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AND SAN DIEGO GAS & ELECTRIC COMPANY
FOR AUTHORITY TO REVISE THEIR NATURAL GAS RATES
EFFECTIVE JANUARY 1, 2017 IN THEIR
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**QUESTION 3.1:**

The following questions are directed at the Direct Testimony of Rose-Marie Payan:

Regarding the statement at page 4: "On a temperature-adjusted basis, core commercial and industrial market demand in 2014 totaled 1,041,349 Mth. It is expected to increase to 1,201,086 in 2017 and then decline slightly to 1,199,666 by the year 2019."

3.1.1.  Please explain why SoCalGas projects an increase in C&I demand from 2014 to 2017, identifying each element of SoCalGas' forecast that supports that conclusion.

3.1.2.  Please explain why SoCalGas projects a decline in C&I demand from 2017 to 2019, particularly since Table 1 shows a steady increase in core C&I meters during that period, identifying each element of SoCalGas' forecast that supports that conclusion.

3.1.3.  Why does Table 2 show a core C&I throughput of 1,033,422 Mdth for 2017 while the previous statement identifies a "core commercial and industrial market demand" for 2017 of 1,201,086?

3.1.4.  Why does Table 2 show a core C&I throughput of 1,011,792 Mdth for 2019 while the previous statement identifies a "core commercial and industrial market demand" for 2019 of 1,199,666?

**RESPONSE 3.1:**

3.1.1.  From 2014 to 2017, gas prices are projected to decline.  The decline in gas prices is contributing to increasing the C/I load over this period.

3.1.2.  The core C/I forecasts are driven by employment and not meter growth.  The forecasted decline in the load is driven by various factors.  Among them are:  (1) Energy Efficiency Savings; (2) Conservation driven by AMI; (3) Core to Noncore migration; and (4) the transfer of the City of Vernon C/I load from SoCalGas to the City of Vernon.

3.1.3.  The table is correct.  The statement will be corrected to read as follows: "It is expected to increase to ~~1,201,086~~ 1,033,422 in 2017 and then decline slightly to ~~1,199,666~~ 1,011,792 by the year 2019."

3.1.4.  See Response 3.1.3

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**QUESTION 3.2:**

Regarding the statement at page 5: "The gas engine throughput totaled 25,849 Mth in 2014, and it is expected to decline to 20,493 Mth by the year 2017. By 2019, the gas engine load is expected to rise to 20,905 Mth. The gas engine market is expected to rise at an annual average rate of 1% per year over the TCAP period."

3.2.1.  Please explain why SoCalGas projects a decrease in gas engine demand from 2014 to 2017, identifying each element of SoCalGas' forecast that supports that conclusion

3.2.2.  Please explain why SoCalGas projects an increase in gas engine demand from 2017 to 2019, identifying each element of SoCalGas' forecast that supports that conclusion.

**RESPONSE 3.2:**

3.2.1.  From 2014 to 2017, SoCalGas projects a decrease in demand because the use per customer from 2015 to 2019 is based on the average of the past 3 years.  In 2014, the recorded use per meter is 36.0 Mth and the historical average is 27.8 Mth (see Table in Response 3.2.2).

3.2.2.  From 2017 to 2019, SoCalGas projects an increase in demand because we are forecasting 1% annual customer growth with the same forecasted use per customer.

| SoCalGas Gas Engine Forecast | | | |
|---|---|---|---|
| | # of customer | Mth/customer | Mth |
| **2014** | 718 | 36.0 | 25,849 |
| **2015** | 723 | 27.8 | 20,089 |
| **2016** | 730 | 27.8 | 20,290 |
| **2017** | 738 | 27.8 | 20,493 |
| **2018** | 745 | 27.8 | 20,698 |
| **2019** | 753 | 27.8 | 20,905 |

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**QUESTION 3.3:**

What portion of SoCalGas' core C&I load is assumed to be temperature sensitive?


