

**SAN DIEGO GAS & ELECTRIC COMPANY  
SOUTHERN CALIFORNIA GAS COMPANY  
PIPELINE SAFETY & RELIABILITY PROJECT (PSRP)  
(A.15-09-013)  
(DATA REQUEST ORA-39)  
Date Requested: September 2, 2016  
Date Responded: September 20, 2016**

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**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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**QUESTION 1:**

In DR ORA-33, Q5, ORA asked:

**QUESTION 5:**

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.

In response to DR ORA-33, Q5, SoCalGas/SDG&E stated:

**RESPONSE 5:**

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. In response to DR ORA 33, Q3, SoCalGas/SDG&E also stated:

**QUESTION 3:**

Please confirm that total gas consumption for all electric generation is forecast to decrease between 2015 and 2035, including for a normal hydro year and under a 1-in-10 dry hydro year conditions.

**RESPONSE 3:**

Yes, this is true for electric generation in SDG&E's service territory. Applicants note that while total gas quantities for electric generation are forecast to decrease on an annualized basis, conclusions cannot be drawn that this forecast also applies to the peak daily and peak hourly gas demands for which the gas system must be able to supply in the future. The gas system must retain the capacity and operational flexibility to quickly respond and serve local gas fired electric generation when called upon to make up for rapid changes in the growing portfolio of intermittent renewable electric generation. Please reference the direct testimony of Dave Bisi at pages 11 through 16 for further explanation.

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Has SDG&E and SoCalGas used the Market Analytics model to support its statements that peak daily and hourly gas demands are increasing? If so, then please answer the following:

- a. What year were the assumptions in SoCalGas/SDG&E's model drawn from?
- b. What data source was used? (e.g. 2015 California Gas Report)
- c. If the Market Analytics model was used, please provide the model results. If a different model was used, please explain and provide the results. If no model was used, please explain the basis for SoCalGas/SDG&E's statements about daily and hourly gas demand.
- d. Please provide all data that SoCalGas/SDG&E has used to support its statement that peak daily and hourly demands are increasing. If SoCalGas/SDG&E uses no such data to support this statement, please so state.

**RESPONSE 1:**

No.

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**QUESTION 2:**

Page 63 of the Cost Effectiveness Analysis has a calculation of risk based on likelihood of incident and HCA miles of pipeline. The Risk Score of Line 1600 (pre-derate) is given as 2.99; the Risk Score of Line 1600 (post-derate) is given as 0.21; and the Risk Score of Line 3602 is given as 2.05. The CEA then states that “the Proposed Project has a reduced incident rate of 31% in HCA miles...”

- a. Has SDG&E/SoCalGas analyzed the incident rate on non-HCA miles? If so, please provide the analysis, including the supporting information.
- b. Is there any risk associated with 16” diameter distribution pipelines?
- c. Does the likelihood of an incident on Line 1600 depend on its operating pressure? Does the likelihood of an incident on Line 1600 depend upon factors other than or in addition to operating pressure? If so, please provide the complete list. Please explain?
- d. Does the consequence of an incident on Line 1600 depend on its operating pressure? Does the consequence of an incident on Line 1600 depend upon factors other than or in addition to operating pressure? If so, please provide the complete list. Please explain?
- e. Is consequence of an incident measured in the CEA’s risk assessment? If so, how and where? Please identify the passages and page numbers.
- f. Looking again at page 63, based on the Risk Score of Line 3602 (2.05) as compared to the Risk Score of Line 1600 (pre-derate) (2.99), ORA calculates that a 31.5% reduction from one risk score to the other. ( $2.05 / 2.99 = 68.5\%$ , or a 31.5% reduction. Is this accurate?
- g. Please confirm that based upon the numbers identified on page 63 of the CEA, the CEA’s identified Risk Score of the proposed project is, in fact, 2.26 (2.05 from Line 3602 + 0.21 for the de-rated Line 1600).
- h. If question 2g is confirmed as accurate, please also confirm that the CEA claims that the Proposed Project has a reduced incident rate of 24% in HCA miles when compared to the pre-derate Risk Score of Line 1600. ( $2.26 / 2.99 = 75.6\%$ , or a 24.4% reduction). If this is not accurate, please explain.

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**RESPONSE 2:**

- a. No, SDG&E and SoCalGas (Applicants) did not analyze the incident rate on non-high consequence area (HCA) miles. HCA miles is more indicative of risk and therefore was used for the analysis. The incident rate provided on pages 58 to 63 is based on data from PHMSA's Gas Transmission and Gathering Incident Data. The data set was filtered to exclude gathering pipelines, offshore incidents, and incidents attributable to a compressor or compressor station.
- b. There is risk associated with the operation of any pipeline, however, a de-rated Line 1600 operating at an MAOP of 320psig in distribution service with the resultant increased margin of safety is inherently less risky when compared to operation at the current MAOP of 512 psig (formerly 640 psig) in transmission service (see the Prepared Direct Testimony of Travis Sera at pages 17-19, Section C.i.). Furthermore, the risk is minimal if the distribution pipeline is in good condition and meets modern standards. See also CEA at page 63, Table 29.
- c. Applicants object that this Question is vague, ambiguous and overbroad in seeking a "complete list" of any factor that could contribute to an "incident." Subject to and without waiving their objections, Applicants respond as follows:

The likelihood of an incident does depend on a pipeline's operating pressure. Incidents, as defined in 49 CFR part 191.3, are partially defined by death, personal injury, property damage, or cost of lost gas, all of which are directly proportional to operating pressure. In addition to operating pressure, the likelihood of an incident depends on factors pertaining to the pipe including but not limited to, pipe diameter, wall thickness, age, construction material, and weld types. Other factors external to the pipe contribute to the likelihood of an incident, including but not limited to, ground cover, location, corrosive elements in the soil, any corrosion protection coating on the pipe, and the presence of dig-in prevention methods. Please refer to the CEA at pages 58-62 for a complete discussion of likelihood of pipeline incidents.

- d. Applicants object that this Question is vague, ambiguous and overbroad in seeking a "complete list" and explanation of "factors other than or in addition to operating pressure" on which the consequence of an incident on Line 1600 depends. Further Applicants object that this Question is vague, ambiguous and poses an incomplete hypothetical in referring to the "consequence of an incident on Line 1600" without identifying the nature of such "incident." Subject to and without waiving their objections, and interpreting it as seems reasonable, Applicants respond as follows:

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The consequence of an incident on Line 1600 is affected by operating pressure, as operating pressure is directly proportional to pipeline impact radius. This, among other factors, is accounted for in calculating HCA miles. In addition to operating pressure, the consequence of an incident depends on a number of variables. For example: Was there ignition? Did it happen in an HCA or open field? A pipeline failure in an open space with no ignition would have minimal consequence. A failure in an HCA with explosion and fire could have significant consequence. The “incident” would have to be defined to provide a more focused response.

- e. Applicants object that the Question is vague and ambiguous in asking “is the “consequence of an incident measured” in the CEA. Subject to and without waiving their objections, and interpreting it as seems reasonable, Applicants respond as follows:

As evaluated in the CEA Benefit 1.1, and discussed in the Prepared Direct Testimony of Travis Sera at 23-26, there is an “increased safety margins in terms of the percentage of specified minimum yield strength (SMYS) on Line 1600” arising from a reduction in operating pressure,” including a reduction in the potential impact radius (PIR). Similarly, CEA Benefit 1.3 evaluated “Reduction in incidents per HCA mile of pipeline.” CEA at 36, see generally at 58-63. As stated in 49 C.F.R. § 195.450:

*High consequence area* means:

- (1) A **commercially navigable waterway**, which means a waterway where a substantial likelihood of commercial navigation exists;
- (2) A **high population area**, which means an urbanized area, as defined and delineated by the Census Bureau, that contains 50,000 or more people and has a population density of at least 1,000 people per square mile;
- (3) An **other populated area**, which means a place, as defined and delineated by the Census Bureau, that contains a concentrated population, such as an incorporated or unincorporated city, town, village, or other designated residential or commercial area;
- (4) An **unusually sensitive area**, as defined in § 195.6.

Because the definition of HCA reflects a concern that an incident in an HCA may have a “high consequence,” consideration of reducing incidents per HCA mile is a measurement of the potential consequences of an incident.

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- f. The 31% reduction in incidents per HCA mile come from the following equation. As set forth in the CEA at page 63, it compares the Risk Score of the Proposed Project (which includes both the proposed new Line 3602 and the de-rated Line 1600, which has a combined Risk Score of 2.06) and the Risk Score of the Line 1600 at transmission pressure post-pressure test (which has a Risk Score of 2.99).

$$\text{Reduction in Incidents per HCA Mile} = \frac{2.99 - 2.06}{2.99} = 31\%$$

- g. The Risk Score for the proposed project is 2.06, not 2.26. Risk Scores are values that represent two non-correlated distributions and are not algebraically additive. They are combined in the following way:

$$\begin{aligned} \text{Risk Score of Proposed Alternative} &= \sqrt{\text{Line 1600 Derated}^2 + \text{Line 3602 Proposed}^2} \\ &= \sqrt{0.21^2 + 2.05^2} = 2.06 \end{aligned}$$

- h. As explained in response to Questions 2(f) and 2(g) above, the reduced incident rate is still 31%.

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**QUESTION 3:**

At the time of installation, what division was Line 1600 located in?

Division 1 pipes were located within mines, industrial, and gas manufacturing plants; or anywhere within the boundaries of cities or villages except for cross-country transportation systems crossing sparsely populated or rural territories. Division 2 pipes were located in cross-country transportation systems or any non-Division 1 systems (1941 ASA B31.1, Section 203).

**RESPONSE 3:**

When it was installed, the pipe was designed for Division 1 as a conservative measure.

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**QUESTION 4:**

What mill test pressure did the materials of Line 1600 withstand at the time of their fabrication?  
Please provide all available records that show this mill test pressure.

**RESPONSE 4:**

As part of the 1949 original construction of Line 1600, each pipe joint was tested to 1380 psig.  
Please see the attached, which contains confidential information provided pursuant to Cal. Pub.  
Util. Code § 583 and General Order 66-C and the accompanying declaration.