

DOCKETED

Docket Number:	23-LMS-01
Project Title:	Load Management Standards Implementation
TN #:	252483
Document Title:	SDG&E RTP Supplemental RUtama Chpt 4 - Implementation
Description:	Provided as referenced within SDG&E's 2023 LMS Annual Report.
Filer:	Sarah Taheri
Organization:	San Diego Gas & Electric Company (SDG&E)
Submitter Role:	Public
Submission Date:	10/2/2023 4:04:36 PM
Docketed Date:	10/2/2023

Company: San Diego Gas & Electric Company (U 902 E)
Proceeding: Real Time Pricing Pilot Rate
Application: A.21-12-006/A.21-12-008
Exhibit: SDG&E-XX

**PREPARED SUPPLEMENTAL DIRECT TESTIMONY OF
RAY UTAMA (CHAPTER 4)
ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY**

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

August 15, 2022



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1 **PREPARED SUPPLEMENTAL DIRECT TESTIMONY OF**
2 **RAY UTAMA (CHAPTER 4)**

3 **I. OVERVIEW AND PURPOSE**

4 The purpose of my prepared supplemental direct testimony is to describe and propose the
5 program implementation design and associated implementation costs for the Export
6 Compensation Pilot and the Real-Time Pricing (RTP) Pilot (collectively referred as Dynamic
7 Pricing Pilots). This Dynamic Pricing Pilot application is being filed pursuant to:

- 8 • Ordering Paragraph (OP) 9 of California Public Utilities Commission (CPUC or
9 Commission) issued Decision (D.) 20-12-023, which directed San Diego Gas and
10 Electric Company (SDG&E) “to file an application for an optional dynamic rate
11 designed to encourage commercial EV charging”;
- 12 • OP 6 of Commission issued D.21-07-010 in SDG&E’s 2019 General Rate Case
13 (GRC) Phase 2 proceeding, which directed SDG&E to file a separate application
14 to develop and implement a RTP Pilot; and
- 15 • Energy Division’s revised staff recommendation (ED Staff Recommendations) to
16 consolidate, modify eligibility, timing, and size of both the Export Compensation
17 Pilot and the RTP Pilot.¹

18 SDG&E is submitting this prepared supplemental direct testimony to address revisions to
19 SDG&E’s consolidated Time Pricing Pilot Application and Commercial Electric Vehicle
20 Dynamic Rate Application (A.21-12-006 et al.), including recommendations by Energy Division.
21 Because the revisions are extensive and include both adding new testimony and removing
22 previously served testimony, SDG&E is withdrawing previously served direct testimony and will
23 rely solely on this prepared supplemental direct testimony as its direct testimony in this
24 proceeding. This testimony will focus on the new business capabilities which are required to
25 implement the proposed Export Compensation Pilot and RTP Pilot.

¹ A.21-12-006 et al., *Administrative Law Judge’s Ruling Addressing Motion of San Diego Gas & Electric Company and Workshop Comments* (July 12, 2022).

1 My testimony is organized as follows:

- 2 • **Section I – Overview and Purpose**
- 3 • **Section II – Implementation Design**
- 4 • **Section III – Implementation Costs**
- 5 • **Section IV – Summary and Conclusion**
- 6 • **Section V – Statement of Qualifications**
- 7 • **Attachment A – Proposed Timeline**
- 8 • **Attachment B – Proposed Participation Target**
- 9 • **Attachment C – Proposed Implementation Costs**
- 10 • **Attachment D – Proposed Incremental Revenue Requirement**
- 11 • **Attachment E – Illustrative Electric Class Average Rates**
- 12 • **Attachment F – Proposed Term Sheet**

13 **II. IMPLEMENTATION DESIGN**

14 The implementation design details for the Dynamic Pricing Pilots are discussed below.

15 At a high level, the Export Compensation Pilot and the RTP Pilot will both take place in two
16 stages, with an initial, smaller enrollment eligibility in Stage 1 and a larger enrollment eligibility
17 in Stage 2. SDG&E is proposing specific details of Stage 1 of the Export Compensation Pilot
18 and both stages of the RTP Pilots in this Application. The implementation and design of Stage 2
19 of the Export Compensation Pilot will be determined at a later date, based on the results and
20 feedback from Stage 1 and input from a working group.

21 **A. Pilot Duration and Timeline**

22 SDG&E is proposing a two-stage Export Compensation Pilot and, pursuant to D.21-07-
23 010, SDG&E is also proposing a two-stage RTP Pilot. SDG&E is proposing that Stage 1 of the

1 Pilots will take place from October 1, 2024 until September 30, 2026 and Stage 2 of the Pilots
2 will take place from October 1, 2026 to September 30, 2028. During the two-year Stage 1
3 period, SDG&E’s goal is to collect sufficient data for a robust evaluation of how customers
4 respond to hourly price signals. SDG&E will continue conversations with the working group of
5 interested parties regarding the best way to continue and make necessary adjustments to Stage 2
6 of the Export Compensation and RTP Pilots; however, SDG&E currently anticipates expanding
7 Stage 2 of the Export Compensation and proposes expanding Stage 2 of the RTP Pilot to all
8 customers on time-of-use (TOU) rate schedules, excluding street lighting.

9 SDG&E recommends holding five working group meetings. SDG&E anticipates holding
10 the first meeting in Q3 2024, with the purpose of forming the working group and defining
11 Measurement and Evaluation (M&E) criteria prior to the start of Stage 1 of the Dynamic Pricing
12 Pilots.² The second meeting, to be held in Q1 2026, will discuss available data and information
13 from the first full year of Stage 1 of the Dynamic Pricing Pilots (as well as additional
14 information from the second year of the Pilots as it becomes available), gather feedback from
15 interested parties, and inform Stage 2 of the Dynamic Pricing Pilot design. SDG&E expects the
16 third, fourth, and fifth working group meetings would be held in Q1 2027, Q1 2028, and Q1
17 2029 respectively, for final evaluation and analysis of each Dynamic Pricing Pilot stage.

