

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

Application: 15-04-012
Exhibit No.: SDG&E-01

**PREPARED DIRECT TESTIMONY OF
CYNTHIA FANG**

**ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY IN SUPPORT OF
SECOND AMENDED APPLICATION**

CHAPTER 1

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

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

December 1, 2015

February 9, 2016



TABLE OF CONTENTS

I. INTRODUCTION 1

II. POLICY OBJECTIVES..... 2

 A. SDG&E’s Rate Design Policy Objectives 4

 B. Laying the Foundation for a Rate Design for the Future 8

III. GRC PHASE 2 APPLICATION OVERVIEW 2928

IV. SDG&E’S RATE DESIGN PROPOSALS ARE ALIGNED WITH THE COMMISSION’S
RATE DESIGN POLICY OBJECTIVES..... 3130

 A. SDG&E’s Proposals Provide a Gradual Transition Path to Accurate Price Signals and
 Promote Transparent Incentives. 3130

 B. SDG&E Proposes Rate Options that Allow Customer Choice..... 3433

 C. SDG&E Proposes a Gradual Implementation Path for Rate Design Changes, to Minimize
 Impacts and Enhance Customer Transition. 3534

 D. SDG&E Proposes Annual Sales Updates for Greater Stability in Rates and Customer
 Bills..... 3635

V. CONCLUSION AND SUMMARY 3736

VI. WITNESS QUALIFICATIONS 3938

APPENDIX – GLOSSARY OF ACRONYMS 4039

1 **PREPARED DIRECT TESTIMONY OF**
2 **CYNTHIA FANG IN SUPPORT OF SECOND AMENDED APPLICATION**

3 **~~(CHAPTER 1)~~**

4 **I. INTRODUCTION**

5 This testimony provides the policy support for the electric revenue allocation and rate
6 design proposals associated with the implementation of San Diego Gas & Electric Company’s
7 (“SDG&E”) test year (“TY”) 2016 General Rate Case (“GRC”) Phase 1 electric revenue
8 requirement,¹ and introduces the witnesses supporting the proposals. With the proposals in this
9 proceeding, SDG&E continues to promote the movement towards accurate price signals and
10 transparent incentives in the development and design of retail rates for its customers. SDG&E
11 firmly believes that only with a rate design that consists of accurate price signals and transparent
12 incentives can a sustainable path be created for the achievement of the State’s energy policy
13 goals, that is growth in renewables and distributed energy resources (“DER”) in a manner that
14 minimizes cost shift to non-participating customers as well as providing more equitable
15 treatment for all customers and all technologies. Provision of accurate price signals and
16 transparent incentives is the best way to reconcile the many policy principals and objectives set
17 forth by the California Public Utilities Commission (“Commission”), including the Rate Design

¹ Application (“A.”) 14-11-003.

1 Principles set forth in Rulemaking (“R.”) 12-06-013 Residential Rate Reform OIR
2 (“RROIR”).² Recognizing the importance of customer understanding and acceptance, SDG&E
3 has taken a balanced approach in this proceeding by proposing a three-year transition path for the
4 implementation of its various proposals.

5 **II. POLICY OBJECTIVES**

6 California continues to be a leader in shaping national energy policy, in particular with its
7 adoption of a set of comprehensive policies and initiatives aimed at significantly reducing
8 Greenhouse Gases (“GHG”). The achievement of these goals has not been blind to the potential
9 rate and cost shift implications that these programs would have for electric utility customers. For
10 instance, Renewables Portfolio Standards (“RPS”) goals of 33% by 2020 include a cost
11 limitation provision “...set at a level that prevents disproportionate rate impacts.”³ Assembly
12 Bill (“AB”) 327 requires that Net Energy Metering (“NEM”) moves forward in a manner that (i)

