

Application of SAN DIEGO GAS & ELECTRIC  
COMPANY (U 902 E) For Authority To  
Update Marginal Costs, Cost Allocation,  
And Electric Rate Design.

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Application: 15-04-012  
Exhibit No.: SDG&E-14

**PREPARED REBUTTAL OF  
KENNETH E. SCHIERMEYER  
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**CHAPTER 4**

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

**August 30, 2016**



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**PREPARED TESTIMONY OF**  
**KENNETH E. SCHIERMEYER**  
**(CHAPTER 4)**

**I. INTRODUCTION**

In this General Rate Case (“GRC”) cycle, I presented a new SDG&E sales forecast as part of the 2016 GRC Phase 1 application (Application (“A.”) 14-11-003),<sup>1</sup> and subsequently provided an updated 2016 Test Year (“TY”) electric sales forecast in the 2016 GRC Phase 2 Application 15-04-012)<sup>2</sup> in compliance with Decision (“D.”) 15-08-040. In addition, SDG&E is requesting the ability to update the electric sales forecast for TY 2017 and TY 2018 presented in my direct testimony.<sup>3</sup> The Office of Ratepayer Advocates (“ORA”) submitted testimony in response to the updated electric sales forecast in this proceeding. ORA also commented on the regulatory vehicle for updating the electric sales forecast in 2017 and 2018, and this issue is addressed in the rebuttal testimony of Ms. Fang.

**II. UPDATED CEC FORECAST**

**A. Updated CEC Forecast**

ORA submitted testimony on SDG&E’s electric sales on June 3, 2016.<sup>4</sup> While ORA witness Eric Duran’s examination of SDG&E’s electric sales forecast did not result in any objection at that time,<sup>5</sup> ORA witness Louis Irwin did recommend that SDG&E replace

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<sup>1</sup> A.14-11-003, November 2014 Prepared Direct Testimony of Kenneth E. Schiermeyer, Chapter 31.

<sup>2</sup> A.15-04-012, February 9, 2016 Prepared Direct Testimony of Kenneth E. Schiermeyer, Chapter 4.

<sup>3</sup> A.15-04-012, Direct Testimony of Kenneth Schiermeyer, pp.KES-9 and KES-10.

<sup>4</sup> ORA, June 3, 2016, “Testimony on San Diego Gas & Electric’s 2016 General Rate Case Phase 2.” (Witness: Eric Duran, Chapter 5), referred to herein as “ORA-5 (Duran)”, (Witness: Louis Irwin, referred to herein as “ORA-2 (Irwin)” and (Witness: Synapse, Chapter 4), referred to herein as “ORA-4 (Synapse).”

<sup>5</sup> ORA-5 (Duran), p. 5-1, lines 16-18.

1 forecasted values of system peak with the California Energy Commission’s (“CEC”) latest  
2 adopted forecast, California Energy Demand 2016-2026 Adopted Forecast (“CED 2015”).<sup>6</sup>

3         SDG&E recognizes that ORA witness Irwin’s comments were limited to the use of CED  
4 2015 for system peak demand. SDG&E believes that the use of the most current forecasts and  
5 data available should be utilized for all related data in this proceeding. Therefore, SDG&E  
6 proposes to update the 2016 GRC Phase 2 sales forecast with CED 2015 for electric sales. This  
7 would align the system peak forecast and electric sales forecast to originate from the same source  
8 (CED 2015). Therefore, SDG&E agrees with ORA witness Irwin to use CED 2015 for system  
9 peak demand and proposes to update the 2016 GRC Phase 2 sales forecast with CED 2015 for  
10 electric sales. In support of this proposal, the most recent electric sales forecast is presented  
11 below in section III.

12           **B.       Weather-Normalized System Peak**

13         SDG&E provided ORA with updated weather-normalized system peak estimates used in  
14 ORA’s marginal distribution demand costs. This rebuttal describes the process to create  
15 weather-normalized estimates and the use of the CEC’s 2015 Revised forecast in support of  
16 SDG&E’s marginal distribution demand and customer cost witness William Saxe (Chapter 5).  
17 SDG&E weather normalizes its maximum summer peak demand by evaluating several weather  
18 concepts. In addition to analyzing maximum and minimum temperatures and humidity, SDG&E  
19 now statistically includes the impact of cloud cover. Normal, or “50/50,” summer-peak weather  
20 conditions are based on the most recent 30 years of weather data obtained from the National  
21 Oceanic and Atmospheric Administration (“NOAA”). For each summer, a statistical  
22 relationship is established between daily summer peak loads and overall weather conditions. For

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<sup>6</sup> ORA-2 (Irwin), p. 2-2, lines 2-4.

