

Company: San Diego Gas & Electric Company (U 902 M)  
Proceeding: 2024 General Rate Case  
Application: A.22-05-015/-016 (cons.)  
Exhibit: SDG&E-214

**REBUTTAL TESTIMONY  
OF DANIEL S. BAERMAN  
(ELECTRIC GENERATION)**

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



May 2023

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**I. SUMMARY OF DIFFERENCES**

**Table DB-1**

<b>TOTAL O&amp;M - Constant 2021 (\$000)</b>			
	<b>Base Year 2021</b>	<b>Test Year 2024</b>	<b>Change</b>
SDG&E	<b>36,576</b>	<b>40,809</b>	<b>4,233</b>
CAL ADVOCATES <sup>1</sup>	<b>36,576</b>	<b>38,929</b>	<b>2,353</b>
TURN <sup>2</sup>	<b>34,560</b>	<b>37,335</b>	<b>2,775</b>
CEJA <sup>3</sup>	<b>36,576</b>	<b>40,809</b>	<b>4,233</b>
CCAs <sup>4</sup>	<b>36,576</b>	<b>40,809</b>	<b>4,233</b>

**Table DB-2**

<b>TOTAL CAPITAL - Constant 2021 (\$000)</b>					
	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>Total</b>	<b>Difference</b>
SDG&E <sup>5</sup>	<b>37,375</b>	<b>45,406</b>	<b>43,854</b>	<b>126,635</b>	
CAL ADVOCATES	<b>16,811</b>	<b>24,759</b>	<b>37,540</b>	<b>79,110</b>	<b>(47,525)</b>
TURN	<b>18,219</b>	<b>17,709</b>	<b>13,448</b>	<b>49,337</b>	<b>(77,298)</b>
CEJA <sup>6</sup>	<b>37,375</b>	<b>40,606</b>	<b>43,854</b>	<b>121,835</b>	<b>(4,800)</b>

<sup>1</sup> Cal Advocates did not provide Base Year 2021 information; therefore, the table above reflects the SDG&E Electric Generation O&M forecast for 2021.

<sup>2</sup> Ex. TURN-6 (Monsen) at 10. TURN does not separate its O&M forecast recommendations for SDG&E Electric Generation (Ex. SDG&E-14 (Baerman)) and SDG&E Clean Energy Innovations (Ex. SDG&E-15-R (Valero)) in its testimony. For purposes of this rebuttal testimony, the summary table above reflects TURN's proposed changes to Electric Generation (Ex. SDG&E-14 (Baerman)). For TURN's O&M forecast recommendations for Clean Energy Innovations (Ex. SDG&E-15-R (Valero)), see rebuttal testimony of Fernando Valero (Ex. SDG&E-215).

<sup>3</sup> CEJA does not recommend a reduction to Electric Generation O&M; therefore, the table above reflects the SDG&E Electric Generation O&M forecast.

<sup>4</sup> CCAs do not provide a specific reduction for O&M costs and therefore the table above reflects the SDG&E Electric Generation O&M forecast.

<sup>5</sup> While compiling information for data request TURN-SEU-50\_SEU-12, question 8, SDG&E discovered an error in witness Daniel Baerman's workpapers (Ex. SDG&E-14-CWP), Workpaper Group 000110 – CUYAMACA PEAK ENERGY PLANT OPER ENHANCE at 41. When making the historical adjustment for years 2019 and 2020, SDG&E inadvertently omitted cost for removal for one project in the amount of \$41,384 for 2019, and \$15,776 for 2020. The amount of the adjustments should have been \$1,914,873 for 2019 and \$1,412,593 for 2020. This results in a reduction to the capital forecast of approximately \$13,000 per year.

<sup>6</sup> CEJA recommends a reduction of \$4.8 million in capital spending related to the Palomar Hydrogen project but does not specify any other capital reduction or the timing of the reduction. In the table

CCAs <sup>7</sup>	37,375	45,406	43,854	126,635	0
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1 **II. INTRODUCTION**

2 This rebuttal testimony regarding San Diego Gas & Elective Company’s (SDG&E)  
3 request for approval of its Test Year (TY) 2024 General Rate Case (GRC) cost forecasts for  
4 Electric Generation addresses the following testimony from other parties:

- 5 • The Public Advocates Office of the California Public Utilities  
6 Commission (Cal Advocates) as submitted by Monica Weaver (Ex. CA-05  
7 (Weaver)), dated March 27, 2023.
- 8 • The Utility Reform Network (TURN), as submitted by William Monsen  
9 (Ex. TURN-6 (Monsen)), dated March 27,2023.
- 10 • California Environmental Justice Alliance (CEJA) as submitted by  
11 Witnesses Matthew Vespa, Sara Gersen, Sasan Saadat and Rebecca  
12 Barker (Ex. CEJA-01 (Saadat)), dated March 27, 2023.
- 13 • San Diego Community Power, Clean Energy Alliance (CCAs) as  
14 submitted by Anthony Georgis (Ex. CCAs (Georgis)), dated March 27,  
15 2023.

16 As a preliminary matter, the absence of a response to any particular issue in this rebuttal  
17 testimony does not imply or constitute agreement by SDG&E with the proposal or contention  
18 made by these or other parties. The forecasts contained in SDG&E’s direct testimony,  
19 performed at the project level, are based on sound estimates of its revenue requirements at the  
20 time of testimony preparation.

21 SDG&E’s requests for Operations and Maintenance (O&M) and Capital funding for  
22 Electric Generation are necessary for the safe and reliable operation and maintenance of the  
23 Generation Plant and Distributed Energy Facilities. As discussed below, Cal Advocates, TURN,  
24 CEJA, and CCAs fail to provide adequate support for their recommendations, and therefore, the  
25 Commission should find SDG&E’s request reasonable.

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above the \$4.8 million reduction is reflected in 2023. Years 2022 and 2024 reflects the SDG&E Electric Generation capital forecast.

<sup>7</sup> CCAs do not provide a specific reduction for capital costs and therefore the table above reflects the SDG&E Electric Generation capital forecast.

1           **A.     Cal Advocates**

2           The following is a summary of Cal Advocates’ position(s) on Electric Generation:<sup>8</sup>

- 3           •       Cal Advocates recommends a reduction to Palomar Energy Center  
4                   (Palomar) labor request, due to new positions and the unknown need for  
5                   overtime associated with the new positions from the lack of studies  
6                   performed.
- 7           •       Cal Advocates recommends a reduction to Palomar and Desert Star  
8                   Energy Center (Desert Star) non-labor request, due to (1) SDG&E not  
9                   developing or implementing a new industrial control system (ICS) and (2)  
10                  Cal Advocates opposing the capital project associated with the long-term  
11                  service agreement (LTSA) regarding the Palomar Hydrogen Systems.
- 12          •       Cal Advocates recommends a reduction to Distributed Energy Facilities  
13                   (DEF) labor, due to the lack of support of overtime estimates on four new  
14                   positions.
- 15          •       Cal Advocates recommends a reduction to DEF non-labor, due to Cal  
16                   Advocates using a different methodology for the forecast for asset  
17                   maintenance.
- 18          •       Cal Advocates recommends a reduction to Plant Administration labor; Cal  
19                   Advocates recommends using a 3-year average (2019 – 2021) due to the  
20                   low amount of fluctuation in the most recent years.
- 21          •       Cal Advocates recommends \$0 for 2022 through 2024 regarding the ICS  
22                   forecast for Palomar Energy Center and Desert Star Energy Center.
- 23          •       Cal Advocates recommends the removal of the Flamesheet Combustor  
24                   forecast from Palomar Energy Center due to there being no requirements  
25                   for SDG&E to install a Flamesheet Combustor, there will be no reduction  
26                   in Nitrogen Oxide (NOx) emissions, and there are no material cost savings  
27                   associated with aqueous ammonia.
- 28          •       Cal Advocates recommends the removal of the Infinite Cooling forecast  
29                   from Palomar Energy Center due to there being no requirements for

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<sup>8</sup> Ex. CA-05 (Weaver) at 12-19.

1 SDG&E to install an Infinite Cooling system and no cost benefit analysis  
2 to adequately support ratepayer funding of this project.

- 3 • Cal Advocates opposes SDG&E’s Miramar Energy Facility capital  
4 requests for using a 5-year average, and the labor costs associated with the  
5 Hybrid at Miramar project.
- 6 • Cal Advocates recommends \$0 for 2022, 2023 and 2024 regarding the  
7 Palomar Hydrogen System forecast due to the lack of benefits the Palomar  
8 Hydrogen System project would have, such as a very low reduction of the  
9 GHG emissions, intermittent use of 1% hydrogen blend, and the fueling of  
10 only three hydrogen vehicles.

