide some but not all of the reliability benefit of the Proposed Project. As such, SDG&E and SoCalGas (Applicants) did not provide a separate cost breakdown for Alternative E and Alternative F because they would be the same.

The breakdown of the estimated fixed and operating costs and the assumptions supporting the estimated costs for Alternative E/F are provided in:

- Workpapers supporting the Prepared Direct Testimony of Neil Navin. See response to Question 1 of ORA DR 3, PSRP_Alt_Workpaper, summary schedule and the Capital Workpaper, "Option E/F – Otay Mesa Alternative"

- Prepared Direct Testimony of Gwen Marelli, page 7, lines 2-11.

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QUESTION 2:

On page 19 of the CEA, the Applicants state:
"For purposes of this Cost-Effectiveness Analysis, the Applicants' do not distinguish between capital and expense costs."

(a) Please fully explain what is meant by "the Applicants' do not distinguish between capital and expense costs."

(b) Please explain the reason why Applicants do not "distinguish between capital and expense costs" for purposes of this CEA.

(c) Do Applicants agree that capital and expense costs are very different in nature and have different accounting treatment?

(d) When "the Applicants' do not distinguish between capital and expense costs" for purposes of the CEA, please fully explain any revenue and cost implications with regard to the items below:

- Avoided cost calculation
- Accounting treatment in so far as depreciation is concerned
- Tax treatment
- Revenue Requirements
- Rates

RESPONSE 2:

a. For the purposes of the Cost-Effectiveness Analysis (CEA), SDG&E and SoCalGas (Applicants) did not identify which of the cost elements that make up the estimated fixed and operating costs would be treated as capital and which would be treated as expense amounts.

b. All of the cost estimates developed for the CEA, except for the estimate developed for Alternative A, the Proposed Project, are high-level, class 4 or 5 estimates. The estimate for the Proposed Project is a level 3 estimate. The maturity of the estimates for all of the Alternatives except the Proposed Project is lower due to the lack of detailed definition for key project cost drivers. For certain Alternatives (D, G, H1, H2, I, J1, J2 and J3), only high-level estimates are available because Applicants previously determined those Alternatives to be imprudent compared to the Proposed Project (CEA at page 20).

Therefore, given the lack of maturity of the cost estimates for the Alternative projects, Applicants did not distinguish between capital and expense amounts.

c. Yes, Applicants agree that capital and expense costs are different in nature and have different accounting treatments.

d. Applicants object that this Question is vague, ambiguous and overbroad in seeking an explanation of "any revenue and cost implications" with regard to the five bulleted items. Subject to and without waiving their objections, and interpreting it as seems reasonable, Applicants respond as follows:

- Avoided cost calculation
  There are no revenue or cost implications with regards to the avoided cost calculation. The avoided cost calculation identifies a dollar amount that will be avoided over a period of 100 years for each of the Alternatives. Whether the dollar is a capital dollar or an expense dollar is not relevant.

- Accounting treatment in so far as depreciation is concerned
  O&M (expense is assumed to be O&M expense) is a pass-through item and is not depreciated over time in the same way as capital costs.

- Tax treatment
  O&M is not capitalized so it will not incur the same set of tax items as capital costs, the ratepayers will incur the standard tax items related to O&M.

- Revenue requirements
  Revenue Requirement is derived from multiple cost categories including O&M, working capital, franchise fees and uncollectibles, depreciation, return on costs of capital and taxes. Therefore, any capital or expense costs impacts in these areas will have implications on revenue requirement.

- Rates
  Rates are derived from revenue requirement amounts, whether a dollar of revenue requirement is driven by expense or capital costs does not impact the downstream rate calculation.

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QUESTION 3:

On page 19 of the CEA, the Applicants state:
"The Applicants developed the fixed cost estimate for the Proposed Project and Alternatives using common, industry standard estimating practices, aligned with Association for the Advancement of Cost Engineering Recommended Practices. [footnote omitted] The estimates are based on a combination of market research, historical data, parametric modeling, semi-detailed unit costs and order-of-magnitude estimating based on experience and engineering judgment."

(a) Please describe the typical "market research" and how that "market research" is used to estimate costs for an Alternative to the Project.

(b) Please describe the typical "historical data" and how that "historical data" is used to estimate costs for an Alternative to the Project.

(c) Please define the term "parametric modeling" and describe how "parametric modeling" is used to estimate costs for an Alternative to the Project.

(d) Please define the term "semi-detailed unit costs" and describe how "semi-detailed unit costs" is used to estimate costs for an Alternative to the Project.

(e) Please define the term "order of magnitude estimating" and describe how "order of magnitude estimating" is used to estimate costs for an Alternative to the Project.

(f) Please describe how all or some of the above in items (a) through (e) were combined and used to arrive at the estimates for Alternatives E and F.

(g) Were the "industry standard estimating practices" applied consistently to determine costs of each alternatives? If not, please explain.

