

**SAN DIEGO GAS & ELECTRIC COMPANY  
SOUTHERN CALIFORNIA GAS COMPANY  
PIPELINE SAFETY & RELIABILITY PROJECT (PSRP)  
(A.15-09-013)  
(6<sup>th</sup> DATA REQUEST FROM THE SIERRA CLUB)**

**Date Requested: March 1, 2017  
Date Responded: March 16, 2017**

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**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 Sierra Club from Sierra Club's own files, from documents or information in Sierra Club's possession, or from documents or information that SDG&E and SoCalGas previously released to the public or produced to Sierra Club. 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 Sierra Club 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 Sierra Club'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.

**QUESTION 1:**

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Figure 2 of Page 26 of the Testimony of Norm Kohls provides a graphic titled “Proposed Project Schedule, Pipeline Safety & Reliability Project.” Footnote 24 states the schedule will be updated “once the Commission sets a schedule for Phase 2 of this proceeding.”

- a. The second to last line of Figure 2 is titled “Line 1600 De-Rate, Construction.” What “construction” activities are contemplated in the context of a Line 1600 De-Rate?
- b. What is the meaning of “Project Closeout” in the last line of Figure 2?
- c. Under Figure 2, what is the Sempra Utilities’ estimate of the amount of time between CPUC environmental and regulatory approval of proposed Line 3602 and its in-service operation date?
- d. Under Figure 2, what is Sempra Utilities’ estimate of the amount of time between CPUC environmental and regulatory approval of proposed Line 3602 and the de-rate of Line 1600?

**RESPONSE 1:**

- a. Please refer to SDGE-8-R: Updated Prepared Direct Testimony of Norm G. Kohls at pages 15 and 16, and further detail in Attachment A, sub-attachment XI: Line 1600 De-Rating Impact Analysis.
- b. Please refer to SDGE-8-R: Updated Prepared Direct Testimony of Norm G. Kohls at Attachment A, page 13, which states:

“Project closeout includes collection of construction records such as material records, survey as-built records of the pipeline and easements, development of pipeline completion drawings, reconciliation of materials and equipment and recordation of easements.”

In addition to the activities listed above, project closeout will involve field activities, including but not limited to, final restoration work such as any residual final clean up, paving, landscape restoration and any environmental mitigations and restoration of disturbed land after the main natural gas pipeline infrastructure work is complete.

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- c. SDG&E and SoCalGas (Applicants) estimate that the duration of the time between final CPUC environmental and regulatory approval until proposed Line 3602 is placed in service will be approximately 39 months. This assumes that there are no significant changes in the Proposed Project's route or scope of work to be completed and that the Federal approval through the National Environmental Policy Act (NEPA) process is coincident with the CPUC approval. This estimated time also assumes that all local, city and county ministerial permits are obtained in a reasonable timeframe and there are no extraordinary weather related delays during construction.
- d. Applicants estimate that the duration of the time between final CPUC environmental and regulatory approval of proposed Line 3602 and the de-rate of Line 1600 is complete will be approximately 42 months, governed by the same assumptions as discussed in response to Question 1(c) above. The Line 1600 de-rate work is planned to be completed toward the latter part of the period in which proposed Line 3602 is being constructed with the final activities anticipated to be completed approximately 3 months after proposed Line 3602 is placed in service.

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**QUESTION 2:**

Table 2 of Page 17 of the Testimony of Norm Kohls estimates the direct costs of Line 3602. For how many years would these costs be recovered through rates of Sempra Utilities' customers? If rates are recovered through a subset of Sempra Utilities' customers, please identify this subset of customers.

**RESPONSE 2:**

Applicants propose to collect in rates incremental revenue requirements associated with the proposed Line 3602. As stated in the Prepared Direct Testimony (SDGE-9) and work papers of Michael Woodruff, the costs associated with proposed Line 3602 would create incremental revenue requirements recoverable through rates through at least 2063.

