**DATA REQUEST**

**General**

1. Please provide all discovery requests that SDG&E has received in this proceeding from other parties. SEIA will then indicate which responses it would like to obtain. Alternatively, if SDG&E has established a data repository for data requests & responses for this case, please provide SEIA with information on how to access that data base.

**SDG&E Response:**

Please see the embedded files:

**CalPA**



**CA Farm Bureau**

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**UCAN**

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1. Please provide a complete copy of SDG&E’s workpapers for its revised application and supporting testimony as soon as those workpapers are available. We understand, SDG&E plans to revise its GRC application, testimony, and workpapers for the correction to the RPS adder that is referenced in question 3 below. All formulas in all spreadsheets should be intact, and any spreadsheets should be provided in Excel format, rather than as an Adobe Acrobat (i.e. as a “.pdf format”) file.

**SDG&E Response:** Please see the embedded workpapers in the other file sent via the electronic data transfer system. As indicated, some of those workpapers are confidential and contain PROTECTED MATERIAL SUBJECT TO THE NONDISCLOSURE AGREEMENT. Also attached are five confidentiality declarations for testimony or workpapers for witnesses Montoya, Morien, and Schiermeyer.

1. Please provide:
   1. Data on the number of SDG&E customers with solar installations, and the aggregate nameplate capacity (MW-AC) rating of these solar installations, for each of SDG&E’s standard and grandfathered rate schedules.

**SDG&E Response:** SDG&E is in the process of completing the answer but must ensure customer confidentiality protocols are followed. We will send a response as soon as it is complete.

* 1. The number and nameplate capacity (MW-AC) rating for the solar installations of the school customers that would be included in SDG&E’s proposed new Schools’ rate schedules.

**SDG&E Response:** SDG&E is in the process of completing the answer but must ensure customer confidentiality protocols are followed. We will send a response as soon as it is complete.

**Rate Design – Testimony of Jeff P. Stein**

1. Please provide the presentation on a schools’ only rate that SDG&E provided to parties on November 28, 2018, as referenced on p. JS-6 of Mr. Stein’s testimony. Please also provide the workpapers and key assumptions used to derive that November 2018 rate, as well as a description of the changes that SDG&E has made in the school rates in this filing, compared to the ones in the November 2018 presentation.

**SDG&E Response:**

Please see the attached files titled “SEIA\_DR01\_Q4a”, “SEIA\_DR01\_Q4b”, “SEIA\_DR01\_Q4c”, and “SEIA\_DR01\_Q4d”.



1. Please provide the following information related to SDG&E’s proposal for which schools’ would be eligible for the new school rates (page JS-9).
   1. Provide the full text of AB 2068 and its definition of “public school.”

**SDG&E Response:**

Please see the attached file titled “SEIA\_DR01\_Q5”



* 1. Please explain whether a private school (e.g. La Jolla Country Day) or parochial school (e.g. St. Augustine High School) will or will not be eligible for the proposed school rates. Please assume that the private/parochial schools have the same or similar load profiles as public schools as defined in AB 2068.

**SDG&E Response:**

As indicated in JS-9, line 6, SDG&E proposes that only Schools’ that meet the definition of a “public school” under Assembly Bill (“AB”) 2068 will be eligible to take service on its School customer class tariffs, and that all schools’ accounts that meet this definition should be required to take service on one of the schools’ schedules.

* 1. If such private or parochial schools will not be eligible for the school rates, please explain how this complies with the non-discriminatory provisions of P.U. Code Section 453.

**SDG&E Response:**

SDG&E objects to this question on the ground, among other things, that it calls for a legal conclusion. Notwithstanding this objection, SDG&E responds as follows. SDG&E believes the proposal set forth in SDG&E’s testimony is consistent with the Legislature’s directive to the Commission in AB 2068 to evaluate and report on rates applied to “public schools” and the Commission’s directive in Ordering Paragraph 36 of D.17-08-030, which arose out of concerns raised by the San Diego Public Schools.

1. Please clarify how an EV opt out would work for the school rates (page JS-9):
   1. Would a school customer take service on an EV rate as a voluntary election?

**SDG&E Response:**

As indicated in JS-9, lines 11 – 12, separately metered EV charging at a School, can opt out of the schools’ only rate class.

* 1. Would this only be for the portion of the school customer’s load dedicated to EV charging (presumably, separately metered)?

**SDG&E Response:**

Yes, as indicated in JS-9, lines 11 – 12, separately metered EV charging at a School can opt out of the schools’ only rate class.

* 1. Could the school customer who opts out to an EV rate return to a school rate?