RESPONSE 3:

a. Applicants object that this Question is vague, ambiguous, overbroad and compound, asking about "typical 'market research'" generally and referring to all Alternatives. Applicants will construe the question to ask how "market research" was used in estimating costs for alternatives to the Proposed Project, and identify the type of market research used to estimate costs for each Alternative for which market research was used. Subject to and without waiving their objection, Applicants respond as follows.

Market research involves using publicly available information to locate the costs for certain project elements such as material prices and costs for equipment rental. Costs identified through market research may be included as part of the overall project cost estimate. The cost information collected through market research is one of the methods used to develop the estimates for the Alternative projects.

b. Applicants object that this Question is vague, ambiguous, overbroad and compound, asking about "typical 'historical data'" generally and referring to all Alternatives. Applicants will construe the question to ask how "historical data" was used in estimating costs for alternatives to the Proposed Project, and identify the type of historical data used to estimate costs for each Alternative for which historical data was used. Subject to and without waiving their objection, Applicants respond as follows.

   Applicants maintain actual cost information from completed construction projects such as costs to purchase materials, equipment rental costs and different types of unit costs (e.g. cost per mile to install different diameter pipelines). This actual cost information is the historical cost data. This historical data is used to inform the estimated costs for similar projects. Applicants evaluated the different elements for the Proposed Project and Alternative projects (e.g. construction, engineering, materials, equipment, etc.) and determined if there were similarities between those project elements and the same elements for completed projects. Where Applicants identified similarities, the historic cost data was used to inform the cost estimate for the Proposed Project and Alternative Project.

c. Parametric modeling is generally used when preparing conceptual (class 4 or 5) cost estimates when little engineering or design data is available. Parametric modelling relies on historic cost data that is factored (adjusted) to more closely align to the high-level design or high-level concept for a particular project. For example, parametric modeling was one of the estimating methods used to develop the cost estimate for Alternative G, LNG Storage (Peak-Shaver). As described in the CEA (page 25):

   > The estimate for this Alternative was based on evaluating the costs for a similar LNG storage facility project, and developing factored estimates for the supply and construction of four LNG storage facilities based on each facility's operational requirements. These estimates were developed for each LNG storage facility by comparing them to available, actual costs for an existing LNG storage facility.

d. Semi-detailed unit costs are unit costs (e.g. cost per mile to install pipeline) that do not include comprehensive cost information for all of the elements that make up the unit cost. Semi-detailed unit costs are one of the methods relied on to develop the class 4 and 5 (high-level) estimates for the Alternative projects.

e. Order of magnitude estimating is the process of applying estimated or actual costs for a project to inform the estimates for another project. Order of magnitude estimating relied on for estimating projects with very little design or engineering information available and is often the method used for developing "proof-of-concept" (class 5) estimates.

f. Witness Gwen Marelli (Direct Testimony, page 7, lines 2-11) describes the method for developing the cost estimate for Alternatives E/F:

> Assuming the 400 MMcfd of firm capacity could not be secured without pipeline expansions, the Utilities identified both a low end cost and a high end cost for building out capacity to provide service under the Otay Mesa Alternatives. The low end cost is based on existing rates for the pipelines and rates for facilities in service since 2002. The Utilities estimate that the low end cost would be approximately $45 million per year based on current rates. The high end cost is based on more recent published pipeline costs for projects proposed or awarded for construction in Arizona and Northern Mexico. The high end cost assumes the North Baja system and Gasoducto Rosarito system would need to be looped from Ehrenberg to TGN. The estimated high end cost is approximately $997 million (in 2012 dollars).

The use of existing rates as the basis for the low end estimate is an example of using historic data to develop the cost estimate.

The use of published pipeline costs is an example of using market research to inform the cost estimates. Applicants applied order-of-magnitude estimating methodology to the market research data to develop the high end cost estimate.

g. Yes, industry standard estimating methods were applied consistently to develop the costs for the Alternative projects.

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QUESTION 4:

On page 20 of the CEA, Applicants state:
"In support of the Application filing in September 2015, Applicants developed a cost estimate for the Proposed Project based on a defined route, semi-detailed design and engineering, and a robust environmental assessment. By contrast, the maturity of the estimates for each Alternative is lower, due to the lack of detailed definition for key project cost drivers – such as scope definition, level of completed design and engineering, material and labor requirements, permitting needs, environmental requirements, and schedule/sequence assumptions."

(a) Do lower maturity estimates for Alternatives lacking detailed definitions of key project cost drivers, result in higher cost estimates for each Alternative when compared to the cost estimates for Proposed Project based on a higher maturity level? Please respond with a yes or no, then explain your response.

(b) Assume hypothetically that each of the Alternatives had the same maturity level as the Proposed Project. Would the Applicants be able to determine what the percentage difference could be in the cost estimate of each Alternative compared with the Proposed Project if the maturity level of each Alternative were similar to that of the Proposed Project? Please explain your response.