11 **B. TURN**

12 The following is a summary of TURN’s position(s) on Electric Generation:<sup>9</sup>

- 13 • TURN recommends that SDG&E’s unadjusted baseline forecast for  
14 capital expenditures and O&M expenses should reflect six years of data.  
15 This would include historical data from 2017-2021 and actual data for  
16 2022.
- 17 • TURN recommends reduction of O&M forecast by \$2 million based on  
18 removing several anomalous (one-time) historic expenditures.
- 19 • TURN recommends reduction of capital forecast by \$3.5 million based on  
20 removing several anomalous (one-time) historic expenditures.
- 21 • TURN recommends removal of cybersecurity expenditures in order to  
22 remove the double-counting of cybersecurity expenses for Palomar and  
23 Desert Star.
- 24 • TURN recommends rejecting the proposed Flamesheet Combustor  
25 because SDG&E has not examined the cost-effectiveness of the  
26 installation relative to continuing to use greater amounts of aqueous  
27 ammonia to control emissions.

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<sup>9</sup> See Ex. TURN-06 (Monsen).

- 1 • TURN recommends denying the proposed Hybrid at Miramar project  
2 because it has been rejected in the past and should be pursued in a separate  
3 application outside of the GRC.
- 4 • TURN contends that SDG&E is bypassing the Commission’s Integrated  
5 Resource Planning (IRP) process by proposing to add new utility-owned  
6 generating projects in this GRC.
- 7 • TURN recommends reducing the assumed number of new DEFs because  
8 SDG&E has presented no cost justification or cost-effectiveness testing to  
9 support its choice of DEFs.
- 10 • TURN recommends the reduction of \$895 thousand in O&M for 2024  
11 baseline forecast of O&M expenses for its DEFs.
- 12 • TURN recommends that the Commission reject SDG&E’s proposed  
13 Palomar Hydrogen System pilot program as it appears to have little or no  
14 potential benefits for SDG&E’s generating system.

15 **C. CEJA**

16 The following is a summary of CEJA’s position(s) on Electric Generation:<sup>10</sup>

- 17 • CEJA recommends denying \$4.8 million capital cost recovery for the  
18 hydrogen fueling station at Palomar Energy Center.

19 **D. CCAs**

20 The following is a summary of CCA’s position(s) on classification and vintaging of  
21 assets:<sup>11</sup>

- 22 • CCAs questions the classification of Miguel Vanadium Redox Flow  
23 (Miguel VRF) as a distribution asset.
- 24 • CCAs recommends Miramar Energy Facility (MEF) 20 MW Battery  
25 Energy Storage System (BESS) to be separated from the overall Miramar  
26 Energy Facility.
- 27 • CCAs propose a new vintaging framework for Utility Owned Generation  
28 (UOG) assets, under which certain new costs or changes to a facility

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<sup>10</sup> Ex. CEJA-01 (Saadat) at 89-92.

<sup>11</sup> See Ex. CCA (Georgis).



1 would be recognized as new commitments that trigger reconsideration of  
2 that facility’s vintage assignment— either for the entire facility, or  
3 portions thereof.

4 **III. GENERAL REBUTTAL**

5 **A. Forecast Methodology**

6 **1. TURN**

7 TURN takes issue with Electric Generation’s overall forecast methodology. TURN  
8 proposes that SDG&E’s “unadjusted baseline forecast for capex and O&M expenses should  
9 reflect 6 years of data.”<sup>12</sup>

10 SDG&E disagrees with TURN’s proposal. Electric Generation’s GRC forecasts were  
11 developed according to the Rate Case Plan, which does not contemplate the use of 2022 recorded  
12 data; as such, the forecasts were not developed using that information. While recorded data may  
13 indicate lower spending than forecasted in some areas, it may also indicate higher spending than  
14 forecasted in others. Although SDG&E provided 2022 recorded data in the spirit of cooperation,  
15 the utility is not permitted to revise its forecasts using that data, either up or down, once the  
16 application is filed. Using 2021 as the base year to prepare the forecast is most appropriate and  
17 consistent with the TY 2024 GRC framework, where the forecast should be based on a specific  
18 moment of time rather than being updated continuously. Therefore, the Commission should  
19 reject TURN’s proposal that SDG&E’s O&M and capital forecasts should reflect six years of  
20 data, including 2022 recorded data.

21 **B. Classification of Battery Assets**

22 **1. CCAs**

23 CCAs takes issue with the classification of the Miguel Vanadium Redox Flow BESS as a  
24 distribution asset.<sup>13</sup>

25 SDG&E agrees with the CCAs. Please refer to rebuttal testimony of Fernando Valero  
26 (Ex. SDG&E-215) for detailed discussion of this issue.

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<sup>12</sup> Ex. TURN-06 (Monsen) at 11.

<sup>13</sup> Ex. CCA (Georgis) at 3.

1           **C.     Vintaging of the Hybrid at Miramar**

2                   **1.     CCAs**

3           CCAs takes issue with the vintaging of new utility owned generation investments at the  
4 Hybrid at Miramar.<sup>14</sup>

5           SDG&E disagrees with CCAs. Please refer to the rebuttal testimony of Fernando Valero  
6 (Ex. SDG&E-215) for a detailed discussion on this issue.

7           **D.     Proposed Vintaging Framework for Future GRC Proceedings**

8                   **1.     CCAs**

9           The CCAs recommend a new vintaging framework for UOG assets to inform future  
10 GRCs and specifically request:

11                   “. . . a new vintaging framework for UOG assets . . . [that] identifies the  
12 various circumstances under which certain UOG revenue requirements  
13 should shift from a historical vintage (e.g., 2009 or 2020 vintages) to a  
14 more recent vintage (e.g., 2024 vintage) to ensure eventual cost recovery  
15 through the [Power Charge Indifference Adjustment (PCIA)] from the  
16 customers benefitting from those UOG costs. Under this framework,  
17 certain new costs or changes to a facility would be recognized as new  
18 commitments that trigger reconsideration of that facility’s vintage  
19 assignment – either for the entire facility, or portions thereof . . .”<sup>15</sup>

20           SDG&E disagrees with the CCAs’ proposed vintaging framework. The proposal is based  
21 upon the incorrect underlying assumption that it is possible to determine the nature of benefits  
22 conveyed by new investments in existing UOG on a categorial basis without engaging in fact-  
23 specific analysis of the investment proposed. In the PCIA proceeding (Rulemaking 17-06-026),  
24 the Commission issued Decision (D.) 18-10-019, stating that any analysis of plant investments to  
25 justify a different vintage treatment for those investments than is applied to the underlying  
26 facility “must be fact-specific to the plants and spending in question and is better suited to a  
27 GRC evaluating such spending.”<sup>16</sup> SDG&E agrees with the Commission’s conclusion in D.18-  
28 10-019 and warns that pre-determination using a general framework, such as that proposed by  
29 the CCAs, could result in unfair shifting of cost to bundled service customers.

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<sup>14</sup> *Id.* at 5.

<sup>15</sup> *Id.* at iv.

<sup>16</sup> D.18-10-019 at 135.

As a practical matter, departed load customers continue to benefit from utility owned resources even after they have departed utility bundled service. For example, utility owned resources support local area reliability, provide reliability during public safety power shutoff (PSPS) events, offer voltage support, etc. SDG&E’s portfolio of power plants and storage facilities require regular investments so that they can perform as expected. Most of these investments are necessary to maintain the facilities in good working order while improving reliability and safety. There are several modifications that can be made to the asset. Some of these are routine to maintain functioning and reliability of the plant, which benefits everyone – not specific to bundled or unbundled customers. For example, the Infinite Cooling system would reduce water consumption at the Palomar plant which would benefit all ratepayers regardless of the vintage. Throughout the life of a power plant, certain capital components wear out and/or become obsolete and must be replaced. An example of this would be the starting system for a turbine generator. These are complex components that, over time, are no longer supported by the manufacturer and must be replaced since the facility could not function without it. Investments in modifications and upgrades are varied in nature and depend on the plant’s age, technology, dispatch profile (base-loaded versus peaking service), operating permit conditions and regulatory requirements. Thus, the CCAs’ apparent assumption that in general *only* bundled service customers benefit from capital investments in UOG facilities is incorrect. Questions related to PCIA vintaging when new investments are made in existing UOG resources must be considered on the basis of facts that are specific to each resource and each situation. The CCAs’ proposal improperly seeks to pre-judge what the Commission has clearly indicated must be an ad hoc analysis. Accordingly, the CCAs’ proposed vintaging framework should be rejected.