1 SDG&E, the data used in establishing this relationship generally includes all weekdays,  
2 excluding holidays, for the summer months. For a specified summer, a weather-normalized  
3 value then is derived by assuming a set of “50/50” weather conditions relative to the established  
4 statistical relationship.

5 **C. Hourly Profiles Used in the Loss of Load Expectations (“LOLE”)**

6 ORA’s consultant, Synapse Energy Economics, modeled hourly loads as an input into the  
7 LOLE analysis. This rebuttal comments on the load shapes used in support of SDG&E witness  
8 Robert Anderson.

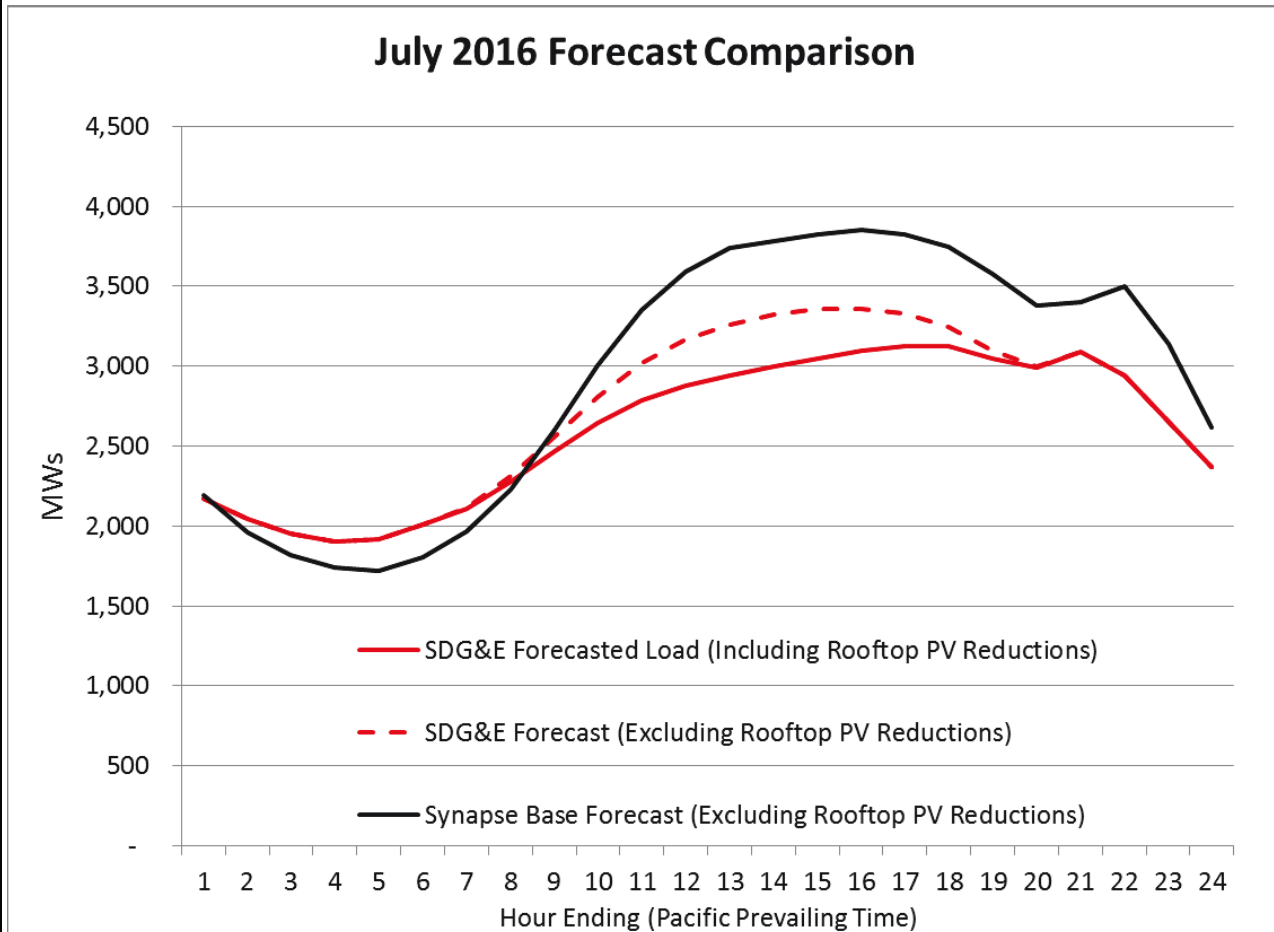
9 Synapse Energy Economics developed a 2016 load profile for SDG&E based on the  
10 California Independent System Operator (“CAISO”) 2024 hourly loads in the 2014 long-term  
11 procurement plan (“LTPP”) proceeding. These 2024 hourly loads were scaled to CED 2015 load  
12 forecast for all California areas. SDG&E believes that the 2024 hourly loads in the 2014 LTPP  
13 developed by the CAISO were based on available statewide level data and not SDG&E area-  
14 specific data. Use of statewide loads shapes when analyzing the SDG&E service territory can  
15 lead to errors because the SDG&E customer composition and climate create significant  
16 differences in load. Chart KES-1 below provides a comparison of the Synapse load forecast and  
17 the SDG&E forecast for July, the month where Synapse found most of the Loss of Load  
18 Probability (“LOLP”) occurred.