RESPONSE 4:

a. No. The lack of detailed definitions of key project drivers for the Alternative projects do not by themselves result in higher cost estimates when compared to the Proposed Project. For example, the costs for Alternative I (Off-Shore Route) will always be higher than the costs for the Proposed Project because the engineering, permitting, environmental, construction and other costs for constructing an off-shore pipeline are higher than constructing the Proposed Project. Incurring the significant time and expense to develop a class 3 cost estimate for Alternative I (the same class estimate level as the Proposed Project) will still result in a higher estimate for Alternative I because of the nature of the project.

b. Applicants object to this question on the grounds that it is vague and ambiguous, and calls for speculation. Subject to and without waiving their objections, Applicants respond as follows.

   Applicants assume ORA is trying to calculate the percent difference in estimated fixed costs between the Proposed Project and the Alternatives if all of the cost estimates were

a class 3 estimate. If all of the cost estimates were the same level of maturity, Applicants could calculate the percentage difference between each Alternative and the Proposed Project. However, ORA or the Applicants can calculate a percentage difference in the estimated fixed costs between the Proposed Project and the Alternatives with the current estimates.

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QUESTION 5:

On page 34 of the CEA, Applicants state:
"The model was then created to evaluate 16 specific benefits, each of which falls within one of the seven categories identified in the Ruling. Care was taken to treat each benefit as unique and not count them more than one time in the scoring model."

Please explain how the above statement was implemented with respect to the 16 specific benefits, so that "care was taken to treat each benefit as unique" and none of the 16 benefits were counted more than one time in the scoring model."

RESPONSE 5:

The team carefully reviewed each benefit included in the scoring model to make certain that no benefit was counted more than one time. Narrow definitions were developed for each benefit to preserve the unique nature of each benefit.

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QUESTION 6:

In Table 14 on page 45 of the CEA, Applicants present reliability benefits in items 2.1 through 2.5. Item 2.1 is the ability for a project to provide redundancy to the natural gas system while items 2.2 through 2.5 deal with the curtailment impact to different customer groups. In Table 11 on page 38 of the CEA, Applicants present increased safety benefits in items 1.1 through 1.5. Item 1.1 is the increased safety margin to prevent pipeline rupture through the de-rating of Line 1600. Item 2.2 is the long term safety benefit of transmission pipeline. Item 2.3 is the reduction in incidents per HCA mile of pipeline. Item 1.4 is increased real-time awareness of excavation damage. Lastly, item 1.5 is the achievement of "as soon as practicable" safety objective.

(a) Is it accurate to say that the reliability benefits in Table 14 include the impact of reliability to the system and the impact of reliability to the customers while the safety benefits in Table 11 include the impact of increased safety to the system only, but not the impact of safety to the customers? Please answer with a yes or no, then explain your response.

(b) If you responded with a no to the above question, then please recommend how the impact of safety to customers should be reflected in the safety benefits. Please ensure that this is a safety recommendation provided by the same people who created Table 11 in the CEA. Please identify the person(s) responsible for providing the answer.

RESPONSE 6:

Applicants object that this Question's summary of the benefits addressed in the CEA is not a full and accurate statement of such benefits as reflected in the CEA, that the CEA speaks for itself, and is the most accurate statement of such benefits. Applicants' further response to this Question does not constitute agreement with the Question's summary of benefits.

a. Applicants object that this question is vague, ambiguous and compound, attempting to summarize the CEA's detailed analysis of ten benefits in two summary clauses. To the extent that Applicants understand the question, no, it is not accurate to say "the safety benefits in Table 11 include the impact of increased safety to the system only, but not the impact of safety to the customers." Reducing pressure to reduce the risk of rupture, removing anomalies in the existing Line 1600 and replacing it with modern materials and design in a new pipeline, reducing the number of incidents per HCA miles, increasing awareness of the risk of excavation damage, and taking these steps as soon as practicable all provide safety benefits to persons (including customers) who reside near the pipelines. Table 11 reflects how each project alternative meets the criteria, which would reduce the risk of unplanned outages of the relevant pipeline, but reducing those

outages also enhances the safety of nearby residents. Applicants are unsure what ORA means by "the reliability benefits in Table 14 include the impact of reliability to the system and the impact of reliability to the customers." Reliability of the system provides reliable service to customers. The criteria in Table 14 assess the ability of the gas transmission system, with each alternative project, to provide service if an unplanned event should occur that places any of the two primary gas transmission assets (Line 3010 and Moreno Compression Station) out of service, and the customer impact of such an event.

b. Applicants object that this question is vague and ambiguous. Applicants believe that the safety benefits to customers are reflected in the criteria set forth in Table 11. Subject to and without waiving its objections, and interpreting the question as seems reasonable, Applicants respond as follows:

Customer, employee, contractor and public safety is inherent in the benefit scoring provided in Table 11. There is no different score for customer, employee, contractor and public safety and system safety. For example, for benefit 1.3, reduction in potential incidents per HCA mile of pipeline, a reduction in potential incidents improves safety to customers, employees, contractors and the public and improves system safety. By definition, a safer system means greater customer, employee, contractor and public safety.