ORA DATA REQUEST
ORA-SDG&E-DR-042-GAW
SDG&E 2016 GRC – A.14-11-003
SDG&E RESPONSE
DATE RECEIVED: JANUARY 15, 2015
DATE RESPONDED: FEBRUARY 2, 2015

Exhibit Reference: SDG&E-9, page JDJ-19

Subject: Construction Unit Forecasts

Please provide the following:

Beginning on page JDJ-19 of Exhibit SDG&E-09, SDG&E discusses the concept of "Construction Units" (CU) and how they are used to derive forecasts for New Business capital projects. As stated on line 28, the New Business budgeting process relies heavily on the CU forecast. SDG&E indicates that its use of CUs is unique. SDG&E also states that CUs differ from meter sets. Nevertheless, ORA would expect that there would be a strong correlation between the gross meter set changes in a given year and the number of CUs – the larger the increase in meter sets, the larger the number of CUs that would be needed to perform the work needed to install the meter sets. ORA has taken note of the fact that in the last SCE GRC, all of SCE's Customer Growth capital forecasts were based on gross meter sets. ORA has the following questions regarding the calculation and use of CUs.

1. Please provide quantitative examples of how SDG&E derives its CU forecast. If more than one type of CU forecast is developed by SCE for use in its New Business forecasts, please provide quantitative examples showing how each of the various CU calculations were derived.

SDG&E Response:

SDG&E assumes the SCE reference in this question is meant to refer to SDG&E. The following is an example of how SDG&E construction units were computed for year 2016:
Step 1:

- Compute residential CUs, given residential permits for 2015 and 2016.
- 2015 Permits = 14670 2016 Permits = 15805
- 2016 Res CUs = .661793 * 14670 + .334151 * 15805 = 14990

Step 2:

- Compute Non-Residential CUs, given just-computed 2016 Res CUs and a NonRes CU factor.
- NonRes CU factor is an average historical ratio that relates completed NonRes CUs to Completed Res CUs, expressed as a percent = 0.07
- 2016 NonRes CUs = 0.07 * 14990 = 1049

Step 3:

- Share just-computed Res CUs into single family and multi-family, and then into overhead and underground by applying average ratios to just-computed total Res CUs.
- 2016 Single Family CUs = 0.4308 * 14990 = 6458
- 2016 Single Family Overhead CUs = 0.03 * 6458 = 194

Response to Question 1 (Continued)

- 2016 Single Family Underground CUs = 0.97 * 6458 = 6264
- 2016 Multi Family CUs = 0.5691 * 14990 = 8531
- 2016 Multi Family Overhead CUs = 0.01 * 8531 = 85
- 2016 Multi Family Underground CUs = 0.99 * 8531 = 8446

Note:

- Single Family Overhead maps to Budget Code 215
- Multi Family Overhead maps to Budget Code 215
- Single Family Underground maps to Budget Code 217
- Multi Family Underground maps to Budget Code 217

Step 4:

- Share just-computed NonRes CUs into overhead and underground by applying average ratios to just-computed total NonRes CUs.
- 2016 Overhead NonRes CUs = 0.15 * 1049 = 157
- 2016 Underground NonRes CUs = 0.85 * 1049 = 892

Note:

- NonRes Overhead maps to Budget Code 216
- NonRes Underground maps to Budget Code 218

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2. As stated in the introduction to this data request, ORA expects that there would be a strong correlation between customer growth and CUs. However, the following table shows that the number of new customers per CU has been steadily declining.

Year	Total Active / Forecast Electric Meters	Increase Over Prior Year	Construction Units	Meters Per CU (With 0-Year Lag)	Meters Per CU (With 1-Year Lag)
2009 -- Recorded	1,375,326				
2010 -- Recorded	1,382,924	7,598	3,277	2.319	
2011 -- Recorded	1,390,704	7,780	3,819	2.037	2.374
2012 -- Recorded	1,397,678	6,974	4,441	1.570	1.826
2013 -- Recorded	1,405,218	7,540	5,685	1.326	1.698
2014 -- Forecast	1,414,346	9,128	10,035	0.910	1.606
2015 -- Forecast	1,428,204	13,858	13,271	1.044	1.381
2016 -- Forecast	1,445,387	17,183	16,039	1.071	1.295

As the last column shows, ORA looked into the possibility that CUs may have a stronger correlation to meter forecasts in the following year, the thought being that construction work may need to be accomplished in the year prior to the addition of the new customer. However, even the last column shows a steady decline in the number of new meters per CU. Please explain the following:

a. Why is this declining ratio occurring?
b. Why does SDG&E expect this declining ratio to continue into 2014, 2015, and 2016?

