

Application: A.25-04-XXX  
Exhibit No.: SDGE-1  
Witness: Matt Belden & Nathan Bruner

**PREPARED DIRECT TESTIMONY OF**  
**MATT BELDEN AND NATHAN BRUNER**  
**ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

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



**APRIL 25, 2025**

## TABLE OF CONTENTS

|      |                                                                                                                    |    |
|------|--------------------------------------------------------------------------------------------------------------------|----|
| I.   | INTRODUCTION .....                                                                                                 | 1  |
| II.  | BACKGROUND .....                                                                                                   | 2  |
| III. | DESCRIPTION OF ENERGIZATION COST CATEGORIES AND COMPLIANCE<br>COST CATEGORIES SUBJECT TO RATEMAKING MECHANISM..... | 4  |
| A.   | Capacity / Expansion Category.....                                                                                 | 6  |
| 1.   | Introduction.....                                                                                                  | 6  |
| a.   | 002280 – Reactive Small Capital Projects.....                                                                      | 7  |
| b.   | 202600 – East Gate: 12kV Circuit C1154 .....                                                                       | 7  |
| c.   | 212580 – Sampson: New 12kV Twin Circuit C369 .....                                                                 | 8  |
| d.   | 202470 – Planned Investments .....                                                                                 | 8  |
| e.   | 212760 – Future Capacity Projects .....                                                                            | 8  |
| 2.   | Driver for Incremental Needs Beyond TY2024 GRC .....                                                               | 9  |
| 3.   | Incremental Cost Estimates.....                                                                                    | 13 |
| B.   | New Business Category .....                                                                                        | 15 |
| 1.   | Introduction.....                                                                                                  | 15 |
| 2.   | Description of Energization-Related Workpapers for New Business.....                                               | 17 |
| a.   | 2040 – Electric Distribution Easements.....                                                                        | 17 |
| b.   | 2150 – Overhead Residential New Business .....                                                                     | 17 |
| c.   | 2160 – Overhead Non-Residential New Business .....                                                                 | 17 |
| d.   | 2170 – Underground Residential New Business .....                                                                  | 18 |
| e.   | 2180 – Underground Non-Residential New Business .....                                                              | 18 |
| f.   | 2190 – New Business Infrastructure .....                                                                           | 18 |
| g.   | 2240 – New Service Installations .....                                                                             | 18 |
| h.   | 2250 – Customer Requested Upgrades & Services .....                                                                | 19 |
| i.   | 2350 – Transformer & Meter Installation.....                                                                       | 19 |
| 3.   | Drivers for Incremental Energization Costs .....                                                                   | 19 |

|       |                                                       |    |
|-------|-------------------------------------------------------|----|
| 4.    | Incremental Cost Estimates.....                       | 22 |
| C.    | Materials Category.....                               | 24 |
| 1.    | Introduction.....                                     | 24 |
| 2.    | Drivers for Incremental Transformer Costs.....        | 24 |
| 3.    | Incremental Cost Estimates.....                       | 25 |
| D.    | IT Enhancements .....                                 | 26 |
| 1.    | Introduction.....                                     | 26 |
| 2.    | Necessary IT Enhancement Costs.....                   | 27 |
| i.    | Nexus Digital Application .....                       | 28 |
| ii.   | Builder Services Portal (BSP) Modernization .....     | 29 |
| iii.  | Cloud Data Foundation .....                           | 30 |
| iv.   | Geographic Information System (GIS) Enhancement ..... | 30 |
| v.    | Automated Utility Design (AUD) Enhancement.....       | 31 |
| vi.   | Automated Intelligence .....                          | 32 |
| IV.   | 2024 GENERAL RATE CASE .....                          | 34 |
| V.    | SUMMARY OF INCREMENTAL FORECASTS .....                | 34 |
| VI.   | ANTICIPATED ENERGIZATION PROJECTS .....               | 35 |
| VII.  | CONCLUSION.....                                       | 35 |
| VIII. | WITNESS QUALIFICATIONS.....                           | 36 |
| A.    | Matt Belden.....                                      | 36 |
| B.    | Nathan Bruner.....                                    | 36 |

**PREPARED DIRECT TESTIMONY OF  
MATT BELDEN AND NATHAN BRUNER  
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

**I. INTRODUCTION**

This direct testimony supports San Diego Gas & Electric Company's ("SDG&E") request for California Public Utilities Commission ("CPUC" or "Commission") authorization of a ratemaking mechanism to recover energization costs pursuant to Senate Bill ("SB") 410 and California Public Utilities Code ("Pub. Util. Code") Section 937(b). The testimony also addresses the use of this ratemaking mechanism to recover the costs needed to meet the various compliance and reporting requirements established in Commission Decision ("D.") 24-09-020.

The legislative and regulatory framework for this request is well-established:

- Pub. Util. Code Section 937 ensures adequate funding mechanisms for the necessary compliance measures associated with SB 410.
- D.24-09-020 explicitly acknowledges that "SB 410 requires the Commission to ensure each large electric IOU has a mechanism to recover costs necessary to comply with the bill's findings, requirements, and policies, including the energization targets and timelines adopted in this decision."<sup>1</sup>
- D.24-09-020 Findings of Fact ("FOF") 32 confirms that "Pub. Util. Code § 937 authorizes the large electric IOUs to file applications with the Commission seeking approval of a ratemaking mechanism to track and seek recovery of costs associated with implementing SB 410."<sup>2</sup>

Commission approval of this request on an expedited basis will enable SDG&E to continue investing in necessary infrastructure and technology to execute energization projects and meet customer needs without undue delay.

This testimony presents:

---

<sup>1</sup> D.24-09-020, at p. 6.

<sup>2</sup> *Id.* at FOF 32 at p. 88.

- A comprehensive description of energization costs categories subject to the proposed ratemaking mechanism, including D.24-09-020 compliance costs;
- A detailed summary of energization costs authorized in SDG&E's Test Year ("TY") 2024 General Rate Case ("GRC");
- A forecast of incremental capital expenditures by category; and
- Energization projects for 2024 and projected energization projects for 2025 and 2026.

This testimony is sponsored by SDG&E witnesses Matt Belden and Nathan Bruner.

## **II. BACKGROUND**

In October 2023, the Governor approved SB 410 (the Powering Up Californians Act) which, in part, directs the CPUC to ensure that each electrical corporation (or electric utility) has sufficient and timely recovery of its costs to energize service to customers.

SB 410 requires the CPUC to authorize, within 180 days of an electric utility's request, the use of a ratemaking mechanism that, among other things, tracks costs for energization projects placed in service after January 1, 2024 that exceed the energization-related costs included in the most recent GRC for which the CPUC has issued a final decision. SB 410 was codified in Pub. Util. Code Sections 931 – 938. Pub. Util. Code Section 937(b) provides that the ratemaking mechanism must achieve the following:

1. Track costs for energization projects placed in service after January 1, 2024, that exceed the costs included in the electrical corporation's annual authorized revenue requirement for energization, as established in the electrical corporation's GRC or authorized in any other proceeding;<sup>3</sup>
2. Establish an up-front annual cap on the amount each electrical corporation may recover within the rate mechanism, subject to Commission review of an electrical corporation's submittal of the following information (set forth in Section 937(c)):
  - a. A detailed summary of energization costs authorized in its current rate case or any other proceeding.

---

<sup>3</sup> Pub. Util. Code § 937(b)(1).

- 1           b.     Requested energization costs in its pending rate case, if it has a pending  
2           case.
- 3           c.     Costs authorized for other purposes in its current GRC or any other  
4           proceeding but used for energization.
- 5           d.     The number of anticipated energization projects per year that are expected  
6           to be started or completed.
- 7           e.     If the electrical corporation is an operator, as defined in Section 25548.1 of  
8           the Public Resources Code, the amount of the compensation identified in  
9           paragraph (1) of subdivision (s) of Section 712.8 that it has forecasted it  
10          will spend on energization.<sup>4</sup>
- 11          3.     Authorize recovery of costs tracked in the rate mechanism through an annual rate  
12          adjustment until the Commission determines whether the costs are just and  
13          reasonable in the electrical corporation's next GRC. Any costs that the  
14          Commission finds were not just and reasonable shall be subject to a refund;<sup>5</sup>
- 15          4.     Include only costs associated with energization and requires that costs be tracked  
16          using the same cost categories as used by the electrical corporation in its GRC  
17          application;<sup>6</sup> and
- 18          5.     Prevent the recovery of costs through the rate mechanism until its recorded  
19          spending for energization projects exceeds the annualized revenue requirement for  
20          energization projects as established in the electrical corporation's GRC for  
21          energization projects.<sup>7</sup>

22               Furthermore, pursuant to the requirements of Pub. Util. Code Section 934, the CPUC  
23   issued D.24-09-020 on September 17, 2024 establishing average and maximum target timelines  
24   for completing energization requests, accelerating the overall energization process for customers,  
25   introducing reporting requirements, and clarifying procedures for customers to report delays. The  
26   Decision makes clear that electrical corporations can use the SB 410 ratemaking mechanism to  
27   recover costs necessary to comply with both SB 410 and the D.24-09-020:

---

<sup>4</sup>   *Id.* at § 937(b)(2) and (c).

