

UCAN DATA REQUEST
UCAN-SEU-DR-02
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: MARCH 24, 2015
DATE RESPONDED: APRIL 7, 2015

1. SDG&E's 10-K was filed on February 26, 2015. Please provide updated responses to the following questions from UCAN Data Request-001: 16-18, 48-50, 54-55.

Utility Response:

The GRC forecast was developed according to the Rate Case Plan, which does not contemplate the use of 2014 recorded data and the forecasts were not developed using that information. While that recorded data may indicate lower spending than forecasted in some areas, it may also indicate higher spending than forecasted in others. Although SoCalGas is providing that data in the spirit of cooperation, the utility is not permitted to revise its forecasts using that data, either up or down, once the application is filed.

Note that while the question refers to SDG&E's 10-K, Question 54 of UCAN Data Request-001 asked about SoCalGas balancing account data. The ending balance for each of the four sub-accounts in SoCalGas' NERBA for 2014 is as follows:

SUB-ACCOUNT	YEAR 2014
AB 32 Admin Fees	\$ (1,082,315)
Subpart W	\$ (7,457,313)
C&T – Facilities	\$ 2,387,948
C&T – End Users	\$ 222,622

Balances in parenthesis are over-collected, others are under-collected.

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Utility Response:

The GRC forecast was developed according to the Rate Case Plan, which does not contemplate the use of 2014 recorded data and the forecasts were not developed using that information. While that recorded data may indicate lower spending than forecasted in some areas, it may also indicate higher spending than forecasted in others. Although SDG&E is providing that data in the spirit of cooperation, the utility is not permitted to revise its forecasts using that data, either up or down, once the application is filed.

48. Update

The 2014 ending balance for SDG&E’s Tree Trimming Balancing Account is (\$13,063,490) over-collected.

49. Update

The 2014 ending balance for SDG&E’s NERBA follows:

NERBA - New Environmental Regulatory Balancing Account		
2014 balance per subaccount:		
Polychlorinated Biphenyls (PCB)	-0-	Electric
Cap and Trade (C&T)	-0-	
AB32 Administration Fees	(\$353,694)	
NERBA - New Environmental Regulatory Balancing Account		
2014 balance per subaccount:		
Subpart W	(\$1,185,943)	Gas
Cap & Trade (C&T) Operations	491,377	
C&T End-Users	-0-	
AB32 Administration Fees	<u>487,584</u>	
TOTAL	(\$206,982)	

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Utility Response:

This request seeks 2014 data. Although this data is not part of SoCalGas' forecasts or within the scope of this case, SoCalGas has provided UCAN with 2014 recorded data in the spirit of cooperation and without waiving the right to contest or respond to how the data is used.

55a.

	<u>2014</u>
Additions (nominal \$)	505,254
Additions (2013\$)	498,398
Additions (2016\$)	522,171

55b.

	<u>2014</u>
Retirements (nominal \$)	79,399
Retirements (2013\$)	78,322
Retirements (2016\$)	82,057

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2. Regarding SDG&E response to UCAN Data Request-001 Question 36b:
- a. Has SDG&E investigated the possibility of allowing payment processing via credit and debit card at all APL locations? If so, please summarize the results of the investigation, including any plans for expanding options for credit and debit card payment.
 - b. Please describe the barriers to allowing payment processing via credit and debit card at all APL locations.
 - c. For each APL location that currently does not allow payment processing via credit and debit card, please provide the date (if any) at which these payment options will start to be accepted.

Utility Response:

Please note the correct reference for the above follow-up request is SDG&E's response to Question 10 (not 36b) of UCAN's Data Request 1.

- a. SDG&E's APL vendor does not support the processing of credit and debit cards due to system limitations. Most of SDG&E's APLs use the vendor's platform for processing payments with the exception of Walmart and Kmart. Walmart and Kmart use their own technology and accept debit card payments. Therefore, SDG&E has not investigated allowing payment processing via credit and debit cards at all APLs.
- b. Since SDG&E has not investigated allowing payment processing via credit and debit cards at all APLs, the only barrier we are aware of at this time is the system limitation mentioned in the response to Question 2a.
- c. At this time, SDG&E has no plans to accept credit card and debit card payments at all APLs.

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3. Regarding SDG&E's response to UCAN Data Request-001 Question 14:
 - a. Please provide all reports and documentation resulting from the four in-person focus groups that were conducted on the bill redesign project.
 - b. Please provide a copy of all questionnaires and other materials provided to the focus group participants.

Utility Response:

- a. See UCAN-SEU-DR-02 Q3a Attachment.pdf for the results from the four in-person focus groups that were conducted.
- b. See UCAN-SEU-DR-02 Q3b Attachment.pdf for the discussion guide that was provided to the focus group participants. In addition, please see the attachment to question 1a above (UCAN-SEU-DR-02 Q3a Attachment.pdf) for the questions and other materials provided to the focus group participants.