18 Following the second proposed working group meeting, SDG&E proposes to seek
19 approval for its Stage 2 of the Dynamic Pricing Pilots design through a Tier 2 Advice Letter
20 (AL) filing in Q1/Q2 2026, with anticipated approval in Q2/Q3 of 2026, and implementation at
21 the start of Q4 2026. If approved according to this proposed timeline, Stage 2 of the Dynamic
22 Pricing Pilots could begin on October 1, 2026. At this time, SDG&E anticipates that the rate

² ED Staff Recommendations at 5.

1 designs for Stage 2 of the Compensation Export Pilot and Stage 2 of the RTP Pilot will remain
2 the same as their respective Stage 1 Pilot rate designs; however, based on the information and
3 feedback available from the working group meeting, any proposed changes to the rate design
4 will be reflected in SDG&E’s Advice Letter. Additionally, in case of any unexpected and
5 unforeseen implementation issues, SDG&E proposes to seek the Commission’s approval to
6 resolve any such issues through an AL filing.

7 At the end of both stages of the RTP Pilot, remaining customers will be provided with
8 options to: 1) continue on the RTP Pilot rate; 2) revert back to the default commodity rates for
9 their applicable tariff; or 3) to take service on any current rate option available to that customer.³
10 Since the Export Compensation Pilot is a rate rider on an existing bundled SDG&E rate
11 schedule⁴, at the end of both stages of the pilot, remaining customers will be provided with
12 options to: 1) continue on the Export Compensation rate rider; or 2) unenroll from the Export
13 Compensation rate rider, and continue on their existing SDG&E rate schedule without the Export
14 Compensation rate rider. At the conclusion of Stage 2 of the Dynamic Pricing Pilots, an
15 evaluation of the pilot rates will be conducted, as discussed in more detail in the prepared
16 supplemental direct testimony of SDG&E witness Leslie Willoughby (Chapter 6), and a
17 determination made as to whether the Dynamic Pricing Pilots should be implemented fulltime, or
18 whether further design changes are necessary. At this time, SDG&E does not anticipate closing
19 any of the Dynamic Pricing Pilot rates; however, SDG&E reserves the right to seek Commission

³ See ED Staff Recommendations at 5 (“SDG&E should provide a list of choices for participants at the end of each pilot.”).

⁴ Customers receiving commodity service from SDG&E are referred to as “bundled” customers, while customers receiving service from another energy service provider are “departed load” customers.

1 authority to terminate any of the Dynamic Pricing Pilot rates if the circumstances are such that
2 maintaining the rate is impractical.

3 See Attachment A for an illustration of the proposed schedule and timeline for both
4 stages of the Pilot.

5 **B. Eligibility**

6 Stage 1 of the Export Compensation Pilot will be available to commercial electric vehicle
7 (EV) customers on the Electric Vehicle High Power Rate (EV-HP) schedule. SDG&E proposes
8 for Stage 1 of the RTP Pilot to be limited to customers currently taking Utility Distribution
9 Company (UDC) service under the following tariffs: Schedules TOU-DR1, EV-TOU5, TOU-A,
10 AL-TOU, A6-TOU, PA-T-1 and TOU-PA.

11 In Stage 1 of the Dynamic Pricing Pilots, it is important to get as accurate a price signal
12 as possible for the evaluation. For this reason, participating customers in Stage 1 cannot be on
13 any legacy TOU rates⁵ or enrolled in any demand response programs (including Critical Peak
14 Pricing (CPP) and Emergency Load Reduction Program (ELRP)). Participation in those rates
15 and/or programs may give participants conflicting price signals and add additional variables to
16 the data being collected, making it difficult for SDG&E to determine whether load reduction
17 and/or bill impact are due to the price signals of the pilots or other factors specific to those rates.
18 Additionally, to minimize the costs and reduce implementation complexity, for Stage 1 of the

⁵ Non-standard TOU periods other than SDG&E's standard TOU periods adopted in D.17-08-030.

1 Dynamic Pricing Pilots, participants may not be enrolled in a Net Energy Metering (NEM)
2 tariffs,⁶ or conjunctive billing.⁷

3 Dual participation in a demand response program, such as CPP or ELRP, while on a the
4 RTP Pilot could also result in over-compensation to a customer since the customer could receive
5 savings twice for the same load response (aka “double counting”). This over-compensation
6 would be subsidized by other rate payers.

7 SDG&E is proposing that Stage 2 of the RTP Pilot will include all other TOU rate
8 schedules (excluding street lighting), as well as customers enrolled in NEM programs, subject to
9 the remaining exclusions from Stage 1. SDG&E anticipates that the Export Compensation Pilot
10 will be similarly expanded pending the results from Stage 1 of the Export Compensation Pilot.

11 Although SDG&E supports the ED Staff Recommendations that the “Pilot sizes should
12 be large enough to provide sufficient evaluation data and statistically significant finding for
13 parties and the Commission to review and incorporate into tariff offerings[,]”⁸ it is unclear how
14 many customers will enroll. The Dynamic Pricing Pilots are SDG&E commodity pilot program,
15 and therefore participating customers must be bundled customers, taking commodity service
16 from SDG&E. Customers that take commodity service through other Load Service Entities
17 (LSE), such as Community Choice Aggregator (CCA) and Direct Access (DA), will not be
18 eligible to participate in SDG&E’s Export Compensation Pilot nor SDG&E’s RTP Pilot unless

⁶ NEM tariffs include customers on Schedule NEM, NEM-ST, RES-BCT, NEM-V, NEM-V-ST, VNM-A, VNM-A-ST, NEM-FC, and any NEM successor tariffs adopted in D.20-08-020.