19 As explained by Mr. Anderson in his rebuttal testimony, SDG&E believes the SDG&E-  
20 specific information it presents in its testimony is more pertinent than the statewide data ORA  
21 used in its analysis.<sup>7</sup>

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<sup>7</sup> Prepared Rebuttal Testimony of Robert B. Anderson, Chapter 3.

1 **Chart KES-1 2016 July Forecast Comparison**



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16 **III. FORECAST OF TY 2016 ELECTRIC SALES**

17 SDG&E requests that the Commission approve an updated forecast of electric sales for  
18 SDG&E's TY 2016, as presented in this rebuttal testimony. Table KS-1 sets forth the updated  
19 forecast of electric sales for SDG&E.

**Table KS-1: Annual Electric Sales (GWh)**

| <b>Sector</b>   | <b>TY 2016</b> |
|-----------------|----------------|
| Residential     | 6,944          |
| Non-Residential | 12,731         |
| <b>Total</b>    | <b>19,675</b>  |

Table KS-2 compares the initial electric sales forecast presented in SDG&E’s 2016 GRC Phase 2 with the updated electric sales forecast presented in this rebuttal testimony. While the overall change at the system level is small, the distribution of sales between residential and non-residential showed a relatively significant change, with the drivers discussed further below.

**Table KS-2: Comparison of Annual Electric Sales (GWh)**

| <b>Sector</b>   | <b>GRC Phase 2<br/>TY 2016</b> | <b>Rebuttal<br/>GRC Phase 2<br/>TY 2016</b> | <b>Difference</b> | <b>% Difference</b> |
|-----------------|--------------------------------|---------------------------------------------|-------------------|---------------------|
| Residential     | 7,378                          | 6,944                                       | -434              | -5.9%               |
| Non-Residential | 12,302                         | 12,731                                      | 429               | 3.5%                |
| <b>Total</b>    | <b>19,680</b>                  | <b>19,675</b>                               | <b>-5</b>         | <b>-0.0%</b>        |

**IV. UPDATE TO SALES FORECAST DRIVERS**

The electric sales forecasts presented in TY 2016 GRC Phase 1, TY 2016 GRC Phase 2 and this rebuttal are based on forecasts prepared and adopted by the CEC. The CEC completes a fully updated forecast in the Integrated Energy Policy Report (“IEPR”) every two years and provides a limited update of that forecast in the interim years. The revised forecast of electric sales presented in this rebuttal is based on the latest fully updated and adopted CEC forecast,

1 CED 2015.<sup>8</sup> Table KS-3 identifies the specific CEC forecast used in each step of SDG&E’s  
 2 2016 GRC Phase 2 application to reflect the timing of the availability of the CEC-approved  
 3 forecasts.

