SAN DIEGO GAS & ELECTRIC COMPANY
SOUTHERN CALIFORNIA GAS COMPANY

PIPELINE SAFETY & RELIABILITY PROJECT (PSRP)

(A.15-09-013)

(DATA REQUEST ORA-40)

Date Requested: September 2, 2016
Date Responded: September 19, 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 and Mr. David Bisi Prepared Testimony in A.15-09-013

QUESTION 1:

Page 7 of Mr. Bisi's Prepared Testimony states:

"Similarly, practically all gas supplies destined for use on the SDG&E system pass through the Moreno Compressor Station, which boosts pressures for delivery to the SDG&E system at Rainbow Station. With a loss of some compression at Moreno, delivered pressure at Rainbow Station may be insufficient to maintain service to all SDG&E customers; the loss of all compression capability at Moreno (*i.e.*, "free flowing" supplies from the SoCalGas system, as if bypassing Moreno Compressor Station) will only support an SDG&E demand of 340 MMcfd, less than the SDG&E daily average demand of 369 MMcfd."

(a) Please explain whether it is accurate to say that all gas supplies for use on the "SDG&E system" that pass through the Moreno Compressor Station boosts pressures for delivery to the SDG&E system.

(b) Please briefly describe the possible reasons there could be a loss of some compression capability at Moreno.

(c) Please briefly state the previous occurrences when there was a loss of some compression capability at Moreno and the underlying reasons for them.

(d) Please explain whether it is accurate to say that insufficient pressure at Rainbow Station can only be due to a loss of some compression capability at Moreno.

(e) Please explain how much loss of compression at Moreno will result in supporting an SDG&E demand of 340 MMcfd.

RESPONSE 1:

a. Yes.

b. A non-exhaustive list includes mechanical failure of the drivers, mechanical failure of the compressors, low suction pressure, an emergency shutdown for any reason, force majeure, terrorist attack, and extreme temperature conditions.

c. Previous incidents which resulted in a loss of compression capability at Moreno compressor station were the result of all situations described in Response 1b to this data request, except for terrorist attack.

d. No, a demand greater than the capacity of the SDG&E system will result in lower discharge pressure at Moreno Compressor Station because it exceeds the capacity of the station, along with greater losses through SoCalGas' Rainbow Corridor. Also, an outage or a high demand condition in SoCalGas' Rainbow Corridor will result in lower pressure at Rainbow Metering Station.

e. As stated in the Prepared Direct Testimony of David Bisi on page 7, and quoted in this data request, "the loss of all compression capability at Moreno… will only support an SDG&E demand of 340 MMcfd…"

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QUESTION 2:

Page 7 of Mr. Bisi's Prepared Testimony states:

"In order to provide resiliency to the SDG&E system and redundancy for Line 3010, a new pipeline should be at least 30 inches in diameter. A pipeline with a 30-inch diameter provides complete coverage for an outage on Line 3010 for either planned or unplanned reasons, as long as compression assets are available, and could support an SDG&E demand of 570 MMcfd by itself, enough to serve SDG&E demand for core and noncore customers in the summer season. As shown in Table 6 of the Cost-Effectiveness Analysis, upsizing to a 36-inch diameter would require an incremental expense of approximately $50 million. This is approximately an 12.6 percent increase relative to a 30-inch diameter." Page 42 of the CEA under item 2.1 sets the scale for scoring the projects against the "redundancy to natural gas transmission system" benefit. A score of 4 is for "complete redundancy for Line 3010." A score of 5 is for "complete redundancy for Line 3010 or Moreno Compressor Station."

(a) Please explain whether it would be accurate to say that the Alternative Diameter 30" obtained a score of "4" rather than a "5" in Table 14 on page 45 of the CEA for the reliability benefit stated in the section "2.1 Redundancy to natural gas transmission system" because the 30" diameter Alternative "provides complete coverage for an outage on Line 3010 for either planned or unplanned reasons, as long as compression assets are available."

(b) How much of the Moreno Compressor Station would need to be operational to allow a 30" Diameter pipeline to provide complete redundancy for Line 3010?

(c) If compression assets are available, does this imply that Moreno Compressor Station should be available and in service even though there is an outage on Line 3010, based on the statements above of Mr. Bisi. If Moreno Compressor Station assets are not available, please explain your response.

(d) Would it be accurate to say that the larger Alternative Diameter 42" obtained a score of "5" because it could provide complete coverage for both an outage on Line 3010 and Moreno Compressor Station, which could occur at the same time. Please respond first with a yes or no answer and please explain your no response.