⁷ Conjunctive billing refers to customers with multiple meters on a single premise, where meter data is combined for the purpose of billing UDC charges.

⁸ ED Staff Recommendations at 4.

1 their CCA or DA offers similar pilots.⁹ As stated in the prepared supplemental direct testimony
2 of SDG&E witness Jeff DeTuri (Chapter 1), SDG&E intends to continue collaborating with the
3 CCAs in its service territory to create similar dynamic pricing pilots.

4 **C. Enrollment**

5 For Stage 1 of the Export Compensation Pilot, SDG&E recommends a minimum
6 participation target of 10 customer accounts and a maximum limit of 35,000 eligible customer
7 accounts on a first-come first-served basis. As stated in the “Eligibility” section, Stage 1 of the
8 Export Compensation Pilot is available to bundled customers on EV-HP rate schedule, which the
9 EV-HP rate schedule is relatively new and became effective as of 1/1/2022. Currently there are
10 a limited number of customers enrolled in the EV-HP rate schedule;¹⁰ however, SDG&E
11 anticipates an increase in EV-HP customer enrollment by the start of the Stage 1 enrollment
12 period.

13 For Stage 1 of the RTP Pilot, SDG&E proposes minimum target participation of 334
14 customer accounts and a maximum of 3,340 customer accounts for SDG&E’s bundled
15 customers, on a first-come first-served basis with no overall load cap.¹¹ This is consistent with
16 the ED Staff Recommendations which propose a minimum target participation of 1,000 bundled

⁹ ED Staff Recommendations at 5.

¹⁰ As of August 5, 2022, there are a total of 22 customer accounts (bundled and departed load) on EV-HP rate schedule, with only 5 being eligible bundled customer accounts.

¹¹ Bundled target participation numbers were calculated based on eligible bundled and departed load customer accounts as of August 5, 2022 and are subject to change due to increasing departing load customers.

1 and departed load customers and maximum customer participation of 10,000 bundled and
2 departed load customers for Stage 1 of the RTP Pilot.¹²

3 In Stage 2 of the RTP Pilot, SDG&E anticipates expanding eligibility to all customers on
4 TOU rate schedules. Like Stage 1, the eligibility for the Stage 2 RTP Pilot will be based on a
5 first-come first-served basis, with no overall load cap restrictions. For Stage 2 of the RTP Pilot,
6 SDG&E proposes minimum target participation of 1,461 and a limit of 14,608 for SDG&E
7 bundled customers.¹³ This is consistent with the ED Staff Recommendations of a minimum
8 target participation of 3,500 bundled and departed load customer accounts and a maximum limit
9 of 35,000 bundled and departed load customer accounts for Stage 2 of the RTP Pilot. Note,
10 however, that the participation caps may be further revised after the Stage 1 RTP Pilot analysis
11 and workshops and updated in the proposed RTP Stage 2 AL filing. See Attachment B for a
12 table showing the target (minimum and limit) participations by customer class for both stages of
13 the RTP Pilot.

14 Eligible customers who choose to opt into the Export Compensation Pilot and the RTP
15 Pilot and will be enrolled at the beginning of their next billing period.¹⁴ Pre-enrollment for each
16 pilot will begin six months prior to the start of each pilot stage. See Attachment A for
17 illustration of the proposed timeline.

¹² ED Staff Recommendation at 4. It was clarified during the June 24, 2022 workshop on the ED Staff Recommendation that the minimums and maximums anticipated CCA participation. Accordingly, SDG&E has adjusted its target participation accordingly.

¹³ Bundled target participation numbers calculated based on eligible bundled and departed load customer accounts as of August 5, 2022 and are subject to change due to increasing departing load customers.

¹⁴ Customer to be enrolled at the beginning of the next billing cycle upon giving SDG&E at least five business days' notice before the end of the customer's billing cycle. Otherwise, customer will be enrolled at the beginning of the subsequent billing cycle.

1 Importantly, CCA and DA providers now serve a significant portion of SDG&E
2 customers' load, a portion that is expected to increase to approximately 80% by the time the
3 Dynamic Pricing Pilots are open to customer enrollment, greatly reducing the number of eligible
4 customers.¹⁵ All bundled target participation numbers outlined above are calculated based on
5 eligible bundled customer accounts as of August 5, 2022 and subject to change as we anticipate
6 an increase in departing load customers.

7 **D. Unenrollment**

8 Participating customers may unenroll from the Export Compensation or the RTP Pilot at
9 any time and will be unenrolled at the beginning of their next billing period.¹⁶ Thus, a customer
10 may enroll in the Pilot, decide it is not beneficial to them at any time, and unenroll. This is an
11 exception to SDG&E's Electric Rule 12, which limits customers to "only one rate schedule
12 change...in any twelve-month period."¹⁷ However, to avoid potential rate arbitrage wherein a
13 customer would jump from one rate to another as prices between those rates change, SDG&E
14 proposes to allow customers to unenroll one time from the Export Compensation or RTP Pilots.
15 After unenrollment, the customer must wait 12 months to re-enroll. Once unenrolled, a customer
16 will revert to the default commodity rates for their applicable tariff or a current rate option
17 available to that customer of their choosing.

¹⁵ Based on forecasted net load for the year 2024 (using 2021 California Energy Demand Forecast and current CCA enrollment plans), SDG&E estimates 60% of its current customers are served through other LSEs.