<sup>5</sup>   *Id.* at § 937(b)(3).

<sup>6</sup>   *Id.* at § 937(4).

<sup>7</sup>   *Id.* at Section 937(5).

- “Separately, SB 410 requires the Commission to ensure each large electric IOU has a mechanism to recover costs necessary to comply with the bill’s findings, requirements, and policies, including the energization targets and timelines adopted in this decision.” (p. 6)
- “Pub. Util. Code § 937 authorizes the electric IOUs to seek incremental funding by filing an application with the Commission requesting to implement a ratemaking mechanism to track and seek recovery of costs that may accrue when complying with the Commission’s directives to comply with SB 410 and AB 50.” (FOF 26)
- “Pub. Util. Code § 937 authorizes the large electric IOUs to file applications with the Commission seeking approval of a ratemaking mechanism to track and seek recovery of costs associated with implementing SB 410.” (FOF 32).

### **III. DESCRIPTION OF ENERGIZATION COST CATEGORIES AND COMPLIANCE COST CATEGORIES SUBJECT TO RATEMAKING MECHANISM**

Pursuant to Pub. Util. Code Section 931(b), “energization” is defined as follows:

“Energization” and “energize” mean connecting customers to the electrical distribution grid and establishing adequate electrical distribution capacity or upgrading electrical distribution or transmission capacity to provide electrical service for a new customer, or to provide upgraded electrical service to an existing customer. The determination of adequate electrical distribution capacity includes consideration of future load. “Energization” and “energize” do not include activities related to connecting electrical supply resources.

Further, D.24-07-008, which grants Pacific Gas and Electric Company’s (“PG&E”) SB 410 proposal, states that “Energization costs include connecting new customers to the electrical distribution grid, upgrading electrical distribution capacity to existing customers, and building adequate electrical distribution and transmission capacity to accommodate future load.”<sup>8</sup>

Given these definitions, energization projects undertaken by the utility would include those triggered by specific electric service requests and those that are necessitated by the cumulative organic growth in load by existing customers. In its TY 2024 GRC, SDG&E included requests for

---

<sup>8</sup> D.24-07-008 at p. 2.

1 projects related to energization. However, since filing the GRC, there was an uptake in state  
2 policies for electrification, an increased number of requests for new services and significantly  
3 higher material and labor costs. There is an urgent need to meet the electrification needs of  
4 customers timely and efficiently across the SDG&E business units responsible for energizing new  
5 loads. As a result, the costs of load energization-related upgrades not included in the TY 2024  
6 GRC, or the costs of load energization-related upgrades that were requested in the TY 2024 GRC  
7 but whose scopes have expanded as a result of increased load growth, are herein requested for  
8 recovery under the SB 410 ratemaking mechanism. These upgrades are categorized within the  
9 following three energization cost categories:

- 10 • Capacity/Expansion
- 11 • New Business
- 12 • Materials

13 Additionally, in alignment with statutory and regulatory directives, SDG&E has identified  
14 necessary Information Technology (“IT”) Enhancements to meet the compliance requirements  
15 associated with D.24-09-020 and included them in the IT Enhancement category.

16 SDG&E respectfully requests Commission authorization to utilize this ratemaking  
17 mechanism to recover all costs (both the IT Enhancement costs detailed below as well as any other  
18 miscellaneous costs) necessary to comply with SB 410 and related CPUC energization directives,  
19 including the mandates set forth in D.24-09-020. This request is driven by several key  
20 considerations:

- 21 • **Implementation Scope Evolution** - The compliance costs identified in this  
22 application represent SDG&E’s current assessment but are not exhaustive.  
23 As new business processes and systems are implemented over the next  
24 several years to achieve D.24-09-020 compliance, both the scope and nature  
25 of these costs will necessarily evolve.
- 26 • **Financial Prudence** - Without authorization to recover compliance-related  
27 costs through this mechanism, SDG&E would face substantial financial



constraints that could impede the timely and efficient achievement of policy objectives outlined in both SB 410 and D.24-09-020.

- **Forecast Uncertainty** - The costs presented in Section III(D) reflect SDG&E’s best current projections based on available information. However, significant uncertainty exists due to the comprehensive nature of the compliance requirements and their implementation timeline.
- **Cost Recovery Framework** - In recognition of these uncertainties, SDG&E proposes a cost recovery cap that provides necessary operational flexibility while maintaining appropriate boundaries. This approach ensures SDG&E can effectively respond to evolving compliance requirements during the 2024-2026 period, even if actual costs exceed current estimates.

Each of the four cost categories are described in more detail below.

## **A. Capacity / Expansion Category**

### **1. Introduction**

The “Capacity / Expansion” category is described in SDG&E’s TY 2024 GRC in the Electrical Distribution Capital testimony of Oliva Reyes (Exhibit SDG&E-11-R, *Revised Prepared Direct Testimony of Oliva Reyes (Electric Distribution Capital)* (August 2022) (“Ex. SDG&E-11-R (Reyes Direct)”).<sup>9</sup> While Ms. Reyes’s testimony includes a number of distribution upgrades within the Capacity category, SDG&E, for purposes of this testimony, is only referencing the specific GRC workpapers that set forth the energization-related funding requests within the Capacity / Expansion category. These GRC workpapers provide the estimated capital costs for 2024. This information is presented in Table 1 followed by a narrative description for each workpaper and its relevance to energization. Further, SDG&E provides an explanation of drivers for necessary incremental costs in Section A.2, along with an estimate, in Section A.3, of incremental costs that may be needed for funding upgrades that address upstream distribution capacity deficiencies. These incremental costs presented in Table 2 are recoverable under the SB

---

<sup>9</sup> A.22-05-015/A.22-05-016, cons.

410 ratemaking mechanism as they are necessary to ensure that SDG&E can implement energization projects without undue delay.

**Table 1 – Category A. Capacity / Expansion Energization Related Projects in 2024 GRC<sup>10</sup>**

| Category A. Capacity / Expansion Energization Related |                                     | (In 2024 \$)                                  |
|-------------------------------------------------------|-------------------------------------|-----------------------------------------------|
| Workpaper                                             | Type                                | Authorized 2024 <sup>11</sup><br>(\$ in 000s) |
| 002280                                                | Reactive Small Capital Projects     | \$1,577                                       |
| 202600                                                | East Gate: New 12kV Circuit C1154   | \$ 0                                          |
| 212580                                                | Sampson: New 12kV Twin Circuit C369 | \$ 0                                          |
| 202470                                                | Planned Investments                 | \$4,433                                       |
| 212760                                                | Future Capacity Projects            | \$9,652                                       |
| <b>Total</b>                                          |                                     | <b>\$15,662</b>                               |

**a. 002280 – Reactive Small Capital Projects**

This program provides funding for small-scale system reconfigurations without system upgrades that are triggered by customer energization projects. This program includes transfers of load and rearrangement of circuit configurations to rebalance circuit loading. This type of project often requires a short turnaround time and is generally identified outside of the annual Distribution Planning Process (“DPP”). Projects within this program are triggered by customer energization requests, hence are necessary for meeting customers’ energization needs.

**b. 202600 – East Gate: 12kV Circuit C1154**

The purpose of this project is to install a new 12kV Circuit (C1154) connecting to East Gate substation to address overloading of multiple circuits and equipment associated with forecasted new load in the area. The new circuit will relieve overloading on circuits C272 and

<sup>10</sup> The 2024 costs for workpapers 2090, 8253, 97248 within the Capacity/Expansion category of the TY 2024 GRC are not primarily related to energization and are excluded from these listed costs. Also, other workpapers with no estimated capital costs in year 2024 are not listed on this table if they are not part of the SB 410 request.

<sup>11</sup> 2024 (2024\$) authorized direct capital expenditures per D.24-12-074.

C744 and the Genesee 12kV East Bus. This project directly supports load growth and load energization.

**c. 212580 – Sampson: New 12kV Twin Circuit C369**

The purpose of this project is to install a new 12kV twin circuit C369 at Sampson substation to relieve overloading on an existing circuit. The overload is associated with forecasted new load in the area. This project directly supports load growth and load energization.

**d. 202470 – Planned Investments**

This program provides funding for planned small capacity-driven distribution upgrades projects. These upgrades are new planned investments that address system needs identified through the annual DPP. These projects generally involve the reconstruction and extension of existing overhead and underground distribution facilities to relieve overloaded conductors and correct voltage problems on the primary distribution system. These planned investments, identified in the DPP, ensure that electrical distribution capacity is sufficient to meet current and future demands, making them essential for fulfilling customers' energization needs.