² Attachment A to November 26, 2012 Scoping Memo and Ruling in R.12-06-013, *Order Instituting Rulemaking on the Commission’s Own Motion to Conduct a Comprehensive Examination of Investor Owned Electric Utilities’ Residential Rate Structures, the Transition to Time Varying and Dynamic Rates, and Other Statutory Obligations* (“RROIR”):

1. Low-income and medical baseline customers should have access to enough electricity to ensure basic needs (such as health and comfort) are met at an affordable cost;
2. Rates should be based on marginal cost;
3. Rates should be based on cost-causation principles;
4. Rates should encourage conservation and energy efficiency;
5. Rates should encourage reduction of both coincident and non-coincident peak demand;
6. Rates should be stable and understandable and provide stability, simplicity and customer choice;
7. Rates should generally avoid cross-subsidies, unless the cross-subsidies appropriately support explicit state policy goals;
8. Incentives should be explicit and transparent;
9. Rates should encourage economically efficient decision-making; and
10. Transitions to the new rate structures should emphasize customer education and outreach that enhances customer understanding and acceptance of new rates, and minimizes and appropriately considers the bill impacts associated with such transitions.

³ California Public Utilities Code Section 399.15 (d).

1 is “based on the costs and benefits of the renewable electrical generation facility;”⁴ (ii) ensures
2 “total benefits of the standard contract or tariff to all customers and the electrical system are
3 approximately equal to total costs;”⁵ and (iii) ensures “sustainable growth.”⁶

4 Achieving these goals in a sustainable manner will require rates that reflect accurate
5 prices and transparent incentives. A recent Rocky Mountain Institute (“RMI”) report, *Net*
6 *Energy Metering, Zero Net Energy and the Distributed Energy Resource Future* (“Report”),
7 observes that “California’s electricity system stands at the forefront of changes that are
8 transforming the electricity industry globally. These changes include integration of increasing
9 amounts of renewable electricity supplies, creation and execution of programs to improve
10 customers’ energy efficiency, and implementation of new smart grid technologies for better
11 coordination, control, and communication in managing the electricity grid.”⁷ Indeed, there is
12 consensus that the utility power grid “is evolving from a one-way centralized power delivery
13 system to a more open, flexible, multipoint digitized network (or platform) with a collection of
14 technologies and assets, some controlled by the utility and some not.”⁸ This concept of the grid
15 as a “plug-and-play platform” for integration of new services and technologies is relatively
16 recent, but it is undeniably the shape of things to come. The Report points out that the
17 transformed role of the consumer – from passive recipient of service to an active participant in an
18 interconnected grid – brings a new dimension to the electric utility business environment. It
19 notes that “the electricity system of the future is likely to encompass an increasingly diverse and

⁴ Public Utilities Code § 2827.1(b)(3).

⁵ Public Utilities Code § 2827.1(b)(4).

⁶ Public Utilities Code § 2827.1(b)(1).

⁷ Rocky Mountain Institute (“RMI”), *Net Energy Metering, Net Zero Energy and the Distributed Energy Resource Future*, p. 2. Available at: http://www.rmi.org/rmi_pge_adapting_utility_business_models.

⁸ The Edison Foundation Institute for Electric Innovation, *Innovations Across the Grid*, Vol.2, December, 2014, p. 3. Available at: http://www.edisonfoundation.net/iei/Documents/IEI_InnovationsGrid_volII_final_LowRes.pdf

interconnected set of actors, with widely varying assets, behaviors, and motivations.”⁹ The Report observes further that “the effectiveness of a utility’s role in conducting the orchestra of distributed energy resources that interact with its system will be a critical factor in achieving favorable outcomes for all stakeholders. *And the long-term health and stability of the electricity grid will be essential to making such a system work.* (emphasis added)”¹⁰ In other words, significant investment in upgrading the grid will be necessary in order to successfully manage the evolution of the electric grid to a “grid of things” that seamlessly integrates new energy resources and technologies.