**SDG&E Response:**

Yes, a school customer who elects to opt their separately metered EV charging out of the school rate may return to an appropriate school rate in the future, assuming they are in compliance with SDG&E’s Electric Rule 12.

**Rate Design – Testimony of Gwendolyn R. Morien**

1. On page GRM-5, Ms. Morien states that SDG&E’s currently effective rate design for distribution includes a non-coincident demand charge (NCDC) “to recover distribution costs associated with the energy use of the customer.”
   1. Please explain why the distribution costs recovered in the NCDC are associated with the “energy use of the customer.” In particular, define the word “energy” as used in this sentence. Does this refer to the energy consumption of the customer, in kWh?

**SDG&E Response:**

“Energy” use here does not mean consumption by kWh. In this context it means energy consumption by kW. Non-coincident demand charges are designed to recover a customer’s maximum demand in any given 15-minute interval to recover costs for local capacity to meet the combined maximum demand of customers served off of a given circuit, distribution transformer, or substation transformer.

* 1. Please explain why a NCDC based on the customer’s maximum 15-minute demand in each monthly billing period is the best means to recover distribution costs associated with a customer’s energy (kWh) use. Wouldn’t an energy charge (i.e. a volumetric per kWh charge) be a more reasonable way to recover these distribution costs?

**SDG&E Response:**

SDG&E incurs these distribution costs independent of volumetric energy usage ($/kWh). Therefore, recovering these charges in a volumetric kWh rate would not recover costs on the basis on which they were incurred. Distribution demand costs are incurred on the basis of local capacity needs to meet the combined maximum demand of customers served on a given circuit. A volumetric per-kWh rate does not send an appropriate cost signal to customers to recover these costs that are not related to kWh consumption.

* 1. Assume that a customer is served from a circuit that peaks in the hour from 6 p.m. to 7 p.m. Also assume that the customer’s individual peak demand occurs between 2 p.m. and 3 p.m. Would a NCDC based on the customer’s individual peak demand be the best and most accurate way to recover the customer’s contribution to the costs of this distribution circuit? Please explain your answer.

**SDG&E Response:**

In order to provide reliable and safe service, SDG&E’s distribution system is designed to meet the combined maximum demand of customers served off of a given e.g. circuit, regardless of when that maximum demand occurs for an individual customer. This means that a substation transformer, distribution transformer, or circuit is designed to meet peak demand at its specific location. This method of design is the standard distribution planning process, not only at SDG&E but throughout the industry. Designing the distribution system using non-coincident peak demand increases the distribution system’s operational safety and reliability and decreases the possibility of equipment overloads and failures. Therefore, since SDG&E must incur costs to meet the maximum demand of all customers on a circuit, regardless of when that demand occurs, an NCD charge is the most appropriate way to recover these costs.

1. Please explain specifically, for each of the rate schedules listed below, how “SDG&E has modified grandfathered TOU rates when necessary to ensure that on-peak period rates are higher than semi-peak or off-peak period rates, and that semi-peak or off-peak period rates are higher than off-peak period or super off-peak period rates, respectively” (p. GRM-22). In particular, please explain individually for each rate schedule how SDG&E has set the rate differences in TOU demand charges and TOU energy rates between the on-peak, semi-peak, and off-peak periods in these rate schedules:
   1. DG-R (GF)
   2. AL-TOU (GF)
   3. DR-SES (GF)
   4. DR-TOU (GF)
   5. EV-TOU (GF)
   6. EV-TOU-2 (GF)

**SDG&E Response:**

SDG&E was required by Commission decision D.17-01-006 to modify the base commodity rates of the rate schedules listed because of the results of its marginal commodity cost studies, which drive the values of its rates. The rate values of grandfathered TOU rates are not grandfathered; only the TOU periods are. Because the on-peak period hours for grandfathered rates DG-R and AL-TOU are those displayed below, and the results of SDG&E’s marginal generation commodity cost study show that SDG&E’s peak needs are after 6PM, very little costs are assigned to an on-peak demand charge ($/kW) for these grandfathered customers. Instead, most capacity costs are assigned to the semi-peak period, meaning that the volumetric rates ($/kWh) for the semi-peak period would be much higher than the on-peak period if they were not adjusted. SDG&E employed the same methodology when adjusting all grandfathered TOU base commodity rates. SDG&E adjusted the rate for the TOU period that is required to be a higher rate (e.g. on-peak rate must be higher than semi-peak) by 0.00001 $/kWh, while ensuring the base commodity rates are still revenue-neutral to the applicable class. SDG&E did not modify the generation commodity on-peak demand charges from cost basis other than to reflect the current commodity rate design.