**e. 212760 – Future Capacity Projects**

This program supports future large-scale distribution system capacity improvement projects that would be identified within DPPs conducted after SDG&E's TY 2024 GRC was developed (the 2022, 2023, 2024, 2025 and 2026 DPPs).<sup>12</sup> Specific budgets for individual improvement projects are developed when enough data is available to identify the specific circuit or substation upgrade, and usually after completion of capacity planning studies. Similar to the program covered under Workpaper 202470, this program provides funding for projects that ensure

---

<sup>12</sup> SDG&E's TY 2024 GRC was developed using information from SDG&E's 2021 DPP.

adequate electrical distribution capacity with consideration of future load; hence, it is essential for meeting customers' energization needs.

## **2. Driver for Incremental Needs Beyond TY2024 GRC**

Overall, the Capacity/Expansion category forecasts capital costs related to distribution capacity projects including requests for new service, projects where existing and planned distribution infrastructure needs to be upgraded to avoid system overloads, and other specific solutions to cost-effectively address distribution needs identified by SDG&E's distribution planning department. Energization costs within this category typically consist of load transfers, reconductors, circuit extensions, new circuits, and other new distribution infrastructure. These distribution capacity deficiencies are identified within the annual DPP. The DPP uses the forecast electric loads of new and existing customers and selects the least cost/best fit solutions (*i.e.*, upstream distribution capacity upgrades) that provide safe and reliable service for these loads across a five-year planning horizon. The DPP may also identify needs beyond the five-year planning horizon where the associated mitigation requires long-lead time distribution projects (*e.g.*, expanded or new substations). Collectively, these planned distribution capacity upgrades enable SDG&E to fulfill its obligation to serve its customers' electrification needs. In the TY 2024 GRC, which was filed in 2022, SDG&E leveraged data from the most recently completed 2021 DPP<sup>13</sup> to identify distribution capacity upgrades necessary within the GRC cycle.

Of note, SDG&E's 2021 DPP used load forecasts prepared by the California Energy Commission ("CEC") and formally adopted by the CEC in early 2019 (the 2019 Integrated Energy Policy Report) using input assumptions developed during the year 2018. Hence, the load forecasts

---

<sup>13</sup> The 2021 DPP refers to the annual distribution planning process that began in late 2020 and ended in August 2021.

1 used to develop SDG&E's 2024 GRC application significantly pre-date much of the current  
2 information concerning anticipated electrification impacts.

3 SDG&E's Capacity / Expansion 2024 GRC category requests funding to support future  
4 distribution capacity growth, but where the specific distribution upgrades have yet to be identified  
5 through the DPP. These funding requests cover incremental upstream distribution capacity needs  
6 driven by future customer service requests. Since the mix of least-cost/best-fit solutions for future  
7 needs is dependent on the specific distribution needs that ultimately arise, there is considerable  
8 uncertainty as to upgrade scopes and associated distribution capacity expenditures for these types  
9 of upgrades. Accordingly, SDG&E estimated these costs using either a 3- or 5-year historical  
10 average forecast methodology or a "zero-based" forecasting approach. The zero-based forecasting  
11 approach utilizes construction labor rates, material costs, contract pricing/quotes, and other  
12 upgrades specific details. GRC forecasts are created with the best available information and  
13 assumptions at the time they are developed. Since the GRC forecasts were developed in 2021 and  
14 since the 2021 load forecasts used CEC inputs with origins dating back to 2018, the growing needs  
15 of electrification and changes in demand growth assumptions that have become apparent since  
16 then, have necessitated the use of the SB 410 ratemaking mechanism.

17 Clean, safe, and reliable electricity is foundational to California's future and economic  
18 prosperity. To meet its goal of becoming carbon neutral by 2045, California will need to  
19 decarbonize at a much faster pace than over the past decade and grow its electric delivery capacity  
20 to reliably energize the increased load. In the past few years, several regulations developed by the  
21 California Air Resources Board ("CARB") have been adopted to fast-track Transportation  
22 Electrification ("TE") and Building Electrification ("BE") in California. For example, the  
23 Advanced Clean Cars ("ACC") II and the Advanced Clean Fleet ("ACF") regulations regarding  
24 Medium Duty/Heavy Duty ("MD/HD") vehicles, and the CARB State Implementation Plan

1 (“SIP”) standards, are expected to increase TE and BE growth. Since 2019, the CEC has adopted  
2 successive Integrated Energy Policy Reports (“IEPRs”) which have gradually reflected impacts  
3 from California’s more recent policy directives and adopted standards. Further, beginning in the  
4 2021 IEPR, the CEC extended the energy demand forecast horizon<sup>14</sup> to support planning for  
5 California’s transportation electrification goals. The accelerated load growth projections provided  
6 by the CEC in recent years have led to more uncertainty with GRC-based funding. For example,  
7 the 2022 and 2023 IEPRs forecast significantly more TE and BE load in SDG&E’s service  
8 territory than was forecast in the 2019 IEPR. Specifically, in comparing the forecasts for the years  
9 2026 and 2030, from the 2019 and 2023 IEPR forecasts, the 2023 IEPR includes an increased  
10 cumulative TE load growth of 148 MW for year 2026 and 557 MW for year 2030, as shown in  
11 Figure 1.<sup>15</sup> Further, the CEC introduced the incremental BE as a new load modifying component  
12 (Additional Achievable Fuel Substitution or “AAFS”), in the 2021 IEPR. This incremental load  
13 was not predicted in the 2019 IEPR. The 2023 IEPR forecasts AAFS to add 69 MW of load by  
14 2026 and 459 MW of load by 2030. This amount of incremental load is expected to translate into  
15 the need for several new circuits and substations.

16 //

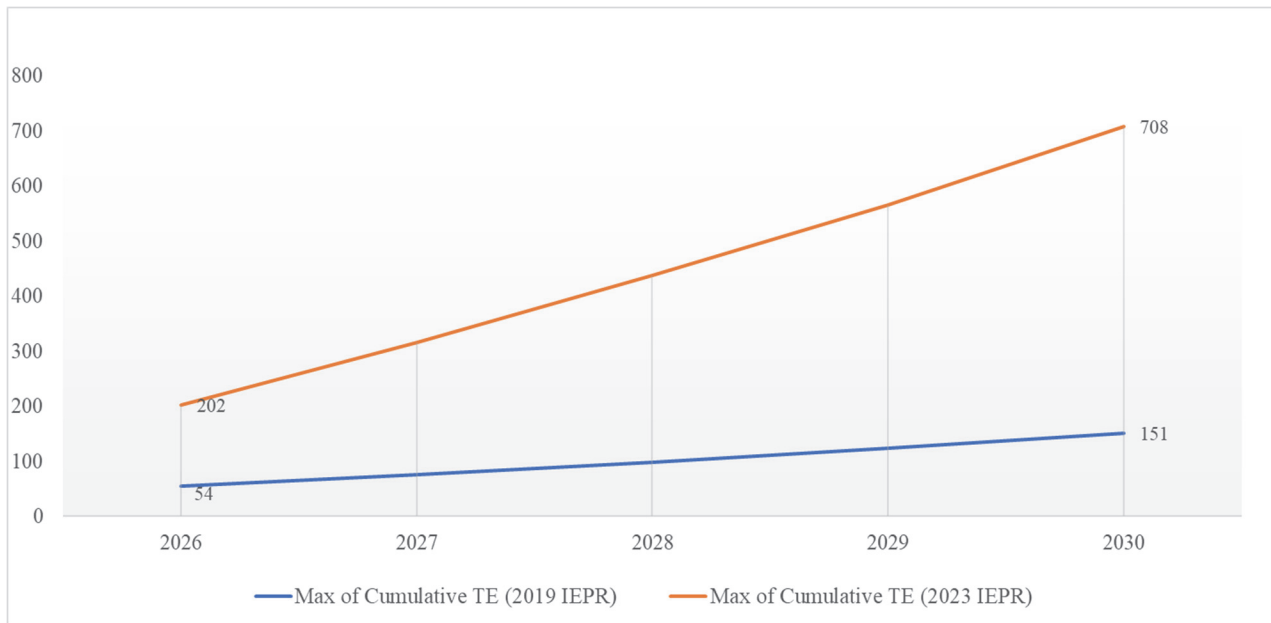
17 //

---

<sup>14</sup> The 2022 IEPR includes forecasts extending to 2035, while the 2023 IEPR includes forecasts up to 2040. The 2022 IEPR and 2023 IEPR are available at <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report-iepr>.

<sup>15</sup> These numbers are the cumulative maximum annual load additions over the indicated time period. These maximums may not be coincident with the time of the annual system peak in the SDG&E distribution service area.

**Figure 1 – TE Load Growth (MW) Comparison between 2019 IEPR and 2023 IEPR for SDG&E**



Of particular significance for this application, certain longer-term needs arising from the future step-up in TE and BE loads may drive a nearer-term need for land acquisition. This is the case for new and expanded substations where the long lead-times associated with these infrastructure additions require that land be purchased within SB 410's 2024-2026 cost recovery window. Based on the 2023 IEPR, SDG&E forecasts that four new substations will need to be built and energized prior to 2035 in SDG&E's territory. Although scopes and timelines vary, substation projects can take anywhere between five to fifteen years to complete and land acquisition therefore needs to occur within the 2024 through 2026 period.