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4. Regarding the Bill Redesign project:
- a. Please provide the total expenditure to date on the bill redesign project including costs for all focus groups, surveys and other efforts.
 - b. Please provide a detailed breakdown of (i) past and (ii) forecasted expenditures for the bill redesign project by general category including: focus groups, customer studies, bill design, implementation, etc. Please expand on this list of categories as appropriate.

Utility Response:

- a. Prior to project approval, routine labor and non-labor expenses are not tracked to the specific project. SDG&E did incur an expense of \$36,000 to conduct focus groups. SDG&E is not requesting any incremental O&M dollars for Bill Redesign in its TY 2016 GRC request.
- c. (i) The past expenses for the Bill Redesign project include \$36,000 for the focus groups as provided for in the response to Question 4a above.
(ii) Forecasted capital expenditures for the Bill Redesign project are shown below by the labor and non-labor categories. Further delineated non-labor categories are currently not forecasted for GRC purposes. The forecasted expenditures are outlined in the workpapers of witness Stephen Mikovits for which a copy can be found on pages 265-267 of Brad Baugh's revised workpapers dated March 2015.

Year	Labor	Non-Labor	Total
2014	\$0	\$0	\$0
2015	\$1,449,000	\$480,000	\$1,929,000
2016	\$1,094,000	\$300,000	\$1,394,000

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5. Please provide a copy of all of the data tables and charts included in Mr. Schiermeyer's workpapers in electronic format. If Excel workpapers are unavailable please provide the data tables as .csv files or in some other electronically readable format.

Utility Response:

Please see file named "UCAN-SEU-DR-02 Q5.xlsx" included with this response.

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6. Please provide the STATA/SAS/other statistical software code used to develop the electric customer forecast in .txt or similar format that enables copying and pasting.

Utility Response:

No other statistical software was used to perform the electric customer forecast. All calculations were done in Microsoft Excel.

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7. Please provide the log file generated during SDG&E's completion of the electric customer forecast in .txt or similar format that enables copying and pasting.

Utility Response:

No log files exist. Please see the response to Q6 in this data response.

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8. Please provide a qualitative step-by-step description of the electric customer model that is outlined on page 3 of the workpapers. Please clearly indicate the order of the steps to be taken to complete SDG&E's analysis.

Utility Response:

SDG&E forecasts customers on a rate schedule basis. Step 1 of the process distinguishes customers as being on a closed rate schedule, a declining rate schedule, a rate schedule with little/no growth and customers with growth dependent on economic factors.

Step 2 of the process forecasts customers who are on a closed rate schedule, a declining rate schedule or a rate schedules with little/no growth. Historical trends are evaluated for these rate schedules and used to project future changes in customer growth. This would include customers who are on rate schedules DM, DS, DT, OL1R, OL1C, LS1, LS3 and AD. The details and calculations of step 2 are located in the associated workpapers on pages 3, 10 and 11. Customers on other rate schedules who have shown little/no growth in recent history were held constant in the forecast period: A6TOU, ALTOUI, PA, PATOU, PAT1, RESALE and DWL.

Step 3 of the process ties economic information to the rate schedules that are influenced by changes in economic conditions. Residential customers on rate schedules DR and DRLI are forecasted primarily by the level of housing starts in SDG&E's service territory, under the premise that a majority of planned dwelling units will eventually turn into electric customers for SDG&E. Non-residential customers (primarily those customers on rate schedules A and ALTOUC) are forecasted by using the level of employment in SDG&E's service territory, under the premise that the number of occupied commercial and industrial facilities would depend on the level of employment in the San Diego metropolitan area. Lastly, with schedule LS3 closed and LS1 having minimal recent growth, street lighting schedule LS2 was assumed to grow at a rate consistent with recent history relative to residential customer growth, under the premise that residential expansion requires more street lighting. The details and calculations for the residential customers (DR and DRLI) are located in the associated workpapers on pages 3 and 13-20. The details and calculations for the non-residential customers are located in the associated work papers on pages 3 and 22-27. The details and calculations for street lighting schedule LS2 are located in the associated workpapers on pages 3 and 12.

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9. For each numerical value on page 3 of the workpapers, please indicate the source of the value including the mathematical steps required to derive the value.

Utility Response:

For the residential electric customer model (“NEW_DRDRLI”), the numerical values were derived from a multiple regression analysis and are presented in the “Summary Output” on page 15 of the associated workpapers. Data that were used to derive the multiple regression equation are listed on pages 13 and 14 of the associated workpapers.

For customers under the DM, DS, DT, OL1R, OL1C, LS1, LS3 and AD tariffs, numerical values were derived from linear trend analyses performed on page 10 of the associated workpapers. The calculated growth rates are summarized on page 11 of the associated workpapers. The mathematical steps to derive the numerical values, on page 3, are defined as 1 plus the growth rate. For example, in the equation $CUST_DM = CUST_DM_{\text{prior Month}} * 0.99848$, the $0.99848 = (1 - 0.00152)$, the exponent from the linear trend analysis. For more decimal places in all derived coefficients, please see the detailed tab for the corresponding rate schedule.