¹⁶ Customer to be unenrolled at the beginning of the next billing cycle upon giving SDG&E at least five business days' notice before the end of the customer's billing cycle. Otherwise, customer will be unenrolled at the beginning of the subsequent billing cycle.

¹⁷ SDG&E, Rule 12, available at https://www.sdge.com/sites/default/files/elec_elec-rules_erule12.pdf.

1 **E. Customer Notification**

2 For the Dynamic Pricing Pilots, SDG&E plans to develop a page on the SDG&E website,
3 similar to the current site for posting Schedule Electric Vehicle Grid Integration Pilot Program
4 (VGI) prices,¹⁸ to post the hourly prices by 6 pm the day before they go into effect. The hourly
5 prices will reflect the entire commodity rate for the Export Compensation Pilot, which would be
6 the sum of the California Independent System Operator (CAISO) day-ahead hourly price, and
7 any applicable hourly capacity adder. For both Stage 1 and Stage 2 of the RTP Pilot, the hourly
8 prices will reflect the entire commodity rate, which would be the sum of the CAISO day-ahead
9 hourly price, any applicable hourly capacity adder, and the commodity base rate (see Chapter 3,
10 Rate Design testimony). Hourly prices for the Dynamic Pricing Pilots will be accessible from
11 the SDG&E dedicated webpage for use by customers, and other interested parties. For Stage 1
12 of the Dynamic Pricing Pilot, in addition to the website, SDG&E plans to develop an Application
13 Programming Interface (API) to transmit price signals for third parties that have machine-to-
14 machine automation.

15 SDG&E will continue to provide customers with their meter usage information through
16 the customer’s MyAccount portal. If RTP Pilot participants wish to share their usage data with
17 third parties to better manage their response to hourly pricing, they may do so by following
18 SDG&E’s existing data sharing protocols.¹⁹

19 **III. IMPLEMENTATION COSTS**

20 Pursuant to D.21-07-010, Section 5.5(e), and to effectively support the proposed RTP
21 Pilot, SDG&E proposes to track and recover certain implementation costs through memorandum

¹⁸ SDG&E, Power Your Drive, available at www.sdge.com/pyd-map.

¹⁹ SDG&E, Green Button Connect My Data, available at www.sdge.com/residential/pay-bill/manage-my-account/share-my-data.

1 or balancing accounts. As addressed in the prepared supplemental direct testimony of SDG&E
2 witness Eric Dalton (Chapter 7), SDG&E proposes that all implementation costs shown below
3 are to be tracked and recovered through an RTP Balancing Account.

4 All estimated implementation costs outlined below are for implementation of Stage 1 of
5 the Export Compensation Pilot and both stages of the RTP Pilot. Implementation costs
6 summarized below and in Attachment C here to reflect the capital and incremental costs incurred
7 by SDG&E in executing Stage 1 of the Export Compensation Pilot and both stages of the RTP
8 Pilot.

9 Export Compensation Pilot Stage 2 estimated implementation costs will be further
10 developed during this proceeding once the Export Compensation Pilot Stage 2 eligible customers
11 are determined through data evaluation and proposed working group meetings. SDG&E will
12 seek approval for the Export Compensation Pilot Stage 2 implementation costs through a Tier 2
13 AL filing in Q1 of 2026. This AL process will allow SDG&E to incorporate any relevant lessons
14 learned from Stage 1 of the Dynamic Pricing Pilots and gather feedback from the working group
15 to effectively design the Stage 2 of the Export Compensation Pilot and make necessary
16 adjustments to Stage 2 of the RTP Pilot.

17 **A. Meter Reprogramming**

18 Both Dynamic Pricing Pilots have hourly differentiated rate components that rely on a
19 customer's interval data, for this reason, both pilots require a fifteen minute or hourly interval
20 data recording meter. Most of SDG&E's meters have fifteen-minute or hourly interval data
21 recording capability meter and are compatible with the proposed rate design described in the
22 prepared supplemental direct testimony of SDG&E witness William G. Saxe (Chapter 3). If
23 there are no changes to the proposed rate design, then implementation costs due from meter

1 reprogramming should be minimal. Accordingly, SDG&E is not requesting recovery of meter
2 reprogramming costs for the Dynamic Pricing Pilots.

3 **B. Billing System**

4 In order to minimize the billing system implementation costs for the Dynamic Pricing
5 Pilots, where possible, SDG&E plans to leverage existing functionality within its system that is
6 currently being used to support the Grid Integrated Rate (Schedule PUBLIC GIR)—i.e. CAISO
7 day-ahead hourly pricing, CPP adder, and base commodity rates. Using this approach, SDG&E
8 is forecasting that the total costs for implementing the Stage 1 of the Export Compensation Pilot
9 and both stages of the RTP Pilot within its billing system to be approximately \$8.4 million.

10 These costs will include tasks associated with: 1) planning, analyzing, and developing
11 requirements; 2) designing, building, and validating the new pilot rates and calculations within
12 the billing system; 3) designing, building, and validating new auto-enrollment notifications; 4)
13 performing quality assurance and end-to-end testing to ensure overall accuracy of the system;
14 and 5) deploying and stabilizing the implemented changes.

15 **C. Price Webpage, Push Notifications, and Application Programming Interface** 16 **(API)**

17 As described in the “Customer Notification” section, SDG&E plans to develop a
18 webpage to display the hourly Export Compensation Pilot and RTP Pilot prices for customers on
19 a daily basis. In addition to the webpage, SDG&E plans to implement an API to transmit price
20 signals with the implementation of the Stage 1 of the Dynamic Pricing Pilot, by the end of 2024.
21 Once implemented, the API feature will then be utilized by both RTP Pilot and Export
22 Compensation Pilot. To develop the webpage and implement an API to transmit price signals,
23 SDG&E is forecasting costs of approximately \$965,000.