As discussed above, the cost estimates provided within SDG&E's 2024 GRC Application include upgrades identified within the 2021 DPP for a 5-year planning horizon (2021-2025). Although the 2024 GRC application does contemplate that additional spending will emerge from future DPP cycles and does include aggregate estimates of those additional costs, the cost estimates were produced prior to the state's comprehensive uptake of electrification targets. Hence, SDG&E's 2024 GRC application does not fully reflect the primary distribution system

1 infrastructure needs that will support all of the anticipated load. SDG&E has the obligation to  
2 serve and there is urgency to ramp up the planning and initiation efforts to develop the necessary  
3 infrastructure to enable the swift transition to electrification. Historically, SDG&E has met  
4 customer load growth and is committed to continue doing so. SDG&E anticipates close  
5 collaboration with its customers to support their energization requests, so it is critical SDG&E has  
6 the flexibility and funding necessary to respond to these grid needs as they emerge.

### 7 **3. Incremental Cost Estimates**

8 As discussed above, although there is an inherent challenge in estimating the exact level of  
9 spending necessary to meet upstream distribution capacity needs for future years, it is apparent  
10 from the newer vintages of the IEPR and from the recent years of the DPP (compared to when  
11 SDG&E submitted its TY 2024 GRC), that there will be incremental costs. Indeed, SB 410 is  
12 intended to address this challenge by providing a funding mechanism designed to augment the  
13 funding provided through the traditional GRC process via a regulatory account.

14 In order to calculate the incremental costs, SDG&E uses the 2024 actual recorded capital  
15 expenditure as a starting point. The 2025 and 2026 projections are created considering the specific  
16 capacity upgrades that have been identified, land needs for future substation needs based on the  
17 2023 IEPR, then subtracting those amounts from the authorized amounts in the 2024 GRC.  
18 SDG&E also made best guest estimates to determine which upgrades can be reasonably in service  
19 by December 31, 2026. As explained above, the large amount of anticipated load growth has the  
20 potential to translate into new circuits, transformer banks and substations not identified. Hence,  
21 workpapers such as 202470 and 202760, which provide money for large scale distribution system  
22 upgrades, are most at risk for not having sufficient funding. Although workpaper 022800 does not  
23 have the same level of funding risk, this workpaper is nevertheless critical for supporting smaller  
24 scale upgrades with fast turnaround times that are needed to accommodate requests by customers



to energize new load. Finally, workpaper 202600 and 212580 are specific projects that now require funding through 2025. Hence, it is crucial to include all listed workpapers in the SB 410 ratemaking mechanism. Overall, SDG&E is forecasting an incremental increase in Capacity / Expansion energization costs in 2024 through 2026.

Note that SDG&E's TY 2024 GRC application did not forecast distribution costs for attrition years 2025 and 2026, the revenue requirements for which are instead determined via a proposed post-Test Year mechanism. Table 2 shows SDG&E's TY 2024 GRC request in nominal year dollars, along with incremental energization cost estimates, also in nominal year dollars. Estimated costs for the substation land acquisitions are listed in a separate line item as these substation needs were not identified when SDG&E prepared its 2024 GRC. As Table 2 reflects, the forecast and estimated incremental costs total \$101,308,000 for the period 2024 through 2026. SDG&E requests that the Commission utilize these incremental estimates along with other cost categories as summarized in Table 11 within this testimony when establishing the required cap for the proposed SB 410 ratemaking mechanism. The cap is further discussed in the direct testimony of Eric Dalton.

**Table 2 – Incremental Category A. Capacity / Expansion Energization Related Costs<sup>16</sup>**

| Category A. Capacity / Expansion Energization Related Costs |                                 | Authorized in 2024 GRC<br>(in Nominal \$000s) |                 |                 | Incremental Cost Estimates<br>(in Nominal \$000s) |                 |                  |
|-------------------------------------------------------------|---------------------------------|-----------------------------------------------|-----------------|-----------------|---------------------------------------------------|-----------------|------------------|
| Workpaper                                                   | Type                            | 2024                                          | 2025            | 2026            | Actual 2024                                       | Estimated 2025  | Estimated 2026   |
| 002280                                                      | Reactive Small Capital Projects | \$1,577                                       | \$1,624         | \$1,673         | \$1,389                                           | \$1,916         | \$105            |
| 202600                                                      | East Gate C1154                 | \$0                                           | \$0             | \$0             | \$0                                               | \$2,843         | \$0              |
| 212580                                                      | Sampson C369                    | \$0                                           | \$0             | \$0             | \$69                                              | \$588           | \$0              |
| 202470                                                      | Planned Investments             | \$4,433                                       | \$4,566         | \$4,703         | (\$2,518)                                         | \$2,221         | \$5,433          |
| 212760                                                      | Future Capacity Projects        | \$9,652                                       | \$9,942         | \$10,240        | \$2,959                                           | \$13,245        | \$16,474         |
| N/A                                                         | Substation Land Acquisition     | \$0                                           | \$0             | \$0             | \$0                                               | \$7,935         | \$48,649         |
| <b>Annual Totals</b>                                        |                                 | <b>\$15,662</b>                               | <b>\$16,132</b> | <b>\$16,616</b> | <b>\$1,899</b>                                    | <b>\$28,749</b> | <b>\$70,660</b>  |
| <b>Total Incremental (2024-2026)</b>                        |                                 |                                               |                 |                 |                                                   |                 | <b>\$101,308</b> |

<sup>16</sup> Sums may not add up due to rounding.

**B. New Business Category<sup>17</sup>**

**1. Introduction**

SDG&E uses the New Business category within the TY 2024 GRC Electric Distribution Capital testimony of Oliva Reyes (Ex. SDG&E-11-R (Reyes Direct)) to forecast and request Commission approval of energization-related capital costs specific to New Business projects. Consistent with the definition above, energization-related funding requests within this category fund customer service requests. As described in SDG&E's 2024 GRC, New Business workpapers are directly related to customer requests for service which include requests for "new services, upgraded service, new distribution systems for commercial and residential developments, system modifications to accommodate new customer load, customer requested relocations, rearrangements, removals and the conversion of existing overhead lines to underground. All work and cost responsibilities are governed by applicable tariffs, which typically place the bulk of the cost on the utility. This category of work also includes some budget codes with collectible components."<sup>18</sup> The collectible component refers to funds received from customers for the portion of total project cost for which the customer is responsible. While the project estimates are the summation of both the collectible component and non-collectible components, the collectible portion is removed from the revenue requirement calculation and not recovered through customer rates.

Below, SDG&E identifies the workpapers with energization-related funding within its New Business category with approved costs for the 2024 GRC (Table 3); provides a narrative

---

<sup>17</sup> SDG&E's 2024 GRC Filing includes other budget categories which are being excluded from the New Business Capital incremental funding request. The following budget categories have been excluded: 3 Roots (BC18143), Pure Water Electric (18242), Collectible – Camp Pendleton – Stuart Mesa Housing (20256); Conversion work (Rule 20B and Rule 20C).

<sup>18</sup> A.22-05-015/A.22-05-016, cons. SDG&E 2024 GRC, Ex. SDG&E-11-R (Reyes Direct) at OR-66:7-12.

description for each workpaper (Section B.2); explains the drivers for necessary incremental costs (Section B.3); and provides a high level estimate of incremental costs that may be needed for funding energization-related New Business projects (Section B.4).

**Table 3 – Category B. Energization-Related New Business in 2024 GRC <sup>19</sup>**

| <b>Category B. Energization-Related New Business<br/>(in Nominal \$000s)</b> |                                          |                                        |                                                    |                                                    |                                |
|------------------------------------------------------------------------------|------------------------------------------|----------------------------------------|----------------------------------------------------|----------------------------------------------------|--------------------------------|
| <b>Workpaper</b>                                                             | <b>Type</b>                              | <b>GRC<br/>Authorized<br/>for 2024</b> | <b>GRC<br/>Imputed<br/>Authorized<br/>for 2025</b> | <b>GRC<br/>Imputed<br/>Authorized<br/>for 2026</b> | <b>Total for<br/>2024-2026</b> |
| 002040                                                                       | Electric Distribution Easements          | \$2,837                                | \$2,922                                            | \$3,010                                            | <b>\$8,769</b>                 |
| 002150                                                                       | Overhead Residential New Business        | \$1,050                                | \$1,081                                            | \$1,113                                            | <b>\$3,244</b>                 |
| 002160                                                                       | Overhead Non-Residential New Business    | \$1,279                                | \$1,318                                            | \$1,358                                            | <b>\$3,955</b>                 |
| 002170                                                                       | Underground Residential New Business     | \$9,092                                | \$9,365                                            | \$9,646                                            | <b>\$28,103</b>                |
| 002180                                                                       | Underground Non-Residential New Business | \$9,694                                | \$9,985                                            | \$10,285                                           | <b>\$29,964</b>                |
| 002190                                                                       | New Business Infrastructure              | \$6,465                                | \$6,659                                            | \$6,859                                            | <b>\$19,983</b>                |
| 002240                                                                       | New Service Installation                 | \$8,718                                | \$8,980                                            | \$9,250                                            | <b>\$26,948</b>                |
| 002250                                                                       | Customer Requested Upgrades and Services | \$16,835                               | \$17,340                                           | \$17,860                                           | <b>\$52,035</b>                |
| 002350                                                                       | Transformer and Meter Installation       | \$11,717                               | \$12,069                                           | \$12,431                                           | <b>\$36,217</b>                |
| <b>Total</b>                                                                 |                                          | <b>\$67,687</b>                        | <b>\$69,719</b>                                    | <b>\$71,812</b>                                    | <b>\$209,218</b>               |

<sup>19</sup> Authorized per the 2024 GRC Decision D.24-12-074. The 2024 authorized costs for workpapers 2040, 2150, 2160, 2170, 2180, 2190, 2240, 2250, 2350 includes \$8,662 (2024) in collectible costs. Collectible costs are paid by specific customers and are not the responsibility of ratepayers broadly. These costs are removed from the 2024 test-year revenue requirement.

