Application of San Diego Gas & Electric Company (U 902 E) for Authority to Update Marginal Costs, Cost Allocation, and Electric Rate Design.

Application: 23-01-XXX
Exhibit No.: _____

# CHAPTER 9

# PREPARED DIRECT TESTIMONY OF

# RACHELLE R. BAEZ

# ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

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

**JANUARY 17, 2023**

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# PREPARED DIRECT TESTIMONY OF
# RACHELLE R. BAEZ
# (CHAPTER 9)

## I. OVERVIEW

Pursuant to Ordering Paragraph (OP) 7 of Decision (D.) 22-08-023, San Diego Gas & Electric Company (SDG&E) is required to submit Affordability Metrics in its Test Year (TY) 2024 General Rate Case (GRC) Phase 2 application. Accordingly, this testimony provides the Affordability Ratio (AR) 20 by climate zone, AR 50 by climate zone, and Hours-at-Minimum-Wage (HM) (collectively, the Affordability Metrics) associated with both current revenue allocation and rate design in effect[1] and the revenue allocation and rate design requested in prepared direct testimony of SDG&E witness Ray C. Utama (Chapter 2) and witnesses Ray C. Utama, Erica Wissman, Hannah Campi and Gwendolyn Morien (Chapter 3). It also provides current and resulting essential usage bills by climate zone.

This testimony will further present additional analyses of (1) the impact on affordability of including California Alternate Rates for Energy (CARE) discounts for low-income households; and (2) energy burden to isolate the impact of the electric bill. SDG&E argued for the inclusion of these metrics in the Affordability Order Instituting Rulemaking 18-07-006 (Affordability OIR), and although the California Public Utilities Commission (CPUC or Commission) declined to adopt them as official affordability metrics, D.22-08-023 permits stakeholders to provide alternatives to the adopted metrics.[2] SDG&E still believes these are important supplemental metrics that complement the affordability metrics adopted in D.22-08-023 and provide a rounded view of potential impacts to its customers.

[1] Due to the proximity of this filing to a rate change, any references to "current" rates in this application reflect rates effective as of June 1, 2022.
[2] D.22-08-023, Findings of Fact (FOF) 17 at 77.

My testimony is organized as follows:

- **Section I – Overview**
- **Section II – Essential Bills**
- **Section III – Affordability Metrics**
- **Section IV – Supplemental CARE Analysis**
- **Section V – Supplemental Energy Burden Analysis**
- **Section VI – Statement of Qualifications**