1 **D. Marketing, Education and Outreach (ME&O)**

2 A description of all Marketing, Education and Outreach (ME&O) proposals, customer
3 support, and the associated estimated budget are addressed in the prepared supplemental direct
4 testimony of SDG&E witness April Bernhardt (Chapter 5). The cost associated with the ME&O
5 effort as described in April Bernhardt’s testimony is estimated to be \$279,180.

6 **E. Measurement and Evaluation (M&E)**

7 A description of all Measurement and Evaluation (M&E) plan, including load impacts,
8 load shifts, battery storage consideration and the associated estimated budget are addressed in the
9 prepared supplemental direct testimony of SDG&E witness Leslie Willoughby (Chapter 6). The
10 cost associated with the evaluation effort as described in Leslie Willoughby’s testimony is
11 estimated to be \$2.9 million.

12 **F. Rate Impact**

13 For the Dynamic Pricing Pilots, the total incremental revenue requirement, including
14 Franchise Fees and Uncollectibles (FF&U), is approximately \$16.0 million. Included in the total
15 incremental revenue requirement, SDG&E forecasts a total implementation cost of
16 approximately \$12.6 million, further broken down to approximately \$0.2 million in 2023, \$5.2
17 million in 2024, \$2.1 million in 2025, \$4.1 million in 2026, and \$0.5 million in 2027. See
18 Attachment D for the incremental revenue requirement broken down by year.

19 If approved, SDG&E requests that recovery of the proposed implementation costs
20 become effective on January 1, 2025, as part of its annual consolidated advice letter, or the
21 soonest subsequent rate change. When compared to current effective rate,²⁰ SDG&E anticipates
22 that recovery of these costs will result in an increase in system average electric rates of

²⁰ Effective June 1, 2022, per AL 4004-E.

1 approximately 0.06%. The average monthly bill for a typical bundled, non-California Alternate
2 Rates for Energy (CARE), residential customer living in the inland and coastal climate zones
3 using 400 kWh per month would see an increase of \$0.09 in 2025. See Attachment E for the
4 current and illustrative class average electric rates for January 1, 2025.

5 **IV. SUMMARY AND CONCLUSION**

6 SDG&E recommends that the Commission adopt the proposed Export Compensation
7 Pilot and RTP Pilot program design and implementation costs as in the best interest of rate
8 payers and as reasonable and just in order to effectively support the proposed Dynamic Pricing
9 Pilots.

10 This concludes my prepared supplemental direct testimony.

1 **V. STATEMENT OF QUALIFICATIONS**

2 My name is Ray Utama and I am a Rate Strategy Project Manager II in the Customer
3 Pricing department for SDG&E. My business address is 8330 Century Park Court, San Diego,
4 California, 92123. I have held this position for approximately one year and have held various
5 positions with increasing levels of responsibility within the Sempra Energy family of companies
6 for approximately ten years. I received a Bachelor of Science degree in Accountancy, with a
7 minor in Economics, from the San Diego State University in 2010. I am a Certified Public
8 Accountant, licensed in the state of California. I have previously testified before the
9 Commission. I have previously submitted testimony before the Federal Energy Regulatory
10 Commission.

ATTACHMENT A

PROPOSED TIMELINE¹

Proposed Pilot Timeline: Subject to change

	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024	Q4 2024	Q1 2025	Q2 2025	Q3 2025	Q4 2025	Q1 2026	Q2 2026	Q3 2026	Q4 2026	Q1 2027	Q2 2027	Q3 2027	Q4 2027	Q1 2028	Q2 2028	Q3 2028	Q4 2028	Q1 2029		
Export Compensation Pilot Stage 1	Implementation Planning																								
			Stage 1 ME&O																						
				Pre-Enrollment																					
												Stage 1 Pilot													
Export Compensation Pilot Stage 2																									
RTP Stage 1 Pilot																									
RTP Stage 2 Pilot																									

¹ SDG&E notes that this is a proposed timeline only with October 1, 2024 and October 1, 2026 as the dates of commencement of Stage 1 and Stage 2 Dynamic Pricing Pilots. To the extent any of the pilots commences later, other dates on this timeline may shift accordingly.

ATTACHMENT B
PROPOSED PARTICIPATION TARGET
FOR RTP PILOT STAGE 1

Customer Class	Total				Bundled			
	# of Eligible Customer Accounts*	% by Class	Min. Target	Max. Limit	# of Eligible Customer Accounts*	% of Total Customer Accounts	Min. Target**	Max. Limit**
Residential	401,622	83%	833	8,335	150,618	38%	313	3,125
Small Commercial	67,969	14%	141	1,411	6,753	10%	14	140
M/L C&I	9,409	2%	20	195	1,038	11%	2	22
Agriculture	2,834	1%	6	59	2,539	90%	5	53
Target Total	481,834		1,000	10,000	160,948		334	3,340

*Approximate number of total bundled eligible customer accounts for Stage 1 of the RTP Pilot as of August 5, 2022. Per the Eligibility section of this testimony, eligible customers cannot be enrolled in any legacy TOU rates, any NEM schedules, any demand response programs, or conjunctive billing.

**Approximate target participations for Stage 1 of the RTP Pilot based on total bundled eligible customer population as of August 5, 2022 and the proposed target percentages by customer class.