For customers under the LS2 tariff, the numerical value was derived from a linear trend analysis performed on page 12 of the associated workpapers. The value is calculated as the differential growth rates between LS2 customers and DRDRLI customers.

For NON-RESIDENTIAL customers, the numerical value was derived from a linear trend analysis performed on page 22 and 23 of the associated workpapers. The growth rate is calculated as the ratio between the growth rates of Non-Residential (NR) customers and employment.

For CUST_A customers, the numerical value was derived from a linear trend analysis performed on page 25 of the associated workpapers. The growth rate is calculated as the ratio between the growth rates of Non-Residential (NR) customers and schedule A customers.

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10. The documentation on page 3 of Mr. Schiermeyer's workpapers appears to indicate that customer counts for tariffs PA, PATOU, CUST_ALTOUI, PAT1, A6TOU are held constant over the forecast period. Is this correct? If so please explain the reason for this approach and provide supporting documentation. If not, please clarify the customer count forecast approach for these customer classes.

Utility Response:

Please see response to question 8 of this data request. Yes, these were held constant over the forecast period as they showed little/no growth in recent history.

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11. Regarding SDG&E's response to UCAN Data Request-001 question 25a:
- a. Please explain why SDG&E used a 5-year historic period for the growth rate forecast for those customer classes whose growth rates were forecasted using an exponential trend.
 - b. Please specify whether SDG&E considered using a longer historic period for these forecasts. If so, please explain why SDG&E chose not to use a longer historic period for these forecasts.
 - c. If SDG&E assessed growth rate projections for any of these customer classes based on longer historic periods, please provide the results of these projections and explain why these projections were rejected in favor of the projections used in this application.

Utility Response:

- a. SDG&E felt that the recent 5-year historical period is representative of the 2014-2018 forecasted customer growth as related to economic conditions.
- b. Yes, in general, SDG&E considered longer historical periods for its analyses, but felt the 5-year period was more representative of the 2014-2018 forecast period.
- c. Although interim results were not kept, in general, SDG&E found that longer periods resulted in unreasonable and inconsistent growth rates relative to the current economic environment and recent customer growth.

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12. Please provide monthly customer count data for all tariffs defined in SDG&E's Electric Customer Model from December 1993 to present.

Utility Response:

Please see included file "UCAN-SEU-DR-02 Q12.xlsx"

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13. Please explain why SDG&E forecasted LS-2 customer counts based on residential customer count growth but forecasted LS-1 and LS-3 customer counts using an exponential trend approach.

Utility Response:

Please see response to Question 8 of this data request. To further clarify, it was assumed that schedule LS-2 (which had the strongest recent growth prior to customer consolidation in late-2013), would represent the street lighting growth associated with residential customer growth. Lighting schedule LS-3 is a closed rate schedule and is expected to decline in the future and LS-1 exhibited noticeably lower recent growth and therefore used a trend approach for forecasted growth.

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14. Please explain SDG&E's methodology for completing the customer forecast for EPEVL, EPEVM and EPEVH.

Utility Response:

SDG&E completed a forecast for EPEVL, EPEVM and EPEVH to account for these temporary active meters. At the time when the forecast was being prepared, it was expected that the experiment was to be terminated and these meters would be removed from our billing system.

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15. When was the Domestic Experimental Plug-In Electric Vehicle Service tariff established, when was it open to customers, and will the tariff be open to new customers throughout the GRC period?

Utility Response:

The Domestic Experimental Plug-In Electric Vehicle Service tariff (Schedules EPEV-L, EPEV-M, EPEV-H) was established via CPUC approved Advice Letter in 2010 (AL 2157-E). The tariff was closed to new participants in early 2013 and the tariff was closed and all participants migrated to Schedule EV-TOU or another applicable rate of their choice as of 12/31/2014. In 2015 the tariff is canceled with no customers on the rate. The tariff was part of SDG&E's Plug-in Electric Vehicle TOU Pricing and Technology Study, which is complete. The final report is available here:

<https://www.sdge.com/sites/default/files/documents/1681437983/SDGE%20EV%20%20Pricing%20&%20Tech%20Study.pdf?nid=10666>

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16. Please provide monthly customer counts for all Domestic Experimental Plug-In Electric Vehicle Service tariff customers since the opening of the tariff.