A. SDG&E’s Rate Design Policy Objectives

SDG&E has set forth its rate design principles in various proceedings. In RROIR, the Commission adopted the following ten Rate Design Principles (“RDP”) for rate design. While the RROIR was limited to residential rate design, SDG&E believes these principles should guide the rate design for all customers. Table 1 below presents the RDPs in the four categories consistent with D.15-07-001: cost of service, affordable electricity, conservation and customer acceptance.

Table 1: Rate Design Principles

Cost Of Service RDP	Affordable Electricity RDP	Conservation RDP	Customer Acceptance RDP
(2) Rates should be based on marginal cost; (3) Rates should be based on cost-causation principles; (7) Rates should generally avoid cross-subsidies, unless the cross-subsidies appropriately support explicit state policy goals; (8) Incentives should be explicit and transparent;	(1) Low-income and medical baseline customers should have access to enough electricity to ensure basic needs (such as health and comfort) are met at an affordable cost.	(4) Rates should encourage conservation and energy efficiency; (5) Rates should encourage reduction of both coincident and non-coincident peak demand.	(6) Rates should be stable and understandable and provide customer choice; (10) Transitions to new rate structures should emphasize customer education and outreach that enhances customer understanding and acceptance of new rates, and minimizes and appropriately considers the

⁹ RMI Report, supra, note 27, p. 2.

¹⁰ Id.

(9) Rates should encourage economically efficient decision-making.			bill impacts associated with such transitions.
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While there may appear to be tension between the individual RDP when examined individually, as stated in the RROIR, SDG&E believes that all of the ten RDP can be met with a rate design that meets the following guidance:

- Utilities charge for the services they provide;
- Rates are designed to recover costs on the same basis as they are incurred; and,
- Incentives or subsidies that have been deemed necessary to further public policy objectives are separately and transparently identified.¹¹

Only when rate design is such that (1) utilities charge for the services they provide; (2) rates are designed to recover costs on the same basis as they are incurred; and (3) incentives or subsidies that have been deemed necessary to further public policy objectives are separately and transparently identified will the Cost of Service Rate Design Principles (RDP 2, 3, 7, 8, 9) be satisfied. Only through explicit and transparent incentives can we simultaneously encourage conservation and energy efficiency (RDP 4), encourage reductions in both coincident and non-coincident peak demand (RDP 5), and maintain affordability (RDP 1) for all customers. When all customers see the correct price signals to ensure economically-efficient decision making by all (RDP 9), then customers receive bill benefits for behavior that lowers the cost of service for all customers rather than for behavior that increases cost shifts to other customers. As SDG&E put forth in its vision statement for residential rates as part of the RROIR:

*SGD&E will offer simple and fair rate options that empower customers to make efficient energy choices.*¹²

¹¹ R.12-06-013, Rebuttal Testimony of Caroline A. Winn (Chapter 1), p. CAW-3.

1 This desired result can only occur by partnering outreach and education to ensure that the
2 Customer Acceptance RDPs are satisfied.

3 SDG&E further explained its guiding principles in the NEM 2.0 Successor Tariff
4 proceeding (R.14-07-002):

- 5 1. Fairness: Cost-based/transparent/reduce cross-subsidies.
- 6 2. Grid Enhancing: Rate Structure optimizes grid benefits.
- 7 3. Choice: Provides customers options.
- 8 4. Policy Goals: Aligns with State’s goals and supports continued growth of DER
9 adoption.¹³

10 While RROIR focused on the rate design for residential customers, in NEM 2.0, the
11 emphasis included considerations for sustainable DER growth. However, the rate design needed
12 to meet those objectives follows the same guidance as is needed to meet the policy objectives in
13 RROIR – both require a rate design that reflects accurate prices and, where incentives are
14 needed, they are direct and transparent. Only with a rate design that reflects accurate prices and
15 direct, transparent incentives can there be a path for sustainable growth for all DER technologies
16 in a manner that minimizes cost shifts to non-participating customers. A rate design that reflects
17 accurate prices and transparent incentives is necessary to provide a platform for utility customers
18 to make economically efficient decisions in their investments in energy resources; that is, choices
19 for investments in energy efficiency (“EE”), demand response (“DR”), and DER, are done so
20 with proper information. (i.e., based on accurate price signals).