## **2. Description of Energization-Related Workpapers for New Business<sup>20</sup>**

### **a. 2040 – Electric Distribution Easements**

This workpaper applies to activities to obtain new electric distribution easements necessary to provide service to new customers, accommodate street and highway relocations, underground conversions, and other capital improvement projects to improve electrical service. Providing electrical service to new and/or existing customers sometimes requires installing electrical assets on, over, or under private property, public, and tribal lands. In those instances, there are no reasonable alternatives to acquiring the necessary real property easement rights. In accordance with SB 410 and Assembly Bill (“AB”) 50, this activity is critical to connecting customers to the electrical distribution grid and providing electrical service for a new customer.

### **b. 2150 – Overhead Residential New Business**

This workpaper applies to the extension of new overhead electric distribution systems to new residential electric customers requesting service. In accordance with SB 410 and AB 50, this activity is critical to connecting customers to the electrical distribution grid and providing electrical service for a new customer.

### **c. 2160 – Overhead Non-Residential New Business**

This workpaper applies to the extension of new overhead electric distribution systems to new nonresidential electric customers requesting service. In accordance with SB 410 and AB 50, this activity is critical to connecting customers to the electrical distribution grid and providing electrical service for a new customer.

---

<sup>20</sup> Energization activities herein are identified in accordance with the definition(s) provided in SB 410 § 931 (a-c) and AB 50 § 933.5(g).

**d. 2170 – Underground Residential New Business**

This workpaper applies to the extension of new underground electric distribution systems to new residential electric customers requesting service. In accordance with SB 410 and AB 50, this activity is critical to connecting customers to the electrical distribution grid and providing electrical service for a new customer.

**e. 2180 – Underground Non-Residential New Business**

This workpaper applies to the extension of new underground electric distribution systems to new non-residential electric customers requesting service. In accordance with SB 410 and AB 50, this activity is critical to connecting customers to the electrical distribution grid and providing electrical service for a new customer.

**f. 2190 – New Business Infrastructure**

This workpaper applies to the installation of facilities for new electric customers to be served from both the overhead and underground distribution system and which facilitates various future development needs. In accordance with SB 410 and AB 50, this activity is critical to connecting customers to the electrical distribution grid and providing electrical service for a new customer.

**g. 2240 – New Service Installations**

This workpaper applies to the delivery of electric service to new customers from new or existing electric distribution systems. These are costs that facilitate the installation of new overhead and underground electric services for new customers. In accordance with SB 410 and AB 50, this activity is critical to connecting customers to the electrical distribution grid and providing electrical service for a new customer.

1                                   **h.       2250 – Customer Requested Upgrades & Services**

2               This budget code applies to the replacement, relocation, rearrangement or removal of  
3 existing electric distribution and service facilities as requested by customers. In accordance with  
4 SB 410 and AB 50, this activity is critical to connecting customers to the electrical distribution  
5 grid and providing electrical service for a new customer.

6                                   **i.       2350 – Transformer & Meter Installation**

7               This workpaper applies to the handling and salvage of scrapped distribution line equipment  
8 involved in the installation and/or removal of transformers and meters related to Electric Rule 16.  
9 Rule 16 provides for the modification of existing electric facilities as may be required in  
10 conjunction with new business projects or due to customer requests. In accordance with D.24-07-  
11 008, and consistent with SB 410 and AB 50, this activity supports connecting customers to the  
12 electrical distribution grid and providing electrical service to new customers.

13                                   **3.       Drivers for Incremental Energization Costs**

14               California’s zero-emissions goals, aimed at addressing climate change, along with the  
15 enactment of SB 410 and AB 50, and the ongoing efforts within the Commission’s Order  
16 Instituting Rulemaking to Establish Energization Timelines (“Energization OIR”),<sup>21</sup> necessitate  
17 that SDG&E accelerate efforts to support statewide electrification goals. These legislative and  
18 regulatory directives require SDG&E to enhance energization timelines while ensuring safety and  
19 reliability.

20               California’s zero-emission goals are the primary drivers behind the increasing demand for  
21 customer energization and electric load. According to Boston Consulting Group’s (“BCG”) *Unlocking California’s Climate Ambition* report, the main driver for increasing customer  
22

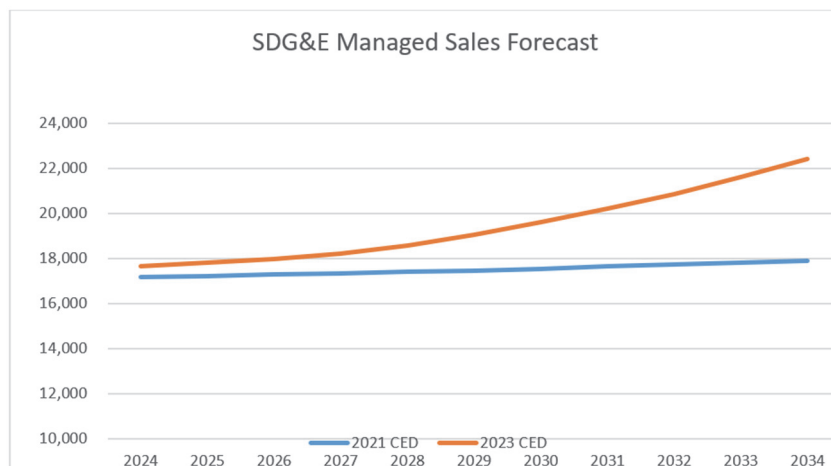
---

<sup>21</sup> Rulemaking (“R.”) 24-01-018.

energization demand and electric load demand is the state’s zero-emission goals. BCG states that achieving these goals will necessitate significant changes: a 20-fold increase in residential space heating heat-pump stock, a doubling of industrial electricity use, and a 30-fold increase in the zero-emission vehicle (“ZEV”) stock. “This electrification of the economy will drive a 75% increase in electricity demand, with half the load growth from 2020 to 2045 coming from the increase in ZEV stock alone.”<sup>22</sup> All of the incremental load growth will translate into additional load requests that SDG&E will need to accommodate and timely energize.

A comparison of the CEC’s annual managed electric sales forecasts from the 2021 forecast report to 2023 forecast report reveals an increasing demand for electric sales to meet new service connections and upgraded service requests.

**Figure 2 - Comparison of 2021 and 2023 California Energy Commission Forecasts for Annual Managed Electric Sales<sup>23</sup>**



<sup>22</sup> Boston Consulting Group, *Unlocking California’s Climate Ambition* (July 30, 2024) (“BCG Publication”), available at: <https://www.bcg.com/publications/2024/united-states-unlocking-californias-climate-ambition>.

<sup>23</sup> The data sources for comparison are the CEC’s IEPRs. The 2021 IEPR forecast can be found here: <https://www.energy.ca.gov/publications/2021/2021-integrated-energy-policy-report>, Forecast Files -> LSE and BA Table -> “CED 2021 Managed Forecast LSE and BA Tables – Mid Demand – AAEE Scenario 3 – AAFS Scenario 3.” The data forecast is located in the tab ‘Form 1.1c’ under SDG&E Total. The 2023 IEPR forecast is available for download at: <https://www.energy.ca.gov/data-reports/reports/2023-integrated-energy-policy-report/2023-iepr-workshops-notice-and-2>, Forecast Files -> LSE and BA Tables -> “CED Planning Forecast LSA and BAA Tables – Corrected.” The forecast data is located in the tab ‘Form 1.1c’ under SDG&E Total.

As SDG&E discussed in the Capacity/Expansion section of this testimony, recent IEPR updates reflect a much higher system level growth compared to the previous years. Further, as depicted in the BCG report,<sup>24</sup> the IEPR growth forecasts may be conservative and not fully reflect local electrical needs driven by load growth at the individual circuit level. For example, the San Diego City Planning Office’s recently published “City of San Diego, 2024 Annual Report on Homes” reveals a significant gap in meeting state housing goals. The report indicates that San Diego must approve 108,036 new housing units between 2020 and 2029 to meet state targets. At the time of the report, only 25,692 units had been approved, necessitating the approval of approximately 16,500 units annually to reach the 2029 goal. Notably, housing approvals in San Diego have nearly tripled from 2022 to 2023 alone (as shown in Table 4).