Utility Response:

Please see included file “UCAN-SEU-DR-02 Q16.xlsx”

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17. Regarding SDG&E's Original and Supplemental Responses to UCAN Data Request-001 Questions 26-28:
- a. SDG&E has indicated that the variable "HUSTS_SDGE" used in its model is based on the IHS variable "Housing Starts, Total Private" modified to include the small portion of Orange County, CA that is included in SDG&E's service territory. Please explain the methodology SDG&E uses to modify the "Housing Starts, Total Private" data to account for SDG&E's Orange County service area.
 - b. Please provide updated values for "HUSTS_SDGE" for each quarter 2014-2018 based on the "Housing Starts, Total Private" data provided in SDG&E's supplemental response.
 - c. Please describe the relationship between "HUSTS_7320" in SDG&E's model and the IHS variable "Housing Starts, Total Private."
 - d. Please provide updated values for "HUSTS_7320" for each quarter 2014-2018 based on the "Housing Starts, Total Private" data provided in SDG&E's supplemental response.
 - e. In the supplemental response the "Housing Starts, Total Private" data is listed quarterly but the Units are described as "Annual Rates, SA." Please indicate the method for converting these units to quarterly rates.
 - f. SDG&E has indicated that the variable "HH_7320" is based on census year data from the California Department of Finance. Please provide the source data from the California Department of Finance that SDG&E relied on and please describe any modifications that were made to the Department of Finance data to arrive at the final values for HH_7320. Please provide information on the exact source of the Department of Finance data including publication name and date.

Utility Response:

- a. Given that the Orange County service area (OC) historically had different growth rates in the residential sector versus San Diego County, some slight modifications are made to San Diego County (IHS data) to reflect this addition, and relative changes in OC growth. Housing starts are estimated for the small portion of OC that SDG&E serves based on the approximate change in OC service area's residential customers, and the overall relationship between housing starts and housing stock. To clarify this adjustment using an example, please note housing starts in years 2003 and 2008. In 2003, OC's residential portion of SDGE grew noticeably faster than San Diego County, therefore, HUSTS_SDGE were about 19% higher (or about 3,000 housing starts) than San Diego County. In contrast, in 2008, there was little/no growth in OC's residential customer base, and correspondingly, there was a negligible difference between San Diego and SDG&E housing starts.
- b. This specific data is only completed during a forecast cycle since it requires a detailed look at individual cities within the OC service area, and has not been

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Response to Question 17b (Continued)

evaluated to date. However, a reasonable assumption would be to add 9.6% to San Diego County housing starts to estimate 2014-2018 updated/future data for SDG&E service territory.

- c. HUSTS_7320 is the same concept as the IHS variable “Housing Starts, Total Private.”
- d. Since the two concepts are the same, “HUSTS_7320” is provided in the supplemental response. The data is also included in this data request in Q18 of this data request.
- e. To convert “Annual Rates, SA.” To quarterly, SDG&E divided the “Housing Starts, Total Private” by 4.
- f. Years 1990 and 2000 census year data can be found at the following CA DOF website: <http://www.dof.ca.gov/research/demographic/reports/estimates/e-8/> Download “E-8 Historical Population and Housing Estimates - Organized by Geography”. Occupied housing data for census year 1990 can be found in cell J5907 (887,403) and year 2000 can be found in cell J5918 (994,677). Year 2010 census data can be found at the following CA DOF website: <http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/view.php> Download “E-5 Population and Housing Estimates for Cities, Counties, and the State, January 2011- 2014, with 2010 Benchmark” then choose “Counties and State 2010”. Occupied housing data for census year 2010 can be found in cell K41 (1,086,113). For the Census year data points, no modifications were made other than converting the April Census data points to quarterly values that are used in the modeling process, so the respective April Census data points will fall in between Q1 and Q2 HH_7320 values. Quarterly HH_7320 values were derived by applying San Diego residential quarterly customer growth patterns for values in between census years.

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18. Please provide the full set of historic data that is provided in the February 2015 IHS forecast for each of the following items: “Housing Starts, Total Private,” “Employment, Total Nonfarm,” “Employment, Construction, Natural Resources and Mining,” and “Employment, Manufacturing.”

Utility Response:

Please see included file “UCAN-SEU-DR-02 Q18.xls”.

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19. Please provide a copy of all of the data tables and charts included in Ms. Payan's workpapers in electronic format. If Excel workpapers are unavailable please provide the data tables as .csv files or in some other electronically readable format.

Utility Response:

The data set is included in the attached Excel file, "UCAN_DR_02_Q19.xls".

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20. Regarding SDG&E's response to UCAN Data Request-001 Question 36b: Please provide an updated forecast that uses the historical data from the 4th quarter 1987 through the 4th quarter 1989.

Utility Response:

Included in Question 19 above are historical data used in the forecast preparation. This data can be used by UCAN to run the regressions that generated the forecast or any new modified specifications.

With respect to the residential model, it includes housing starts that have been lagged 8 quarters (2 years). The first quarter for which we have a value in the time series for HS(-8) begins in the 4th quarter of 1989. Running a new regression with the same specification and data that goes back to the 4th quarter of 1987 will only allow for a gain of only one degree of freedom because only one additional data point will be picked up for the estimation.

With respect to the commercial and industrial models, we do not have any employment data before the 1st quarter 1990. For employment data, we use the State of California's EDD recorded employment data. Their recorded data begin in 1990.

To maintain consistency, SDG&E chose 1st quarter 1990 as the starting point for all analysis.