**RESPONSE 3.3:**

Core commercial and core industrial markets are assumed to be temperature sensitive.  Gas AC, Gas Engine, and NGV load are not assumed to be sensitive to cold temperatures.

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## QUESTION 3.4:

How has SoCalGas increased the temperature sensitive portion of the load to account for the cold year heating loads?

## RESPONSE 3.4:

The conversion mechanics are as follows:

For each month:

Cold Year Load for Month X = (Average Year Load for Month X ) x (adjustment factor for Month X)

Where:

the adjustment factor is the ratio of the cold year to average year load (cold year load/average year load).

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**QUESTION 3.5:**

Why is the NGV usage for December (Table 6) less than the average month usage level (Table 2 divided by 12)?

**RESPONSE 3.5:**

The annual NGV load is split into a monthly load forecast by applying a historical allocator to the total value.

The peak month concept is a system-wide concept that is Heating Degree Day (HDD) driven. Based on the entire system, the peak month usage occurs in the month of December. So for all market segments, we pull the December month totals to generate Table 6 forecasts.

However, December is not necessarily a peak month for the NGV market segments. Due to the holidays, December is not a peak month for transit and bus systems that have significant influence on the NGV demand.

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**QUESTION 3.6:**

With respect to the statement on page 7: "The outlook for SDG&E's core commercial and industrial and transportation demand is projected to increase by an average of about 0.4% annually from 2017 to 2019." Please explain this statement in light of the fact that the total for Table 8 shows a total of 202,151 Mth for 2017 and a total of 199,946 Mth for 2019.

**RESPONSE 3.6:**

The table is correct. The statement will be corrected to read as follows:

"~~The outlook for SDG&E's core commercial and industrial and transportation demand is projected to increase by an average of about 0.4% annually from 2017 to 2019.~~ SDG&E's total core demand is projected to decline at an average annual rate of 0.5%."

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**QUESTION 3.7:**

Please explain why SDG&E projects a decline in C&I demand from 2014 to 2019, particularly since Table 7 shows a steady increase in core C&I meters during that period, identifying each element of SDG&E's forecast that supports that conclusion.

**RESPONSE 3.7:**

SDG&E's Core C/I demand is expected to decline due to energy efficiency and AMI-related conservation.

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## QUESTION 3.8:

What portion of SDG&E's core C&I load is assumed to be temperature sensitive?

## RESPONSE 3.8:

The weather sensitive load consists of the core commercial and core industrial market segments.  NGV is not a weather sensitive component.

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## QUESTION 3.9:

How has SDG&E increased the temperature sensitive portion of the load to account for the cold year heating loads?

## RESPONSE3. 9:

For each month:

Cold Year Load for Month X= (Average Year Load for Month X) x (adjustment factor for Month X)

Where:

the adjustment factor is the ratio of the cold year to average year load (cold year load/average year load).

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## QUESTION 3.10:

The following questions are addressed to the Direct Testimony of Gregory Teplow:

With respect to the statement at page 75 of Teplow Workpapers: "Annual conservation benefits associated with AMI are estimated by SoCalGas to represent 1% of the core gas throughput in the post deployment period which starts after 2016. During the deployment period of 2011-2016, 1/5 of 1% of the load will have been conserved due to AMI. After 2016, 1% of the load will have been conserved due to AMI energy savings. The residential load was reduced by the AMI expected energy savings."

3.10.1.     What studies did SoCalGas perform to determine its estimate of AMI annual conservation benefits prior to 2016?

3.10.2.     Did SoCalGas measure the AMI savings by comparing a sample of customers on AMI against a sample of customers without AMI such that the size of the sample could produce results at a 90 or 95 percent confidence level?

3.10.3.     Please provide a copy of these studies.

3.10.4.     Has SoCalGas based its estimate of AMI annual conservation benefits in the post 2016 period on the results of its analysis of pre 2016 conservation benefits?