4 **Table KS-3: CEC Forecast Used in the 2016 GRC Proceedings**

| Sales Forecast                                                                | SDG&E Application                                                         |
|-------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| CEC’s Adopted 2013 Mid-Demand Forecast (CED 2013) <i>Adopted January 2014</i> | TY 2016 GRC Phase 1<br>* <i>Filed November 2014</i>                       |
| CEC’s Adopted 2014 Mid-Demand Forecast (CED 2014) <i>Adopted January 2015</i> | TY 2016 GRC Phase 2<br>* <i>December 2015 &amp; Amended February 2016</i> |
| CEC’s Adopted 2015 Mid-Demand Forecast (CED 2015) <i>Adopted January 2016</i> | TY 2016 GRC Phase 2 Rebuttal<br>* <i>August 2016</i>                      |

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 10 Each CEC forecast includes the impacts of the CEC’s Private Supply and Additional  
 11 Achievable Energy Efficiency (“AAEE”). Details regarding the CEC’s forecasts can be found in  
 12 the CEC’s California Energy Demand (“CED”) reports: “California Energy Demand Updated  
 13 Forecast, 2014-2024 (“CED 2013”),”<sup>9</sup> “California Energy Demand Updated Forecast, 2015-2025  
 14 (“CED 2014”),”<sup>10</sup> and “California Energy Demand Updated Forecast, 2016-2026 (“CED  
 15 2015”).”<sup>11</sup>

16 Forecasts of electric sales are derived from CEC data as follows:

- 17 • Electric Consumption
- 18 • Less: AAEE (Future Impacts of Energy Efficiency Programs)
- 19 • Less: Private Supply (Self-Generation, e.g., PV)
- 20 • Equals: Electric Sales

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<sup>8</sup> California Energy Demand 2016 - 2026 Adopted Forecast, located in SDGE Mid Demand Case (submitted 1/27/2016) at: [http://www.energy.ca.gov/2015\\_energypolicy/documents/2016-01-27\\_mid\\_case\\_final\\_baseline\\_demand\\_forecast.php](http://www.energy.ca.gov/2015_energypolicy/documents/2016-01-27_mid_case_final_baseline_demand_forecast.php).

<sup>9</sup> [http://www.energy.ca.gov/2013\\_energypolicy/documents/#adoptedforecast](http://www.energy.ca.gov/2013_energypolicy/documents/#adoptedforecast).

<sup>10</sup> [http://www.energy.ca.gov/2014\\_energypolicy/documents/index.html#adoptedforecast](http://www.energy.ca.gov/2014_energypolicy/documents/index.html#adoptedforecast).

<sup>11</sup> [http://www.energy.ca.gov/2015\\_energypolicy/documents/index.html](http://www.energy.ca.gov/2015_energypolicy/documents/index.html).



1 Tables KS-4 and KS-5 compare the changes the CEC made to the components that derive  
2 the electric sales forecasts for the residential and non-residential sectors.

3 **Table KS-4: Components of TY 2016 Residential Electric Sales (GWh)**

| <b>CEC FORECAST</b>          | <b>CED 2013</b>    | <b>CED 2014<sup>12</sup></b> | <b>CED 2015</b>             |
|------------------------------|--------------------|------------------------------|-----------------------------|
| <b>SDG&amp;E APPLICATION</b> | <b>GRC PHASE 1</b> | <b>GRC PHASE 2</b>           | <b>GRC PHASE 2 REBUTTAL</b> |
| <b>CONSUMPTION</b>           | <b>8,098</b>       | <b>7,981</b>                 | <b>7,701</b>                |
| <i>LESS AAEE</i>             | <i>-103</i>        | <i>-101</i>                  | <i>-118</i>                 |
| <b>MANAGED CONSUMPTION</b>   | <b>7,996</b>       | <b>7,880</b>                 | <b>7,583</b>                |
|                              |                    |                              |                             |
| <i>LESS PRIVATE SUPPLY</i>   | <i>-314</i>        | <i>-502</i>                  | <i>-639</i>                 |
| <b>ELECTRIC SALES</b>        | <b>7,681</b>       | <b>7,378</b>                 | <b>6,944</b>                |

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11 In the most recent CEC forecast, CED 2015, managed residential consumption has  
12 declined by 297 GWH and private supply has increased by 137 GWH, versus CED 2014. The  
13 two components combine to reduce the residential electric sales forecast by 434 GWH, or by  
14 5.9%, in TY 2016.

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<sup>12</sup> CED 2014 was modified to include the CEC's private supply estimate from the CEC's Preliminary CED 2015. This was detailed in A.15-04-012, February 9, 2016 Prepared Direct Testimony of Kenneth E. Schiermeyer, Chapter 4, p. 5-6.