In compliance with Commission Decision (D.)14-06-007, once approved, incremental gas transportation revenue requirements associated with the Proposed Project will be allocated to the Backbone Transmission Service (BTS) rates. Customers who directly purchase firm BTS capacity from SoCalGas will be impacted. Core customers indirectly pay for BTS through the core procurement tariff. Core Aggregation Transportation and noncore customers who procure gas commodity from a marketer or at the Citygate indirectly pay for BTS.

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**QUESTION 3:**

Page 14 Lines 11-13 of the Testimony of Ali Yari states that “The peak electrical demand is projected to reach up to 4,693 MW in 2017 climbing at an annual growth rate that varies, and average about 0.2 percent per year through 2027.” In support of this statement, footnote 25 links to the Final CEDU 2016 SDG&E Mid Demand Case, January 23, 2017. However, the webpage linked to Footnote 25 ([http://www.energy.ca.gov/2016\\_energypolicy/documents/2016-12-08\\_workshop/mid\\_demand\\_case.php](http://www.energy.ca.gov/2016_energypolicy/documents/2016-12-08_workshop/mid_demand_case.php)) shows the SDG&E Mid Demand Case has been corrected on 2/27/2017. The previous version of the Final CEDU 2016 SDG&E Mid Demand Case, upon which the Testimony of Ali Yari presumably relies, does not appear to be cached or otherwise available on the California Energy Commission (“CEC”) website. Sierra Club cannot therefore determine the specific forecast referred to in Yari’s testimony.

- a. Which peak extreme temperature demand scenario (e.g. 1-in-2, 1-in-5, 1-in-10, or 1-in-20 Temperatures) was referenced in Yari’s testimony on page 14? Please state the basis for choosing the specific demand scenario. If some other peak demand scenario was utilized, please identify that scenario.
- b. What is 2017 peak demand under the temperature forecast used by Yari according to the corrected CEDU 2016 SDG&E Mid Demand Case?
- c. Does the 4,693 MW of peak demand in 2017 referred to in Yari’s testimony assume any additional achievable energy efficiency (“AAEE”) savings? If yes, state what level of AAEE is assumed and explain the basis for using that AAEE scenario. If no, explain why no AAEE is assumed.
- d. If AAEE is assumed, does peak demand increase at an average of 0.2 percent per year through 2027 as stated in Yari’s testimony?

**RESPONSE 3:**

- a. Please visit the CEC’s website for the peak forecast information, corrected on 2/27/2017.

Please note that, subsequent to Applicants’ service of SDGE-4-R Updated Prepared Direct Testimony of S. Ali Yari on February 21, 2017, the CEC corrected its forecast for SDG&E’s service territory to 4,860 MW in 2017 with no AAEE.

[http://www.energy.ca.gov/2016\\_energypolicy/documents/2016-12-08\\_workshop/mid\\_demand\\_case.php](http://www.energy.ca.gov/2016_energypolicy/documents/2016-12-08_workshop/mid_demand_case.php)

Specifically, see tab “SDGE Form 1.5-Mid” at:

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[http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN216257\\_20170227T142915\\_Corrected\\_CEDU\\_2016\\_SDGE\\_Mid\\_Demand\\_Case.xlsx](http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN216257_20170227T142915_Corrected_CEDU_2016_SDGE_Mid_Demand_Case.xlsx).

The CEC corrected its forecast for SDG&E's service territory to 4,811 MW in 2017 with incorporated Mid Case AAEE.

[http://www.energy.ca.gov/2016\\_energypolicy/documents/2016-12-08\\_workshop/LSE-BA\\_Forecasts.php](http://www.energy.ca.gov/2016_energypolicy/documents/2016-12-08_workshop/LSE-BA_Forecasts.php)

Specifically, tab "SDGE Form 1.5-d" at:

[http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN216264\\_20170227T144018\\_Corrected\\_LSE\\_and\\_BA\\_Tables\\_Mid\\_Baseline\\_Mid\\_AAEE.xlsx](http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN216264_20170227T144018_Corrected_LSE_and_BA_Tables_Mid_Baseline_Mid_AAEE.xlsx).

Historically the 1-10 scenario has been utilized for operations and planning.

Mr. Yari will correct his testimony to reflect the updated CEC forecast when he testifies in evidentiary hearings.