21 SDG&E’s rate design proposals in this Application, as described in the testimony of
22 SDG&E witness Christopher Swartz (Chapter 2) and others, promote the following policy goals:

¹² *Id.* at CAW-4.

¹³ SDG&E’s NEM Successor Tariff Proposal, p. 12

- 1 1. **Accurate price signals:** Providing customers with accurate price signals means
2 that utilities charge for the services they provide and rates are designed to cover
3 costs on the same basis as they are incurred. By sending customers clear price
4 signals regarding the cost of electricity and the cost of using the electric grid for
5 the services they receive, SDG&E aims to give customers the best possible
6 opportunity to make wise decisions about their energy use and to mitigate cost
7 shifts between customers. Cost-shifting is exacerbated with incentives that are
8 buried in rates and not transparently identified.
- 9 2. **Transparent incentives:** Incentives or subsidies that have been deemed
10 necessary to further public policy objectives are separately and transparently
11 identified. Building upon the foundation of accurate price signals, subsidies that
12 advance state policy goals should be transparently identified in utility bills,
13 separate from the charges for services provided to or from the customer.
- 14 3. **Customer options:** SDG&E believes that a critical aspect of SDG&E's policy
15 framework is to balance the needs of customers while still providing a cost-based
16 rate structure. SDG&E recognizes the importance of continuing to offer
17 customers new cost-based rate options that best meet their needs.
- 18 4. **Transition paths to minimize impacts and inform customers:** SDG&E is
19 committed to proactively providing customers with clear and timely information
20 to help customers prepare for any rate change including those presented in this
21 Application. SDG&E believes that implementing rate design changes in
22 transitional phases: (i) helps to minimize customer impacts and (ii) provides the

1 best opportunity for customers to progressively become more engaged and
2 informed about the choices that are available to them.

3 SDG&E’s four policy objectives are summarized in the diagram below.

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5 **Diagram 1: SDG&E Rate Design Policy Objectives**



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7 **B. Laying the Foundation for a Rate Design for the Future**

8 ~~Accurate price signals become more important as we look out over~~ Given the future
9 challenges ~~referenced above that face~~ and opportunities faced by California investor-owned-
10 utilities (“IOUs”).

11 ~~As mentioned above, one~~), some of SDG&E’s which are described herein, the
12 importance of establishing the “right” rate design objectives are that rates should be designed to

1 ~~recover costs on the same basis as they are incurred. Building on this, a typical electric cost~~
2 ~~based rate would have the following structure:now cannot be overstated.~~

3 There will likely be more change within the electric industry in the next ten years than in
4 the past 100 – California must anticipate this change and implement a well-conceived rate design
5 that furthers rather than impedes advancement. It is critical that as the State moves forward into
6 the next decade, its rate design policies be carefully crafted to maintain the current momentum
7 toward realization of a sustainable energy future that incorporates increasing amounts of DER
8 through reliance on an advanced electric grid, while minimizing cost impacts on utility
9 customers.

10 SDG&E has fully embraced the State’s vision of increased DER integration. For
11 example, as of the end of 2015, SDG&E had approximately 500 MW of customer sited solar and
12 wind generation from nearly 75,000 customers. SDG&E currently has 19,000 electric vehicles
13 within its service territory, and has recently received a final decision in its Vehicle Grid
14 Integration (“VGI”) Pilot application, where the role rate design plays in promoting grid
15 integration was recognized.¹⁴ In addition, the procurement plan set forth in D.13-10-040 in
16 Rulemaking 10-12-007 Order Instituting Rulemaking Pursuant to Assembly Bill 2514 to
17 Consider the Adoption of Procurement Targets for Viable and Cost-Effective Energy Storage
18 Systems contemplates that SDG&E will have 165MW of energy storage by 2020. Given this
19 rapid progress toward significant increases in DER now and continuing into the future, SDG&E
20 submits that movement toward a more forward-thinking rate design, with more cost-based rates
21 that provide customers with accurate price signals, is critical.