**Table 4 - Growth in Housing Approvals from 2022 to 2023,**  
***City of San Diego, 2024 Annual Report on Homes***

| Year | ADU  | Units in High Density Areas | New Homes<br>*Home Expedite Program |
|------|------|-----------------------------|-------------------------------------|
| 2022 | 658  | 1291                        | 226                                 |
| 2023 | 1909 | 3530                        | 751                                 |

The increase in local development, coupled with Title 24 requirements for all-electric appliances in new builds, will increase new service connection requests and electric load demands on the grid. Servicing new connections and upgraded service requests safely and reliably will require SDG&E to upsize existing transformers, install new transformers, upgrade service wires and construct other necessary infrastructure. The increase in load demand from all-electric new builds, along with the need for larger transformers to safely and reliably service the growing

---

<sup>24</sup> BCG Publication.



number of all-electric homes, will lead to increases in direct costs to service new connections and upgraded services.

Costs to service increased customer demand for energization is surpassing GRC forecasts provided in the 2024 GRC filing. Prior to the 2024 GRC filing, GRC forecasts closely matched actual spending. Starting in 2023, actual costs for New Business surpassed SDG&E's GRC forecasts and continue to do so; see Table 5 below. To keep up with increased customer demand for energization, larger service load requirements to power all-electric homes, and construct infrastructure upgrades necessary to service increased electric load demands, SDG&E is requesting funding through the SB 410 ratemaking mechanism to meet this accelerated growth trend.

**Table 5 – New Business Variance**

| <b>Year</b>        | <b>GRC<br/>Approved</b> | <b>Actuals</b> | <b>Variance (Actual less GRC)</b> | <b>Variance<br/>Trend</b> |
|--------------------|-------------------------|----------------|-----------------------------------|---------------------------|
| 2022 (2022 \$000s) | \$58,314                | \$59,103       | \$789                             | 1%                        |
| 2023 (2023 \$000s) | \$63,150                | \$70,846       | \$7,696                           | 12%                       |
| 2024 (2024 \$000s) | \$67,687                | \$78,524       | \$10,837                          | 16%                       |

#### **4. Incremental Cost Estimates**

In the 2024 GRC filing, the forecast methodology for New Business was based on a 3-year average historical spend, given that workloads can vary from year to year. This methodology allows SDG&E to level out the forecast funding requirements based on changing levels of demand for service over a period of time, while accounting for any changes to the New Business program. Additionally, the volume of work is difficult to predict and can greatly vary in size and complexity. For larger, more complex projects, project timelines are longer and reflect variances in year-to-year expenditures due to differences between when customer payments are made and the timing of work.

SDG&E is experiencing a steady upward trend in its customer growth rate and electric load demand. For energization-related new business, SDG&E is submitting actual 2024 costs and projecting a 10% annual compounded rate for years 2025 and 2026. This projection is based on increased customer demand for energization, as well as a continued increase in the costs for labor and materials.

Table 6 shows SDG&E's imputed authorized GRC budgets for 2024, 2025, and 2026 in nominal dollars, along with incremental energization cost estimates, in nominal dollars. As Table 6 reflects, the forecast and estimated incremental costs total \$58,534,000 for the period 2024 through 2026. SDG&E requests that the Commission utilize these incremental estimates when establishing the required cap for the proposed SB 410 ratemaking mechanism. The cap is further discussed in the direct testimony of Eric Dalton.

**Table 6 – Category B New Business Capital Incremental Cost Estimates<sup>25</sup>**

| Category B. Energization-Related New Business (in Nominal \$000s) |                                          |                             |                             |                             |                         |                         |                         |                          |
|-------------------------------------------------------------------|------------------------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------|-------------------------|-------------------------|--------------------------|
| Energization-Related Workpapers for New Business                  |                                          | GRC Imputed Authorized 2024 | GRC Imputed Authorized 2025 | GRC Imputed Authorized 2026 | Incremental to GRC 2024 | Incremental to GRC 2025 | Incremental to GRC 2026 | Total Incremental to GRC |
| 00204                                                             | Electric Distribution Easements          | \$ 2,837                    | \$ 2,922                    | \$ 3,010                    | \$ 1,042                | \$ 1,488                | \$ 1,974                | \$ 4,505                 |
| 00215                                                             | Overhead Residential New Business        | \$ 1,050                    | \$ 1,081                    | \$ 1,113                    | \$ 848                  | \$ 1,064                | \$ 1,314                | \$ 3,226                 |
| 00216                                                             | Overhead Non-Residential New Business    | \$ 1,279                    | \$ 1,318                    | \$ 1,358                    | \$ 73                   | \$ 213                  | \$ 363                  | \$ 648                   |
| 00217                                                             | Underground Residential New Business     | \$ 9,092                    | \$ 9,365                    | \$ 9,646                    | \$ 4,261                | \$ 5,738                | \$ 7,394                | \$ 17,393                |
| 00218                                                             | Underground Non-Residential New Business | \$ 9,694                    | \$ 9,985                    | \$ 10,285                   | \$ 2,885                | \$ 4,249                | \$ 5,750                | \$ 12,884                |
| 00219                                                             | New Business Infrastructure              | \$ 6,465                    | \$ 6,659                    | \$ 6,859                    | \$ (2,350)              | \$ (2,009)              | \$ (1,602)              | \$ (5,961)               |
| 00224                                                             | New Service Installations                | \$ 8,718                    | \$ 8,980                    | \$ 9,250                    | \$ 1,750                | \$ 2,858                | \$ 4,112                | \$ 8,719                 |

<sup>25</sup> Sums may not add up due to rounding.

| Category B. Energization-Related New Business (in Nominal \$000s) |                                        |                             |                             |                             |                         |                         |                         |                          |
|-------------------------------------------------------------------|----------------------------------------|-----------------------------|-----------------------------|-----------------------------|-------------------------|-------------------------|-------------------------|--------------------------|
| Energization-Related Workpapers for New Business                  |                                        | GRC Imputed Authorized 2024 | GRC Imputed Authorized 2025 | GRC Imputed Authorized 2026 | Incremental to GRC 2024 | Incremental to GRC 2025 | Incremental to GRC 2026 | Total Incremental to GRC |
| 00225                                                             | Customer Requested Upgrades & Services | \$ 16,835                   | \$ 17,340                   | \$ 17,860                   | \$ 4,568                | \$ 6,858                | \$ 9,456                | \$ 20,882                |
| 00235                                                             | Transformer & Meter                    | \$ 11,717                   | \$ 12,069                   | \$ 12,431                   | \$ (2,240)              | \$ (1,366)              | \$ (158)                | \$ (3,764)               |
| Annual Totals                                                     |                                        | \$ 67,687                   | \$ 69,719                   | \$ 71,812                   | \$ 10,837               | \$ 19,093               | \$ 28,603               |                          |
| Total Incremental                                                 |                                        |                             |                             |                             |                         |                         |                         | \$ 58,534                |

## C. Materials Category

### 1. Introduction

SDG&E uses the “Materials” category, which contains the Transformers workpaper within the Electrical Distribution Capital chapter in the TY 2024 GRC,<sup>26</sup> to forecast the needs for distribution transformers that are necessary to operate and maintain the electric distribution system. SDG&E purchases new transformers and replacement equipment, and maintains inventory, at each electric distribution service center. All transformers are purchased under one workpaper, 2140. These purchased transformers are then installed at energization projects as needed.

### 2. Drivers for Incremental Transformer Costs

SDG&E’s TY 2024 GRC projected new service transformer costs based on historical trends and data. However, since those cost assumptions were developed, the mix of new service transformers has shifted, with a greater need for units to support customer energization. In addition, per-unit transformer costs have risen due to fluctuations in raw material prices, increased

<sup>26</sup> A.22-05-015/A.22-05-016, cons. SDG&E 2024 GRC, Exhibit SDG&E-11-CWP-R, *Revised Capital Workpapers to Prepared Direct Testimony of Olivia Reyes on Behalf of SDG&E* (August 2022) (“Ex. SDG&E-11-CWP-R (Reyes Workpapers)”).

skilled labor costs, and a shortage of domestic supply.<sup>27</sup> These factors have resulted in the average cost of a service transformer increasing at a rate far exceeding industry indices in recent years.

### 3. Incremental Cost Estimates

Since SDG&E accounts for all transformers under a single workpaper, an analysis was conducted to estimate the portion of the transformers attributable to energization. SDG&E reviewed the number of transformers allocated to New Business projects (Budget Codes 2040, 2150, 2160, 2170, 2180, 2190, 2240 and 2250) from 2019 to 2021 and used this historical data to determine the percentage of authorized 2024 transformer costs related to energizing customer load.