- b. The corrected CEDU 2016 SDG&E Mid Demand Case is 4,860 MW without AAEE and 4,811 MW with Mid Case AAEE.
- c. No AAEE is assumed in this scenario. At the time of service of SDGE-4-R Updated Prepared Direct Testimony of S. Ali Yari, it was understood the model for the peak forecast with AAEE was to be modified. Based on this information, it was determined utilization of the peak forecast without AAEE was prudent.

Please note that, subsequent to Applicants' service of SDGE-4-R Updated Prepared Direct Testimony of S. Ali Yari, the CEC corrected its forecast for SDG&E's service territory to 4,860 MW in 2017 with no AAEE.

[http://www.energy.ca.gov/2016\\_energypolicy/documents/2016-12-08\\_workshop/mid\\_demand\\_case.php](http://www.energy.ca.gov/2016_energypolicy/documents/2016-12-08_workshop/mid_demand_case.php)

Specifically, see tab "SDGE Form 1.5-Mid" at:

[http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN216257\\_20170227T142915\\_Corrected\\_CEDU\\_2016\\_SDGE\\_Mid\\_Demand\\_Case.xlsx](http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN216257_20170227T142915_Corrected_CEDU_2016_SDGE_Mid_Demand_Case.xlsx).

The CEC corrected its forecast for SDG&E's service territory to 4,811 MW in 2017 with incorporated Mid Case AAEE.

[http://www.energy.ca.gov/2016\\_energypolicy/documents/2016-12-08\\_workshop/LSE-BA\\_Forecasts.php](http://www.energy.ca.gov/2016_energypolicy/documents/2016-12-08_workshop/LSE-BA_Forecasts.php)

Specifically, see tab "SDGE Form 1.5-d" at:

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[http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN216264\\_20170227T144018\\_Corrected\\_LSE\\_and\\_BA\\_Tables\\_Mid\\_Baseline\\_Mid\\_AAEE.xlsx](http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN216264_20170227T144018_Corrected_LSE_and_BA_Tables_Mid_Baseline_Mid_AAEE.xlsx).

- d. Given the corrected forecast for SDG&E's service territory published 2/27/2017, if AAEE is assumed the demand forecast will decline at an average annual growth from 2016-2027 of -0.85%.



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**QUESTION 4:**

Page 16 of the Testimony of Ali Yari states that “Further exacerbating the problem is growing customer demand.” Page 15 similarly states that peak demand “will trend upward due to the projection of increasing electric customer demand through 2027.”

- a. Given that the CEC’s most recent mid-case, mid-AAEE demand forecast shows demand declining at an average of -0.85% per year to 2027 (see [http://www.energy.ca.gov/2016\\_energypolicy/documents/2016-12-08\\_workshop/LSE-BA\\_Forecasts.php](http://www.energy.ca.gov/2016_energypolicy/documents/2016-12-08_workshop/LSE-BA_Forecasts.php)), what is the basis for stating “the problem is growing customer demand” and demand “will trend upward”?

**RESPONSE 4:**

- a. Please note that, subsequent to Applicants’ service of SDGE-4-R Updated Prepared Direct Testimony of S. Ali Yari, the CEC corrected its forecast for SDG&E’s service territory:

SDG&E Peak Forecast with no AAEE –

[http://www.energy.ca.gov/2016\\_energypolicy/documents/2016-12-08\\_workshop/mid\\_demand\\_case.php](http://www.energy.ca.gov/2016_energypolicy/documents/2016-12-08_workshop/mid_demand_case.php)

Specifically, see tab “SDGE Form 1.5-Mid” at:

[http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN216257\\_20170227T142915\\_Corrected\\_CEDU\\_2016\\_SDGE\\_Mid\\_Demand\\_Case.xlsx](http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN216257_20170227T142915_Corrected_CEDU_2016_SDGE_Mid_Demand_Case.xlsx).