(e) Based on your response to item (d) above, should a score of "5" correspond to "complete redundancy for Line 3010 and Moreno Compressor Station" instead of "complete redundancy for Line 3010 or Moreno Compressor Station" as written under section 2.1 on page 42.

(f) Since the Proposed Project shows a score of "5" in Table 14 for item 2.1, is it accurate to say that the 36" diameter pipe could provide coverage for both an outage on Line 3010 and Moreno Compressor Station which could occur at the same time, similar to the Alternative Projects consisting of the 42" diameter, the Offshore Route, the Blythe to Santee Alt 1, the Blythe to Santee Alt 2, the Cactus City to SD, and the 2nd Pipeline Along Line 3010. If so, please cite reference to the corresponding Scenario Analysis Workpapers which demonstrate that the foregoing Projects could provide the coverage asserted herein.

(g) Please briefly state whether there has been any previous experience where both an outage on Line 3010 and Moreno Compressor Station occurred at the same time. If there were no previous occurrences, please so state. If the previous experience occurred separately rather than at the same time, then please so state. If any outages were partial, rather than complete outages, please explain.

(h) Please clarify whether 570 MMcfd is the forecast peak SDG&E demand for core and noncore customers in the summer season and state for what forecast year. If not, please explain what the demand figure represents.

(i) In connection with the statement "A pipeline with a 30-inch diameter provides complete coverage for an outage on Line 3010 for either planned or unplanned reasons, as long as compression assets are available," (underlined for emphasis) please explain the circumstances and/or conditions under which compression assets would not be available, such that a 30-inch diameter pipeline would not provide complete coverage for an outage on Line 3010 for either planned or unplanned reasons."

RESPONSE 2:

a. The Alternative Diameter 30" obtained a score of "4" rather than a "5" in Table 14 on page 45 of the CEA because it provides redundancy for Line 3010 and not for the Moreno Compressor Station. See CEA at 42, 46-47.

b. In order to serve a demand of 570 MMcfd with a new 30" pipeline and an outage on Line 3010, all available compression at Moreno would be required. Any compression that is not available will decrease the capacity of the system.

c. If an additional 30-inch diameter pipeline is constructed, Moreno compressor station must be available to maintain a capacity of 570 MMcfd during an outage on Line 3010. If Moreno compressor station is not available, in whole or in part, then capacity will decrease from this 570 MMcfd level when Line 3010 is out of service.

d. No. As set forth in the CEA and quoted in this data request, the 42" pipeline alternative (Alternative C7) received a score of 5 for benefit 2.1 (redundancy to natural gas transmission system) because it is sufficiently sized to provide complete redundancy for Line 3010 **or** Moreno Compressor Station. The benefit was not measuring if an alternative could provide complete redundancy for Line 3010 and the Moreno Compressor Station.

e. No.

f. No. A score of 5 for benefit 2.1, redundancy to the natural gas transmission system is measuring complete redundancy for Line 3010 or the Moreno Compressor Station. All of the Alternatives receiving a score of 5 (the 42" Pipeline Alternative (C7) and the 36" Pipeline Alternatives (A, I, J1, J2, J3 and K)) are sized sufficiently to provide complete redundancy for Line 3010 or the Moreno Compressor Station.

   Operations at Moreno Compressor Station are not one of the variables used in the reliability scenario analyses. Scoring benefit 2.1 was based on the expertise and engineering judgment of the SDG&E personnel who operate and maintain the natural gas transmission system.

g. There have been no simultaneous outages at Moreno compressor station and on Line 3010 which have impacted SDG&E's ability to serve customer demand.

h. No, 570 MMcfd is not a demand forecast but is rather the capacity of the SDG&E system with full compression available at Moreno and a single 30-inch diameter pipeline. (See the Prepared Direct Testimony of David Bisi at page 7, footnote 10).

i. Please refer to Response 1b of this data request.

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QUESTION 3:

Page 42 of the CEA under item 2.2 sets the scale for scoring the projects against the "Curtailment impact to core gas customers." Item 2.2 explains that "An outage scenario analysis has been performed to model the impact of the Alternatives on overall system reliability." In the SoCalGas/SDG&E Walk-Through of the CEA with ORA, the Applicants mentioned that it examined a total of 960 scenarios in the curtailment scenario analysis.

