

**SAN DIEGO GAS & ELECTRIC COMPANY
SOUTHERN CALIFORNIA GAS COMPANY**
**APPLICATION REGARDING FEASIBILITY OF INCORPORATING
ADVANCED METER DATA INTO THE CORE BALANCING PROCESS**
(A.17-10-002)

**(DATA REQUEST NO. 4 FROM SOUTHERN CALIFORNIA GENERATION COALITION
AND INDICATED SHIPPERS)**

QUESTION 4.1:

Regarding the Direct Testimony of Sharim Chaudhury at page 2 that states: “SDG&E has completed its AMI system installation for its retail core customers and sufficient historical AMI-based consumption data is available for SDG&E retail core customers.”

- 4.1.1. Why does the witness characterize SDG&E’s AMI system being installed for its “retail core customers”?
- 4.1.2. Does SDG&E exclude customers that are served by a CAT other than Gas Acquisition from being metered by its AMI system?
- 4.1.3. If the answer to the previous question is “yes,” please state on what ground SDG&E excludes customers served by a CAT from its AMI system.
- 4.1.4. Does SDG&E provide AMI data for the customers served by each CAT to the CAT if requested and if authorized by the customers?
- 4.1.5. If the answer to the previous question is “yes,” please explain the procedures that have been set up to provide AMI data to CATs.
- 4.1.6. How many core meters does SDG&E meter in total?
- 4.1.7. How many core meters does SDG&E meter in total through its AMI system?
- 4.1.8. How many core meters does SDG&E meter through its AMI system that are served by CATs?

RESPONSE 4.1:

4.1.1: The relevant customer data for daily core load forecasting is for retail core customers because Gas Acquisition is responsible for purchasing gas for retail core customers.

4.1.2: No.

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4.1.3: N/A.

4.1.4: No such requests from core transportation agents (CTAs) have been received by SDG&E.

4.1.5: N/A.

4.1.6: SDG&E total core meter count including CTAs was 891,197 at the end of 2017.

4.1.7: SDG&E total AMI core meter count including CTAs was 886,752 at the end of 2017.

4.1.8: The total number of core meters in SDG&E's AMI system that were served by CTAs was 3,502 at the end of 2017.

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QUESTION 4.2:

With respect to the Direct Testimony of Sharim Chaudhury at page 3 that states: To arrive at the final retail core demand numbers, daily SDG&E Company-use gas and estimates of LUAF gas are added to the AMI-based usage numbers.”

- 4.2.1. Is the company-use and LUAF gas figures added to the AMI-based usage numbers because the SoCalGas figures are derived residually by subtracting noncore customer usage and CAT customer usage from the measured daily total system gas sendout, a figure that includes company-use and LUAF gas?
- 4.2.2. If the answer to the previous question is “no,” please explain why the company-use and LUAF gas are added to the AMI-based usage figures,

RESPONSE 4.2:

4.2.1: No, the residual derivation referenced is not applicable to SDG&E’s retail core demand data. The Gas Acquisition department is responsible for procuring gas for company-use and LUAF, in addition to gas for retail core customers. Therefore, gas usage data for company-use gas and LUAF gas are added to arrive at data that represents the amount of gas that the Gas Acquisition department is responsible for procuring.

4.2.2: See response to 4.2.1.

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QUESTION 4.3:

With respect to the Direct Testimony of Sharim Chaudhury at page 4 that states: “cold weather is generally quantified by system-wide heating degree days (“HDDs”), weighted by customer counts.”

- 4.3.1. Are the customer counts the count of the number of customers that are associated with each of the twelve weather stations?
- 4.3.2. From what data source are the customer counts compiled?
- 4.3.3. How are the areas associated with each weather station delineated?

RESPONSE 4.3:

- 4.3.1 No. Nine weather stations are mapped to six temperature zones for SoCalGas and three weather stations are mapped to two temperature zones for SDG&E. The customer counts are used to calculate the weight given to each temperature zone.
- 4.3.2 Customer counts are compiled from SoCalGas’ monthly billing data.
- 4.3.3 N/A.

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QUESTION 4.4:

With respect to the Direct Testimony of Sharim Chaudhury at page 4 that states: “Manual adjustments to forecasts based on forecasting experience oftentimes can improve upon the forecasts produced by a forecasting model. The daily retail core demand forecasts are tracked and reviewed regularly. After review, the forecasts produced by the DLFM are sometimes adjusted by the Demand Forecasting Group if it determines that the accuracy of future forecasts will likely be improved.”

- 4.4.1. What factors would the Demand Forecasting Group consider in determining whether to make a manual adjustment to a forecast?
- 4.4.2. If the Demand Forecasting Group makes a manual adjustment to a forecast when would that manual adjustment typically be made?