**Table KS-5: Components of TY 2016 Non-Residential Electric Sales (GWh)**

| <b>CEC FORECAST</b>          | <b>CED 2013</b>    | <b>CED 2014<sup>13</sup></b> | <b>CED 2015</b>             |
|------------------------------|--------------------|------------------------------|-----------------------------|
| <b>SDG&amp;E APPLICATION</b> | <b>GRC PHASE 1</b> | <b>GRC PHASE 2</b>           | <b>GRC PHASE 2 REBUTTAL</b> |
| <b>CONSUMPTION</b>           | <b>13,756</b>      | <b>13,710</b>                | <b>14,024</b>               |
| <i>LESS AAEE</i>             | <i>-438</i>        | <i>-398</i>                  | <i>-90</i>                  |
| <b>MANAGED CONSUMPTION</b>   | <b>13,318</b>      | <b>13,312</b>                | <b>13,934</b>               |
| <i>LESS PRIVATE SUPPLY</i>   | <i>-987</i>        | <i>-1,011</i>                | <i>-1,203</i>               |
| <b>ELECTRIC SALES</b>        | <b>12,332</b>      | <b>12,302</b>                | <b>12,731</b>               |

In the most recent CEC forecast, CED 2015, managed non-residential consumption has increased by 622 GWH and private supply has increased by 192 GWH, versus CED 2014. The two components offset each other somewhat, but the net result still increases the non-residential electric sales forecast by 429 GWH, or by 3.5%, in TY 2016.

The recent trends in the CED 2015 of increased energy efficiency and appliance standards in the residential sector, increased consumption in the non-residential sector, and increased private supply in both sectors are recent trends recognized by SDG&E and appear to be reasonable. ORA also comments on the CED 2015 and states, “One of the more influential changes is a tiered rate analysis to better project residential solar installation”<sup>14</sup> and “the recently created measure of Additional Achievable Energy Efficiency (“AAEE”) was substantially revised due to new energy efficiency standards, re-evaluations of past standards and uncertainty standards.”<sup>15</sup> SDG&E believes that these trends, in the electric sales forecasts, also match up with recent data as detailed in section V below.

<sup>13</sup> CED 2014 was modified to include the CEC’s private supply estimate from the CEC’s Preliminary CED 2015. This was detailed in A.15-04-012, February 9, 2016 Prepared Direct Testimony of Kenneth E. Schiermeyer, Chapter 4, p. 5-6.

<sup>14</sup> ORA-2 (Irwin), p. 2-6, lines 5-6.

<sup>15</sup> ORA-2 (Irwin), p. 2-6, lines 7-10.

1 **V. COMPARISON VERSUS RECENT HISTORY**

2 SDG&E compared the CED 2015 for TY 2016 versus the latest actual sales data and  
3 found it reasonable based on a percent difference on an absolute basis. Table KS-6 shows how  
4 the 2016 GRC Phase 2 (CED 2014) and 2016 GRC Phase 2 rebuttal (CED 2015) forecasts  
5 compare with the most recent 12 months of recorded electric sales data.

6 **Table KS-6: Comparison of Annual Electric Sales (GWh)**

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| Sector          | Actual Sales<br>July 2015<br>- June 2016 | GRC<br>Phase 2<br>TY 2016 | Difference<br>vs Actuals | GRC<br>Phase 2<br>Rebuttal<br>TY 2016 | Difference<br>vs Actuals |
|-----------------|------------------------------------------|---------------------------|--------------------------|---------------------------------------|--------------------------|
| Residential     | 7,035                                    | 7,378                     | 4.9%                     | 6,944                                 | -1.3%                    |
| Non-Residential | 12,604                                   | 12,302                    | -2.4%                    | 12,731                                | 1.0%                     |
| <b>Total</b>    | <b>19,639</b>                            | <b>19,680</b>             | <b>0.2%</b>              | <b>19,675</b>                         | <b>0.2%</b>              |

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12 CED 2015 aligns noticeably better with recent history, when comparing the two forecasts  
13 with 12 months to date actuals. On an absolute basis, the residential sales difference is reduced  
14 from 4.9% to 1.3% and the non-residential sales difference is reduced from 2.4% to 1.0%.