**IV. REBUTTAL TO PARTIES’ NON-SHARED O&M PROPOSALS**

**Table DB-3**

<b>NON-SHARED O&amp;M - Constant 2021 (\$000)</b>			
	<b>Base Year 2021</b>	<b>Test Year 2024</b>	<b>Change</b>
SDG&E	<b>36,576</b>	<b>40,809</b>	<b>4,233</b>
CAL ADVOCATES	<b>36,576</b>	<b>38,929</b>	<b>2,353</b>
TURN	<b>34,560</b>	<b>37,335</b>	<b>2,775</b>
CEJA	<b>36,576</b>	<b>40,809</b>	<b>4,233</b>
CCAs	<b>36,576</b>	<b>40,809</b>	<b>4,233</b>

1           **A. Overall TY 2024 O&M Forecast**

2                   **1. TURN**

3           TURN takes issue with the Test Year 2024 O&M forecast for Electric Generation. TURN  
4 recommends reducing the O&M forecast by \$2 million based on removing what it considers to  
5 be “anomalous expenses.”<sup>17</sup>

6           SDG&E disagrees with TURN’s recommendation. Based on the elaborate analysis of the  
7 actual expenditures and cherry picking of specific material and service costs across all generating  
8 facilities, TURN has deemed anomalous as any expense that has fluctuation. As stated in  
9 response to TURN inquiry,<sup>18</sup> fluctuations in year-over-year expenditures are typical for  
10 generating facilities. Consumption of materials and services are a reflection of the operations  
11 and maintenance of the facilities and cannot be specifically forecasted. To mitigate the  
12 unpredictability and fluctuations, SDG&E selected a 5-year average as the base forecast for 2022  
13 through 2024. This method averaged all years, 2017 through 2021, reducing the effect of the  
14 low and high spend years. Using the 5-year average method accounts for these fluctuations and  
15 therefore provides a reasonable foundation for the 2022through 2024 forecast. As such, the  
16 Commission should find SDG&E’s five-year average is the most representative of future  
17 operations costs.

18           **B. Palomar Labor O&M Costs**

19                   **1. Cal Advocates**

20           Cal Advocates states that they do not oppose the six full-time equivalent (FTE) positions  
21 that were requested; however, they oppose the overtime estimate of \$180,000 associated with the  
22 four new operations technician positions.<sup>19</sup>

23           SDG&E disagrees with Cal Advocates proposed reduction. As stated in response to Cal  
24 Advocates inquiry, SDG&E reiterated that the overtime estimate is in line with historical data.<sup>20</sup>  
25 Additionally, in response to Cal Advocates inquiry SDG&E explained that operations

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<sup>17</sup> Ex. TURN-06 (Monsen) at 28-29.

<sup>18</sup> TURN-SEU-050 Q6, attached as Appendix F.

<sup>19</sup> Ex. CA-05 (Weaver) at 14.

<sup>20</sup> PAO-SDGE-MW5-007 Q6a, attached as Appendix B at DSB-B-2.

1 technicians are required to work a rotating shift schedule with twelve-hour shifts.<sup>21</sup> Because of  
2 this shift schedule, overtime is built into their overall compensation. For these reasons,  
3 SDG&E's request for the additional \$180,000 associated with the new hires is reasonable.

4 **C. Palomar Non Labor Costs**

5 **1. Cal Advocates**

6 Cal Advocates recommends the removal of \$270,000 associated with the long-term  
7 service agreement (LTSA) related to the Palomar Hydrogen Systems project.<sup>22</sup> SDG&E  
8 disagrees with Cal Advocates proposed reduction. Please see the rebuttal testimony of Fernando  
9 Valero (Ex. SDG&E-215) for discussion of the Palomar Hydrogen Systems project.

10 **D. Cybersecurity**

11 **1. Cal Advocates**

12 Cal Advocates recommends the removal of \$500,000/year associated with Industrial  
13 Control System (ICS) for Palomar and \$500,000/year associated ICS for Desert Star due to  
14 SDG&E not developing or implementing a new ICS.<sup>23</sup>

15 SDG&E disagrees with Cal Advocates proposed reduction. As stated in response to Cal  
16 Advocates inquiries, SDG&E is not requesting funds to develop and implement a new ICS at  
17 Palomar and Desert Star.<sup>24</sup> Rather, SDG&E is requesting funds for essential steps to maintain  
18 and increase resilience against future cyber-attacks. Improving cyber security is not a one-time  
19 solution. The forecast is based on assumptions and rapidly evolving threats in cyber security. At  
20 this time, SDG&E does not know all the measures that it will be required to take to meet best  
21 practices. The requested funds will be used to harden the ICS against known and unknown cyber  
22 security threats as well as maintain compliance with new and changing requirements from  
23 agencies such as the North American Electric Reliability Corporation (NERC), Western  
24 Electricity Coordinating Council (WECC), Department of Homeland Security (DHS), and  
25 internal SDG&E IT/Cybersecurity directives. It is for these reasons that SDG&E continues to

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<sup>21</sup> PAO-SDGE-131-MW5 Q4, attached as Appendix E at DSB-E-2.

<sup>22</sup> Ex. CA-05 (Weaver) at 14-15.

<sup>23</sup> *Id.* at 14.

<sup>24</sup> PAO-SDGE-MW5-008 Q3a and 3b, attached as Appendix C at DSB-C-2; and PAO-SDGE-071-MW5 Q1, attached as Appendix D at DSB-D-2.

1 support the need for additional funds for Palomar and Desert Star. In addition to O&M  
2 expenses, the ICS cybersecurity projects have capital expenses, which are discussed below.

## 3 **2. TURN**

4 TURN recommends a reduction of \$293,000 for O&M costs related to cybersecurity to  
5 remove what it deems “double-counting.”<sup>25</sup>

6 SDG&E disagrees with TURN’s recommendation. SDG&E is requesting funds in  
7 addition to historical spend to maintain and increase resilience against relevant future cyber-  
8 attacks. Improving cyber security is not a one-time solution. At this time, SDG&E does not  
9 know all the measures it will be required to take to meet future best practices. The forecast is  
10 based on assumptions and rapidly evolving threats in cyber security.

### 11 **E. Distributed Energy Facilities (DEF)**

#### 12 **1. Cal Advocates**

13 Cal Advocates states that they do not oppose the seven FTE positions that were requested  
14 for DEF operations and maintenance. However, they oppose the overtime estimate of \$270,000  
15 associated with the four new operations technician positions and the three maintenance  
16 technicians.<sup>26</sup>

17 SDG&E disagrees with Cal Advocates proposed reduction. As stated in response to Cal  
18 Advocates inquiry, SDG&E reiterated that the overtime estimate is in line with historical data.<sup>27</sup>  
19 Additionally, in response to Cal Advocates inquiry SDG&E explained that the operations  
20 technicians are required to work a rotating shift schedule with twelve-hour shifts.<sup>28</sup> Because of  
21 this shift schedule, overtime is built into their overall compensation. In addition to the rotating  
22 shift schedule, Operations and Maintenance Technicians are responsible for staffing maintenance  
23 outages at all generating facilities. The maintenance outages may last from one to six or more  
24 weeks and may require 24 hours a day work activity. Maintenance Technicians are also required  
25 to respond to callouts and emergency maintenance requirements that frequently occur after

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<sup>25</sup> Ex. TURN-06 (Monsen) at 38 and Table 28.

<sup>26</sup> Ex. CA-05 (Weaver) at 18.

<sup>27</sup> PAO-SDGE-MW5-007 Q10, attached as Appendix B.

<sup>28</sup> PAO-SDGE-131-MW5 Q4, attached as Appendix E at DSB-E-2.

1 normal business hours and on weekends, which may require overtime. For these reasons,  
2 SDG&E continues to support the need for the additional \$270,000 associated with the new hires.

3 Cal Advocates also states that they recommend a reduction to the DEF non-labor forecast  
4 of \$120,000 due to using a different methodology for the forecast for asset maintenance.<sup>29</sup>

5 SDG&E disagrees with the alternate methodology used by Cal Advocates. SDG&E  
6 forecasted the asset maintenance needs based on the historical average for three assets.<sup>30</sup> With  
7 the addition of 17 new assets, SDG&E continues to support that increasing the expected costs  
8 from a historical average of \$23,000/year to \$30,000/year is reasonable given that the O&M  
9 requirements for forecasted assets cannot be precisely predicted, in addition to the supply chain  
10 challenges and the rising prices of support services.