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21. Regarding SDG&E's response to UCAN Data Request-001 Question 37a: Did SDG&E investigate the possible reason behind these outliers? If so, what were the findings?

Utility Response:

A plot of the data revealed possible outliers in the data. The potential outliers were included in the model as quarterly dummy variables. Tests for the significance of the coefficients and the overall measures of fit indicate that it is reasonable to include them in the specification. No further research was carried out to investigate the events.

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22. In the residential model SDG&E used variables “SEA2” and “SEA3” corresponding to Summer and Fall but did not include a third variable to differentiate Winter from Spring. Why wasn’t a third seasonal variable included in the model? What regressions did SDG&E run to arrive at the conclusion that a model combining Winter and Spring was the best fit for the data? Please detail these regressions and provide their regression statistics.

Utility Response:

Four seasonal dummies will cause the estimation to fail. While the inclusion of three dummies is possible, it is not essential. Any event not represented by a dummy variable forms the basis against which the included conditions are compared. In this case, the winter and spring seasonal dummies individually added no additional explanatory power to the model and their influence is being captured by the constant term.

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23. In SDG&E's model for new electric customers described in SDG&E Exhibit 31, SDG&E used data on occupied households from the California Department of Finance. Why wasn't this data used in the model for new gas customers?

Utility Response:

The SDG&E electric meter forecast and the SDG&E gas meter forecast were done independently, in different departments by different analysts.

The gas model for SDG&E relied on housing starts because this is the best available data to track activity in the housing market. The housing start measure is a good predictor of customer growth. On the gas side, SDG&E did not consider the State of California's data on occupied households.

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24. Regarding SDG&E's response to UCAN Data Request-001 Question 38: Did SDG&E test whether a non-logarithmic model would be a better fit for this year's forecast? If so, what other models were tested and what were the results?

Utility Response:

Theoretical considerations dictate the form of a regression model. The double log model is a popular model. One useful property of natural logs in estimation is that they make it easier to figure out impacts in percentage terms. In a double log regression, the meaning of a slope coefficient is the percentage change in the dependent variable caused by a one percentage point increase in the independent variable, holding the other independent variables in the equation constant.

A linear specification was not selected because the double log model had also been used in the past.

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25. Regarding SDG&E's response to UCAN Data Request-001 Question 39c: SDG&E described the "primary" differences between the housing start data used in Ms. Payan's and Mr. Schiermeyer's testimonies. Please describe all other differences not included in SDG&E's response.

Utility Response:

The response to UCAN_DR-001 Question 39c included the summary of all currently known differences between the two testimonies.

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26. The historical data provided in SDG&E's supplemental response to UCAN Data Request-001 Question 39d is inconsistent with the data used in SDG&E's workpapers and provided in SDG&E's original response to UCAN Data Request-001 Question 35. Please explain the reason for this discrepancy. Does IHS routinely make adjustments to the historic data in updates to their reports?

Utility Response:

The data in the workpapers and in the response to Question 39d are directly from IHS Global Insight. Upon examination, there are very slight historical differences in the datasets which would reflect the historical revisions that IHS Global Insight has incorporated. IHS Global Insight does make historical data adjustments when their source historical data are revised.

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27. Regarding SDG&E's response to UCAN Data Request-001 Question 40: Was housing permit data considered for the 2016 GRC gas customer forecast? If so, why did SDG&E decide not to include it in the final estimation model? Did SDG&E consider using housing permit data for the 2016 GRC electric customer forecast?

Utility Response:

Housing permit data was not utilized in any of the estimation processes used to prepare the customer forecast. We do not have permit data. The vendor who, in the past, had been providing us with permit data was bought by another entity and the veracity of the data was not maintained. We did not renew our subscription; therefore, we do not have access to housing permit data any longer.

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28. Regarding SDG&E's response to UCAN Data Request-001 Question 41d: In SDG&E's model for non-residential electric customers SDG&E based the forecast on IHS employment data Employment (Total Nonfarm), less Employment (Construction, Natural Resources, and Mining), less Employment (Manufacturing). In contrast the model for non-residential gas customers was based only on the IHS data for Employment (Total Nonfarm). Please explain why the electric model subtracted Construction, Natural Resources, Mining and Manufacturing employment while the gas model did not.

Utility Response:

The SDG&E electric meter forecast and the SDG&E gas meter forecast were done independently, in different departments by different analysts. For the electric meter forecast, Construction, Natural Resources, Mining and Manufacturing employment are subtracted from Total Nonfarm employment to take out the volatility of those sectors that do not greatly influence electric meter growth. For the gas meter forecast, there is a solid relationship between gas meter growth and Total NonFarm employment and is the reason the metric was used to predict future gas meter growth.

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29. Regarding SDG&E's response to UCAN Data Request-001 Question 41d: SDG&E used historic data for employment in San Diego County from the California Employment Development Department (EDD) and scaled that data to the IHS employment forecast in the gas customer forecast. In contrast, SDG&E relied only on employment data from IHS in the electric customer forecast. Please explain why the gas customer forecast used the EDD data and the electric customer forecast did not.