For 8a-8f, please see the attached excel file titled “SEIA\_DR01\_Q8.xlsx”. Each rate presented displays the cost-based rate for base commodity under current rate design prior to adjustment and the rate after it is adjusted for TOU period requirements (e.g. on-peak rate is higher than semi-peak rate) as displayed in attachments to the Chapter 3 Rate Design testimony.



1. Is the optional school rate for customers with solar installations (TOU-SCH-DGR) limited only to current school accounts on Schedule DG-R that elect to move to this rate, as described on page GRM-23, lines 3-6? If a school installs renewable generation in the future, could that school qualify for the optional TOU-SCH-DGR rate?

**SDG&E Response:**

The optional school rate for customers with solar installations (TOU-SCH-DGR or TOU-SCH-DGR (GF)) is limited to current school accounts on Schedule DG-R with solar installations. Only schools accounts currently taking service on Schedule D-GR(GF) would be eligible to take service on TOU-SCH-DGR (GF). Schools’ accounts currently taking service on Schedule DG-R are eligible to take service on TOU-SCH-DGR. If a school on TOU-SCH-M/L or TOU-SCH-M/L (GF) installed a solar PV system at a later date, this account would be eligible to take service on TOU-SCH-DGR.

**Sales Forecast – Testimony of Kenneth E. Schiermeyer**

1. Regarding the testimony of Kenneth E. Shiermeyer.
   1. Please explain why Chapter 4 contains no information regarding sales, demands, or billing determinants for SDGE’s proposed Schools rate class.

**SDG&E Response:**

The information regarding sales, demands, and billing determinants for SDG&E’s proposed Schools rate class can be found in the consolidated rates models workpapers.

* 1. Please explain how SDG&E developed the billing determinants used in Chapter 2 to allocate costs to the proposed new Schools class.

**SDG&E Response:** The information regarding sales, demands, and billing determinants for SDG&E’s proposed Schools’ rate class can be found in the consolidated rates models workpapers.

* 1. What is SDG&E’s proposed net sales forecast for 2020, 2021, and 2022 of Schools’ loads for each of the three proposed Schools’ rates, voltage levels, and grandfathering selections?

**SDG&E Response:** The information for SDG&E’s proposed net sales forecast for 2020 and 2021 of Schools loads for each of the three proposed schools class rates, voltage levels, and grandfathering selections can be found in the consolidated rates models workpapers. To clarify, as Mr. Schiermeyer explained at KES-6, SDG&E is proposing to implement the 2021 sales forecast as part of this Application (not the 2020 sales forecast).

* 1. Please provide revised versions of Tables KS-1 and KS-6 that include SDG&E’s proposed Schools class.

**SDG&E Response:** The Proposed 2021 and 2022 net sales are set forth below (as explained above, SDG&E is not proposing to implement a 2020 sales forecast so SDG&E has not calculated the 2020 net sales):

**Table KS-1:**

**SDG&E’s PROPOSED 2020, 2021, AND 2022 FORECAST ANNUAL NET ELETRIC SALES (GWh)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sector** | **Proposed 2020** | **Proposed 2021** | **Proposed 2022** |
| Residential | 5,717 | 5,610 | 5,610 |
| Small Commercial | 2,176 | 2,161 | 2,161 |
| Med & Large Com/Ind | 9,472 | 9,147 | 9,147 |
| Agricultural | 317 | 315 | 315 |
| Lighting | 86 | 85 | 85 |
| Schools | N/A | 320 | 320 |
| **Total** | **17,768** | **17,638** | **17,638** |

A Schools’ class was not part of the authorized 2019 forecast. Proposed 2021 net sales and difference are below:

**TABLE KS-6**

**COMPARISON OF ANNUAL ELECTRIC NET SALES (GWh) – 2019 VERSUS 2021**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sector** | **Authorized**  **2019** | **Proposed**  **2021** | **Difference** | **% Difference** |
| Residential | 6,105 | 5,610 | -495 | -8.1% |
| Small Commercial | 2,262 | 2,161 | -101 | -4.5% |
| Med & Large Com/Ind | 9,441 | 9,147 | -294 | -3.1% |
| Agricultural | 323 | 316 | -7 | -2.1% |
| Lighting | 80 | 85 | +5 | +6.2% |
| Schools | N/A | 320 | +320 | N/A |
| **Total** | **18,211** | **17,638** | **-572** | **-3.1%** |

* 1. Please provide information on the breakdown of loads for the three proposed Schools rates, according to the rate schedules that the proposed Schools class loads would have been on without SDG&E’s proposed new Schools class.