¹⁴ D.16-01-045, issued January 28, 2016 (Application 14-04-014).

1 ~~• Customer Costs — SDG&E incurs these costs on a fixed basis for each interconnected~~
2 ~~customer whether or not the customer uses electricity; therefore, customer costs should~~
3 ~~be recovered in a fixed or monthly charge (\$/month).~~

4 ~~• Generation Capacity Costs — SDG&E does not incur these costs on the basis of energy~~
5 ~~usage, but rather on the basis of meeting net peak capacity needs of the system; therefore,~~
6 ~~system capacity costs should be recovered in a demand charge consistent with the time~~
7 ~~period in which those costs occur, which is demand at the time of net system peak when~~
8 ~~SDG&E may require additional capacity (\$/peak kW).~~

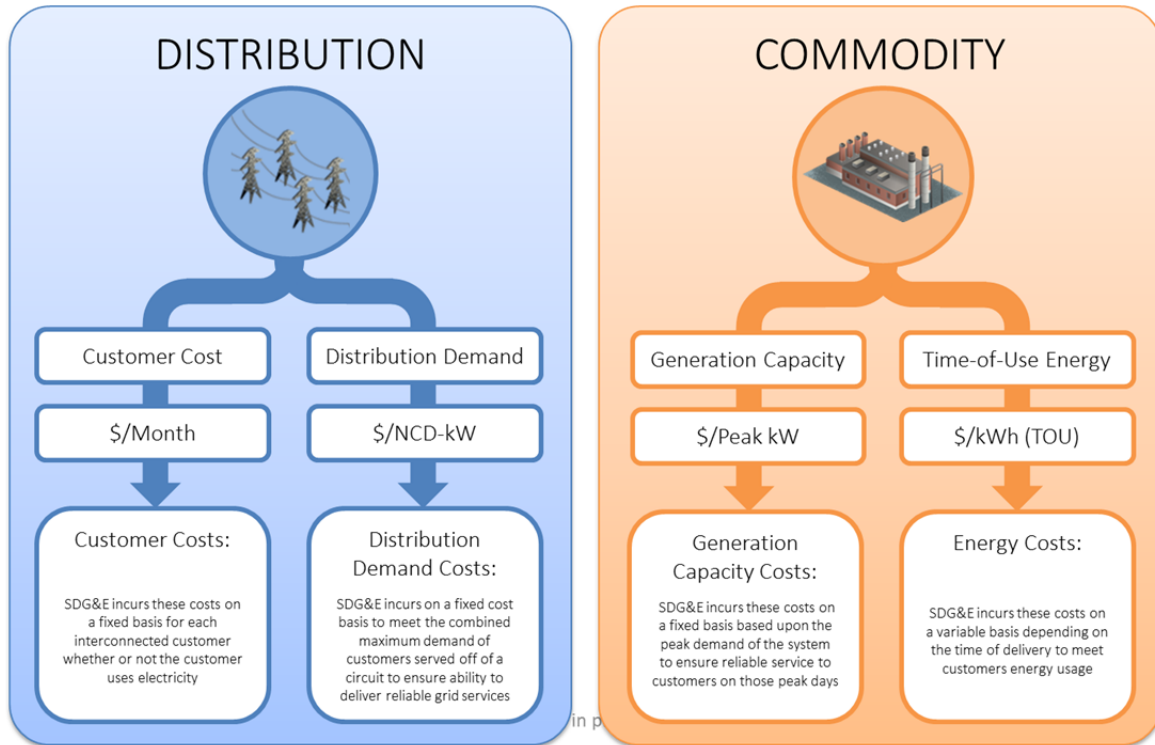
9 ~~• Distribution Demand Costs — SDG&E incurs these costs independent of energy usage.~~
10 ~~These costs are incurred on the basis of local capacity needs to meet the combined~~
11 ~~maximum demand of customers served off of a given circuit. These costs are best~~
12 ~~recovered on non-coincident demand (“NCD”), distribution demand costs should be~~
13 ~~recovered in a NCD charge (\$/NCD kW).~~