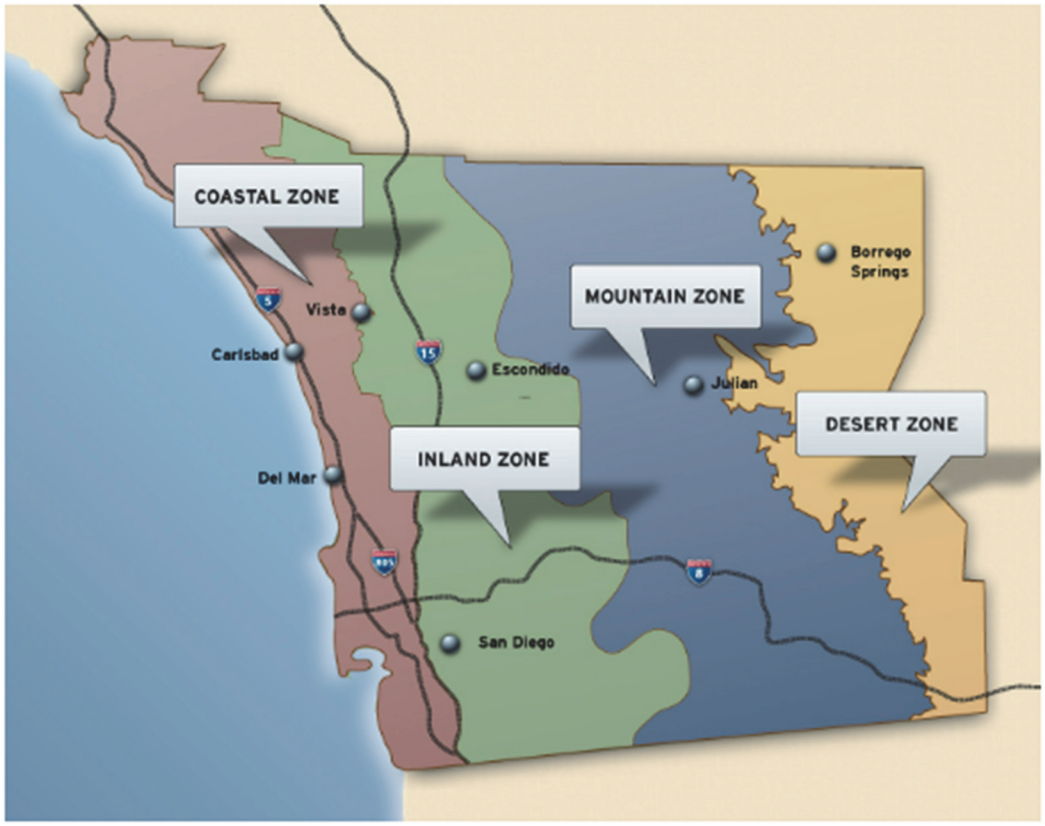
## II. ESSENTIAL BILLS

Essential usage bills represent the average monthly bill a customer would pay for their essential energy, water, or telecommunications usage. For electric, essential usage has been defined as the baseline allocation of electricity, which is generally 60% of the average household usage in a given climate zone.[3] To calculate the essential usage bills, SDG&E multiplied (1) the baseline allowance per climate zone for individually metered electric residential customers by (2) the Tier 1 electric residential Schedule DR rate, which is uniform by baseline territory.[4] This is the same agreed-upon methodology between SDG&E and Energy Division (ED) that is used in its quarterly Cost and Rate Tracking tool submissions as part of the Affordability OIR. By utilizing Schedule DR, which is a tiered, non-time-of-use (TOU) rate, there is no additional forecasting of usage patterns, which vary by customer. SDG&E then weighted the metrics by the number of households in each baseline territory to produce a system average.[5] Essential usage bills are used as the numerator to calculate the AR and HM metrics.

[3] *See* D.20-07-032 at 20-21. Daily baseline quantities vary based on climate zone, season (summer vs winter) and service type (all-electric vs basic).
[4] Tier 1 rates are applicable to customers who use up to 130% of baseline allowance.
[5] The number of households by climate zone were used from the AR calculator is the 2020 Affordability Ratio Calculator, published by Energy Division on July 8, 2022, available at https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/affordability.

Figure RRB-1 presents a map of baseline territories in SDG&E's service area which represent different climate zones.

**FIGURE RRB-1**
**SDG&E BASELINE TERRITORY MAP**




To understand the impact that SDG&E's TY 2024 GRC Phase 2 proposals have on the affordability metrics, SDG&E calculated the electric essential usage bills (1) based on rates effective June 1, 2022 and (2) based on the proposed revenue allocation and rate design. The resulting electric essential usage bills are summarized in Tables RRB-1 and RRB-2 for non-CARE basic and non-CARE all-electric customers, respectively.[6]

[6] For simplifying purposes, all months were assumed to be 30-day months to get the monthly baseline allocation. The calculation of the essential usage bills does not incorporate the biannual electric residential California Climate Credits (CCC).

**TABLE RRB-1**
**MONTHLY ELECTRIC ESSENTIAL USAGE BILLS (BASIC SERVICE, NON-CARE)**

| | Current - 2022 | 2024 | | |
|---|---|---|---|---|
| **Climate Zone** | **Bill ($)** | **Bill ($)** | **Change ($)** | **%** |
| Coastal | $107.83 | $105.89 | -$1.93 | -1.8% |
| Desert | $153.56 | $150.81 | -$2.75 | -1.8% |
| Inland | $117.49 | $115.38 | -$2.11 | -1.8% |
| Mountain | $156.02 | $153.23 | -$2.80 | -1.8% |
| **Average** | $112.72 | $110.70 | -$2.02 | -1.8% |

