

**SAN DIEGO GAS & ELECTRIC COMPANY
SOUTHERN CALIFORNIA GAS COMPANY
PIPELINE SAFETY & RELIABILITY PROJECT (PSRP)
(A.15-09-013)
(DATA REQUEST ORA-50)**

**Date Requested: November 14, 2016
Date Responded: November 30, 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.

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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: 2016 California Gas Report

In ORA DR-33, Question 5, ORA asked:

Has SoCalGas and/or SDG&E conducted any studies for natural gas requirements and supplies to SoCalGas and SDG&E that examine short-term (rather than the average) natural gas demand under the assumptions used in the 2016 California Gas Report? If so, please provide them.

SCG/SDG&E Responded:

SDG&E and SoCalGas have not conducted any short-term (*i.e.*, monthly, daily, hourly) studies for natural gas requirements and supplies under the assumptions used in the 2016 CGR. The forecasting models used for the non-EG markets produce annual forecasts only. Any shorter-term forecasts were extrapolated from these annual forecasts. For the EG market, the Market Analytics model can simulate and dispatch power plants hourly. However, the assumptions and input data used for the 2016 CGR were based on long term averages which, for short-term forecasting purposes, possess unrealistically dampened volatility. As a consequence, no short-term studies were performed under 2016 CGR assumptions

QUESTION 1:

Have SDG&E and SoCalGas conducted any short-term (*i.e.*, monthly, daily, hourly) studies (including but not limited to the Market Analytics model) for natural gas requirements and supplies under the assumptions used in the 2013, 2014, or 2015 CGR? If so please provide the studies.

RESPONSE 1:

SDG&E and SoCalGas (Applicants) have not conducted short-term (*i.e.*, monthly, daily, hourly) studies for natural gas requirements and supplies under the assumptions used in the 2014 California Gas Report (CGR). The forecasting models used for the non-electric generation (EG) markets produce annual forecasts only. Any shorter-term forecasts were extrapolated from these annual forecasts. For the EG market, the Market Analytics model can simulate and dispatch power plants hourly. However, the assumptions and input data used for the 2014 CGR were based on long term averages, which for short-term forecasting purposes, possess unrealistically dampened volatility. As a consequence, no short-term studies were performed

**SAN DIEGO GAS & ELECTRIC COMPANY
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Date Responded: November 30, 2016

under 2014 CGR assumptions. Please note that CGRs in odd years (*i.e.*, 2013 and 2015) contain updates to historical data only. No forecasts are prepared for those odd year reports.

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**Date Requested: November 14, 2016
Date Responded: November 30, 2016**

QUESTION 2:

Have SDG&E and SoCalGas conducted any short-term studies for natural gas requirements and supplies, using assumptions other than the CGR? Please explain, provide the year of the studies, the vintage of the assumptions or data used in the studies, and provide the results of any such studies.

RESPONSE 2:

Applicants have not conducted studies of natural gas requirements or supplies beyond the next 12 months at higher than annual frequencies (e.g., monthly, daily, or hourly).

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Subject: System Capacity

ORA Data Request 30, Question 2h asks:

Page 41 of the CEA states:

“System reliability refers to the ability to maintain safe, consistent, and continuous service to customers. System reliability is insured by maintaining safe operating pressures, which in turn result from having sufficient supply to meet demand and sufficient pipeline and storage capacity.”

Using modern design standards and state-of-the-art materials and technology can increase the reliability of the physical gas transmission asset. Additionally, extra capacity as a result of a larger pipe diameter and the ability to operate safely at a higher pressure, can help improve the inherent reliability of a system during events when (a) projected daily demand exceeds forecast levels or (b) intra-day demands fluctuate in a manner that exceeds current operating parameters.

“The Proposed Project and Alternatives were evaluated and scored in terms of their impact on increasing the current reliability/redundancy of the Applicants’ gas transmission system. The three main distinctions in assessing the impacts to reliability/redundancy are as follows:

- No change to system reliability/redundancy;
- Increased system reliability/redundancy, and
- Decreased system reliability/redundancy.”

(h) Please explain whether the Applicants have taken all the steps described in item (g) above to have “sufficient supply to meet demand.”

In response, SoCalGas/SDG&E answer 2h responds in part:

“The SDG&E system capacity is currently sufficient to meet the current 1-in-10 year cold day and 1-in-35 year peak day design standards, albeit with a capacity loss and adverse operational flexibility impacts resulting from the reduced operating pressure of Line 1600.”

QUESTION 3:

Is the above statement in response to ORA DR-30, Question 2h, still true with the reduced MAOP on Line 1600 of 512 psig?

**SAN DIEGO GAS & ELECTRIC COMPANY
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PIPELINE SAFETY & RELIABILITY PROJECT (PSRP)
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(DATA REQUEST ORA-50)**

**Date Requested: November 14, 2016
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RESPONSE 3:

The entire response to ORA DR 30, Question 2(h) (duplicated below) is still true with the reduced MAOP on Line 1600 of 512 psig:

“SDG&E and SoCalGas object to this request on the ground that it is vague, overbroad and unduly burdensome. Subject to and without waiving their objections, SDG&E and SoCalGas respond as follows. The SDG&E system capacity is currently sufficient to meet the current 1-in-10 year cold day and 1-in-35 year peak day design standards, albeit with a capacity loss and adverse operational flexibility impacts resulting from the reduced operating pressure of Line 1600. See SDG&E’s and SoCalGas’ comments on Draft Resolution No. SED-1 served on August 8, 2016.