## 11 2. TURN

12 TURN recommends a reduction of \$1.229 million in 2022, \$0.895 million in 2023 and  
13 \$0.895 million for O&M related to the operation and maintenance of the DEF's based on its  
14 assumption that only nine DEFs will be online at the end of 2024 instead of SDG&E's  
15 assumption that 20 DEF's will be online in 2022.<sup>31</sup>

16 SDG&E disagrees with TURN's recommendation. Please see the rebuttal testimony of  
17 Fernando Valero (Exhibit SDG&E-215) for discussion on timing of DEF assets coming online.  
18 Regarding the use of \$30,000 for the forecast of maintenance needs, SDG&E based this estimate  
19 on the historical average for three assets.<sup>32</sup> With the addition of 17 new assets, SDG&E  
20 continues to support that increasing the expected costs from a historical average of \$23,000/year  
21 to \$30,000/year is reasonable given that the O&M requirements for forecasted assets cannot be  
22 precisely predicted, in addition to the supply chain challenges and the rising prices of support  
23 services.

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<sup>29</sup> Ex. CA-05 (Weaver) at 18.

<sup>30</sup> Ex. SDGE-14-WP at 34.

<sup>31</sup> Ex. TURN-06 (Monsen) at 77-79, and Table 36.

<sup>32</sup> Ex. SDGE-14-WP at 34.

1 **V. REBUTTAL TO PARTIES' CAPITAL PROPOSALS**

2 **Table DB-4**

<b>TOTAL CAPITAL - Constant 2021 (\$000)</b>					
	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>Total</b>	<b>Difference</b>
SDG&E	<b>37,375</b>	<b>45,406</b>	<b>43,854</b>	<b>126,635</b>	
CAL ADVOCATES	<b>16,811</b>	<b>24,759</b>	<b>37,540</b>	<b>79,110</b>	<b>(47,525)</b>
TURN	<b>18,219</b>	<b>17,709</b>	<b>13,448</b>	<b>49,337</b>	<b>(77,298)</b>
CEJA	<b>37,375</b>	<b>40,606</b>	<b>43,854</b>	<b>121,835</b>	<b>(4,800)</b>
CCAs	<b>37,375</b>	<b>45,406</b>	<b>43,854</b>	<b>126,635</b>	<b>0</b>

3 **A. Overall Capital Forecast**

4 **1. TURN**

5 TURN recommends reducing the Capital forecast by \$3.5 million based on removing  
6 what it considers to be “anomalous expenses”.<sup>33</sup>

7 SDG&E disagrees with TURN’s recommendation. As described in the direct testimony  
8 of Daniel Baerman:

9 SDG&E does not propose a specific list of capital projects, but instead  
10 will plan, schedule, and perform capital projects, as appropriate, to best  
11 support the safe and reliable operation for Generation plants. To  
12 effectively meet this goal, SDG&E will use a general capital project  
13 budget, rather than proposing specific projects. The general capital budget  
14 allows flexibility and adaptability in capital projects to meet the current  
15 and future plant needs.<sup>34</sup>

16 SDG&E does not intend to repeat completed capital projects as TURN suggests in  
17 their analysis.<sup>35</sup> Rather, using the 5-year average provides a reasonable foundation for  
18 determining future expenditures as it includes capital projects of varying scope and spend. This  
19 method averages the costs of all projects for 2017 through 2021, which reduces the effect of the  
20 low and high spend years. SDG&E continues to support that using the 5-year average is the  
21 most representative for future operations.

<sup>33</sup> Ex. TURN-06 (Monsen) at 29-30, and Table 22.

<sup>34</sup> Ex. SDG&E-14 (Baerman) at DSB-15.

<sup>35</sup> Ex. TURN-06 (Monsen) at 30-31.



1           **B. Palomar Energy Center – Flamesheet Combustor**

2                   **1. Cal Advocates**

3           Cal Advocates state that they oppose the Flamesheet Combustor because there are no  
4 requirements for SDG&E to install a Flamesheet Combustor, there will be no reduction in  
5 Nitrogen Oxide (NOx) emissions, and there are no material cost savings associated with aqueous  
6 ammonia.<sup>36</sup>

7           SDG&E disagrees with Cal Advocates recommendation. As stated in response to Cal  
8 Advocates inquiry, the Flamesheet Combustor project will provide improvements in the  
9 combustion of natural gas that will allow Palomar to burn up to 60% hydrogen in the gas system  
10 and reduce the emission down to 5ppm Nitrogen Oxide (NOx).<sup>37</sup> Currently, SDG&E uses  
11 General Electric’s gas control valve schedule that only allows up to 5% hydrogen mix in the  
12 natural gas stream and no reduction of current NOx limits. SDG&E continues to support that  
13 completion of this project will prepare the facility to properly combust higher mixes of hydrogen  
14 fuel.

15                   **2. TURN**

16           TURN, similar to Cal Advocates, recommends that the Commission reject SDG&E’s  
17 request to include the Flamesheet Combustor in capex because SDG&E provided no evidence  
18 that this project would reduce costs to ratepayers, would reduce NOx, and has no basis for  
19 assuming that hydrogen will be used at the plant.<sup>38</sup>

20           For the same reasons stated in rebuttal to Cal Advocates above, SDG&E disagrees with  
21 TURN’s recommendation to reject the request for the Flamesheet Combustor.

22           **C. Palomar Energy Center – Infinite Cooling**

23                   **1. Cal Advocates**

24           Cal Advocates opposes the Infinite Cooling project due to there being no requirements  
25 for SDG&E to install an Infinite Cooling system and there being no cost benefit analysis to  
26 adequately support ratepayer funding of this project.<sup>39</sup>

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<sup>36</sup> Ex. CA-05 (Weaver) at 23.

<sup>37</sup> PAO-SDGE-MW5-008 Q 3e.i, attached as Appendix C at DSB-C-3.

<sup>38</sup> Ex. TURN-06 (Monsen) at 41-42.

<sup>39</sup> Ex. CA-05 (Weaver) at 25.

1 SDG&E disagrees with Cal Advocates recommendation. As stated in response to Cal  
2 Advocates inquiry the Infinite Cooling Water Panel uses proprietary technology to capture water  
3 from cooling tower plumes that can be re-used for cooling or other plant uses.<sup>40</sup> Their  
4 technology could potentially save up to 100 million gallons of water a year. Currently as water  
5 evaporates in these cooling towers, vapor is rejected out and can form a visible white plume. The  
6 remaining water in the system also becomes more concentrated in contaminants and needs to be  
7 purged (blowdown). Water evaporation during summer is currently around 1 million gallons per  
8 day which is rejected to the atmosphere. Further, cost-benefit analysis is not a requirement in  
9 GRCs for the Commission to determine the reasonableness of a certain project. Accordingly,  
10 SDG&E continues to support the completion of this project.

#### 11 **D. Cybersecurity**

##### 12 **1. Cal Advocates**

13 Cal Advocates recommends a reduction of \$2 million for forecast years 2022, 2023 and  
14 2024 related to the ICS for Palomar and Desert Star.<sup>41</sup>

15 SDG&E disagrees with Cal Advocates recommendations. As stated in response to Cal  
16 Advocates inquiries SDG&E is not requesting funds to develop and implement a new ICS at  
17 Palomar and Desert Star.<sup>42</sup> Rather, SDG&E is requesting funds for essential steps to maintain  
18 and increase resilience against relevant future cyber-attacks. Improving cyber security is not a  
19 one-time solution. The forecast is based on assumptions and rapidly evolving issues in cyber  
20 security. At this time, SDG&E does not know all the measures that it will be required to take to  
21 meet best practices. The requested funds will be used to harden the ICS against known and  
22 unknown cyber security threats as well as maintain compliance with new and changing  
23 requirements from agencies such as the North American Electric Reliability Corporation  
24 (NERC), Western Electricity Coordinating Council (WECC), Department of Homeland Security  
25 (DHS), and internal SDG&E IT/Cybersecurity directives. It is for these reasons that SDG&E  
26 continues to support the need for additional funds for Palomar and Desert Star.

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<sup>40</sup> PAO-SDGE-MW5-008 Q3e.ii, attached as Appendix C at DSB-C-3.

<sup>41</sup> Ex. CA-05 (Weaver) at 27.

<sup>42</sup> PAO-SDGE-MW5-008 Q3a and 3b, attached as Appendix C at DSB-C-2; and PAO-SDGE-071-  
MW5 Q1, attached as Appendix D at DSB-D-2.

1                                   **2.       TURN**

2                   TURN recommends a reduction of \$537,000 for capital related to cybersecurity to  
3 remove what it deems “double-counting.”<sup>43</sup>

4                   SDG&E disagrees with TURN’s recommendation. SDG&E is requesting funds in  
5 addition to historical spend to maintain and increase resilience against relevant future cyber-  
6 attacks. Improving cyber security is not a one-time solution. At this time, SDG&E does not  
7 know all the measures that it will be required to take to meet best practices. The forecast is  
8 based on assumptions and rapidly evolving issues in cyber security.