**SDG&E Response:** The information on the breakdown of loads for the three proposed Schools’ rates according to the rate schedules that the proposed schools’ class loads would have been on without SDG&E’s proposed schools’ class can be found in the consolidated rates models workpapers.

**Distribution Costs – Testimony of William G. Saxe**

1. If not already provided in SDG&E’s workpapers, please provide the loads and marginal costs used to develop Attachments A, B.1, B.2, and B.3

**SDG&E Response:**

The Chapter 5 workpaper of William G. Saxe (file “2019 GRC P2 Dist Rev Alloc”) provides the determinants and marginal distribution costs used to develop Attachments A, B.1, B.2, and B.3 in Mr. Saxe’s direct testimony. The determinants (Forecasted 2020 Annual Customers and Forecasted 2020 Annual kW Demand) is located in the “Distrib System Determinants” tab and the marginal distribution costs (Customer Marginal Distribution Costs and Demand-Related Marginal Costs) is located in the “Distrib Marginal Revenues” tab of this workpaper file.

**Marginal Costs – Testimony of Benjamin A. Montoya**

1. Please explain exactly how SDG&E used net demand in the SP-15 market and projected monthly CAISO on-peak and off-peak 2020 SP-15 electric market prices to forecast the hourly profile of CAISO market prices for 2020 (page BAM-3).

**SDG&E Response:**

SDG&E uses SP-15 as a proxy price for the SDG&E Default Load Aggregation Point (DLAP) since there are no forward prices for SDG&E’s DLAP. Therefore SDG&E uses its portfolio of contracted solar and wind generation and bundled area system requirements to calculate the net load. To forecast the hourly price profile, first SDG&E’s hourly portfolio solar and wind generation are subtracted from SDG&E’s hourly bundled load. This results in an hourly net load. The net load for each hour is then compared to the month’s average net loads in the on- and off-peak periods. On-peak is defined as hour ending 7am to hour ending 10pm, Monday- Saturday, not including holidays. These resulting hourly factors are then applied to a 2020 SP-15 forward price curve to generate an hourly price profile.

1. Please provide the details for the “net demand in the SP-15 market” that SDG&E used to project the hourly profile of CAISO market prices for 2020 (page BAM-3). Include in these details the following:
   1. Gross end-use loads in the SP-15 market and SDG&E territory in 2020. Please provide the source for this gross, end-use load data.

**SDG&E Response:**

SDG&E did not use the SP-15 market but used SDG&E’s bundled area system requirement to calculate the net load. The source of this load is the CEC 2018 CEDU Load Forecast. The hourly load and RPS generation data and calculations are included in the “CONFIDENTIAL 2020 Net Load Workpaper.xls”.

* 1. Solar and/or wind generation in the SP-15 market that SDG&E used to calculate “net loads.” Please specify all incremental solar and wind generation that SDG&E expects to come on-line in 2018, 2019, and 2020. For wholesale renewable generation, please specify this incremental solar and wind generation by project, with the location and nameplate MWs for each project. Also please specify SDG&E’s assumed incremental solar and/or wind distributed, behind-the-meter generation in the SP-15 market in 2018, 2019, and 2020.

**SDG&E Response:**

The combined hourly solar and wind generation used to calculate the net load is included in the attached “2020 Net Load.xls”. This combined solar and wind hourly generation represents SDG&E’s contracted portfolio of wind and solar generation. In SDG&E’s portfolio, there were no incremental wind contracts expected to come on line in 2018-2020. In SDG&E’s portfolio, there are two solar contracts that have come online in the past 3 years: Midway Solar, located in Calipatria, CA at 10 MW came online in 2018 and Wister located in Campo, CA at 2.4 MW is expected to come online in 2020. SDG&E’s assumed incremental behind the meter (BTM) solar is 346 GWh for 2018, 365 GWh for 2019, and 322 GWh for 2020.

1. SDG&E “computes MGCC by calculating the cost of building a new CT, including all

permitting, financing, and development costs, and deducting expected earnings in California energy and ancillary service markets.” (page BAM-7)

* 1. Please provide the most recent example or examples of California utilities installing a new gas-fired CT (or CTs) to meet a capacity need.

**SDG&E Response:**

SDG&E installed the Escondido Energy Center (50 MW gas-fired CT) that went into operation in 2014, the Pio Pico Energy Center (3-100 MW gas-fired CTs) which went into operation in 2017, and the Carlsbad Energy Center (5-100 MW gas-fired CTs) which went into operation at the end of 2018.

* 1. Please explain whether SDG&E’s cost estimate for a new CT includes the long-term costs to mitigate the CT’s greenhouse gas emissions, beyond short-term costs in California’s cap & trade market. If it does, please specify these long-term GHG mitigation costs.