Utility Response:

SDG&E's gas forecasting staff runs end use models to prepare the gas demand forecast. The needs of the gas models are resource-intensive and the data needs to be broken down in a level of detail that requires SDG&E to use the State of California's EDD data when preparing an employment time series.

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30. SDG&E collects a \$10 monthly charge for smart-meter opt-out customers but is proposing a \$25 charge for a fielded service request.
- a. What is the utility's cost for monthly smart-meter opt-out (i) meter reading and (ii) billing?
 - b. Please describe the actions and time needed to read an opt-out customer's meter.
 - c. Please describe the actions and time needed to complete a fielded service establishment.
 - d. Please specify whether the cost of traveling to a customer site for a fielded service request is more costly to the utility than the cost of traveling to a customer site for a fielded meter reading (for smart-meter opt-out customers). If so, please explain why and provide data demonstrating the extent of the cost difference. If not, please explain SDG&E's proposal for a \$20 surcharge for a fielded service request (i.e., \$25 for a fielded request vs \$5 for a non-fielded request) in light of the \$10 surcharge for fielded meter reading.

Utility Response:

- a. (i) The monthly smart-meter opt-out meter reads are currently performed by the Field Collections personnel. The fully loaded cost to manually read these meters in 2013 was approximately \$18 per meter not including any back-office support or program management expenses.

(ii) There are no current monthly on-going Billing costs related to the monthly smart-meter opt-out meter read. The Billing expenses are incurred when customers enter and/or exit the program. As a result of the Opt-Out Phase 2 Decision, Billing will need to monitor the length of time that customers are billed the monthly opt-out fee because this can only be charged for 36 months and then the charges can no longer be billed to the participating customers.
- b. The smart-meter opt-out meter reading order consists of drive time to the premise and the time to read the meter (on-premise time). During the GRC base year of 2013, this activity averaged 11 minutes per meter.
- c. There are various order types that are included in the fielded service establishment categories including, but not limited to: Change of Account, Fumigation off/on, Meter Sets, Manual Turn-on and/or Shut-Offs, and meter changes and/or installing or removing life support seals. During the GRC base year of 2013, this type of work averaged 30 minutes per order. This time includes drive time and on-premise time to complete the order. The on-premise time varies due to the work being performed onsite and can include building the meter inlets and outlets for meter sets or in the case of turning gas on, pilot lights will need to be lit and the appropriate safety checks made.

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Utility Response to Question 30 Continued:

- d. SDG&E did not propose a \$10 monthly fee for smart-meter opt-out. The fee that was included in the SDG&E proposal that was filed on November 28, 2011 was \$15 for an Analog metering option, to be read by a Meter Reader, however, the interim opt-out Phase I Decision 12-04-019 adopted a \$10 monthly fee for non-CARE residential customers and a \$5 monthly fee for CARE residential customers. On December 18, 2014, the Commission issued D.14-12-078 (Phase II Decision), which set opt-out fees and charges for SDG&E's residential customers at the interim levels adopted in the Phase I Decision except that the monthly charge shall be collected from residential customers who opt-out of the program for a period of three years from the date the customer chooses to opt-out.

For a comparison of the fees, see page A-13 in the SDG&E proposal for the estimated monthly meter reading costs. Additional monthly costs are also shown on pages A14 and A15. By comparison, page A12 shows the estimated installation costs which are more comparable to the type of work that is performed during a fielded service establishment order. See the attached file labeled: UCAN-SEU-DR-02 Q30 Attachment.pdf for the above referenced pages from SDG&E's Smart-Meter Opt-Out Proposal.

The difference in the fees is not necessarily due to drive time although there is a small difference between the drive time that was assumed in the smart-meter opt-out proceeding than is being used by Customer Service Field in the TY2016 GRC forecasts. The majority of the difference between these fees is due to the assumed on-premise time to complete the order in addition to the pay grade of the employees performing the services. As shown in response to question 30b, a smart-meter opt-out order takes 11 minutes and is performed by a Collector. As shown in response to question 30c, a fielded service establishment order takes an average of 30 minutes and is performed by a Customer Service Field Technician. The activities performed for a smart meter opt-out meter read and those performed for a service establishment on a customer's premise are different.

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Utility Response to Question 30 Continued:

The following table illustrates the differences in the hourly wage rates, drive time, and on-premise times for the different scenarios described above in response to Q30d.

	Hourly Wage Rate (Person working Order)	Travel Time (Minutes)	Job Time/On-Prem (Minutes)	Total Time (Minutes)
Smart Meter Opt-Out Proposed Monthly Fee				
Smart Meter Opt-Out Proposal as filed 11-28-11 (workpaper page A13 Monthly Consumption Reads)	\$20.97	11	1	12
2013 Actual Costs for Opt-Out Reads by Collectors	\$25.91	8	3	11
2013 Average Actual Cost for Fielded Service Establishment Work (fully loaded costs include a component of back-office support)	\$38.34	13	17	30

Eliminating the order time for the Customer Service Field Technician is the difference between a non-fielded order charge of \$5 and a fielded order charge of \$25.