SDG&E Response:

SDG&E's customer forecast is not used to derive the construction unit forecast nor is it used to help prepare any of the new business capital budgets. Construction units and new customers are not comparable as we do not derive one from the other.

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3. As seen on the following table, recorded numbers (as well as SDG&E's forecasts) show large year-to-year CU changes.

Year	Construction Units	% Change From Prior Year
2009 -- Recorded	5,466	
2010 -- Recorded	3,277	-40.05%
2011 -- Recorded	3,819	16.54%
2012 -- Recorded	4,441	16.29%
2013 -- Recorded	5,685	28.01%
2014 -- Forecast	10,035	76.52%
2015 -- Forecast	13,271	32.25%
2016 -- Forecast	16,039	20.86%

These percentage changes appear to be significantly different from recorded and/or forecast increases in customer growth. Please explain why SDG&E believes that the use of CUs provides a more reasonable and justifiable forecast for New Business projects than does the use of customer growth forecasts.

SDG&E Response:

Construction units are a measure of the work performed to place physical electric distribution system in the ground so that SDG&E can deliver electricity to its future customers. The construction unit forecast is used as a budgeting aid in preparation of new business capital budgets 215, 216, 217, 218 and 219. Once the construction work is complete and the line is energized the new addition to the distribution system is recorded as one completed construction unit. This unit of work is counted only once, never to be counted again. Meters (another name for customers), on the other hand, measure how much electricity our customers use. The customer forecast projects how many customers will be purchasing electricity from SDG&E. When a customer signs up with SDG&E the customer is assigned a meter. When the customer terminates service the meter is shut off and/or removed. At SDG&E, the customer forecast is used to aid in the preparation of forecasts for operating revenues and expenses, not capital expenditures. Customer growth, as it relates to the customer forecast is represented by the year-over-year change in customer (meter) count. Even though meters may be set for customers who are moving into new residencies (or commercial space) that have never been served before, many other meters are being set or removed because of customer movement. First time meter sets and customer movement meter sets vary greatly in number and in timing from the recorded completed construction units. For this reason, since construction units are much closer in concept to what is being budgeted for than meters, construction units are a better choice than meters as a budgeting aid for preparing new business capital budgets.
The CU Forecast provides a more realistic picture of what we can expect to see in the form of new development. Using permits as a basis ties it more directly to new customer activity. Electric distribution systems must be installed in most developments very early in their process. With the exception of very small projects and individual services, that installation takes place

Response to Question 3 (Continued)

well in advance of any meter sets. Depending on a particular developer's timing, meter sets may not occur for a year or more. The structure of Rule 15 actually anticipates likelihood in how customer advances and subsequent refunds are addressed under contracts with a 10 year life span. It is also SDG&E's practice to record CU's as the required facilities are energized. For example, a subdivision will require the electric distribution system intended to serve it be installed along with the other major infrastructure components. This is typically done well in advance of the construction of any houses. As the installation of those distribution systems are completed, the total number of CU's to be directly served by those facilities are recorded. Timing wise, this puts the recording of the CU's in close proximity to when the bulk of the associated expense of installation was incurred. The applicable CU's are recorded only once in association with the initial system installation and not when meters are ultimately set. For non-residential projects, a CU is represented by a service point. For example, a single non-residential building represents a single CU, regardless of the number of meters that may be required to accommodate the tenants.

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4. Page JDJ-A-8 of Exhibit SDG&E-09 shows recorded and forecast CU totals. However, in going through the workpapers for Exhibit SDG&E-09, it appears that the CU totals are not used. Instead, the totals are broken down into various sub-totals that are applicable to the capital forecasts for each Budget Code in the New Business category (202-Electric Meters & Regulators, 204-Electric Driven Easements, etc.). Please provide the CU totals that are used for each of the Budget Code categories in New Business.