“The SDG&E semi-annual report on its gas system capacity planning and demand forecasts, submitted to the Commission on April 29, 2016, also found that the SDG&E system has “sufficient capacity to meet the 1-in-35 year peak day design standard and the 1-in-10 year cold day design standard through the forecast period.” This report was prepared prior to the SED order to lower the operating pressure of Line 1600; the impact of that will be included in the next semi-annual report.”

**SAN DIEGO GAS & ELECTRIC COMPANY
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(DATA REQUEST ORA-50)**

**Date Requested: November 14, 2016
Date Responded: November 30, 2016**

QUESTION 4:

If Line 1600 has a maximum allowable operating pressure at which there can be no pipeline rupture on the line, does the SDG&E system have system capacity that is currently sufficient to meet the current 1-in-10 year cold day and 1-in-35 year peak day design standards? Please also explain whether the response to this question includes available capacity on any Line or Receipt Point other than Lines 3010 and 1600, the specific Line number or Receipt Point, and the capacity provided by each Line or Receipt Point.

RESPONSE 4:

Please refer to the response to ORA DR 49 Question 1 on pipeline operating pressure and risk of rupture.

For the capacity of the SDG&E system with Line 1600 operating at 320 psig, as Applicants informed the Energy Division in response to ED DR 2, Question 4 (copy provided to ORA in response to ORA DR 19):

“SDG&E and SoCalGas have evaluated the SDG&E system capacity with Line 1600 operating at an MAOP of 320 psig, without any new facilities installed in the SDG&E service territory, and have found that the SDG&E system nominal capacity falls from 630 MMcfd to 570 MMcfd in the winter operating season. This capacity is insufficient to meet the 1-in-10 year cold day design standard mandated by the Commission beginning with the upcoming winter operating season (November 2016 – March 2017), and is also insufficient to meet SDG&E’s historical highest sendout condition of 674 MMcfd. The annual average SDG&E demand, as presented in the California Gas Report, can still be served.

“At 320 psig, Line 1600 does not contribute to the SDG&E system throughput and serves only as a distribution supply line. Further reducing the operating pressure of Line 1600 will have no greater impact on the SDG&E system capacity, but may impact the ability of the distribution systems supplied from Line 1600 to meet customer demand without further distribution-level improvements.”

Please note that capacity identified in the above response does not include any pipeline or receipt point other than Line 3010.

**SAN DIEGO GAS & ELECTRIC COMPANY
SOUTHERN CALIFORNIA GAS COMPANY
PIPELINE SAFETY & RELIABILITY PROJECT (PSRP)
(A.15-09-013)
(DATA REQUEST ORA-50)**

Date Requested: November 14, 2016

Date Responded: November 30, 2016

Since Applicants' response to ED DR 2, Question 4, SDG&E has prepared its Gas Capacity Planning and Demand Forecast Semi-Annual Report, filed with the Commission on 10/31/2016. Utilizing this updated demand forecast, SDG&E and SoCalGas have evaluated the SDG&E system capacity with Line 1600 operating at an MAOP of 320 psig, without any new facilities installed in the SDG&E service territory, and have found that the SDG&E system nominal capacity falls from 630 MMcfd to 570 MMcfd in the winter operating season. Based upon the same assumptions, this capacity is insufficient to meet the 1-in-10 year cold day design criteria mandated by the Commission beginning with the upcoming winter operating season (November 2016 – March 2017), and is also insufficient to meet SDG&E's historical highest sendout condition of 674 MMcfd. Based upon the same assumptions, the SDG&E system would have system capacity that is currently sufficient to meet the current 1-in-35 year peak day design criteria, but assumes complete curtailment of all noncore service. Please note that capacity identified in the above is response does not include any pipeline or receipt point other than Line 3010 .

**SAN DIEGO GAS & ELECTRIC COMPANY
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PIPELINE SAFETY & RELIABILITY PROJECT (PSRP)
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**Date Requested: November 14, 2016
Date Responded: November 30, 2016**

QUESTION 5:

If Line 1600 has a maximum allowable operating pressure at which there can be no pipeline rupture on the line, in what year does the SDG&E system no longer have system capacity that is sufficient to meet the current 1-in-10 year cold day and 1-in-35 year peak day design standards? Please also explain whether the response to this question includes available capacity on any Line or Receipt Point other than Lines 3010 and 1600, the specific Line number or Receipt Point, and the capacity provided by each Line or Receipt Point.

RESPONSE 5:

Please refer to the response to Question 4 above, and to ORA DR 49, Question 1 on pipeline operating pressure and risk of rupture.