**TABLE RRB-2**
**MONTHLY ELECTRIC ESSENTIAL USAGE BILLS (ALL-ELECTRIC SERVICE, NON-CARE)**

| | Current - 2022 | 2024 | | |
|---|---|---|---|---|
| **Climate Zone** | **Bill ($)** | **Bill ($)** | **Change ($)** | **%** |
| Coastal | $90.45 | $88.83 | -$1.62 | -1.8% |
| Desert | $201.59 | $197.98 | -$3.61 | -1.8% |
| Inland | $126.98 | $124.70 | -$2.28 | -1.8% |
| Mountain | $227.61 | $223.53 | -$4.08 | -1.8% |
| **Average** | $108.28 | $106.34 | -$1.94 | -1.8% |

## III. AFFORDABILITY METRICS

### A. Hours at Minimum Wage (HM)

The HM metric represents the number of hours a household that earns the minimum wage would need to work per month to pay their monthly essential usage bill.[7] It is calculated by

[7] D.20-07-032 at 11.

dividing the essential usage bill by the hourly minimum wage.[8] The HM formula is shown below:

**HM = essential electric usage bill / hourly minimum wage**

SDG&E is presenting two sets of HM metrics – City of San Diego and Non-City of San Diego. These two sets of metrics are necessary because the minimum wage for the City of San Diego and Non-City of San Diego will diverge in 2023. For 2022, the minimum wage for all SDG&E's territory (City of San Diego and Non-City of San Diego) is $15/hour, consistent with the California statewide minimum wage. Going forward from 2022, the minimum wage for the City of San Diego, which makes up approximately 40% of SDG&E's households, will increase annually based on the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W), U.S. city average,[9] which was increased to $16.30 for 2023. Alternatively, Non-City of San Diego customers follow the California statewide minimum wage, which increases annually by the lesser of 3.5 percent or the 12-month period from July to June percentage change in the CPI-W.[10] Beginning January 1, 2023, the California statewide minimum wage will increase to $15.50 per hour for all employers. For purposes of forecasting HM minimum wage for 2024, SDG&E used the five-year average increase in CPI-W, on top of the 2023 minimum wage rates.

The resulting HM metric for each climate zone is presented in Tables RRB-3 and RRB-4.[11]

[8] D.20-07-032 at 47.
[9] San Diego Municipal Code (SDMC) Chapter 3, Article 9, Division 1, Section 39.0107.
[10] California Labor Code section 1182.12.
[11] The essential usage used in the HM metric is the weighted average of basic vs all-electric bills using the "Percentage of Customers on All-Electric Rate" field from the AR Calculator to align with the affordability ratio calculations.

**TABLE RRB-3**
**HM METRIC FOR ELECTRIC CUSTOMERS - CITY OF SAN DIEGO (NON-CARE)**

| | Current - 2022 | 2024 | | |
|---|---|---|---|---|
| **Climate Zone** | **Hours** | **Hours** | **Change (hrs)** | **Change (%)** |
| Coastal | 6.9 | 6.0 | -0.9 | -13.1% |
| Desert | 12.0 | 10.4 | -1.6 | -13.1% |
| Inland | 8.0 | 6.9 | -1.0 | -13.1% |
| Mountain | 12.3 | 10.7 | -1.6 | -13.1% |
| **Average** | 7.5 | 6.5 | -1.0 | -13.1% |

**TABLE RRB-4**
**HM METRIC FOR ELECTRIC CUSTOMERS – NON-CITY OF SAN DIEGO (NON-CARE)**

| | Current - 2022 | 2024 | | |
|---|---|---|---|---|
| **Climate Zone** | **Hours** | **Hours** | **Change (hrs)** | **Change (%)** |
| Coastal | 6.9 | 6.4 | -0.6 | -8.0% |
| Desert | 12.0 | 11.0 | -1.0 | -8.0% |
| Inland | 8.0 | 7.3 | -0.6 | -8.0% |
| Mountain | 12.3 | 11.3 | -1.0 | -8.0% |
| **Average** | 7.5 | 6.9 | -0.6 | -8.0% |