3.10.5.     If the answer to the previous question is "no," what studies did SoCalGas perform to determine its estimate of AMI annual conservation benefits in the post 2016 period?

3.10.6.     Please provide a copy of these studies.

3.10.7.     If the answer to Q.4.1.4 is "yes," has SoCalGas identified factors that would be expected to change the post 2016 conservation benefits?

3.10.8.     If the answer to the previous question is "yes," please identify which factors and how SoCalGas has reflected those changes in the post 2016 conservation benefits.

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### RESPONSE 3.10:

3.10.1.  SoCalGas' forecasted AMI annual conservation benefits are based on the Direct Testimony of John C. Martin and Dr. Sarah J. Darby, which are Chapters 5 and 6 in SoCalGas' AMI application, A.08-09-023.

3.10.2.  No.

3.10.3.  N/A.

3.10.4.  No.

3.10.5.  Please see the response to question 3.10.1.

3.10.6.  Please see the response to question 3.10.1.

3.10.7.  N/A.

3.10.8.  N/A.

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**QUESTION 3.11:**

SoCalGas shows significant decreases in per customer use associated with the vintage of the meter on page 79 of Teplow Workpapers as shown below:

| Segment | Use Per Customer (UPC, Therms) Pre-79 Customers | Use Per Customer (UPC, Therms) 1979-2004 | Use Per Customer (UPC, Therms) 2005-2014 |
|---|---|---|---|
| Single Family | 381 | 377 | 301 |
| Multi-Family 2-4 Units | 286 | 267 | 235 |
| Multi-Family > 4 Units | 267 | 252 | 219 |
| Master Meter | 3,000 | 6,090 | 9,431 |
| Sub-Meter | 22,079 | 24,487 | 0 |

3.11.1.    Is SoCalGas assuming that the new meters projected to be added in the 2017-2019 period will be added at the levels shown in the 2005-2014 column?

3.11.2.    If the answer to the previous question is "no," please state the use per customer assumptions associated with the new meters.

3.11.3.    Is SoCalGas assuming that a portion of old appliance stock associated with the Pre-79 and the 1979-2004 vintage meters will be replaced during the 2017-2019 period?

3.11.4.    If the answer to the previous question is "yes," please state the assumption regarding the rate of replacement for those appliances and the associated mixture of appliance efficiencies associated with the replacements.

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## RESPONSE 3.11:

3.11.1.     No. The table cited lists historical use per customer for 2014, a historically warm year. SoCalGas assumes that new meters will be added according to a forecast based on weather-normalized consumption. Please see response 3.11.2.

3.11.2.     Please see the below table which lists the forecasted use per customer for new meters during the forecast period 2017-2019. SoCalGas doesn't anticipate any new master meter or sub-meter customers.

| Segment | Year 2017 (therms) | Year 2018 (therms) | Year 2019 (therms) |
|---|---|---|---|
| **Single Family** | 392 | 392 | 391 |
| **Multi-Family 2-4 Units** | 229 | 229 | 228 |
| **Multi-Family > 4 Units** | 187 | 187 | 186 |
| **Master Meter** | N/A | N/A | N/A |
| **Sub-Meter** | N/A | N/A | N/A |

3.11.3.     No. SoCalGas does not associate portions of the appliance stock with vintages.

3.11.4.     N/A.

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## QUESTION 3.12:

With respect to the statement at page 157 of Teplow Workpapers: "Annual conservation benefits associated with AMI are estimated by SDG&E to represent 1% of the core gas throughput in the post deployment period. In each year of the deployment, 1/3 of 1% of the load will have been conserved due to AMI. After 2011, 1% of the load will have been conserved due to AMI energy savings. The residential load was reduced by the AMI expected energy savings."

3.12.1.     What studies did SDG&E perform to determine its estimate of AMI annual conservation benefits prior to 2016?

3.12.2.     Did SDG&E measure the AMI savings by comparing a sample of customers on AMI against a sample of customers without AMI such that the size of the sample could produce results at a 90 or 95 percent confidence level?