**Table 7 – 2024 GRC Transformer Cost Request**

| Total 2024 GRC Authorized Transformer Costs (\$000s) | Fraction of Transformers Issued to New Business in Years 2019-2021 | Amount Attributable to Energizing Customer Load (\$000s) |
|------------------------------------------------------|--------------------------------------------------------------------|----------------------------------------------------------|
| \$33,174                                             | 32.1%                                                              | \$10,649                                                 |

After identifying the portion of the GRC amount attributable to energizing customer load, SDG&E compared this figure to an updated forecast of transformer needs for New Business from 2025 to 2026. This analysis revealed an incremental need for new transformers beyond what has been authorized in SDG&E's TY 2024 GRC. Table 8 below quantifies the incremental cost for new transformers used to energize customer load.

---

<sup>27</sup> "California's energy transition has been challenged by supply chain disruptions over the last several years – up to 50%+ price spikes across critical components and 2-3x increase in lead times post-Covid. Given limited domestic manufacturing (and reliance on Chinese supply chains), inherent cyclicalities in metals pricing, and a likely global undersupply in some components/raw materials, further disruptions are likely to continue delaying project timelines and increase implementation risk. However, in the long-term, it is expected that the supply shocks of COVID and progressive ramp-up of additional production capacity will soften supply constraints." (BCG Publication, Appendix 1.1 at p. 43)

**Table 8 - Incremental Cost Forecast for Transformers**

| Category C. Materials (in Nominal \$000s)                                               |                                      |                                      |                                   |                               |                               |                               |
|-----------------------------------------------------------------------------------------|--------------------------------------|--------------------------------------|-----------------------------------|-------------------------------|-------------------------------|-------------------------------|
|                                                                                         | GRC<br>Imputed<br>Authorized<br>2024 | GRC<br>Imputed<br>Authorized<br>2025 | GRC Imputed<br>Authorized<br>2026 | Incremental<br>to GRC<br>2024 | Incremental<br>to GRC<br>2025 | Incremental<br>to GRC<br>2026 |
| Transformer<br>Costs<br>Attributable to<br>Energizing<br>Customer<br>Load <sup>28</sup> | \$10,649                             | \$10,968                             | \$11,297                          | \$6,653                       | \$8,583                       | \$10,796                      |

**D. IT Enhancements**

**1. Introduction**

D.24-09-020 established stringent energization timelines for Rule 15, Rule 16, Rule 15/16/45 combination, Rule 45, and Main Panel Upgrades (“MPU”) projects, created increased and enhanced customer communications requirements, and established extensive and novel biannual data collection and reporting requirements. Meeting these requirements necessitates significant software and IT system enhancements. D.24-09-020 recognizes these implementation needs by authorizing the large electric IOUs to utilize the SB 410 ratemaking mechanism for incremental funding outside the normal GRC cycle. Approval of this application is necessary for SDG&E to fully and accurately meet the compliance requirements of D.24-09-020, including: the energization timelines, customer communications, and current data and reporting system limitations and requirements.

SDG&E’s existing systems cannot fully support the comprehensive tracking and reporting requirements mandated by D.24-09-020. To achieve compliance, SDG&E must implement enterprise-wide system enhancements that:

- Enable automated data collection across multiple business processes

---

<sup>28</sup> Compounded annually at 10% for 2025 and 2026.

- Support detailed timeline tracking and reporting
- Integrate with existing financial systems
- Align with Actual Cost Billing (“ACB”) requirements established in D.23-12-037

SDG&E is pursuing a strategic implementation approach. The system enhancement strategy balances immediate compliance needs with long-term operational efficiency:

- Technology integration
  - Automate routine data collection and reporting tasks
  - Reduce manual input requirements and potential errors
  - Provide real-time project status tracking and insights
- Process Alignment
  - Coordinate implementation with D.23-12-037 ACB requirements
  - Prevent potential timeline delays from overlapping compliance initiatives
  - Optimize resource allocation across multiple regulatory mandates

While these technological improvements will ultimately streamline reporting processes, some level of manual data input will remain necessary. The specific IT enhancements required for compliance are detailed below.<sup>29</sup>

## **2. Necessary IT Enhancement Costs**

Table 9 provides an estimate of the required IT enhancement costs.

---

<sup>29</sup> SDG&E notes that its proposed ratemaking mechanism includes flexibility to recover additional miscellaneous compliance costs that may be needed to comply with SB 410 and D.24-09-020.

**Table 9 – Summary of IT Enhancement Costs to Comply with SB 410<sup>30</sup>**

| <b>IT Enhancement Costs (in Nominal \$000s)</b> |                                        |                                        |                                        |                                              |
|-------------------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------------|
| <b>Category</b>                                 | <b>Incremental<br/>to GRC<br/>2024</b> | <b>Incremental<br/>to GRC<br/>2025</b> | <b>Incremental<br/>to GRC<br/>2026</b> | <b>Total GRC<br/>Incremental<br/>Request</b> |
| Nexus Digital Application                       | \$1,176                                | \$8,681                                | \$9,104                                | \$18,962                                     |
| Builder Services Portal Modernization           |                                        | \$2,591                                | \$4,746                                | \$7,338                                      |
| Cloud Data Foundation                           |                                        | \$1,258                                | \$3,495                                | \$4,753                                      |
| Geographic Information System Enhancement       |                                        | \$1,533                                | \$5,652                                | \$7,186                                      |
| Automated Utility Design Enhancement            |                                        | \$1,512                                | \$7,335                                | \$8,847                                      |
| Automated Intelligence                          | \$299                                  | \$1,061                                | \$4,239                                | \$5,599                                      |
| <b>Total</b>                                    | <b>\$1,475</b>                         | <b>\$16,636</b>                        | <b>\$34,572</b>                        | <b>\$52,683</b>                              |

**i. Nexus Digital Application**

SDG&E’s current project lifecycle management relies on several disparate systems, creating inefficiencies that impede compliance with D.24-09-020’s granular tracking requirements. This fragmentation prevents holistic visibility across project stages, complicates data consistency and accuracy maintenance, limits ability to identify and address process bottlenecks, and hinders effective cross-departmental collaboration.

The platform will provide real-time visibility into project status and potential delays, streamline workflow management across departments, and facilitate proactive resource allocation and bottleneck prevention.

---

<sup>30</sup> Sums may not add up due to rounding.

Nexus directly supports D.24-09-020 compliance with alignment to:

- Newly established eight-step energization framework
- Integrated comprehensive project tracking
- Automated reporting for mandated timeline metrics
- Enhanced customer engagement through improved project visibility
- Early warning systems for potential timeline delays

This unified approach addresses core compliance requirements while enhancing operational efficiencies and data quality by reducing manual and/or redundant activities that support accelerated energization timelines. Without Nexus, SDG&E's ability to be fully in compliance with D.24-09-020 is at risk. While not all detailed requirements for Nexus have been developed at this time, SDG&E envisions it as a core platform for reducing timelines, enhancing the customer experience, and collecting and reporting data to meet the requirements of D.24-09-020.

## **ii. Builder Services Portal Modernization**

SDG&E provides customers with an online self-service web application called the Builder Services Portal ("BSP"). The BSP is utilized by customers to input requests for new and upgraded gas and electric distribution services as well as track project milestones and more. Customers can utilize the BSP to receive and share information with SDG&E. Functionalities include, but are not limited to uploading project documents, downloading service order documents, viewing detailed meter information, and links to pay fees online. SDG&E IT systems currently lack the ability to track or report the granular timelines and additional project information required by D.24-09-020. The current data that is displayed to the customer in BSP comes from other IT systems. While the BSP provides customers with basic project timeline information, upgrades to the BSP are necessary to meet D.24-09-020 requirements, including:

- Seamless integrations with IT systems for enhanced customer visibility



- Collection of required data through additional fields in SDG&E IT systems
- Enhanced customer experience and communication
- Single point of contact functionality
- Project status within eight-step energization process
- Potential project delays

### **iii. Cloud Data Foundation**

In order to meet D.24-09-020 reporting requirements SDG&E requires the development of a centralized data foundation in the cloud that will enable:

- Centralization of data from multiple systems
- Consistent and accurate internal and external reporting
- Data products to support the operational, regulatory and compliance reporting requirements

### **iv. Geographic Information System Enhancement**

SDG&E's current Geographic Information System ("GIS") system supports critical pre-construction quality assurance through design pre-digitization, effectively reducing field change orders and construction delays. However, the system's architectural limitations, specifically its inability to support concurrent user access, create a significant bottleneck in project execution that impacts the ability to meet D.24-09-020's accelerated energization timelines.

The current GIS infrastructure constrains operational efficiency in several ways:

- Restricts simultaneous user access during pre-digitization
- Forces sequential, rather than parallel, workflow processing
- Creates artificial delays in project advancement
- Limits ability to handle multiple projects concurrently

The required GIS enhancement will transform pre-digitization capabilities by implementing a multi-user architecture that enables:

- Simultaneous access for multiple users across different project locations
- Parallel processing of pre-digitization workflows
- Real-time collaboration between design and construction teams
- Enhanced project tracking and status visibility

This system enhancement directly supports D.24-09-020 compliance by fundamentally restructuring project execution capabilities. By enabling concurrent pre-digitization and construction activities across multiple projects, the enhanced system will significantly compress project timelines without compromising quality control. The elimination of artificial waiting periods between project phases allows teams to maintain momentum throughout the energization process while ensuring design accuracy and construction readiness.