SDG&E Peak Forecast with Mid Case AAEE –

[http://www.energy.ca.gov/2016\\_energypolicy/documents/2016-12-08\\_workshop/LSE-BA\\_Forecasts.php](http://www.energy.ca.gov/2016_energypolicy/documents/2016-12-08_workshop/LSE-BA_Forecasts.php)

Specifically, see tab “SDGE Form 1.5-d” at:

[http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN216264\\_20170227T144018\\_Corrected\\_LSE\\_and\\_BA\\_Tables\\_Mid\\_Baseline\\_Mid\\_AAEE.xlsx](http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-05/TN216264_20170227T144018_Corrected_LSE_and_BA_Tables_Mid_Baseline_Mid_AAEE.xlsx).

The basis for stating “the problem is growing customer demand” and demand “will trend upward” is based on the SDG&E peak forecast with no AAEE considered since AAEE can be uncertain since forecasts rely on changes in laws, regulations and policies.

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**QUESTION 5:**

Page 16 of the Testimony of Ali Yari states that “SDG&E’s daily peak demand typically ranges from 2,500 to 3,500 MW.”

- a. Please provide all data and workpapers supporting this assertion.

**RESPONSE 5:**

<b>Year</b>	<b>Number of Days the Daily Peak Load was between 2500 MW and 3500 MW</b>
2014	308
2015	309
2016	323

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**QUESTION 6:**

Page 5 of the Testimony of Ali Yari states that “SDG&E’s electric power import capability alone is not sufficient to serve all electric load for many hours during many days of the year.”

- a. Please state the hours per year for each year in the past five years where electric demand was above 2,500 MW, above 3,000 MW and above 3,500 MW.

**RESPONSE 6:**

<b>Year</b>	<b>Number of Hours in which Load exceeded 2500 MW</b>	<b>Number of Hours in which Load exceeded 3000 MW</b>	<b>Number of Hours in which Load exceeded 3500 MW</b>
2012	3836	1026	369
2013	3713	786	200
2014	3713	1148	381
2015	3317	1105	362
2016	2767	694	195

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**QUESTION 7:**

Page 5 of the Testimony of David Bisi states that “several large, noncore customers and single-sourced distribution systems are directly served by Line 1600. North of Escondido, a large noncore customer operates an electric generation (EG) peaking facility, and another EG peaking facility .... [is] located at southern end of the pipeline.”

- a. Please identify the two referenced EG peaking facilities, their commercial operation date (year put in service), and whether the Sempra Utilities currently anticipate retirement of one or both of these facilities.

**RESPONSE 7:**

Customer names and how they are served are considered sensitive, confidential, and protected information. The CPUC has protected the confidentiality of customer data in a number of contexts. Additionally, the California Civil Code generally affords businesses the protection of customer confidentiality. Further, Applicants may not release customer specific information unless the customer consents to the release in writing per D.90-12-121 and D.01-07-032.

Per the California Energy Commission, Facility A went into service in June 2010, and Facility B went into service in December 1969. Applicants cannot speculate on the future plans of their customers.

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**QUESTION 8:**

Footnote 3 on Page 2 of Attachment A (SDG&E Gas Capacity Planning and Demand Forecast Semi-Annual Report – October 2016) states that the Long-Term Demand Forecast in Table 1 was “derived from data developed for the 2016 California Gas Report.”

- a. Does Table 1 in Attachment A change any of the assumptions made in the 2016 California Gas Report (“CGR”) in determining long-term demand (e.g. level of achieved energy efficiency for either natural gas or electric end-uses, renewable penetration etc)? If so, please identify what assumptions used in Table 1 differ from those used in the 2016 California Gas Report.
- b. The 2016 CGR provides separate assessments of gas demand for SoCal Gas and SDG&E. Is the data used in the 2016 CGR to forecast long-term demand for SDG&E in Attachment A only from the 2016 CGR’s assessment of SDG&E gas demand? If not, please explain how the 2016 CGR’s assessment of gas demand for SoCal Gas is incorporated into the SDG&E demand forecast in Appendix A.
- c. Does the long term demand forecast in Appendix A, Table 1 assume the Renewables Portfolio Standard (“RPS”) increases to 50 percent by 2030? Does Table 1 assume any increase in the RPS above 50 percent before or after 2030?
- d. Does the long term demand forecast in Appendix A, Table 1 account for the doubling of energy efficiency of electric and natural gas end uses under Senate Bill 350?
- e. Does the long term demand forecast in Appendix A, Table 1 account for any building electrification (fuel switching) from gas to electric heating and/or appliances?
- f. The CEC demand forecast provides estimates of additional achievable energy efficiency (AAEE) savings for natural gas savings through 2027 (see [http://www.energy.ca.gov/2016\\_energy\\_policy/documents/2016-12-08\\_workshop/additional\\_efficiency.php](http://www.energy.ca.gov/2016_energy_policy/documents/2016-12-08_workshop/additional_efficiency.php)). How were these savings accounted for in the Long Term Demand Forecast in Appendix A?