14 ~~• Commodity Energy Costs — SDG&E incurs these on a variable basis (based on energy~~
15 ~~usage) and the cost depends on the time of delivery. Therefore, these costs should be~~
16 ~~recovered in an energy charge (\$/kWh) that varies by time period.~~

17 ~~SDG&E’s services provided to customers consist of distribution, transmission, and~~
18 ~~commodity resources. In this proceeding, SDG&E addresses the rate design for the recovery of~~
19 ~~distribution and commodity resources, but does not address the rate structure for transmission~~
20 ~~resources because those assets are under the jurisdiction of the Federal Energy Regulatory~~
21 ~~Commission (“FERC”). A summary of the optimal cost-based rate design structure being~~
22 ~~addressed in this proceeding is provided in the diagram below.~~

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Diagram 2



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As we move away evolve from a world where all customers received "full service" from the utility, to a world where one in which there is an abundance of choice choices available to customers for the various elements of service previously solely provided by the utility (i.e., rooftop solar for part a portion of their energy needs, batteries for "banking"), the need for accurate price signals in a manner that truly reflect the cost of the variety of services provided is critical if we are to achieve. Achieving the State's energy policy goals in a sustainable manner. To grow sustainably requires that that growth not be dependent upon maintaining flawed rate design which creates cost shifts and results in indirect and at times unintended subsidies. While SDG&E recognizes that there will be instances where subsidies are needed in order to achieve certain policy objectives, such as the promotion of nascent technologies, providing those subsidies in a direct and transparent manner, rather than hidden in rate design, will provide a path

1 RMI's report, *Net Energy Metering, Net Zero Energy and the Distributed Energy*
2 *Resource Future*, identifies the critical role that unbundling of rate design will play in achieving
3 a 21st century utility business model.¹⁵ A rate structure that ensures that ~~that growth will~~
4 ~~someday be sustainable.~~

5 The prices customers see accurately reflect the cost of services provided, will “unleash
6 new investments and innovations in DERs,” and will help to ensure that deployment of DER
7 resources occurs in a manner that benefits the system as a whole.^{16/} Current rate design is only
8 part of the way there. Significant progress ~~had~~has been made in the rate structure for commodity
9 services to better reflect the cost of ~~service and provide accurate price signals~~ services provided
10 to customers:

- 11 • SDG&E's medium/large commercial and industrial (“M/L C&I”) customers are now
12 required to be on a mandatory time-of-use (“TOU”) commodity rate with default
13 dynamic pricing;¹⁷

¹⁵ RMI: *Net Energy Metering, Net Zero Energy and the Distributed Energy Resource Future*, p. 2. Available at: http://www.rmi.org/rmi_pge_adapting_utility_business_models.

^{16/} See 2014 RMI study, *Rate Design for the Distribution Edge: Electricity Pricing for a Distributed Resource Future*, p. 10.

¹⁷ D.08-02-034 adopted default dynamic pricing for SDG&E's M/L C&I customers. D.15-08-040 adopted mandatory TOU rates for all M/L C&I, including Schedule AD customers which are the only M/L C&I customers currently not on a TOU rate. Schedule AD customers are scheduled to move to TOU rates by April 2016.