9                   **E.       Miramar Energy Facility**

10                                   **1.       Cal Advocates**

11                   Cal Advocates recommends using a modified 4-year average forecasting methodology.  
12 However, their proposed methodology would remove the anomaly in 2020 for major equipment  
13 failures.<sup>44</sup>

14                   SDG&E disagrees with Cal Advocates recommendation. For their modified 4-year  
15 average, Cal Advocates used data from the lowest 4 years, 2017 through 2019, and 2021, and  
16 omitted the high year, 2020.<sup>45</sup> As stated in response to Cal Advocates inquiry, SDG&E  
17 explained that fluctuations in year over year expenditures are typical for the generating facilities  
18 and are primarily a reflection of the condition of the equipment and the scope of needed  
19 enhancements or replacements.<sup>46</sup> To mitigate these fluctuations, SDG&E selected a 5-year  
20 average as the base forecast for 2022-2024. This method averaged the costs for all years, 2017  
21 through 2021, reducing the effect of the lower spend in 2017 and the higher spend in 2020.  
22 Using the 5-year average method accounts for these fluctuations, and therefore provides a  
23 reasonable foundation for the 2022-2024 forecast. SDG&E continues to support that using the 5-  
24 year average is the most representative for future operations. Although major equipment failures  
25 are unpredictable, they are not out of the realm of possibility and should be included in the  
26 forecast.

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<sup>43</sup> Ex. TURN-06 (Monsen) at 38 and Table 28.

<sup>44</sup> Ex. CA-05 (Weaver) at 29.

<sup>45</sup> *Id.*

<sup>46</sup> PAO-SDGE-MW5-008 Q6, attached as Appendix C at DSB-C-5.

1           **F.     Hybrid at Miramar project**

2                   **1.     Cal Advocates**

3           Cal Advocates recommends an adjustment to the Labor Hybrid at Miramar project due to  
4 no new employees being hired for this project.<sup>47</sup>

5           SDG&E disagrees with Cal Advocates recommendation. The Hybrid MEF project will  
6 require the effort of 8.3 FTEs. The 8.3 FTEs are not included in the O&M labor request because  
7 they will charge to the capital project while they manage the project during development and  
8 construction.

9                   **2.     TURN**

10          TURN recommends that the Hybrid at Miramar should be removed from SDG&E's  
11 capital expenditure request and be proposed through a stand-alone application.<sup>48</sup>

12          SDG&E disagrees with this recommendation. Please see the rebuttal testimony of  
13 Fernando Valero (Ex. SDG&E-215) for further discussion of this project.

14           **G.     Palomar Hydrogen Systems**

15                   **1.     Cal Advocates, TURN and CEJA**

16          Cal Advocates, TURN and CEJA all take issue with SDG&E's request for funding for  
17 the Palomar Hydrogen Systems. Cal Advocates recommends \$0 for 2022, 2023 and 2024  
18 regarding the Palomar Hydrogen Systems forecast due to the lack of benefits the Palomar  
19 Hydrogen System project would have, such as a very low reduction of GHG emissions,  
20 intermittent use of 1% hydrogen blend, and the fueling of only three hydrogen vehicles.<sup>49</sup> TURN  
21 recommends that the Palomar Hydrogen System be rejected by the Commission.<sup>50</sup> CEJA takes  
22 issue with capital forecast for the hydrogen vehicle refueling station at Palomar costing \$4.8  
23 million. CEJA also recommends reducing hydrogen fueling station maintenance costs by  
24 \$85,000.<sup>51</sup>

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<sup>47</sup> Ex. CA-05 (Weaver) at 29-31.

<sup>48</sup> Ex. TURN-06 (Monsen) at 53.

<sup>49</sup> Ex. CA-05 (Weaver) at 32.

<sup>50</sup> Ex. TURN-06 (Monsen) at 89.

<sup>51</sup> Ex. CEJA-01 (Saadat) at 89.

1           SDG&E disagrees with Cal Advocates, TURN and CEJA’s recommendations. Please see  
2 the rebuttal testimony of Fernando Valero (Ex. SDG&E-215) for further discussion of the  
3 Palomar Hydrogen Systems project. In addition, please refer to the rebuttal testimony of  
4 Fernando Valero (Exhibit SDG&E-215) regarding CEJA’s recommendation to deny the  
5 hydrogen vehicle refueling station at Palomar and associated maintenance costs.

6 **V. CONCLUSION**

7           To summarize, the generating facilities are susceptible to year over year fluctuations in  
8 operation and maintenance expenses as evidenced by the historical spend. SDG&E is confident  
9 that by using primarily 5-year historical averages for the capital and O&M forecasts, Electric  
10 Generation is presenting the most accurate forecast possible by including the highs and lows of  
11 expenditures as experienced over the 5-year historical period.

12           As the generating fleet grows with the addition of new DEFs our workforce must also  
13 expand to ensure safe and reliable operations and maintenance, as well as administrative and  
14 support functions for all facilities.

15           It is also important for Electric Generation to implement new and emerging technologies  
16 with projects such as the Palomar Hydrogen System and the Hybrid at Miramar.

17           Lastly, a pre-determined vintaging framework, such as that proposed by the CCAs,  
18 should be rejected because each investment must be assessed individually to fairly allocate the  
19 costs according to its drivers.

20           In conclusion SDG&E believes that the Commission should adopt the Electric  
21 Generation forecast as presented.

22           This concludes my prepared rebuttal testimony.

**APPENDIX A**  
**GLOSSARY OF TERMS**

<b>ACRONYM</b>	<b>DEFINITION</b>
CAL ADVOCATES	Public Advocates Office of the California Public Utilities Commission
TURN	The Utility Reform Network
CEJA	California Environmental Justice Alliance
CCAs	San Diego Community Power, Clean Energy Alliance
ICS	Industrial Control System
DEF	Distributed Energy Facilities
LTSA	Long Term Service Agreement
NO <sub>x</sub>	Nitrogen Oxide
GHG	Green House Gas
IRP	Integrated Resource Planning
MVRF	Miguel Vanadium Redox Flow
NERC	North American Electric Reliability Corporation
WECC	Western Electricity Coordinating Council
DHS	Department of Homeland Security
UOG	Utility Owned Generation

**APPENDIX B**  
**DATA REQUEST RESPONSE PAO-SDGE-MW5-007**

**Data Request Number:** PAO-SDGE-MW5-007  
**Proceeding Name:** SoCalGas and SDGE 2024 GRC  
**Proceeding Number:** A22-05-015 2024 GRC  
**Date Received:** 6/23/2022  
**Date Responded:** 7/1/2022

6. Regarding Ex. SDG&E-14WP, p. 7 of 41:

a. Please provide justification and studies performed to determine that there is a planned expected overtime of \$45,000 each for 4 FTEs.

b. Has SDG&E begun the hiring process for the business manager, planner, or the 4 operations technicians? If yes, where in the hiring process is SDG&E?

i. Please provide job descriptions, expected hire dates, current organization chart for the Palomar facility, and if there are any current vacancies or known departures

**SDG&E Response 6a:**

There was no study performed to determine the planned expected overtime of \$45,000 for each FTE. However, historical data shows that, on average, \$45,000 for each FTE is reasonable and consistent with the expected overtime for forecast years. The expectation of hiring more FTEs is that it would alleviate the need for more OT overall.

Using historical overtime expenditures, related to all plants and all overtime eligible employees, results in approximately \$49,000 of actual overtime per employee. See the below calculation:

BW Cost Center	Cost element	Fiscal year	Amount					Overall Result	
			K4/2017	K4/2018	K4/2019	K4/2020	K4/2021		
2100-0735	MIRAMAR ENERGY FAC	6110090	SAL-CLERICAL/TEC T&H	\$ 17,547.53	\$ 17,997.12	\$ 21,931.74	\$ 39,062.43	\$ 27,535.11	\$ 124,073.93
		6110100	SAL-CLERICAL/TECH DT	\$ 69,128.34	\$ 87,410.78	\$ 62,362.64	\$ 156,105.09	\$ 138,733.19	\$ 513,740.03
		Result		\$ 86,675.87	\$ 105,407.90	\$ 84,294.38	\$ 195,167.53	\$ 166,268.30	\$ 637,814.00
2100-0737	PALOMAR ENERGY CTR	6110090	SAL-CLERICAL/TEC T&H	\$ 240,988.55	\$ 231,323.91	\$ 265,211.28	\$ 220,267.14	\$ 272,267.59	\$ 1,230,058.50
		6110100	SAL-CLERICAL/TECH DT	\$ 889,212.88	\$ 972,853.19	\$ 1,099,648.13	\$ 855,410.31	\$ 1,081,483.50	\$ 4,898,608.00
		Result		\$ 1,130,201.38	\$ 1,204,177.13	\$ 1,364,859.38	\$ 1,075,677.50	\$ 1,353,751.00	\$ 6,128,666.50
2100-3806	CUYAMACA PK ENRGY PL	6110090	SAL-CLERICAL/TEC T&H	\$ 11,198.92	\$ 4,933.24	\$ 13,141.30	\$ 22,260.13	\$ 16,461.94	\$ 67,995.53
		6110100	SAL-CLERICAL/TECH DT	\$ 82,921.73	\$ 30,592.12	\$ 53,255.29	\$ 105,221.40	\$ 98,508.64	\$ 370,499.19
		Result		\$ 94,120.65	\$ 35,525.36	\$ 66,396.59	\$ 127,481.53	\$ 114,970.58	\$ 438,494.72
2100-3995	ESCONDIDO BESS	6110090	SAL-CLERICAL/TEC T&H	\$ 348.51	\$ 2,095.53	\$ 1,463.18	\$ 1,568.88	\$ 1,209.28	\$ 6,685.38
		6110100	SAL-CLERICAL/TECH DT	\$ 14,466.26	\$ 11,169.89	\$ 15,675.85	\$ 21,593.49	\$ 29,319.99	\$ 92,245.48
		Result		\$ 14,814.77	\$ 13,285.42	\$ 17,139.03	\$ 23,162.37	\$ 30,529.27	\$ 98,930.86
2100-3996	EASTERN BESS	6110090	SAL-CLERICAL/TEC T&H	\$ 328.55	\$ 2,011.99	\$ 489.48	\$ 434.90	\$ 155.53	\$ 3,420.45
		6110100	SAL-CLERICAL/TECH DT	\$ 5,453.98	\$ 9,995.01	\$ 6,634.39	\$ 5,849.20	\$ 3,228.05	\$ 31,160.63
		Result		\$ 5,782.53	\$ 12,007.00	\$ 7,123.87	\$ 6,284.10	\$ 3,383.58	\$ 34,581.08
2100-4039	RAMONA SOLAR EN PROJ	6110090	SAL-CLERICAL/TEC T&H	\$ 332.57	\$ 1,060.75	\$ 259.47			\$ 1,652.79
		6110100	SAL-CLERICAL/TECH DT	\$ 753.86	\$ 3,509.45	\$ 545.14	\$ 802.62	\$ 268.60	\$ 5,879.67
		Result		\$ 1,086.43	\$ 4,570.20	\$ 804.61	\$ 802.62	\$ 268.60	\$ 7,532.46
Result			\$ 1,332,681.63	\$ 1,374,973.00	\$ 1,540,617.88	\$ 1,428,575.63	\$ 1,669,171.38	\$ 7,346,019.50	
			\$ 1,332,681.63	\$ 1,374,973.00	\$ 1,540,617.88	\$ 1,428,575.63	\$ 1,669,171.38	\$ 7,346,019.50	
			\$ 1,332,681.63	\$ 1,374,973.00	\$ 1,540,617.88	\$ 1,428,575.63	\$ 1,669,171.38	\$ 7,346,019.50	
			Annual OT:	1,332,681.63	1,374,973.00	1,540,617.88	1,428,575.63	1,669,171.38	
			Average # of Employees Eligible for OT:	30	30	30	30	30	
			Average Annual Overtime Per Employee:	44,422.72	45,832.43	51,353.93	47,619.19	55,639.05	
			Overall Average of OT Dollars:	48,973.46					



**Data Request Number:** PAO-SDGE-MW5-007  
**Proceeding Name:** SoCalGas and SDGE 2024 GRC  
**Proceeding Number:** A22-05-015 2024 GRC  
**Date Received:** 6/23/2022  
**Date Responded:** 7/1/2022

10. Regarding Ex. SDG&E-14WP, p. 29 of 41:

- a. Please provide supporting documentation as to how an additional 7 FTEs were calculated.
- b. Please provide the job descriptions, and when the 7 FTE are expected to be hired.
- c. Please explain how the overtime for all 7 new FTE were calculated (i.e., time and pay).
- d. Please provide how much overtime employees recorded in 2019, 2020, and 2021.

**SDG&E Response 10a:**

Based on current staffing levels and the forecasted increase in generation assets it was determined that 4 additional operators and 3 maintenance technicians are needed in this area. Current staff at Palomar Energy Center are performing the operations and maintenance functions of for all existing assets in San Diego County. The operations technicians are currently operating all generation assets with 17 operators, a head count that has not increased since 2017 but has seen the addition of 6 generation assets, with new assets planned for 2022 and beyond. The maintenance technicians are currently maintaining all generation assets with 9 employees, a head count that has not increased since 2017 but has seen the addition of 6 generation assets, with new assets planned for 2022 and beyond. The additional staff is needed to support the additional responsibility for maintenance and operation of the new and existing generation assets.

**SDG&E Response 10b:**

Job description for the maintenance technicians is as follows:

Maintains plant equipment and facilities to assure optimum efficiency, safety, reliability, and appearance at San Diego Generation power plant assets.

See SDG&E's response to 6b above for the operations technician job description.

**SDG&E Response 10c:**

There was no study performed to determine the planned expected overtime of \$45,000 for operations technicians and \$30,000 for maintenance technicians. However, historical data shows that, on average, \$45,000 for each FTE is reasonable and consistent with the expected overtime for forecast years. The expectation of hiring more FTEs is that it would alleviate the need for more OT overall.

Using historical overtime expenditures, related to all plants and all overtime eligible employees, results in approximately \$49,000 of actual overtime per employee. See the below calculation:

**Data Request Number: PAO-SDGE-MW5-007**  
**Proceeding Name: SoCalGas and SDGE 2024 GRC**  
**Proceeding Number: A22-05-015 2024 GRC**  
**Date Received: 6/23/2022**  
**Date Responded: 7/1/2022**

**SDG&E Response 10c:-CONTINUED**

BW Cost Center	Cost element	Fiscal year	Amount					Overall Result	
			K4/2017	K4/2018	K4/2019	K4/2020	K4/2021		
2100-0735	MIRAMAR ENERGY FAC	6110090	SAL-CLERICAL/TEC T&H	\$ 17,547.53	\$ 17,997.12	\$ 21,931.74	\$ 39,062.43	\$ 27,535.11	\$ 124,073.93
		6110100	SAL-CLERICAL/TECH DT	\$ 89,128.34	\$ 87,410.78	\$ 62,362.64	\$ 156,105.09	\$ 138,733.19	\$ 513,740.03
		Result		\$ 86,675.87	\$ 105,407.90	\$ 84,294.38	\$ 195,167.53	\$ 166,268.30	\$ 637,814.00
2100-0737	PALOMAR ENERGY CTR	6110090	SAL-CLERICAL/TEC T&H	\$ 240,988.55	\$ 231,323.91	\$ 265,211.28	\$ 220,267.14	\$ 272,267.59	\$ 1,230,058.50
		6110100	SAL-CLERICAL/TECH DT	\$ 889,212.88	\$ 972,853.19	\$ 1,099,648.13	\$ 855,410.31	\$ 1,081,483.50	\$ 4,898,608.00
		Result		\$ 1,130,201.38	\$ 1,204,177.13	\$ 1,364,859.38	\$ 1,075,677.50	\$ 1,353,751.00	\$ 6,128,666.50
2100-3806	CUYAMACA PK ENRGY PL	6110090	SAL-CLERICAL/TEC T&H	\$ 11,198.92	\$ 4,933.24	\$ 13,141.30	\$ 22,260.13	\$ 16,481.94	\$ 67,995.53
		6110100	SAL-CLERICAL/TECH DT	\$ 82,921.73	\$ 30,592.12	\$ 53,255.29	\$ 105,221.40	\$ 98,508.64	\$ 370,499.19
		Result		\$ 94,120.65	\$ 35,525.36	\$ 66,396.59	\$ 127,481.53	\$ 114,970.58	\$ 438,494.72
2100-3995	ESCONDIDO BESS	6110090	SAL-CLERICAL/TEC T&H	\$ 348.51	\$ 2,095.53	\$ 1,463.18	\$ 1,568.88	\$ 1,209.28	\$ 6,685.38
		6110100	SAL-CLERICAL/TECH DT	\$ 14,466.26	\$ 11,189.89	\$ 15,675.85	\$ 21,593.49	\$ 29,319.99	\$ 92,245.48
		Result		\$ 14,814.77	\$ 13,285.42	\$ 17,139.03	\$ 23,162.37	\$ 30,529.27	\$ 98,930.86
2100-3996	EASTERN BESS	6110090	SAL-CLERICAL/TEC T&H	\$ 328.55	\$ 2,011.99	\$ 489.48	\$ 434.90	\$ 155.53	\$ 3,420.45
		6110100	SAL-CLERICAL/TECH DT	\$ 5,453.98	\$ 9,995.01	\$ 6,634.39	\$ 5,849.20	\$ 3,228.05	\$ 31,160.63
		Result		\$ 5,782.53	\$ 12,007.00	\$ 7,123.87	\$ 6,284.10	\$ 3,383.58	\$ 34,581.08
2100-4039	RAMONA SOLAR EN PROJ	6110090	SAL-CLERICAL/TEC T&H	\$ 332.57	\$ 1,060.75	\$ 259.47			\$ 1,652.79
		6110100	SAL-CLERICAL/TECH DT	\$ 753.86	\$ 3,509.45	\$ 545.14	\$ 802.62	\$ 268.60	\$ 5,879.67
		Result		\$ 1,086.43	\$ 4,570.20	\$ 804.61	\$ 802.62	\$ 268.60	\$ 7,532.46
Result			\$ 1,332,681.63	\$ 1,374,973.00	\$ 1,540,617.88	\$ 1,428,575.63	\$ 1,669,171.38	\$ 7,346,019.50	
			\$ 1,332,681.63	\$ 1,374,973.00	\$ 1,540,617.88	\$ 1,428,575.63	\$ 1,669,171.38	\$ 7,346,019.50	
			\$ 1,332,681.63	\$ 1,374,973.00	\$ 1,540,617.88	\$ 1,428,575.63	\$ 1,669,171.38	\$ 7,346,019.50	
			Annual OT:	1,332,681.63	1,374,973.00	1,540,617.88	1,428,575.63	1,669,171.38	
			Average # of Employees Eligible for OT:	30	30	30	30	30	
			Average Annual Overtime Per Employee:	44,422.72	45,832.43	51,353.93	47,619.19	55,639.05	
			Overall Average of OT Dollars:	48,973.46					