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31. What number of the active legacy gas meters and legacy electric meters are in place due to customer opt-out and what number are in place because SDG&E was unable to install smart meters at the customer location? Please answer separately for each major customer class.

Utility Response:

Summary of Meter Counts				Not Eligible for Smart Meters			Total All
	Opt-Out Meters	Unable to Install Smart Meters ¹	Sub-Total Legacy Meters	Lighting Services (Flat Fee, no Meter)	Company Use Devices	Sub-Total Excluded Meter Devices	
Electric							
Legacy Commercial	27	439	466	5,818	370	6,188	6,654
Legacy Industrial	0	128	128	1	9	10	138
Legacy Residential	2,537	44	2,581	4,717	11	4,728	7,309
Total Electric Legacy Meters	2,564	611	3,175	10,536	390	10,926	14,101
Gas							
Legacy Commercial	0	39	39	882	259	1,141	1,180
Legacy Industrial	0	125	125	253	0	253	378
Legacy Residential	1,502	58	1,560	0	4	4	1,564
Total Gas Legacy Meters	1,502	222	1,724	1,135	263	1,398	3,122
Total Electric + Gas	4,066	833	4,899	11,671	653	12,324	17,223

Note 1: SDG&E was unable to install a smart meter at the customer's location due to various reasons including, but not limited to: an appropriate smart meter solution doesn't exist yet, communications issues, or meters are being read via other communications channels.

There are two reasons for commercial meters with the Opt-Out read code:

1 – The Opt-Out program is set up by bill account and there are opt-out customers that have two meters billed to one account, one commercial and one residential. In these cases, all of the meters linked to the account will be counted as 'opt-out'. An example is where the residential meter serves the home and the commercial meter serves a well.

2 – Before the Opt-Out program was set-up there were customers that had requested to not have a smart meter installed, this included some commercial customers that had A or PA rates that do not require a Smart Meter because they don't bill on time-of-use and do not need a smart meter for billing. There are currently 17 of these meters that were set-up as opt-out, but are exempt from the monthly fees.

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32. Please provide a copy of all of the data tables and charts included in Ms. Payan's workpapers in electronic format. If Excel workpapers are unavailable please provide the data tables as .csv files or in some other electronically readable format.

Utility Response:

The data are included in the attached file named UCAN_DR_02 Q32.xls.

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33. Please provide SoCalGas's monthly count of total active gas meters from January 2013 through January 2015 for each of the following customer categories: Residential single-family, Residential multi-family, Residential master meter, Commercial, Industrial, and Total (defined consistent with the categories in Table SCG-RMP-2).

Utility Response:

The data are included in the attached file named UCAN_DR_02 Q33.xls.

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34. Please provide all the source data from IHS Global Insight that were used in Ms. Payan's analysis.

Utility Response:

The data from IHS Global Insight included housing starts and employment data. These data are included in the file named UCAN_DR_02 Q32.xls.

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35. Please provide updated data from IHS from February 2015 including the full historical time series used in the analysis.

Utility Response:

Fully updated data are in the attached Excel file “UCAN-SEU-DR-02 Q35-Q36.xlsx”. Yellow-shaded data in the file come directly from IHS Global Insight’s February 2015 Regional forecast: historical and forecasted housing-start data, and forecasted employment data. (Historical employment is from the California Employment Development Department, and is shown in the green-shaded cells in the file.)

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36. If the source data from IHS was modified to arrive at the variables “HSSF,” “HSMF” and “EmpCom” please provide a workpaper to demonstrate how the data was modified with formulas and links intact.

Utility Response:

Historical and forecasted data for HSSF and HSMF come directly without modifications from IHS Global Insight’s February 2015 Regional forecast. EmpCom (and EmpInd) are calculated from several Global Insight source series. The modifications of those source series and derivations of EmpCom and EmpInd are shown in the attached Excel file “UCAN-SEU-DR-02 Q35-Q36.xlsx”, with formulas and links intact.

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37. What is the reason for the dummy variables DUM9603, DUM0503, and DUM0711 in the Residential, Single Family forecast, and the dummy variables DUM8604, DUM9603, and DUM0303 in the Residential, Multi-Family forecast. If these dates were found to be outliers, did SoCalGas investigate the possible reason behind these outliers? If so, what were the findings?

Utility Response:

A plot of the residuals, which are the observed differences between the observed values of the change in meters and the predicted value of the change in meters, in a regression without dummy variables indicated that for the 3rd quarter 1996, the 3rd quarter 2005, and the period covering 2nd quarter 2007 through 4th quarter 2011, there appeared to be sizeable deviations from the average observed size of residuals in the single family sector. In the multi family sector, the 4th quarter 1986, the 3rd quarter 1996 and the 3rd quarter 2003 are quarters where the residuals appeared larger than the norm. A dummy variable for each of the indicated time periods was included in the regression specification as a result.