**RESPONSE 8:**

- a. The 1-in-10 cold day forecast of gas demand due to electric generation (Cold Day EG Forecast) in Table 1 of the October 31, 2016 SDG&E Gas Capacity Planning and Demand Forecast Semi-Annual Report (October Report) is different from that in the 2016 California Gas Report. In the October Report, the Cold Day EG Forecast was created

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under a 1-in-10 cold day electric demand scenario. The 2016 CGR forecast of gas demand due to electric generation was created under an average day electric demand scenario. There are no other differences.

- b. The forecasts in the October Report and the 2016 CGR were based on and reflect SDG&E's service territory only. Demand in SoCalGas' service territory was assumed to have no effect on gas demand in SDG&E's service territory and vice-versa.
- c. Yes. Table 1 in the October Report assumes that an RPS level of 50% will be achieved by 2030 and then maintained in subsequent years. Table 1 does not assume any increase in the RPS above 50 percent before or after 2030.
- d. No. The long term demand forecast in Table 1 does not include AAEE that may result from SB 350's mandate that the Commission identify "all potentially achievable cost-effective electricity efficiency savings and establish efficiency targets for an electrical corporation to achieve" and calls for the Commission to "undertake a comprehensive review of the feasibility, costs, barriers, and benefits of achieving a cumulative doubling of energy efficiency savings." See Public Utilities Code § 454.55(a) and (b).
- e. As part of the process of creating the cold day forecasts in Table 1, the End Use Forecaster model was used to develop annual forecasts of gas consumption assuming normal annual weather conditions. The End Use Forecaster includes a module that models fuel-switching by customers who replace gas appliances with electrical appliances and vice-versa. Please see the workpapers to the 2016 California Gas Report for more details.<sup>1</sup> No other fuel switching effects were accounted for. A description of the role of the End Use Forecaster in creating the cold day forecasts can be found in the testimony of Mr. Sharim Chaudhury in SDGE-12: Supplemental Testimony of SDG&E and SoCalGas at 86-87.
- f. The referenced AAEE savings from the December 8, 2016 workshop were not developed in time for inclusion in the forecasts in Table 1 of the October 2016 report. The forecasts in Table 1 incorporate estimated AAEE savings from the earlier 2013 IEPR.<sup>2</sup>

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<sup>1</sup> Please see the section describing the Provider Choice Module beginning on page 65 of the SoCalGas 2016 CGR workpapers which can be found at:

[https://www.socalgas.com/regulatory/documents/cgr/SoCalGas\\_Workpapers\\_REDACTED\\_2016\\_CGR.pdf](https://www.socalgas.com/regulatory/documents/cgr/SoCalGas_Workpapers_REDACTED_2016_CGR.pdf)

<sup>2</sup> See [http://www.energy.ca.gov/2013\\_energy\\_policy/documents/demand-forecast\\_CMF/Additional\\_Achievable\\_Energy\\_Efficiency/](http://www.energy.ca.gov/2013_energy_policy/documents/demand-forecast_CMF/Additional_Achievable_Energy_Efficiency/)

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**QUESTION 9:**

The 2016 CGR states that savings and goals for energy efficiency programs are forecasted to occur through 2035 based on programs' goals authorized by the Commission in D.15-10-028 (see pages 76, 117 of 2016 CGR). D.15-10-028 sets electric and gas savings goals through 2024 (see pages 8-9).