**APPENDIX C**  
**DATA REQUEST RESPONSE PAO-SDGE-MW5-008**

**Data Request Number:** PAO-SDGE-MW5-008  
**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC  
**Date Received:** 6/23/2022  
**Date Responded:** 7/1/2022

3. Regarding Ex. SDG&E-14CWP, p. 15 of 61:

a. When did SDG&E last develop and implement cybersecurity compliance for industrial control systems (ICS)?

b. Is it a requirement to develop and implement a new cybersecurity compliance for ICS? If yes, please provide supporting documentation that requires the new system.

c. Has SDG&E completed significant enhancements and/ or replacements of the FlameSheet Combustor, Infinite Cooling, STG Warming Blanket, CO/SCR Catalyst, HRSG Diffuser & Round Duct previously? If yes, please provide dates these enhancements and/ or replacements occurred.

d. Are any of the above significant enhancements and/ or replacements required by the commission or any other agency? If yes, please provide supporting documentation regarding the requirement.

e. Please explain what the following items are and how it is different from what SDG&E is currently using:

i. FlameSheet Combustor

ii. Infinite Cooling

iii. STG Warming Blanket

iv. CO/SCR Catalyst

v. HRSG Diffuser & Round Duct

**SDG&E Response 3a:**

SDG&E upgrades the Electric Generation ICS regularly to address evolving regulations, threats, available technology and obsolescence of existing technologies. SDG&E considers this best practice to prevent unauthorized access to Electric Generation's ICS. Upgrades include enhanced software applications and distributed control systems to prevent malicious attacks or equipment failure of the systems that are critical to the infrastructure.

**SDG&E Response 3b:**

Agencies such as North American Electric Reliability Corporation (NERC), Western Electricity Coordinating Council (WECC), Department of Homeland Security (DHS), and SDG&E IT/Cybersecurity, publish standards, practices, and regulations addressing cybersecurity. SDG&E complies with all applicable standards and regulations for its ICS and continually strives to improve cybersecurity and prevent unauthorized access.

**Data Request Number:** PAO-SDGE-MW5-008  
**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC  
**Date Received:** 6/23/2022  
**Date Responded:** 7/1/2022

**SDG&E Response 3c:**

No, Electric Generation has not completed the above listed significant enhancements and/or replacements.

**SDG&E Response 3d:**

No, these items are not required by the Commission or any other agency.

**SDG&E Response 3e:**

Explanations of the above listed projects:

- i. **FlameSheet Combustor:**  
Improvements in the combustion of natural gas will allow Palomar to burn up to 60% hydrogen in the gas system and reduce the emissions down to 5ppm Nitrogen Oxide (NOx). Currently SDG&E uses GE's gas control valve schedule that only allows up to 5% hydrogen mix in the natural gas stream and no reduction of current NOx limits.
- ii. **Infinite Cooling:**  
Infinite Cooling's WaterPanel uses proprietary technology to capture water from cooling tower plumes, that can be re-used for cooling or other plant uses. Their technology could potentially save up to 100 million gallons of water a year. Currently as water evaporates in these cooling towers, vapor is rejected out and can form a visible white plume. The remaining water in the system also becomes more concentrated in contaminants and needs to be purged (blowdown). Water evaporation during summer is currently around 1 million gallons per day which is rejected to the atmosphere.
- iii. **Steam Turbine Generator (STG) Warming Blanket:**  
The Steam Turbine is susceptible to thermal expansion issues during plant start-ups and shutdowns. Because of the thermal expansion issues, plant start-ups are performed slowly and include a turbine soak period to minimize the effects. If thermal expansion is not properly controlled, steam turbine (ST) seals can be damaged, resulting in efficiency losses. A ST warming blanket would allow the plant to either preheat or maintain heat in the turbine after a shutdown to reduce or eliminate the thermal expansion effects and significantly reduce startup times. Faster ST startups allow for faster gas turbine (GT) ramping, reducing startup fuel usage and emissions. Currently there is no steam turbine warming system

**Data Request Number:** PAO-SDGE-MW5-008  
**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC  
**Date Received:** 6/23/2022  
**Date Responded:** 7/1/2022

**SDG&E Response 3e:-Continued**

and if the unit is offline for more than a few days, the startups are extended as described above.

- iv. Carbon Monoxide/Selective Catalytic Reduction (CO/SCR) Catalyst:  
The CO/SCR catalyst is used to reduce the amount of emissions that are created during the combustion process and have a finite operational lifespan. Currently the catalysts are nearing the end of the service life and will need to be replaced.
- v. Heat Recovery Steam Generator (HRSG) Diffuser & Round Duct:  
New liner and ducting solution mitigates some of the existing issues that are prevalent within the HRSGs at Palomar. During the yearly outages, diffuser and liner plates and duct leaks are required to be repaired to mitigate the damaged caused by high heat thermal damage. Our existing diffuser has been repaired so many times in the past that it is becoming increasingly difficult to perform weld repairs to the existing diffuser plate and it will need to be replaced. The round duct has design flaws that were not anticipated during the design and construction of the duct and these necessitate continuous repairs to ensure proper air flow is maintained in order to prevent equipment damage. Advances in materials and engineering have made it possible for improvements in duct design which remove several inherent in its 20-plus year old design.

**Data Request Number:** PAO-SDGE-MW5-008  
**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC  
**Date Received:** 6/23/2022  
**Date Responded:** 7/1/2022

6. Regarding Ex. SDG&E-14CWP, p. 29 of 61: a. Please explain what was different in 2020 that contributed to having an adjusted recorded cost of \$6,758,000 which was a six-fold increase over any other year in the past 5 years.

**SDG&E Response 6:**

Fluctuations in year over year expenditures are typical for the generating facilities and are primarily a reflection of the condition of the equipment and the scope of needed enhancements or replacements. In 2020, Miramar experienced major equipment failures in both Miramar units that required refurbishment of the Low Pressure Turbine Rotable Module, replacement of Stage 2 High Pressure Turbine (HPT) Nozzles, and replacement of HPT Rotor / Stage 1 and 2. All failures were unplanned and are the primary drivers in the increase in capital expenditures.

**APPENDIX D**  
**DATA REQUEST RESPONSE PAO-SDGE-071-MW5**



**Data Request Number:** PAO-SDGE-071-MW5

**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC

**Proceeding Number:** A2205015\_016 2024 GRC

**Publish To:** Public Advocates Office

**Date Received:** 9/15/2022

**Date Responded:**9/23/2022

1. Please provide all supporting workpapers and documentation to support the forecasts for the industrial control systems (ICS.) This should include any invoices, estimates, assessments, and projections used to develop and implement the ICS.

**SDG&E Response 1:**

SDG&E is not requesting funds to develop and implement a new ICS, rather SDG&E is requesting funds for essential steps to maintain and increase resilience against relevant future cyber-attacks. Improving cybersecurity is not a one-time solution. The forecast is based on assumptions and rapidly evolving issues in cybersecurity. At this time, it is not known what measures SDG&E will be required to take to meet best practices.