RESPONSE 4.4:

4.4.1: Typical factors the Demand Forecasting group considers in determining whether to make a manual adjustment of the forecast are if recent weather forecasts show a pattern of deviation from the actual weather or if recent daily demand forecasts show a pattern of deviation from actual usage or estimated actual usage.

4.4.2: Manual adjustments are typically made on the day before the next flow day.

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QUESTION 4.5:

With respect to the Direct Testimony of Sharim Chaudhury at page 3 that states: “for SDG&E, actual aggregated daily retail core demand data can be derived for recent years from the customer-specific data that have been collected through SDG&E’s AMI system. Pursuant to D.16-12-015, since December 1, 2016, this AMI data has been used in the forecasting process for SDG&E by developing a forecasting model using historical AMI data from October 1, 2013 through September 30, 2016 for all SDG&E retail core customers.”

- 4.5.1. Has the forecasting model been updated since December 1, 2016, to incorporate SDG&E AMI metering data for a longer period, say through September 30, 2017?
- 4.5.2. If the answer to the previous question is “yes,” how does the MAPE for the updated forecasting model compare to the MAPE for the forecasting model based on the initial three years’ worth of SDG&E AMI data?
- 4.5.3. If the answer to Q.4.6.1 is “no,” please explain why the Demand Forecasting Group has not updated the model to reflect the additional year of data.

RESPONSE 4.5:

4.5.1: SDG&E’s forecasting model was updated in 2017 using the three years of data ranging from September 1, 2014 to August 31, 2017.

4.5.2: The MAPE for the DLFM based on SDG&E AMI metering data for a longer period has not been calculated.

4.5.3: Assuming this request refers to the answer provided in Q.4.5.1, the response is as follows: N/A.

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QUESTION 4.6:

Regarding the Direct Testimony of Sharim Chaudhury at page 9 that states: “some areas of SoCalGas’ service territory still do not have advanced meter coverage. Without the AMI installations completed in all areas, it is not possible to accurately measure SoCalGas’ total actual daily retail core gas usage.” Citing to the August 2017 AMI Semiannual Report.

- 4.6.1 Please identify the specific information in the August 2017 AMI Semiannual Report that was relied upon in making the quoted statement.
- 4.6.2 Would the same statement would be made if the witness were relying upon the February 2018 AMI Semiannual Report?
- 4.6.3 If the answer to the previous question is “yes,” please identify the specific information in the February 2018 AMI Semiannual Report that was relied upon in making the quoted statement.
- 4.6.4 How many active core meters existed on the SoCalGas system as of December 31, 2017?
- 4.6.5 Does the witness believe that 100 percent of the SoCalGas meters must be served by AMI before the SoCalGas AMI data can be incorporated into the forecasting process?
- 4.6.6 If the answer to the previous question is “no,” please state the percentage penetration of AMI meters that the witness believes is necessary before the SoCalGas AMI data can be incorporated into the forecasting process.
- 4.6.7 Please state any other factors that must be addressed before the SoCalGas AMI data can be incorporated into the forecast.

RESPONSE 4.6:

4.6.1: The specific information in the August 2017 AMI Semiannual Report that was relied upon in making the quoted statement is that AMI installation was not complete at that time. Please see page 6 of the August 2017 AMI Semiannual Report as an example.

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4.6.2: The statement remains accurate when considering the February 2018 AMI Semiannual Report.

4.6.3: See the February 2018 AMI Semiannual Report at 4-5.

4.6.4: SoCalGas active core meter count was 5,757,326 as of December 31, 2017.

4.6.5: The witness does not believe that 100 percent of the SoCalGas meters must be served by AMI before the SoCalGas AMI data can be incorporated into the forecasting process because there are some customers with meters who have opted out of AMI meters.

4.6.6: The witness believes that the AMI installation should be complete and that sufficient historical AMI data should be available for SoCalGas' retail core customers with which to develop a statistical model.

4.6.7: Regarding the Direct Testimony of Sharim Chaudhury, please see Part IV, section B of the Direct Testimony of Sharim Chaudhury on pages 9-10.

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QUESTION 4.7:

With respect to the Direct Testimony of Sharim Chaudhury at page 10 that states: “The use of SoCalGas AMI data in the forecasting process is expected to be possible sometime in late 2019 or early 2020.”

- 4.7.1 Please explain what date the witness is assuming that the SoCalGas AMI system will be completed.
- 4.2.2. Please state how many years of SoCalGas AMI data the witness is assuming would be necessary before the forecast could be based upon SoCalGas AMI data.

RESPONSE 4.7:

4.7.1: The witness has not assumed a date of completion for SoCalGas’ AMI system. The witness assumes that the AMI system will be completed in 2018.

4.7.2: As stated in the Direct Testimony of Sharim Chaudhury on page 9, lines 18-19: “After SoCalGas’ AMI system is completely installed, a minimum of one year of historical data is required to estimate the DLFM model parameters.”