PROPOSED PARTICIPATION TARGET
FOR RTP PILOT STAGE 2

Customer Class	Total				Bundled			
	# of Eligible Customer Accounts*	% by Class	Min. Target	Max. Limit	# of Eligible Customer Accounts*	% of Total Customer Accounts	Min. Target**	Max. Limit**
Residential	561,635	86%	3,012	30,121	259,324	46%	1,391	13,908
Small Commercial	76,155	11%	408	4,084	8,402	11%	45	450
M/L C&I	11,095	2%	60	595	1,378	12%	7	74
Agriculture	3,727	1%	20	200	3,278	88%	18	176
Target Total	652,612		3,500	35,000	272,382		1,461	14,608

*Approximate number of total bundled eligible customer accounts for Stage 2 of the RTP Pilot as of August 5, 2022. Per the Eligibility section of this testimony, SDG&E is proposing to expand Stage 2 Pilot's eligibility to include all customers on any TOU schedule, as well as customers enrolled in NEM, subject to the remaining exclusions from Stage 1.

**Approximate target participations for Stage 2 of the RTP Pilot based on total bundled eligible customer population as of August 5, 2022 and the proposed target percentages by customer class.

ATTACHMENT C
PROPOSED IMPLEMENTATION COSTS
FOR STAGE 1 OF THE EXPORT COMPENSATION PILOT
AND BOTH STAGES OF THE RTP PILOT

Activity / Item	RTP Stage 1	RTP Stage 2	Export Compensation Stage 1	Treatment
Meter Reprogramming	\$0	\$0	\$0	RTP Balancing Account
Billing System	\$2,990,000	\$4,250,000	\$1,200,000	RTP Balancing Account
Price Webpage and API	\$380,000	\$510,000	\$75,000	RTP Balancing Account
Marketing, Education and Outreach (ME&O)	\$210,720	\$58,460	\$10,000	RTP Balancing Account
Measurement and Evaluation (M&E)	\$1,347,898	\$1,082,832	\$511,259	RTP Balancing Account
Total	\$4,928,618	\$5,901,292	\$1,796,259	

ATTACHMENT D

**PROPOSED INCREMENTAL REVENUE REQUIREMENT
FOR STAGE 1 OF THE EXPORT COMPENSATION PILOT
AND BOTH STAGES OF THE RTP PILOT**

<i>(\$ Thousands)</i>	2023	2024	2025	2026	2027	2028	2029	2030	Total
Incremental Revenue Requirement (with FF&U)	\$251	\$899	\$1,983	\$2,405	\$3,176	\$2,942	\$2,302	\$1,277	\$16,043
Incremental Revenue Requirement (without FF&U)	\$242	\$866	\$1,912	\$2,318	\$3,061	\$2,835	\$2,219	\$1,231	\$15,463

ATTACHMENT E

ILLUSTRATIVE ELECTRIC CLASS AVERAGE RATES FOR STAGE 1 OF THE EXPORT COMPENSATION PILOT AND BOTH STAGES OF THE RTP PILOT

Customer Class	Current Rates (6/1/2022)*	Illustrative Proposed Rates (1/1/2025)*	Change	Change
	(¢ / kWh)	(¢ / kWh)	(¢ / kWh)	(%)
Residential	34.034	34.059	0.025	0.07%
Small Commercial	31.877	31.900	0.023	0.07%
M/L C&I	28.472	28.486	0.014	0.05%
Agriculture	22.709	22.723	0.014	0.06%
Lighting	28.835	28.862	0.027	0.09%
System Total	30.510	30.528	0.018	0.06%

*Including residential California Climate Credit which is received semi-annually.

ATTACHMENT F
PROPOSED TERM SHEET

Proposal: SDG&E Dynamic Pricing Pilot Options for Real-Time Pricing (RTP) Pilot Stage 1 and Export Compensation Pilot Stage 1

Item	RTP Stage 1 Description	Export Compensation Stage 1 Description
<p>Objectives/Purpose</p>	<p>RTP Stage 1 Pilot will provide select Time of Use (TOU) customers from all customer classes, excluding street lighting, a choice to receive hourly price signals a day ahead to encourage changes in their load patterns to contribute to California’s (CA’s) clean energy goals and reduce utility operating costs to help keep rates affordable.</p>	<p>Export compensation is an optional commodity credit-for-export rate that offers compensation for energy exports from electric vehicles (“EVs”) to the grid. This rate can potentially increase reliability by sending appropriate price signals to incentivize grid exports during periods of peak electricity demand.</p>
<p>Enrollment</p>	<ul style="list-style-type: none"> • Optional program: <ul style="list-style-type: none"> ○ Customer chooses to enroll in the RTP Stage 1 Pilot (Opt-In) ○ Customer may unenroll from the RTP Stage 1 Pilot at any time subject to unenrollment requirements below ○ Customer must have an interval meter • Stage 1 Pilot period limited to: <ul style="list-style-type: none"> ○ Pre-enrollment begins on 4/1/2024 ○ Stage 1 Pilot aims to begin on 10/1/2024, with customers enrolled in “pre-enrollment” period placed on RTP Pilot rate for the first billing period on/after 10/1/2024 ○ For enrollment after the start date, customer to be enrolled at the beginning of the next billing cycle upon giving SDG&E at least five business days’ notice before the end of the customer’s billing cycle. Otherwise, customer will be enrolled at the beginning of the subsequent billing cycle. ○ Stage 1 Pilot terminates two years after the start date ○ Following the Stage 1 Pilot termination, remaining customers can choose to be enrolled in the RTP Stage 2 Pilot; revert back to the default commodity rates for their applicable tariff; or take service on any current rate option available to that customer. • Unenrollment: <ul style="list-style-type: none"> ○ Customer to be unenrolled at the beginning of the next billing cycle upon giving SDG&E at least five business days’ notice before the end of the customer’s billing cycle. Otherwise, customer will be unenrolled at the beginning of the subsequent billing cycle. ○ Upon unenrollment, customer reverts to existing default commodity rate structures or a current rate option available to that customer 	<ul style="list-style-type: none"> • Optional program: <ul style="list-style-type: none"> ○ Customer chooses to enroll in the Export Compensation Stage 1 Pilot (Opt-In) ○ Customer may unenroll from the Export Compensation Stage 1 Pilot at any time subject to unenrollment requirements below ○ Customer must have an interval meter ○ Customer must have a Rule 21 export agreement • Stage 1 Pilot period limited to: <ul style="list-style-type: none"> ○ Pre-enrollment begins on 4/1/2024 ○ Stage 1 Pilot aims to begin on 10/1/2024, with customers enrolled in “pre-enrollment” period placed on Export Compensation Pilot rate for the first billing period on/after 10/1/2024 ○ For enrollment after the start date, customer to be enrolled at the beginning of the next billing cycle upon giving SDG&E at least five business days’ notice before the end of the customer’s billing cycle. Otherwise, customer will be enrolled at the beginning of the subsequent billing cycle. ○ Stage 1 terminates two years after the start date ○ Following the Stage 1 Pilot termination, remaining customers can choose to continue on the Stage 2 rate; or they can unenroll and continue on their existing SDG&E rate schedule. • Unenrollment <ul style="list-style-type: none"> • Customer to be unenrolled at the beginning of the next billing cycle upon giving SDG&E at least five business