3.12.3.     Please provide a copy of these studies.

3.12.4.     Has SDG&E based its estimate of AMI annual conservation benefits in the post 2016 period on the results of its analysis of pre 2016 conservation benefits?

3.12.5.     If the answer to the previous question is "no," what studies did SDG&E perform to determine its estimate of AMI annual conservation benefits in the post 2016 period?

3.12.6.     Please provide a copy of these studies.

3.12.7.     If the answer to Q.4.1.4 is "yes," has SDG&E identified factors that would be expected to change the post 2016 conservation benefits?

3.12.8.     If the answer to the previous question is "yes," please identify which factors and how SDG&E has reflected those changes in the post 2016 conservation benefits.

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**RESPONSE 3.12:**

3.12.1.    For the purposes of this TCAP, SDG&E utilized the forecasted AMI annual conservation benefits from the Direct Testimony of John C. Martin and Dr. Sarah J. Darby in SoCalGas' AMI application, A.08-09-023 (Chapters 5 and 6), which is consistent with the forecasting methodology presented in the 2013 TCAP and recent California Gas Reports.

3.12.2.    No.

3.12.3.    N/A.

3.12.4.    No.

3.12.5.    Please see the response to question 3.10.1.

3.12.6.    Please see the response to question 3.10.1.

3.12.7.    N/A.

3.12.8.    N/A.

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**QUESTION 3.13:**

SDG&E shows significant decreases in per customer use associated with the vintage of the meter on page 79 of Teplow Workpapers as shown below:

| Segment | Use Per Customer (UPC, Therms) Pre-79 Customers | Use Per Customer (UPC, Therms) 1979-2004 | Use Per Customer (UPC, Therms) 2005-2014 |
|---|---|---|---|
| Single Family | 337 | 406 | 327 |
| Multi-Family | 277 | 335 | 268 |
| Master Meter | 2,829 | 3,413 | 1,802 |
| Sub-Meter | 21,417 | 14,967 | 0 |

3.13.1.    Is SDG&E assuming that the new meters projected to be added in the 2017-2019 period will be added at the levels shown in the 2005-2014 column?

3.13.2.    If the answer to the previous question is "no," please state the use per customer assumptions associated with the new meters.

3.13.3.    Is SDG&E assuming that a portion of old appliance stock associated with the Pre-79 and the 1979-2004 vintage meters will be replaced during the 2017-2019 period?

3.13.4.    If the answer to the previous question is "yes," please state the assumption regarding the rate of replacement for those appliances and the associated mixture of appliance efficiencies associated with the replacements.

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## RESPONSE 3.13:

3.13.1.    No.

Please note that the referenced table contains use per customer adjusted to normal weather.  The 2014 <u>historical</u> use per customer is provided in the table below.  Also note the corrected date ranges in the following column headers.

| Segment | Use Per Customer (UPC, Therms) Pre-99 Customers | Use Per Customer (UPC, Therms) 1999-New Customers | Use Per Customer (UPC, Therms) New Customers |
|---|---|---|---|
| Single Family | 275 | 332 | 267 |
| Multi-Family | 226 | 274 | 219 |
| Master Meter | 2,312 | 2,789 | 1,473 |
| Sub-Meter | 17,502 | 12,231 | 0 |

3.13.2    Please see the below table which lists the forecasted use per customer for new meters during the forecast period 2017-2019. SDG&E doesn't anticipate any new master meter or sub-meter customers.

| Segment | Year 2017 (therms) | Year 2018 (therms) | Year 2019 (therms) |
|---|---|---|---|
| Single Family | 287 | 287 | 287 |
| Multi-Family | 162 | 163 | 162 |
| Master Meter | N/A | N/A | N/A |
| Sub-Meter | N/A | N/A | N/A |

3.13.3.    No. SDG&E doesn't associate portions of the appliance stock with vintages.

3.13.4.    N/A.