**SDG&E Response:**

No, this cost estimate does not include GHG related costs in excess of compliance with the C&T program.

* 1. Please provide SDG&E’s understanding of the capacity resources that California utilities have built or contracted to meet their capacity needs in the recent past (i.e. last five years), with specific examples of the capacity resources that California utilities have actually built or contracted in the last five years.

**SDG&E Response:**

In the last 5 years, SDG&E’s capacity needs have primarily been met with the conventional resources included in response 14a. Additionally, SDG&E has installed 37.5 MW of energy storage to meet local capacity needs.

* 1. If there was a long-term capacity need in SDG&E’s service territory, please explain whether SDG&E would propose to build or contract for a new CT to serve this need. If SDG&E would build or contract for a new CT, where would it be likely to be sited? If not, please provide the capital and operating costs for the alternative types of resource that SDG&E would actually consider procuring to meet a future capacity need.

**SDG&E Response:**

SDG&E would consider multiple technologies to meet a long-term capacity need, including gas-fired resources and energy storage. SDG&E has no information on a likely site for any such investment. Other alternative technology costs can be found in the same source that SDG&E used to provide the cost of a new combustion turbine: California Energy Commission: Estimated Cost of New Renewable and Fossil Generation in California <https://www.energy.ca.gov/2014publications/CEC-200-2014-003/CEC-200-2014-003-SF.pdf>

* 1. Please explain whether or not SDG&E’s most recent Integrated Resource Plan proposes to build new gas-fired generation in SDG&E’s service territory to meet future capacity needs.

**SDG&E Response:**

SDG&E’s 2018 IRP does not propose to build new gas-fired generation in SDG&E’s service territory.

* 1. Please explain whether it is SDG&E’s understanding that either the CPUC’s adopted Reference or Preferred Integrated Resource Plans (or any such plans pending in proposed decisions in R. 16-02-007) propose to build new gas-fired generation in any California IOU’s service territory to meet future capacity needs.

**SDG&E Response:**

New gas-fired generation is not proposed to be built in either the hybrid conforming plan or the reference system plan in the current proposed decision in R. 16-02-007.

* 1. Please provide SDG&E’s most recent internal evaluation, estimate, or forecast, if any, of the cost of storage resources that could be used to meet future capacity needs in SDG&E’s service territory.

**SDG&E Response:**

For SDG&E’s most current analysis, SDG&E is relying on the “IRENA (2017), Electricity Storage and Renewables: Costs and Markets to 2030” report for the future cost of energy storage resources: <https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2017/Oct/IRENA_Electricity_Storage_Costs_2017.pdf>

1. If not included in SDG&E’s workpapers, please provide the LOLE Analysis and Deadband Tolerance Analysis discussed on pages BAM-11 to 14, with all associated workpapers in Excel format with formulas intact.

**SDG&E Response:** Please see the attached excel files (Confidential)

1. Regarding the Chapter 6 testimony of B. Montoya,
   1. If not already provided in SDG&E’s workpapers, please provide the Schools’ loads used to develop Attachments A.1, A.2, B.1, B.2, and C.

**SDG&E Response:**

Schools’ loads can be found in SDG&E’s “CONFIDENTIAL\_2019 GRC P2- Marg Gen Comm Cost (Chapter 6 Workpaper).xlsx” on tabs “Determinants- Standard” and “Determinants- GF” in rows 32:76.

* 1. Page BAM-9 states that: “unit marginal generation and energy costs, presented in Sections II and III above, are multiplied by the appropriate cost drivers to develop the marginal commodity revenue allocations by customer class.”  Please provide the “appropriate cost drivers” that were used to develop the commodity portions of the new Schools’ rates.  These drivers should include, for each Schools’ rate, voltage level, grandfathering assumption, the TOU energy use, and the estimated contribution to total bundled load in the top 100 hours.

**SDG&E Response:**

The “cost drivers” referred to on Page BAM-9 are:

For marginal energy cost allocation:

1. Loss Factors by Standard or Grandfathered TOU period and voltage level
2. Load determinants by TOU period, customer class, and voltage level

For marginal capacity cost allocation:

1. Loss Factors by Standard or Grandfathered TOU period and voltage level
2. Load contribution % per TOU period and customer class of top 100 hours

These drivers and calculations can be found in SDG&E’s “CONFIDENTIAL\_2019 GRC P2- Marg Gen Comm Cost (Chapter 6 Workpaper).xlsx” on tabs “MEC- Standard TOU”, “MGCC- Standard TOU”, “MEC -GF TOU”, and “MGCC- GF TOU”.

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