- a. Given that D.15-10-028 only establishes efficiency goals through 2024, does the 2016 CGR assume any additional efficiency savings from 2025 onward? If additional efficiency savings from 2025 and beyond are incorporated into the demand forecast, please identify those savings and the source from which those savings were derived.

**RESPONSE 9:**

The 2016 CGR assumes that energy efficiency programs will continue to be funded after the year 2024. Accordingly, the established energy efficiency goals for the year 2024 are incorporated into the forecasts for the years 2025-2035.

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**QUESTION 10:**

Were Line 1600 derated to distribution service and Line 3602 was not constructed, in the event of outage of Line 3010, would Line 1600 and other distribution pipelines continue to provide gas to SDG&E customers? If yes, could these distribution pipelines supply gas to electric generation facilities and if so, to what extent? If yes, could these distribution pipelines provide gas for core customer needs such as gas-reliant heating and cooking and if so, to what extent?

**RESPONSE 10:**

Line 1600 would only provide a nominal amount of gas supply to some core customers. Depending on the nature and location of the Line 3010 outage, significant noncore curtailment, including electric generation, could also be required. Please see SDGE-5 Prepared Direct Testimony of Jani Kikuts for a further description of how an outage of Line 3010 could impact the Applicants' system and the ability to provide gas service to customers.



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**QUESTION 11:**

Page 14 of the Supplemental Testimony states that “customers have largely elected not to utilize the Otay Mesa receipt point for economic reasons, and gas has been delivered at that location only at the initiative of the Gas System Operator to avoid curtailments.”

- a. Please identify the date, amount of gas delivered, and circumstances that triggered the above referenced initiative of the Gas System Operator to deliver gas through the Otay Mesa receipt point.

**RESPONSE 11:**

See the table below for requested information on System Operator Requested Deliveries to Otay Mesa:

<b>Gas Flow Date</b>	<b>Net Scheduled Quantity(Dth)</b>	<b>Reason</b>
4/28/2008	100,000	System Test
12/14/2010	126,000	Pipeline Integrity
12/15/2010	126,000	Pipeline Integrity
12/16/2010	126,000	Pipeline Integrity
2/2/2011	80,000	System Reliability
2/2/2011	100,000	System Reliability
2/3/2011	100,000	System Reliability
2/4/2011	15,000	System Reliability
2/8/2011	140,000	Pipeline Integrity
2/9/2011	140,000	Pipeline Integrity
2/10/2011	149,251	Pipeline Integrity
2/11/2011	80,000	Pipeline Integrity
2/28/2012	149,739	Pipeline Integrity
2/29/2012	74,870	Pipeline Integrity
3/12/2012	74,870	Pipeline Integrity
3/13/2012	49,913	Pipeline Integrity
3/14/2012	24,956	Pipeline Integrity
3/15/2012	24,956	Pipeline Integrity
3/16/2012	24,956	Pipeline Integrity
3/19/2012	99,826	Pipeline Integrity

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<b>Gas Flow Date</b>	<b>Net Scheduled Quantity(Dth)</b>	<b>Reason</b>
3/20/2012	49,913	Pipeline Integrity
10/27/2012	74,778	Pipeline Integrity
10/28/2012	74,778	Pipeline Integrity
1/15/2013	49,166	System Reliability
1/15/2013	49,167	System Reliability
1/16/2013	49,166	System Reliability
3/23/2013	137,667	Pipeline Integrity
3/24/2013	59,000	Pipeline Integrity
10/15/2013	48,203	Pipeline Integrity
10/16/2013	49,191	Pipeline Integrity
10/17/2013	49,191	Pipeline Integrity
11/14/2013	114,282	Pipeline Integrity
12/10/2013	47,224	System Reliability
12/11/2013	24,597	System Reliability
12/11/2013	7,870	System Reliability
12/11/2013	16,725	System Reliability
6/21/2016	14,305	System Reliability
6/22/2016	14,305	System Reliability
1/28/2017	103,587	Pipeline Integrity

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**QUESTION 12:**

Page 29 of the Supplemental Testimony states that the 2018 (or subsequent) California Gas Report (CGR) “forecast is likely to show a reduction in SDG&E natural gas peak day demand forecast.”