Based upon the demand forecast in the SDG&E Capacity Planning and Demand Forecast Semi-Annual Report, filed with the Commission on 10/31/2016, SDG&E and SoCalGas have evaluated the SDG&E system capacity with Line 1600 operating at an MAOP of 320 psig, without any new facilities installed in the SDG&E service territory, and have found that the SDG&E system nominal capacity falls from 630 MMcfd to 570 MMcfd in the winter operating season. Based upon the same assumptions, this capacity is insufficient to meet the 1-in-10 year cold day design criteria mandated by the Commission beginning with the upcoming winter operating season (November 2016 – March 2017), but becomes sufficient after the 2022/23 operating year. The capacity is insufficient to meet SDG&E's historical highest sendout condition of 674 MMcfd. Based upon the same assumptions, the SDG&E system would have system capacity that is sufficient to meet the current 1-in-35 year peak day design standards through the plan period, but assumes complete curtailment of all noncore service. Please note that capacity identified in the above is response does not include any pipeline or receipt point other than Line 3010.

**SAN DIEGO GAS & ELECTRIC COMPANY
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QUESTION 6:

Does SDG&E's response to ORA DR 30, Question 2h assume that it would receive capacity through its Otay Mesa receipt point? If so, how much?

RESPONSE 6:

No, please refer to the response to ORA DR 44, Question 4.

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Subject: Hook Like Cracking

ORA Data Request 20, Question 6 asks:

What is the longest seam flaw from hook cracking that SoCalGas/SDG&E has identified on Line 1600? On any other line in the SoCalGas/SDG&E system?

SCG/SDG&E Responded:

The longest seam individual flaw related to hook cracking on Line 1600 that SoCalGas and SDG&E has identified was approximately 8 inches long.

SoCalGas/SDG&E object to the question regarding “any other line” on the grounds that it is overbroad and unduly burdensome.

ORA Data Request 20, Question 10 asks:

When did SDG&E first identify hook cracking on Line 1600? When did SDG&E first report hook cracking on Line 1600 to the CPUC?

SCG/SDG&E Responded:

Hook cracking was confirmed on July 23rd, 2013. The hook cracking observed did not trigger any CPUC reporting requirements at the time of inspection, and no hook crack specific reports were submitted. The CPUC was first informed of the presence of manufacturing flaws in a safety related condition status update on December 29, 2014.

The prepared testimony of T. Sera, Figure 1, page 18 indicates at a 800 psig MAOP that a hook like crack of 8” is at the rupture vs leak point at the then-current MAOP 640 psig.

QUESTION 7:

In addition to the July 23, 2013 confirmation, please clarify whether this was the first date hook like cracking was observed. If it was not, please identify the first date hook like cracking was observed on Line 1600.

RESPONSE 7:

July 23, 2013 was the first date hook cracking was observed on Line 1600.

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QUESTION 8:

After hook like cracking was first observed on Line 1600, how many times did Line 1600 exceed 640 psig? Please identify the date and pressure of each such event.

RESPONSE 8:

Line 1600 did not exceed 640 psig on or after July 23, 2013.

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QUESTION 9:

Has SoCalGas/SDG&E conducted analysis of why Line 1600 did not rupture at 800 psig when an 8" long hook-like crack was discovered in the Line? Please explain.

RESPONSE 9:

No, the Applicants have not conducted such an analysis. Figure 1 on page 18 of the Prepared Direct Testimony of Travis Sera demonstrates that an 8-inch long hook crack can survive at 800 psig across a wide range of depths given the assumptions provided in the Figure. Additionally, any given flaw is influenced by a number of factors including size and shape, localized material properties, localized loading conditions, and interactions with other adjacent flaws or features. Clearly the flaw in question was not subject to the particular combination of factors that would have lead to failure at 800 psig.

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QUESTION 10:

Have any other hook-like cracks of more than 6" been discovered on Line 1600? If so, please identify each such instance, the length of the hook-like crack, and the milepost of each such crack. Has SoCalGas/SDG&E conducted any analyses of those cracks?

RESPONSE 10:

As stated in the response to ORA DR 20, Question 6, the longest seam flaw related to hook cracking identified by the Applicants was approximately 8 inches in length. To date, no other hook crack greater than 6 inches has been discovered on Line 1600.

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QUESTION 11:

What is the largest bond line flaw detected on Line 1600?

RESPONSE 11:

To date, no bond line flaws have been discovered on Line 1600.

**SAN DIEGO GAS & ELECTRIC COMPANY
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**Date Requested: November 14, 2016
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QUESTION 12:

What is the highest pressure that SoCalGas/SDG&E believe Line 1600 could be pressure tested to without failing, and what MAOP would that level of testing support?

RESPONSE 12:

The lowest predicted failure pressure for the hook cracks known to date that remain in service is 1,758 psig. To establish a safety margin of 1.5 times MAOP, testing to the lowest predicted failure pressure would establish a MAOP of 1,172 psig. However, as discussed in this Application, there are numerous additional known manufacturing anomalies in Line 1600 as well as uncertainty as to whether there are other unknown manufacturing anomalies in Line 1600 (please refer to the testimony of Mr. Sera, Section III(C)(ii), pages 19-22 for a full discussion of the limitations of assessment data related to in-line inspection). Applicants would not consider it prudent to pressure test Line 1600 to 1,758 psig.