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38. In the residential model SoCalGas used variables “SEA2” and “SEA3” corresponding to Summer and Fall but did not include a third variable to differentiate Winter from Spring. Why wasn’t a third seasonal variable included in the model? What regressions did SoCalGas run to arrive at the conclusion that a model combining Winter and Spring was the best fit for the data? Please detail these regressions and provide their regression statistics.

Utility Response:

Four seasonal dummies will cause the estimation to fail. While the inclusion of three dummies is possible, it is not essential. Any event not represented by a dummy variable forms the basis against which the included conditions are compared. In this case, the winter and spring seasonal dummies individually added no additional explanatory power to the model and their influence is being captured by the constant term.

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39. Why weren't seasonal dummy variables used in in the residential multi-family forecast?

Utility Response:

In the residential multi-family model, the effect of the seasons did not significantly add to the model's explanatory power; therefore they were not included in the multi-family model.

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40. Please explain the reason for the inclusion of residential housing starts from one quarter prior (“t-1”) and two years prior (“t-8”) as a parameter and not residential housing starts from 2-7 quarters prior in the Residential Single Family forecast.

Utility Response:

SoCalGas included HSSFL1 and HSSFL8 in the model specification for the residential single family segment because the overall fit of the equation was improved by including both. The model’s overall fit was reduced by the elimination of either one of the two. Other variations were tested but variables that did not improve the model were not included.

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41. Please explain the reason for the inclusion of residential housing starts from one year prior (“t-4”) and two years prior (“t-8”) as a parameter in the Residential Multi Family forecast in contrast with the t-1 and t-8 lagged housing start data used in the Residential Single Family forecast discussed in the question above.

Utility Response:

SoCalGas included HSMFL4 and HSMFL8 in the model specification because the overall fit of the equation was improved by including both. The model’s overall fit was reduced by the elimination of either one of the two. Other lags were included and tested for significance but they did not improve the model; therefore, they were not included.

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42. Please explain why the Residential Master Meter forecast is based on an exponential trend rather than housing start data and seasonal factors as were used in the Residential Single Family and Residential Multi Family forecasts.

Utility Response:

The residential master meter segment is declining. A linear declining trend appears to capture the behavior of that market adequately.

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43. In SDG&E's model for new electric customers described in SDG&E Exhibit 31, SDG&E used data on occupied households from the California Department of Finance. Why wasn't this data used in the model for SoCalGas' new gas customers?

Utility Response:

The SDG&E electric meter forecast and the SoCalGas gas meter forecast were done independently, in different departments by different analysts.

The gas model for SoCalGas relied on housing starts because this is the best available data SoCalGas has to track activity in the housing market and it is a good predictor of customer growth. On the gas side, SoCalGas did not consider the State of California data on occupied households.

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44. Why did SoCalGas use a logarithmic model to forecast commercial and industrial gas customers? Did SoCalGas test whether a non-logarithmic model would be a better fit for this year's forecast? If so, what other models were tested and what were the results?

Utility Response:

Theoretical considerations dictate the form of a regression model. The double log model is a popular model. One useful property of natural logs in estimation is that they make it easier to figure out impacts in percentage terms. In a double log regression, the meaning of a slope coefficient is the percentage change in the dependent variable caused by a one percentage point increase in the independent variable, holding the other independent variables in the equation constant.

The double log model has been used in past analyses.

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45. In the Industrial model SoCalGas used variables “SEA3” and “SEA4” corresponding to Fall and Winter but did not include a third variable to differentiate Spring from Summer. Why wasn’t a third seasonal variable included in the model? What regressions did SoCalGas run to arrive at the conclusion that a model combining Spring and Summer was the best fit for the data? Please detail these regressions and provide their regression statistics.

Utility Response:

Four seasonal dummies will cause the estimation to fail. While the inclusion of three dummies is possible, it is not essential. Any event not represented by a dummy variable forms the basis against which the included conditions are compared. In this case, the spring and summer seasonal dummies individually added no additional explanatory power to the model and therefore their influence is being captured by the constant term.

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46. Please explain the reason why employment data from both one and two quarters prior was used in the Commercial customer forecast but employment data from only one quarter prior was used in the Industrial customer forecast.

Utility Response:

In the industrial model, employment data lagged two quarters did not improve the overall fit of the equation being estimated; therefore, it was not included in the industrial model's specification.

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47. Please provide any additional customer count forecasts developed by Ms. Payan in preparing this GRC application that use different starting points for the analysis, different variables, or different source data, and please provide the associated regression statistics.

Utility Response:

Ms. Payan prepared one final customer forecast for the General Rate Case. In the early stages of the estimation, various specifications were run to check which model performed best. All preliminary models that did not lead to the final forecast preparation were not kept.