- a. On what basis do the Sempra Utilities assert that natural gas peak day demand is likely to decrease in future CGRs?

**RESPONSE 12:**

SB 350 calls for the Commission to identify “all potentially achievable cost-effective electricity efficiency savings and establish efficiency targets for an electrical corporation to achieve” and calls for the Commission to “undertake a comprehensive review of the feasibility, costs, barriers, and benefits of achieving a cumulative doubling of energy efficiency savings.” See Public Utilities Code § 454.55(a) and (b). Once the targets for these efficiencies are established, subsequent natural gas peak day demand forecasts will likely be lower.

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**QUESTION 13:**

Pages 32-33 of the Supplemental Testimony cite to a report by the National Renewable Energy Laboratory for the proposition that “natural gas and renewables are partners not competitors.” The cite to this report in Footnote 53 does not contain a title. Please provide the full citation, and weblink if available, to the referenced report.

**RESPONSE 13:**

“Power generation based on natural gas offers the flexibility and increased dispatchability that complements renewable energy power generation.” *Exploring the Potential Business Case for Synergies Between Natural Gas and Renewable Energy*, National Renewable Energy Laboratory (2014) at 2. Available at <http://www.nrel.gov/docs/fy14osti/60052.pdf>.

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**QUESTION 14:**

Page 31 of the Supplemental Testimony states that “Until other nascent technologies such as grid-scale energy storage mature, natural gas-fired electric generation will continue to serve as the critical safety for California’s electric grid.”

- a. Please state when the Sempra Utilities believe grid-scale energy storage technologies will “mature.”
- b. Is it the Sempra Utilities’ position that grid-scale energy storage will not be a mature technology by 2024? If so, explain the basis for this position.
- c. Given that SDG&E has recently installed what it claims to be the largest lithium-ion storage facility in the world (see, e.g., <http://www.utilitydive.com/news/sdgc-aes-bring-worlds-largest-lithium-ion-battery-storage-online-in-cali/436832/>), please explain why the Supplemental Testimony describes energy storage as a “nascent” technology.

**RESPONSE 14:**

- a. Applicants are currently developers of grid-scale energy storage. As noted in question 14(c) below, SDG&E recently installed the largest lithium-ion battery storage facility in the world, in response to the CPUC’s Resolution E-4791. In addition, SDG&E has completed two requests for offers (RFOs) in 2014 and 2016 which included energy storage products where those offers were compared to other resources using detailed cost-benefit analyses. Therefore, SDG&E has recent and extensive pricing data on commercially available and viable energy storage systems for online dates through 2021. In addition, SDG&E has several years of operational experience with grid-scale energy storage systems installed in its Borrego Springs Microgrid Project and in other projects funded in its TY2012 GRC, but has not yet had significant operational experience with its recently commissioned projects. The sum of these analyses and experience results in the conclusion that such technologies will require further development and deployment at larger scales (e.g., in the hundreds of megawatts), and more operational experience to be considered fully “mature”.
- b. Please see the response to Question 14(a) above. Applicants do not project that there will be a specific date upon which grid-scale energy storage will be a mature technology.
- c. Please see the response to Question 14(a) above. In addition, the referenced project was part of SDG&E’s response to the CPUC’s request in Resolution E-4791 to expedite energy storage projects for installation in early 2017. This project was unusual both for its size

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and the pace of project development, where the systems were approved by the CPUC in August 2016 and achieved Commercial Operation Date in early 2017. Despite being the largest lithium-ion battery system in the world at the time of its commissioning, the 30 MW/120 MWh resource in Escondido is relatively small, when compared to other local capacity resources. For example, as stated in SDGE-4-R, the Updated Direct Testimony of Ali Yari, existing gas-fired generation in-basin in the SDG&E system is a total of approximately 3,140 MW; however, in comparison, the 30 MW facility in Escondido represents only less than 1% of the total gas-fired generation in-basin in the SDG&E system.