Item	RTP Stage 1 Description	Export Compensation Stage 1 Description
		<p>days' notice before the end of the customer's billing cycle. Otherwise, customer will be unenrolled at the beginning of the subsequent billing cycle.</p> <ul style="list-style-type: none"> • Upon unenrollment, customer will unenroll from the pilot and continue on their existing rate schedule
Eligibility	<ul style="list-style-type: none"> • Stage 1 Pilot is limited to SDG&E select TOU customers currently taking Utility Distribution Company (UDC) electric service on Schedules TOU-DR1, EV-TOU-5, TOU-A, AL-TOU, A6-TOU, PA-T-1, TOU-PA • Stage 1 Pilot size is limited to a maximum of 3,340 bundled customer accounts and a targeted minimum of 334 bundled customer accounts • Each eligible customer class will further have a cap based on the portion of total customers that customer class represents, and the minimum target level will be set at 10% of the cap • SDG&E is not recommending a minimum enrollment for customers that are low income (CARE/FERA) and/or in disadvantaged communities • Customers enrolled on the following current programs are not eligible (unless they unenroll) for Stage 1: <ul style="list-style-type: none"> ○ Net-Energy-Metering (NEM) ○ Any SDG&E-offered Demand Response (DR) program, including the default Critical Peak Pricing (CPP) program and Emergency Load Reduction Program (ELRP) ○ Conjunctive billing ○ Legacy TOU rates 	<ul style="list-style-type: none"> • Stage 1 Pilot is available to C&I EV customers who are on the EV-HP rate. • Stage 1 Pilot size is limited to a maximum of 35,000 bundled customer accounts and a targeted minimum of 10 bundled customer accounts • Customers enrolled on the following current programs are not eligible (unless they unenroll) for Stage 1: <ul style="list-style-type: none"> ○ Net-Energy-Metering (NEM) ○ Any SDG&E-offered Demand Response (DR) program, including the default Critical Peak Pricing (CPP) program and Emergency Load Reduction Program (ELRP) ○ Conjunctive billing ○ Legacy TOU Rates
Rate Design	<ul style="list-style-type: none"> • New "Commodity Rate" in SDG&E's commodity tariff for Stage 1: <ul style="list-style-type: none"> ○ Volumetric hourly rate based on California Independent System Operator (CAISO) day ahead hourly price ○ Volumetric capacity adder equal to the commodity Critical Peak Pricing (CPP) hourly adder, applied to hours in which an event has been called ○ Volumetric rate equal to the commodity base rate adjusted downward to remove the variable CAISO production costs and RTP CPP commodity capacity adder revenues • Customers will continue to take UDC electric service on their current applicable UDC rate 	<ul style="list-style-type: none"> • New "Commodity Credit-for Export Rate" is a rate rider in SDG&E's commodity tariff for Stage 1: <ul style="list-style-type: none"> ○ Volumetric hourly rate based on California Independent System Operator (CAISO) day ahead hourly price ○ Volumetric capacity adder equal to the commodity Critical Peak Pricing (CPP) hourly adder, applied to hours in which an event has been called
Key Program Parameters	<ul style="list-style-type: none"> • Pricing webpage on the SDG&E website, SDGE.com (similar to the current site for posting Schedule VGI (Electric Vehicle Grid Integration Pilot Program) prices) 	<ul style="list-style-type: none"> • Pricing webpage on the SDG&E website, SDGE.com (similar to the current site for posting Schedule VGI (Electric Vehicle