**APPENDIX E**  
**DATA REQUEST RESPONSE PAO-SDGE-131-MW5**

**Data Request Number:** PAO-SDGE-131-MW5

**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC

**Proceeding Number:** A2205015\_016 2024 GRC

**Publish To:** Public Advocates Office

**Date Received:** 11/28/2022

**Date Responded:**12/7/2022

4. Please explain if the FTE is increasing by 13 FTE, why is there a need for 11 of them to have expected overtime ranging from \$30,000 to \$45,000 in addition to their base salary.

**SDG&E Response 4:**

Operations Technicians are required to work a rotating shift schedule with twelve-hour shifts. Because of the twelve-hour shifts, overtime is built into their overall compensation.

In addition to the rotating shift schedule, Operations and Maintenance Technicians are responsible for staffing maintenance outages at all generating facilities. The maintenance outages may last from 1 to 6 or more weeks and may require 24 hours a day work activity. Maintenance Technicians are also required to respond to callouts and emergency maintenance requirements that frequently occur after normal business hours and on weekends, which may require overtime.

**APPENDIX F**  
**DATA REQUEST RESPONSE TURN-SEU-050**

**Data Request Number:** TURN-SEU-050

**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC

**Publish To:** The Utility Reform Network

**Date Received:** 3/1/2023

**Date Responded:** 3/15/2023

6. Regarding the attachment to the response to TURN Data Request 16, Question 1, please respond to the following questions:
  - a. Please explain the variation in the EL DORADO LTSA FIXED charges.

**SDG&E Response 6a:**

EL DORADO LTSA FIXED charges consist of two components: the first component is the Desert Star long-term service agreement (LTSA) fixed fee, that is escalated quarterly, based on increases of the Consumer Price Index for All Urban Consumers (CPI-U). The second component is the Desert Star LTSA annual bonus, which is based on the amount of hours Desert Star ran during the year, which varies year over year.

**Data Request Number:** TURN-SEU-050

**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC

**Publish To:** The Utility Reform Network

**Date Received:** 3/1/2023

**Date Responded:** 3/15/2023

**Question 6-Continued**

- b. Please explain the decrease in EL DORADO LTSA VAR from 2017-2021. Also, please provide SDG&E's forecast for EL DORADO LTSA VAR for 2022-2026.

**SDG&E Response 6b:**

SDG&E objects to this request pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure on the grounds that it seeks the production of information that is neither relevant to the subject matter involved in the pending proceeding nor is likely reasonably calculated to lead to the discovery of admissible evidence. Subject to and without waiving the foregoing objection, SDG&E responds as follows:

EL DORADO LTSA VAR typically fluctuates, based on the amount of hours Desert Star ran during the year. In 2021, a major portion of the EL DORADO LTSA VAR was offset by a true up credit from the LTSA service provider.

SDG&E's filed application identifies forecasted costs for the Test Year 2024. SDG&E has not forecasted specific funding for years beyond 2024, which is addressed by the attrition mechanism. See Ex. SDG&E-45-R, Post-Test Year Ratemaking.

**Data Request Number:** TURN-SEU-050

**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC

**Publish To:** The Utility Reform Network

**Date Received:** 3/1/2023

**Date Responded:** 3/15/2023

**Question 6-Continued**

- c. Please explain why the 2017 value for MATL-CHEMICALS is about 50% above the average for 2018-2021. Does SDG&E expect that this cause of this higher-than-average cost for MATL-CHEMICALS will occur in 2022-2026? If so, please explain why.

**SDG&E Response 6c:**

SDG&E objects to this request pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure on the grounds that it seeks the production of information that is neither relevant to the subject matter involved in the pending proceeding nor is likely reasonably calculated to lead to the discovery of admissible evidence. Subject to and without waiving the foregoing objection, SDG&E responds as follows:

Fluctuations in year over year expenditures are typical for the generating facilities. Chemical consumption is primarily a reflection of the run hours/operations of the facilities.

SDG&E's filed application identifies forecasted costs for the Test Year 2024. SDG&E has not forecasted specific funding for years beyond 2024, which is addressed by the attrition mechanism. See Ex. SDG&E-45-R, Post-Test Year Ratemaking.

**Data Request Number:** TURN-SEU-050

**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC

**Publish To:** The Utility Reform Network

**Date Received:** 3/1/2023

**Date Responded:** 3/15/2023

**Question 6-Continued**

- d. Please describe the costs included in A&G-LEASED RENTAL. Since A&G -LEASED RENTAL has no expenses in 2020 and 2021, does SDG&E expect these costs to occur in 2022-2026? If so, please explain why.

**SDG&E Response 6d:**

SDG&E objects to this request pursuant to Rule 10.1 of the Commission's Rules of Practice and Procedure on the grounds that it seeks the production of information that is neither relevant to the subject matter involved in the pending proceeding nor is likely reasonably calculated to lead to the discovery of admissible evidence. Subject to and without waiving the foregoing objection, SDG&E responds as follows:

Desert Star is invoiced a \$150,000 annual administration fee by the City of Boulder City associated with the water service contract portion of the land lease, and this fee will continue. In 2017 and 2019 this charge was coded to the incorrect system, which likely will not be used in future years.

SDG&E's filed application identifies forecasted costs for the Test Year 2024. SDG&E has not forecasted specific funding for years beyond 2024, which is addressed by the attrition mechanism. See Ex. SDG&E-45-R, Post-Test Year Ratemaking.



**Data Request Number:** TURN-SEU-050

**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC

**Publish To:** The Utility Reform Network

**Date Received:** 3/1/2023

**Date Responded:** 3/15/2023

**Question 6-Continued**

- e. Please explain why the costs included in MATL-MECHANICAL EQUIP are so much higher for 2021 than for the period from 2017-2020.

**SDG&E Response 6e:**

Fluctuations in year over year expenditures are typical for the generating facilities and are primarily a reflection of the condition of the equipment and the scope of needed enhancements or replacements.

**Data Request Number:** TURN-SEU-050

**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC

**Publish To:** The Utility Reform Network

**Date Received:** 3/1/2023

**Date Responded:** 3/15/2023

**Question 6-Continued**

- f. Please explain why the costs included in MATL-REPAIR PARTS are so much higher for 2021 than for the period from 2017-2020.

**SDG&E Response 6f:**

Fluctuations in year over year expenditures are typical for the generating facilities and are primarily a reflection of the condition of the equipment and the scope of needed enhancements or replacements.

**Data Request Number:** TURN-SEU-050

**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC

**Publish To:** The Utility Reform Network

**Date Received:** 3/1/2023

**Date Responded:** 3/15/2023

**Question 6-Continued**

- g. Please explain why the costs for SRV-CONSTRUCTN-ELECT are so much higher for 2021 than for the period from 2017-2020.

**SDG&E Response 6g:**

Fluctuations in year over year expenditures are typical for the generating facilities and are primarily a reflection of the condition of the equipment and the scope of needed enhancements or replacements.

**Data Request Number:** TURN-SEU-050

**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC

**Publish To:** The Utility Reform Network

**Date Received:** 3/1/2023

**Date Responded:** 3/15/2023

**Question 6-Continued**

- h. Please explain why the costs for SRV-CONTRACT LABOR are so much higher for 2021 than for the period from 2017-2020.

**SDG&E Response 6h:**

Fluctuations in year over year expenditures are typical for the generating facilities and are primarily a reflection of the condition of the equipment and the scope of needed enhancements or replacements.

**Data Request Number:** TURN-SEU-050

**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC

**Publish To:** The Utility Reform Network

**Date Received:** 3/1/2023

**Date Responded:** 3/15/2023

**Question 6-Continued**

- i. Please explain why the costs for SRV-MAINT/REPAIR are so much higher for 2021 than for the period from 2017-2020.

**SDG&E Response 6i:**

Fluctuations in year over year expenditures are typical for the generating facilities and are primarily a reflection of the condition of the equipment and the scope of needed enhancements or replacements.

**Data Request Number:** TURN-SEU-050

**Proceeding Name:** A2205015\_016 - SoCalGas and SDGE 2024 GRC

**Publish To:** The Utility Reform Network

**Date Received:** 3/1/2023

**Date Responded:** 3/15/2023

**Question 6-Continued**

- j. Please explain why the costs for SRV-VEH&EQUIP RENTAL are so much higher for 2021 than for the period from 2017-2020.

**SDG&E Response 6j:**

Fluctuations in year over year expenditures are typical for the generating facilities and are primarily a reflection of the condition of the equipment and the scope of needed enhancements or replacements.