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**QUESTION 15:**

Page 36 of the Supplemental Testimony states that the Proposed Project will “facilitate implementation of SB 350, SB 32, AB 1257, SB 1389 and SB 1383 by: (1) ensuring a reliable gas supply to gas-fired generation that allows the integration of more renewable energy on the grid; (2) reducing GHG emissions in the transportation sector and movement of goods by shifting use away from petroleum; and (3) supporting the future use of [renewable natural gas].”

- a. Is it the Sempra Utilities’ position that the Proposed Project facilitates implementation of these statutes by providing additional pipeline capacity that will be needed in addition to the capacity provided by an operational Line 3010 or that the Proposed Project facilitates implementation of these statutes by providing pipeline capacity in the event of outage of Line 3010?
- b. To the extent SDG&E is asserting that, when operational, Line 3010 is insufficient to implement SB 350, SB 32, AB 1257, SB 1389, and SB 1383, please provide all supporting analysis and workpapers.

**RESPONSE 15:**

- a. Both. The Proposed Project facilitates the implementation of these new laws by replacing Line 1600 with a state-of-the-art gas transmission pipeline, thereby providing operational reliability to the SDG&E system in the event of a Line 3010 outage. The Proposed Project also increases the capacity of SDG&E’s gas system, which increases line pack, and the ability to handle intra-day fluctuations in electric generation demand, as well as handle maintenance and unplanned outages. See also SDGE-3-R Updated Prepared Direct Testimony of David M. Bisi at pages 10-15. Reliable natural gas infrastructure in San Diego will allow the use of natural gas to facilitate implementation of California’s energy policy goals, as discussed in the Supplemental Testimony.
- b. Applicants believe that Line 3010 by itself does not provide desired levels of reliability now or in the future as the referenced bills are implemented. The Proposed Project, when coupled with Line 3010, will provide that reliability. As discussed in SDGE-12 Supplemental Testimony of SDG&E and SoCalGas at page 3:

“The Commission previously has directed the Utilities to study “the adequacy of [their] entire system, including local transmission, and act to ensure that it remains reliable,” specifically noting that “[e]mergency

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concerns for which utility should plan include the failure of a major component of the delivery or storage system.” The Commission provided this direction in the same Decision that established certain design criteria for natural gas systems in California, thus making plain that utilities have an obligation to provide reliable service that is not limited to meeting the design criteria. The Utilities understand that reliability means actually delivering gas to customers, and to require having reasonable capacity, operational flexibility and the ability to respond in emergency situations.” (footnotes omitted)

The potential impacts of an unplanned outage of Line 3010 with the system as it is configured today are described in SDGE-5 Prepared Direct Testimony of Jani Kikuts.

See also SDGE-3-R Updated Prepared Direct Testimony of David M. Bisi at pages 10-15.



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**QUESTION 16:**

Page 36 of the Supplemental Testimony states that the Proposed Project will support the future use of renewable natural gas.

- a. Please identify all existing SDG&E and SoCal Gas contracts for renewable natural gas, the location where the renewable natural gas is generated, and the contracted level of renewable natural gas.
- b. To the extent the Sempra Utilities have performed or are aware of studies or analysis identifying renewable natural gas potential in SDG&E service territory, please provide all such studies and analysis.

**RESPONSE 16:**

- a. As of March 2017, there are no procurement contracts for renewable natural gas. However, a variety of customers served by Applicants do have contracts to deliver renewable natural gas for use by the electric generation and transportation sectors. For example, the Point Loma Wastewater Treatment Plant delivers renewable natural gas into the SDG&E system for use by UC San Diego.
- b. Applicants have performed a preliminary analysis of renewable natural gas potential from four primary feedstocks in the SDG&E service territory – dairy, landfills, wastewater treatment plants, and diverted food/green waste. This information is provided in the attached file. However, it is important to understand that renewable gas from outside the SDG&E service territory will also be transported throughout the SDG&E system. Several studies have been conducted by groups to look at statewide and national resources for renewable natural gas – UC Davis, U.S. Department of Energy and American Gas Foundation. Furthermore, Applicants support studies, analysis, projects and legislation that promote the future use of renewable natural gas, such as Senate Bill (SB) 1383.