### B. Affordability Ratio (AR)

The AR seeks to quantify the percentage of a representative household's income that is required to pay for an essential utility service after non-discretionary costs, such as housing and

other essential utility services, are removed from the household income.[12] It is calculated by dividing the essential usage bill by the discretionary income for a given geography.[13] The ED created a tool (AR Calculator) to calculate the AR that considers the essential usage bills for each commodity (electric, gas, water and telecommunications) and the tool is updated annually.[14]

SDG&E utilized the AR Calculator by entering the electric average monthly essential usage bills by climate zone (shown in Tables RRB-1 and RRB-2) and ran the macro to calculate and populate the results by year at the 20th and 50th percentiles of income distribution in SDG&E's territory. The AR Calculator calculates Individual AR values for each commodity, which includes only the essential usage bill for the given commodity in the numerator with the denominator equal to household income minus housing costs and the remaining essential usage commodity bills. The AR formula for electric is shown below:

**Individual Electric AR = Electric Essential Bill / (Income - Housing - Other Essential Bills [gas, water, telecomm.])**

The individual AR values are calculated at the climate zone level. In addition to the underlying assumptions within the AR Calculator, the following assumptions and definitions apply:

1) Electric essential bills are based on the essential usage for non-CARE residential customers on Schedule DR by climate zone. Electric essential bills do not include the biannual CCC.

2) Other commodity bills (gas, telecommunications and water) are pre-populated by the AR Calculator.

[12] D.20-07-032 at 51.
[13] *Id*.
[14] The current AR Calculator used for all calculations in this testimony is the 2020 Affordability Ratio Calculator, published by ED on July 8, 2022, available at https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/affordability.

3) Current metrics are based upon rates effective June 1, 2022, per AL 4004-E.

4) Proposed metrics include SDG&E's residential revenue allocation and rate design proposals presented in the prepared direct testimony of SDG&E witnesses for Chapters 2 and 3.

5) The Electric AR20 and AR50 metrics are meant to represent the percentage of income after housing and all other essential commodity (gas, water and telecommunications) expenses that essential electric bills require for households at the 20th lowest and 50th income percentile, respectively.

The resulting individual electric AR20 and AR50 metrics for each climate zone are presented in Tables RRB-5 and RRB-6, respectively.[15]

**TABLE RRB-5**
**AR20 METRIC FOR ELECTRIC CUSTOMERS (NON-CARE)**

| | Current - 2022 | 2024 | |
|---|---|---|---|
| **Climate Zone** | **AR20** | **AR20** | **Change in AR20** |
| Coastal | 6.5% | 6.3% | -0.2 |
| Desert | 7.4% | 7.1% | -0.4 |
| Inland | 9.7% | 9.6% | -0.1 |
| Mountain | 9.1% | 8.7% | -0.4 |
| **Average** | 7.9% | 7.8% | -0.2 |

[15] The results in Tables RRB-5 and RRB-6 reflect the decreases in electric essential bills along with the embedded calculator assumptions such as inflation for income, housing, and other utility bills, which were unchanged by SDG&E.

**TABLE RRB-6**
**AR50 METRIC FOR ELECTRIC CUSTOMERS (NON-CARE)**

| | Current - 2022 | 2024 | |
|---|---|---|---|
| **Climate Zone** | **AR50** | **AR50** | **Change in AR50** |
| Coastal | 1.8% | 1.7% | -0.1 |
| Desert | 3.0% | 2.8% | -0.2 |
| Inland | 2.0% | 1.9% | -0.1 |
| Mountain | 3.0% | 2.8% | -0.2 |
| **Average** | 1.9% | 1.8% | -0.1 |

## IV. SUPPLEMENTAL CARE ANALYSIS

The Affordability Metrics presented above utilize non-CARE rates to calculate the HM and AR metrics. However, the CARE program, which offers a 35% effective discount on electricity bills and 20% discount on gas bills to low-income customers, should be taken into consideration as an additional metric in determining a low-income customer's cost of essential utility service.[16] For customers that participate in the CARE program, excluding the CARE discount inflates the true cost of essential utility charges and provides an inaccurate representation of affordability. Additionally, the 2020 Annual Affordability Report acknowledges that, when low-income discounts are considered for purposes of assessing