#### **v. Automated Utility Design Enhancement**

The current design phase relies heavily on manual processes, particularly for conduit path design. While Automated Utility Design's ("AUD") existing capabilities address small underground electric and gas design for new business, significant enhancements will be required to meet D.24-09-020's accelerated timeline requirements.

AUD currently provides comprehensive design workflow automation through:

- End-to-end design process integration
- Automated bill of material generation
- Rule-based engineering calculations
- Streamlined project management capabilities
- Integrated gas operations support

Required AUD enhancements to meet D.24-09-020 accelerated timeline requirements include:

- Automation of current manual configuration processes

- Support for medium and large underground new business projects
- Franchise design integration
- Overhead electric design functionality
- External contractor configuration access

The required enhancements directly support compliance with D.24-09-020 by accelerating design and engineering timelines, enabling concurrent internal and external design workflows, providing real-time project status visibility, supporting the eight-step energization framework, and reducing design-related delays through automation. These improvements create critical efficiencies in the design phase, enabling SDG&E to meet accelerated energization timelines while maintaining design quality and accuracy.

#### **vi. Automated Intelligence (“AI”)**

SDG&E’s current reliance on manual processes for project development – including design, estimation, and material management—creates operational constraints that impact the ability to meet the accelerated timelines required by D.24-09-020. Current manual processes have several drawbacks such as:

- Consumes significant time and resources
- Increases potential for human error
- Limits scalability of operations
- Restricts ability to meet accelerated response times

SDG&E proposes implementing four key AI solutions to transform project development:

- Design Copilot
  - Automates low-complexity, high-volume service work
  - Generates standardized designs using predefined parameters
  - Enables designers to focus on complex, high-value tasks
- Initial Fee Estimate Enhancement

- Analyzes historical planned vs. actual data patterns
- Improves estimate accuracy and customer budget planning
- Enables data-driven resource allocation decisions
- Standards AI Chatbot
  - Provides instant access to construction and engineering standards
  - Reduces time spent searching for technical information
  - Minimizes rework due to standards misinterpretation
- Material & Construction Unit (“CU”) Optimization
  - Automates material management processes
  - Enhances inventory tracking and allocation
  - Enables proactive material availability planning

SDG&E’s AI implementation strategy represents a fundamental shift in project development and customer service. By intelligently automating routine processes, SDG&E’s skilled workforce can be redirected to focus on high-value customer interactions and complex technical decisions. This transformation will significantly improve data accuracy and consistency across all project phases while enabling scalable project execution. The comprehensive integration of AI technologies positions SDG&E to meet D.24-09-020’s timeline requirements while maintaining the highest standards of service quality and technical excellence.

The integration of these AI solutions directly addresses the core compliance requirements of D.24-09-020 by transforming existing project execution capabilities. By dramatically reducing time spent on routine tasks, teams can focus on critical path activities that drive project completion. The AI-enhanced planning and estimation processes enable more accurate timelines and proactive identification of potential delays before they impact schedules. This technology framework actively supports the eight-step energization process by providing real-time insights and automated tracking throughout the project lifecycle. Furthermore, enhanced data collection

and reporting capabilities ensure compliance while continuously improving processes based on quantitative insights.

#### IV. 2024 GENERAL RATE CASE

Section III above provides a detailed description of each cost category that contains energization costs in SDG&E's 2024 GRC. In summary, SDG&E's total energization costs authorized by D.24-12-074 are shown in Table 10. Table 10 below compares the actual energization costs (by category) versus the amount authorized in the 2024 GRC.

In addition, Pub. Util. Code Section 937(c)(3) requires the utility to include the costs authorized for other purposes in the 2024 GRC but used for energization. As reflected in Table 10, in 2024, actual capital expenditures for the three costs categories all exceeded the authorized amount in the 2024 GRC. This excess amount reflects "costs authorized for other purposes" but used for energization.

**Table 10 - 2024 General Rate Case  
Authorized versus Actual Capital Energization Costs by Category**

| GRC Reference                 | Category                   | Authorized Costs<br>2024<br>(in 2024 \$000s) | Actual Costs<br>2024<br>(in 2024 \$000s) |
|-------------------------------|----------------------------|----------------------------------------------|------------------------------------------|
| Electric Distribution Capital | (A) Capacity / Expansion   | \$15,662                                     | \$17,561                                 |
| Electric Distribution Capital | (F) New Business           | \$67,687                                     | \$78,524                                 |
| Electric Distribution Capital | (E) Material <sup>31</sup> | \$10,649                                     | \$17,302                                 |
|                               | <b>Total</b>               | <b>\$93,998</b>                              | <b>\$113,387</b>                         |

#### V. SUMMARY OF INCREMENTAL FORECASTS

The following table summarizes the estimated incremental capital expenditures described in Section III of this testimony.

---

<sup>31</sup> This represents transformer costs.

**Table 11 – Incremental Capital Expenditure Summary by Category**

| Nominal \$000s           |                 |                 |                  |                  |
|--------------------------|-----------------|-----------------|------------------|------------------|
| Categories of Management | Actual 2024     | Estimated 2025  | Estimated 2026   | Total            |
| A. CAPACITY/EXPANSION    | \$1,899         | \$28,749        | \$70,660         | \$101,308        |
| E. MATERIALS             | \$6,653         | \$8,583         | \$10,796         | \$26,032         |
| F. NEW BUSINESS          | \$10,837        | \$19,093        | \$28,603         | \$58,534         |
| IT ENHANCEMENTS          | \$1,475         | \$16,636        | \$34,572         | \$52,683         |
| <b>Total CAPITAL</b>     | <b>\$20,864</b> | <b>\$73,061</b> | <b>\$144,631</b> | <b>\$238,556</b> |

**VI. ANTICIPATED ENERGIZATION PROJECTS<sup>32</sup>**

As required by Section 937(c)(4), SDG&E provides below the number of anticipated energization-related projects per year that are expected to be energized. SDG&E expects the number of energized projects each year to be variable and dependent on various factors such as permitting requirements and material procurement challenges. SDG&E anticipates some of the energization-related projects will trigger upstream distribution capacity upgrades.

**Table 12 – Number of Anticipated Energization Projects Energized Per Year**

| Year        | Number of Projects <sup>33</sup> |
|-------------|----------------------------------|
| 2023 Actual | 2,715                            |
| 2024 Actual | 3,242                            |
| 2025        | 3,566                            |
| 2026        | 3,923                            |

**VII. CONCLUSION**

This concludes Messrs. Belden and Bruner’s prepared direct testimony.

<sup>32</sup> The word project and project numbers reported/projected refer to jobs (*i.e.*, child projects) within the parent project. This is consistent with reporting for D.24-09-020, which is done at the job level.

<sup>33</sup> Based on 10% annual growth in the number of New Business projects in 2024. This does not include projects outside of New Business (*i.e.*, Rule 45, SOT, etc.)

## **VIII. WITNESS QUALIFICATIONS**

### **A. Matt Belden**

Matt Belden is the Manager of SDG&E's Electric Distribution Planning organization. His business address is 8316 Century Park Court, San Diego, CA, 92123. He has been employed by SDG&E for ten years, holding numerous positions in planning, operations, and engineering.

His current responsibilities include providing leadership, training, and guidance to a team of engineers, designers, and professionals whose primary function is to ensure safety and reliability of the electric distribution system through planning of distribution infrastructure.

He holds a Bachelor of Science degree in Electrical Engineering and is a registered Professional Engineer in the state of California in the field of Electrical Engineering. He has not previously testified before the Commission. He sponsors Section III.A of the Direct Testimony, specifically related to the distribution capacity expansion projects and associated capital expenditures.

### **B. Nathan Bruner**

Nathan Bruner is the Development Planning Manager for New Business in the Customer Project Management Department. His business address is 8326 Century Park Court, San Diego, CA, 92123.

He has been employed by SDG&E for 15 years in various project management roles in multiple departments. Prior to SDG&E, he was a civil engineer for the City of San Diego for 20 years in various roles including 10 years as the utility planning liaison for the City's capital infrastructure programs.

His current responsibilities include providing leadership, training, and guidance to a team of Project Managers, Planners, and support staff whose primary function is to safely execute large or complex projects for electric and gas distribution new business requests.

1           He holds a Bachelor of Business Administration degree in Business Economics. He has  
2 previously testified before the Commission concerning an AT&T ratemaking proceeding during  
3 his time with the City of San Diego. He sponsors Section III.B, III.C, and III.D of the Direct  
4 Testimony, specifically related to energization-related capital costs specific to New Business  
5 projects and IT enhancement needed to comply with D.24-09-020.