The CEA states on page 42:

"The analysis evaluates curtailments to gas customers in the case of an outage or reduction in pressure of Line 3010 under current conditions, given the hypothetical availability of the Proposed Project or Alternates. A range of scenarios were modeled across variabilities in gas supply from Otay Mesa and seasonal variations in gas demand. SDG&E Gas Rule 14 [footnote omitted] was used to segregate impact to the key customer classes in order of their curtailment priority. The scenario analysis methodology and approach is discussed in detail in Section H, Supporting Analysis. The scale for scoring the Alternatives against this benefit is based on a normalization of the average curtailment measured across all scenarios modeled for each Project Alternative. The average percentage of gas curtailment identified under each Project Alternative was normalized from 0% to 100%, and the following scores (1 through 5) were applied accordingly." In the succeeding items 2.3 through 2.5 on pages 43-45 of the CEA, curtailment impacts to electric generation (EG) gas customers, to non-core, non-EG gas customers, and to electric customers were examined in the outage scenario analysis, with similar scale for scoring as described above.

(a) Please explain the plain meaning of "The scale for scoring the Alternatives against this benefit is based on a normalization of the average curtailment measured across all scenarios modeled for each Project Alternative" as used in the above statements.

(b) Please explain whether any of the outage scenarios assumed a condition under which the compression assets were not available. If so, please identify those outage scenarios by citing the reference for them in the scenario analysis workpapers, and briefly describe the results.

(c) Please confirm whether the outage scenarios examined in the analysis assumed compression assets were always available. If so, then would it be accurate to say that none of the 960 scenarios in the scenario analysis examined the capacity of the Proposed Project and Alternative Projects to provide complete coverage in the event compression assets were not available. Please explain your response.

(d) Please explain whether based on SDG&E Gas Rule 14, the outage scenario analysis assumes that "curtailments to gas customers in the case of an outage or reduction in pressure of Line 3010 under current conditions" would be considered a capacity curtailment. If so, clarify whether that is considered a local system constraint or an SDG&E system constraint or a SoCalGas-SDG&E system-wide constraint, or something else.

(e) Please confirm that in all scenarios, the maximum availability of Line 3010 is assumed to be only 80%.

RESPONSE 3:

a. The individual curtailment scores from the scenario analyses were averaged to determine the average curtailment score to each gas customer class and electric meter by project alternative (see Workpapers Supporting the Scenario Analysis, p. 123, lines 27-30.)

These average curtailments were then normalized against the maximum curtailment percentage for each customer class to allow for a like-for-like comparison. Each average curtailment was then divided by the maximum curtailment percentage in that customer class. This calculation adjusts the curtailment percentages measured on different scales to a common scale (see Workpapers Supporting the Scenario Analysis, p. 123, lines 27-30.)

For example:

- The maximum curtailment percentage for the Gas Non-Core, Non-EG customer class is 63.2% (see Workpapers Supporting the Scenario Analysis, p. 123, cell B5).

- Each curtailment percentage is normalized by dividing it by 63.2%.

    - 44.8%% (cell B4) ÷ 63.2% = 71% (cell F4)
    - 63.2% (cell B5) ÷ 63.2% = 100% (cell F5)
    - 0% (cell B6) ÷ 63.2% = 0% (cell F6)
    - 56.6% (cell B7) ÷ 63.2% = 89% (cell F7)

(All cell references to Workpapers Supporting the Scenario Analysis, p. 123)

- The resulting percentage amounts have been adjusted (or normalized) to a common scale (0%-100%) to allow for a like-for-like comparison.

- The normalized 0% to 100% scale is used in scoring the benefits 2.3, 2.4 and 2.5 in the CEA. (see pages 42-45).

b. None of the outage assumed a condition under which the compression assets were not available.

c. Yes, the outage scenarios assumed that compression assets were available. No, it is not accurate to say that none of the outage scenarios examined the capacity of the Proposed Project and Alternative Projects to provide complete coverage in the event compression assets were not available. It is not accurate because the outage analysis modeled the impact of the Proposed Project and the Alternatives on overall system reliability (see CEA, pages 42-43).

d. The outage scenario analyses were performed to model the impact of the Proposed Project and the Alternatives on overall system reliability (see CEA, pages 42-43), not capacity.

   A Line 3010 outage would cause a loss of local system capacity on the SDG&E system. It would reduce the level of local service available to SDG&E customers. SDG&E customer loads would be curtailed according to the provisions of Rule 14 to maintain service to higher priority customers.

   A Line 3010 outage would also reduce the available backbone system capacity for backbone shippers delivering gas to the Otay Mesa Receipt Point. An unscheduled Line 3010 outage could result in cuts to scheduled deliveries to match available capacity according to the provisions of Rule 30.

e. Half of the scenarios assume Line 3010 is at 80% capacity and the other half assumes a complete outage of Line 3010.