15 Additionally, CED 2015 better aligns with the latest estimates of behind-the-meter  
16 rooftop solar. Table KS-7 compares the annual generation of rooftop solar of past CEC forecasts  
17 with SDG&E's estimates of rooftop 12 months to date. On an absolute basis, the residential  
18 solar generation difference is reduced from 18.8% to 3.4% and the non-residential solar  
19 generation difference is reduced from 7.0% to 6.1%.

**Table KS-7: Comparison of Annual Rooftop Solar Generation (GWh)**

| <b>Sector</b>   | <b>Estimated Generation July 2015 - June 2016</b> | <b>GRC Phase 2 TY 2016</b> | <b>Difference vs Actuals</b> | <b>GRC Phase 2 Rebuttal TY 2016</b> | <b>Difference vs Actuals</b> |
|-----------------|---------------------------------------------------|----------------------------|------------------------------|-------------------------------------|------------------------------|
| Residential     | 618                                               | 502                        | -18.8%                       | 639                                 | 3.4%                         |
| Non-Residential | 213                                               | 228                        | 7.0%                         | 226                                 | 6.1%                         |
| <b>Total</b>    | <b>832</b>                                        | <b>730</b>                 | <b>-12.3%</b>                | <b>865</b>                          | <b>4.0%</b>                  |

**VI. TY 2016 MONTHLY RATE SCHEDULE & HOURLY FORECASTS**

In order to breakout the CEC sales forecast into monthly and hourly level forecasts in this rebuttal, I used the same basic methodology as in my initial TY 2016 GRC Phase 2 testimony. More recent data was used to incorporate the migration of customers from one rate schedule to another.<sup>16</sup> Table KS-7 shows the breakout of Electric Revenue Report (“R1”) sales on a net and delivered basis.

**Table KS-7: Comparison of R1, Net and Delivered Sales (GWh)**

| <b>Forecast Basis</b>                            | <b>TY 2016</b> |
|--------------------------------------------------|----------------|
| <b>Sales in R1 Format</b>                        | <b>19,675</b>  |
| <i>.....Monthly Excess Generation Adjustment</i> | <i>-69</i>     |
| <b>Net Sales</b>                                 | <b>19,606</b>  |
| <i>.....Hourly Delivered Sales Adjustment</i>    | <i>+318</i>    |
| <b>Delivered Sales</b>                           | <b>19,924</b>  |

**VII. REQUEST FOR APPROVAL FOR 2017 TY AND 2018 TY**

In addition to approval for the 2016 TY sales, SDG&E requests approval for the 2017 TY and 2018 TY presented in this rebuttal based on CED 2015. Tables KS-8 and KS-9 detail the electric sales for 2017 and 2018.

<sup>16</sup> This includes a migration of 6,139 Medium/Large Commercial customers to the Small Commercial class.

1 **Table KS-8: Forecast of Electric Sales (GWh)**

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|                      | 2016          | 2017          | 2018          |
|----------------------|---------------|---------------|---------------|
| Consumption          | 21,725        | 22,056        | 22,224        |
| Less: Private Supply | 1,842         | 2,040         | 2,175         |
| Less: AAEE           | 208           | 414           | 646           |
| <b>Equals: Sales</b> | <b>19,675</b> | <b>19,602</b> | <b>19,403</b> |

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6 **Table KS-9: Forecast of Electric Sales (GWh) by Sector**

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|                    | 2016          | 2017          | 2018          |
|--------------------|---------------|---------------|---------------|
| Residential        | 6,944         | 6,803         | 6,608         |
| Non-Residential    | 12,731        | 12,799        | 12,795        |
| <b>Total Sales</b> | <b>19,675</b> | <b>19,602</b> | <b>19,403</b> |

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11 **VIII. CONCLUSION**

12 SDG&E recommends the Commission adopt SDG&E’s revised electric sales forecast,  
13 which is based on the CEC’s most recent adopted forecast, CED 2015. SDG&E agrees with  
14 ORA’s statement that, “[t]he 2015 Revised Energy Demand Forecast details how it has  
15 undertaken a wide variety of substantial improvements to address changing conditions and policy  
16 needs.”<sup>17</sup> SDG&E also recommends that the Commission approve SDG&E’s methodology for  
17 weather normalizing of system peaks proposed here and used in the rebuttal testimony of  
18 William Saxe.

19 This concludes my prepared rebuttal testimony.

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<sup>17</sup> ORA-2 (Irwin), p. 2-6, lines 3-5.