[16] *See* Public Utilities Code Section 739.1; D.01-06-010, OP 2. Further, as of September 2022, SDG&E has achieved a 122% penetration rate and thus it is reasonable to assume that most SDG&E low-income customers in the 20% income percentile are enrolled in the CARE program discount. *See* A.19-11-003, *et al*., Monthly Report of SDG&E on Low Income Assistance Programs for September 2022 (October 21, 2022), Appendix A at CARE Table 2; available at https://liob.cpuc.ca.gov/wp-content/uploads/sites/14/2022/11/SDGE-SEPTEMBER2022-Low-Income-Monthly-Report.pdf?emrc=17bab7

affordability, there is a "sizable improvement in utility affordability for customers who are enrolled in the programs in the most vulnerable areas."[17]

Accordingly, because CARE discounts are relevant to the issue of affordability, SDG&E provides supplemental HM (both City of San Diego and Non-City of San Diego) and AR20 metrics using the CARE discount in the bills in Tables RRB-7, RRB-8 and RRB-9, respectively.[18] These figures were developed using the "2020 CARE Rates" pre-loaded scenario in the AR Calculator, updating the electric essential usage bills with current and proposed CARE bills. By utilizing this scenario, this also includes the impact of the gas CARE discount.

**TABLE RRB-7**
**HM METRIC FOR ELECTRIC CUSTOMERS – CITY OF SAN DIEGO (CARE)**

| | Current - 2022 | 2024 | | |
|---|---|---|---|---|
| **Climate Zone** | **Hours** | **Hours** | **Change (hrs)** | **Change (%)** |
| Coastal | 4.5 | 3.9 | -0.6 | -13.1% |
| Desert | 7.8 | 6.8 | -1.0 | -13.1% |
| Inland | 5.2 | 4.5 | -0.7 | -13.1% |
| Mountain | 8.0 | 6.9 | -1.0 | -13.1% |
| **Average** | 4.9 | 4.2 | -0.6 | -13.1% |

[17] CPUC, 2020 Annual Affordability Report (October 2022) at 52, available at https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/affordability.
[18] The results in Tables RRB-7 – RRB-9 reflect the decreases in electric essential bills along with the embedded calculator assumptions such as inflation for income, housing, and other utility bills, which were unchanged by SDG&E.

**TABLE RRB-8**
**HM METRIC FOR ELECTRIC CUSTOMERS – NON-CITY OF SAN DIEGO (CARE)**

| | Current - 2022 | 2024 | | |
|---|---|---|---|---|
| **Climate Zone** | **Hours** | **Hours** | **Change (hrs)** | **Change (%)** |
| Coastal | 4.5 | 4.2 | -0.4 | -7.9% |
| Desert | 7.8 | 7.2 | -0.6 | -7.9% |
| Inland | 5.2 | 4.8 | -0.4 | -7.9% |
| Mountain | 8.0 | 7.4 | -0.6 | -7.9% |
| **Average** | 4.9 | 4.5 | -0.4 | -7.9% |

**TABLE RRB-9**
**AR20 METRIC FOR ELECTRIC CUSTOMERS (CARE)**

| | Current - 2022 | 2024 | |
|---|---|---|---|
| **Climate Zone** | **AR20** | **AR20** | **Change in AR20** |
| Coastal | 4.2% | 4.1% | -0.1 |
| Desert | 4.8% | 4.6% | -0.2 |
| Inland | 6.2% | 6.2% | -0.1 |
| Mountain | 5.9% | 5.6% | -0.2 |
| **Average** | 5.1% | 5.0% | -0.1 |

## V. SUPPLEMENTAL ENERGY BURDEN (EB) ANALYSIS

The Energy Burden metric is the percentage of total income spent on an energy bill or bills. Although the Commission declined to adopt this metric in the Affordability OIR, the Commission specifically found that the Decision Implementing the Affordability Metrics (D.22-08-023) "does not preclude stakeholders from generating variations on or alternatives to the

adopted metrics… in Commission proceedings."[19] The energy burden metric is an additional, complementary metric that should be considered in conjunction with the required affordability metrics addressed above. The energy burden metric is a simple, easily understood calculation that isolates the impact of SDG&E's Residential revenue allocation and rate design request and excludes the uncertainty posed by non-discretionary expenses outside the Commission's control (e.g., housing costs). In addition, it allows for greater ease of comparison across utility services. The electric energy burden formula is shown below:

**Electric EB = Electric Essential Bill / Income**

The AR metrics discussed above remove housing and other essential utility/service bills from total income. The electric EB metric does not remove any bills or expenses from total income. By not removing non-discretionary expenses from total income, the EB metric is able to better isolate the impact of any utility bill—here the electric bill—and create a metric that is comparable across utility services. The EB metric further eliminates the impact of housing costs, which can vary across SDG&E's service territory and between income levels. While SDG&E recognizes that housing costs may be non-discretionary, neither SDG&E nor the Commission influence or determine housing affordability. Additionally, because the denominator for the AR metric changes based on what utility service is being analyzed, the various AR metrics cannot be compared or added together. For example, the Electric AR value cannot be added to the Gas AR value for a total SDG&E AR value. Because the denominator for the EB metric is total income, it is a more flexible metric that allows for comparison and combination across utility services.

[19] D.22-08-023, FOF 17 at 77.

Further, although the EB metric has been previously used in the Affordability OIR to represent median-income households and average usage, SDG&E uses the same income assumptions and essential usage bills as the AR metric to make an apples-to-apples comparison to the AR metric. Thus, for purposes of the electric EB metric, SDG&E used the AR calculator and cleared the gas, water, and telecommunication bill inputs as well as the housing and propane cost embedded assumptions to calculate the electric EB for a median income household (EB50) and a low-income household (EB20).

The resulting electric EB50 and EB20 (both Non-CARE and CARE) metrics for each climate zone are presented in Tables RRB-10, RRB-11 and RRB-12, respectively.

**TABLE RRB-10**
**EB50 METRIC FOR ELECTRIC CUSTOMERS (NON-CARE)**

| | Current - 2022 | 2024 | |
|---|---|---|---|
| **Climate Zone** | **EB50** | **EB50** | **Change in EB50** |
| Coastal | 1.3% | 1.2% | -0.1 |
| Desert | 2.4% | 2.2% | -0.2 |
| Inland | 1.5% | 1.4% | -0.1 |
| Mountain | 2.3% | 2.2% | -0.2 |
| **Average** | 1.4% | 1.3% | -0.1 |

**TABLE RRB-11**
**EB20 METRIC FOR ELECTRIC CUSTOMERS (NON-CARE)**

| | Current - 2022 | 2024 | |
|---|---|---|---|
| **Climate Zone** | **EB20** | **EB20** | **Change in EB20** |
| Coastal | 2.9% | 2.7% | -0.2 |
| Desert | 4.9% | 4.6% | -0.3 |
| Inland | 3.7% | 3.5% | -0.2 |
| Mountain | 5.2% | 4.9% | -0.3 |
| **Average** | 3.3% | 3.1% | -0.2 |

**TABLE RRB-12**
**EB20 METRIC FOR ELECTRIC CUSTOMERS (CARE)**

| | Current - 2022 | 2024 | |
|---|---|---|---|
| **Climate Zone** | **EB20** | **EB20** | **Change in EB20** |
| Coastal | 1.9% | 1.8% | -0.1 |
| Desert | 3.2% | 3.0% | -0.2 |
| Inland | 2.4% | 2.3% | -0.2 |
| Mountain | 3.4% | 3.2% | -0.2 |
| **Average** | 2.2% | 2.0% | -0.1 |

This concludes my prepared direct testimony.

## VI. STATEMENT OF QUALIFICATIONS

My name is Rachelle R. Baez and I am the Electric Rates Manager in the Customer Pricing department of SDG&E. My business address is 8330 Century Park Court, San Diego, California 92123. I have worked for SDG&E since June 2010 and have held various positions in Accounting Operations, Strategic & Financial Planning, and Electric Rates with increasing levels of responsibility. I received a Bachelor of Science degree in Business Administration with an emphasis in Finance from San Diego State University in 2011.

I have previously testified before the California Public Utilities Commission. I have previously submitted testimony before the Federal Energy Regulatory Commission.