SDG&E Response:

Depending on the budget and the peculiarities of the type of work addressed by the respective budget, a slightly different approach to forecasting capital requirements was used in some cases. However, for budgets 215, 216, 217, 218, and 219, the CU Forecast is employed in some fashion. For example, budget 217 is for UG Residential. With rare exception, almost all new residential developments require underground electric per applicable Tariff. Other smaller residential projects in urban areas typically require underground electric as may be dictated by local jurisdictions. As such, the specific number of underground residential units, both single family and multifamily, as prescribed by the CU Forecast was used to project capital requirements for 2014. Subsequently, a percentage of growth derived from the CU Forecast was used to project the capital requirements for future years. In contrast to that, activity under budget 215 for OH Residential is irregular and always difficult to predict. It is most often applied to extensions for single homes in rural areas. So rather than use the exact number of OH Residential CU's prescribed by the CU Forecast, the recorded number of CU's under 215 in 2013 was used as a starting point to which was applied the same percentage of growth derived from the CU Forecast as described above to project capital requirements for 2014 through 2016.

For other categories not directly connected to new residential and commercial development, such as conversions (211) and customer requested relocations and upgrades (225), there is still an indirect influence derived from the CU Forecast. Logic and experience suggest that as the volume of new residential and non-residential development increases the demand for conversions and relocation work will likely increase as well. But there is not a direct effect simply because not all new customer projects require accompanying conversions and/or relocations. If the CU Forecast suggests an increase in customer activity, it stands to reason somewhat of an increase in such related work should be expected. Also, based on past experience, as the general condition of the economy improves so does customer interest in such miscellaneous requests as service upgrades and facility rearrangements, even conversions.

Additional detail can be found in the new business workpapers.

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5. In several instances in the workpapers, SDG&E discusses how it is using the CU forecast as a growth estimate. (For example, see page 353 of the workpapers.)
   a. Please explain why the CU forecast is a better predictor of growth than the actual growth in the number of customers.
   b. Please provide a numerical example of how the CU forecast is used to derive the growth estimate.
   c. Please provide the CU-based growth estimates for 2014, 2015, and 2016. If these estimates differ for each of the Budget Code categories, please provide the estimates used for each Budget Code.
   d. At the conclusion of page 353 of its workpapers for Exhibit SDG&E-09, SDG&E includes a statement regarding the "adding back" of a "vacation and sick factor." Please provide a numerical value for those factors and explain how and why they are used.
   e. If the "vacation and sick factor" differ among the Budget Codes that constitute the New Business category, please provide the factors for each Code.

SDG&E Response:

a. Please see Question 3 above.
b. Please see Question 3 above.
c. The growth factors used for each of the respective years was derived simply by calculating the percentage of increase in one year over the previous year. Those resulting figures were used for certain budgets as explained in the response to Question 4 above.
d. As stated in the direct testimony of Mark Diancin, SDG&E-26, the V&S overhead represents costs paid by SDG&E for the employees' non-productive time, such as vacation and sick days, holidays and jury duty. For this GRC filing, V&S was forecasted as a part of total direct labor instead of an indirect overhead loading. As a result, a V&S overhead rate/factor of 14.49% was used to gross up the productive labor.
e. As stated in the response above, a vacation and sick factor of 14.49% was used for each budget code in the New Business category.

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6. After a fairly brief inspection of SDG&E's RO model, it appears that the capital forecasts contained in the model are inputted as direct costs. However, most of the detailed New Business capital workpapers (page 353, 378, 390, 402, etc.) show the development of fully loaded costs, without showing how SDG&E converted those forecasts to direct costs. For each of the workpapers that provide fully loaded costs, please provide the calculations necessary to convert those estimates to direct costs.

SDG&E Response:

Indeed, all initial capital requirements are developed as fully loaded costs. At SDG&E, all routine budget reporting and monitoring is done in fully loaded costs. To convert forecasted fully loaded costs to direct costs a 4-year history of how actual costs were broken down between direct and indirect costs was used to develop an average historical distribution. That average distribution was applied to the forecasted fully loaded costs to derive anticipated direct costs.

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7. ORA does not have a witness who will independently develop forecasts for CUs. ORA does have a witness who will independently develop forecasts for customer growth. Please provide a quantitative mechanism whereby forecasts for electric customer growth can be translated into forecasts for CUs.

SDG&E Response:

SDG&E does not use a calculation that equates or compares these two separate variables.

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8. Similar to the previous question, please provide a quantitative mechanism whereby capital forecasts for each of the Budget Codes contained in the New Business category can be adjusted to reflect differences ORA may have with SDG&E's estimates for electric customer growth.

SDG&E Response:

SDG&E does not use a calculation that equates or compares these two separate variables.