Item	RTP Stage 1 Description	Export Compensation Stage 1 Description
	<ul style="list-style-type: none"> • SDG&E will post the day ahead hourly RTP prices by 6 pm the day before they go into effect • Customers will self-serve and pull pricing from SDG&E's webpage • Pricing webpage will have an API component 	<p>Grid Integration Pilot Program) prices)</p> <ul style="list-style-type: none"> • SDG&E will post the day ahead hourly RTP prices by 6 pm the day before they go into effect • Customers will self-serve and pull pricing from SDG&E's webpage • Pricing webpage will have an API component
Duration with Start Year and Ramp	<ul style="list-style-type: none"> • Stage 1 Pilot Proposed Timing <ul style="list-style-type: none"> ○ Q1 2024: ME&O begins ○ 4/1/2024: Pre-enrollment starts, ending when enrollment threshold is met ○ 10/1/2024: Start RTP Stage 1 Pilot rate and billing ○ 9/30/2025: End of first year Stage 1 Pilot ○ Q1 2026: Year 1 M&E Report ○ 9/30/2026: End of Stage 1 Pilot ○ Q1 2027: Final M&E Report ○ Q2 2027: File Tier 2 Advice Letter • Stage 2 Pilot Proposed Timing <ul style="list-style-type: none"> ○ Q2 2026: Submit Stage 2 Design based on Year 1 Stage 1 Pilot results ○ 4/1/2026: Pre-enrollment starts, ending when enrollment threshold is met ○ 10/1/2026: Start Stage 2 program rates and billing ○ 9/30/2028: End of Stage 2 Pilot ○ Q1 2029: Final M&E Report 	<ul style="list-style-type: none"> • Stage 1 Pilot Proposed Timing <ul style="list-style-type: none"> ○ Q1 2024: ME&O begins ○ 4/1/2024: Pre-enrollment starts ○ 10/1/2024: Start Export Compensation Pilot Stage 1 rate and billing ○ 9/30/2026: Year 1 M&E Report ○ 9/30/2026: End of Stage 1 Pilot ○ Q1 2027: Final M&E Report ○ Q2 2027: File Tier 2 Advice Letter
Measurement & Evaluation	<p>SDG&E will perform ex-post load impacts, process evaluation, participant and non-participant surveys and/or focus groups as well as Post Event surveys. For the Stage 1 Pilot, these activities will inform and help shape the program design for Stage 2.</p> <p>Evaluation methodology:</p> <ul style="list-style-type: none"> • Load impacts due to shifts and or reductions including impact of technology on load shift will be conducted. <ul style="list-style-type: none"> ○ SDG&E may conduct customer interviews to determine how the customer may have changed their behavior or invested in technology to change load patterns and usage levels. • Bill savings quantification <ul style="list-style-type: none"> ○ SDG&E will compare customer bills on the RTP pilot to their bills on their previous rate • Participant and non-participant surveys (to include customer understanding and satisfaction) <ul style="list-style-type: none"> ○ SDG&E may conduct customer interviews to gain insights on the customer's pilot experience and reasons for enrolling ○ SDG&E will interview any customer who unenrolls to gain insights on reasons for unenrollment ○ SDG&E will interview customers that meet the eligibility requirement but do not enroll to find out what the obstacles are for the customer. 	<p>SDG&E will perform ex-post load impacts, process evaluation, participant and non-participant surveys and/or focus groups as well as Post Event surveys. For the Stage 1 Pilot, these activities will inform and help shape the program design for Stage 2.</p> <p>Evaluation methodology:</p> <ul style="list-style-type: none"> • Load impacts due to shifts and or reductions. <ul style="list-style-type: none"> ○ Using smart meter data, compare pre and post loads, during SDG&E CPP periods, by analyzing imported and exported energy leading up to and during CPP events. • Participant surveys (to include customer understanding and satisfaction) <ul style="list-style-type: none"> ○ Document customer experiences with respect to having the technologies to enable exporting loads. Survey participants about ease of notifications, ability to change schedules to meet export goals, and ease of participation.

Item	RTP Stage 1 Description	Export Compensation Stage 1 Description
	<ul style="list-style-type: none"> • Cost shift quantification and carbon reduction quantification <ul style="list-style-type: none"> ○ SDG&E will calculate the cost shift by participating customer and into total for the pilot as part of the M&E ○ Cost shift will be quantified as the difference in revenue collected from the customer under the RTP tariff versus the customer's previous tariff less the benefits of cost and carbon reduction from the 'impact estimation' 	
Marketing, Customer Education and Outreach	<p>SDG&E proposes a targeted marketing strategy that will educate customers about the availability of the Dynamic Pricing Pilots and help drive enrollment through low-cost, targeted communication channels. Third Parties would take an active role in lead generation to increase enrollment, particularly for the medium and large commercial segments. SDG&E will provide resources for Third Parties to leverage in their ME&O activities. SDG&E will use available data to target eligible customers, particularly for residential and small business customers. SDG&E will engage all participants throughout the customer experience with information and resources to assist them on the Pilots, as necessary.</p> <p>Target Audience: EV owners/operators, energy storage owners/operators, automated technology owners/operators</p>	<p>SDG&E proposes a targeted marketing strategy that will educate customers about the availability of the Dynamic Pricing Pilots and help drive enrollment through low-cost, targeted communication channels. SDG&E plans to leverage existing Third Party and customer relationships through its Clean Transportation Account Executive team to help enroll bundled customers. SDG&E will provide resources for Third Parties to leverage in their ME&O activities. SDG&E will engage all participants throughout the customer experience with information and resources to assist them on the Pilots, as necessary.</p> <p>Target Audience: EV customers taking distribution service on SDG&E's Schedule EV-High Power rate</p>
Contingencies	In the event that day ahead hourly RTP prices are not available by 6 pm on the day before they go into effect, the previous day's pricing will be applied.	In the event that day ahead hourly RTP prices are not available by 6 pm on the day before they go into effect, the previous day's pricing will be applied.
Participation Incentives	First 1,000 bundled residential customers in Stage 1 RTP will be offered a \$300 incentive to participate in the pilot. The incentive will be provided in phases. Some of the incentive money will be provided when the customer signs up for the RTP pilot, and then incentives for completing surveys during the pilot.	None
Bill Protection	None	None
Risk Protection	None	None
Cost Tracking and Recovery	SDG&E will establish a two-way balancing account to track program costs to be addressed annually via SDG&E's Annual Regulatory Account Balance Update, with the exception of the consultant and facilitation costs of up to \$150,000, which will be tracked and recovered through SDG&E's existing Residential Reform Memorandum Account.	SDG&E will establish a two-way balancing account to track program costs to be addressed annually via SDG&E's Annual Regulatory Account Balance Update.