- 1 • SDG&E’s small commercial customers are now required to be on a mandatory TOU
2 commodity rate with default dynamic pricing;¹⁸
- 3 • SDG&E’s agricultural customers are now required to be on a mandatory TOU
4 commodity rate with large customers having dynamic pricing as their default rate and
5 small/medium customers having dynamic pricing as an option;¹⁹
- 6 • SDG&E’s residential class is now anticipated to default to a TOU commodity rate in
7 2019.²⁰ Currently, SDG&E’s residential customers have TOU and dynamic pricing rate
8 options.²¹

9 ~~However, as is shown~~Much more remains to be done, however, to ensure accurate, cost-
10 based rates. Included in this proceeding is a proposal to realign TOU periods to ensure that time
11 differentiated price signals are occurring at the right times and sending customers the right “grid
12 aligned” price signals.²² As discussed below and in the testimony of SDG&E witness Robert
13 Anderson, for example, SDG&E’s current TOU periods fail to reflect ~~the changes that have~~
14 ~~occurred~~developments over the past few years, ~~such as – in particular,~~ an SDG&E commodity
15 portfolio that includes substantial solar generation in ~~our~~the local reliability area. ~~In addition,~~
16 ~~consideration of TOU periods must also meet the – as well direction in~~ AB 327 guidance of

¹⁸ D.12-12-004 adopted mandatory TOU and default dynamic pricing rates for small commercial customers. Small commercial customers are schedules to be transitioned to mandatory TOU and default dynamic rates over the period November 2015 through April 2016.

¹⁹ D.08-02-034 adopted default dynamic pricing for SDG&E’s large agricultural customers. D.12-12-004 adopted mandatory TOU for all agricultural customers and optional dynamic pricing rates for small/medium agricultural customers. Agricultural customers are schedules to be transitioned to mandatory TOU rates over the period November 2015 through April 2016.

²⁰ D.15-07-001 at p. 5 and Ordering Paragraph (“OP”) 10.

²¹ D.12-12-004 adopted a new TOU rate and optional dynamic pricing rate for residential customers. These rates were implemented on February 1, 2015.

²² See, CAISO Time of Use Analysis, January 22, 2016 Executive Summary signals.https://www.aiso.com/Documents/Jan22_2016ExplanationofDataAssumptionsandAnalyticalMethods-R1512012.pdf, at p. 3: “...it is prudent to evaluate current TOU rate periods to ensure time differentiated price signals are occurring at the right times and sending consumers the right ‘grid aligned.’”

1 ~~striving for to establish~~ TOU periods that are appropriate for at least five years.²³
2 ~~Therefore, which means that~~ TOU periods ~~should~~ must also ~~look at~~ reflect future needs. Ensuring
3 correct TOU period definitions will continue to ~~be important as the~~ support an evolving electric
4 system and a low GHG energy supply consistent with State ~~continues to add~~ goals. Accurately
5 defined TOU periods will provide the right incentives to all customers and technology
6 investments, whether it be investments in EE, DR, DER, or what direction to point their solar
7 generation in response to the 33 percent RPS and now Senate Bill (“SB”) 350, which increases
8 RPS to 50% by December 31, 2030. ~~panels.~~

9 ~~There has been less progress towards cost-based rates when looking at~~ In addition, price
10 signals for distribution ~~price signals.~~ services continue to be highly distorted – pricing for
11 distribution services bears little relationship to the costs of the distribution infrastructure or the
12 manner in which those costs are incurred. While distribution costs do not vary due to energy
13 usage (*i.e.*, they are fixed, non-volumetric costs), most customers pay distribution costs on a
14 volumetric basis. Only SDG&E’s M/L C&I customers have a rate structure that recovers full
15 distribution costs²⁴ through a ~~MSF~~ monthly service fee (\$/month) and demand charge. Small
16 commercial customers currently only recover a small portion of distribution costs through a ~~non-~~
17 ~~volumetric rate (MSF) and~~ monthly service fee. Residential customers continue to have a rate
18 structure that recovers *all* distribution costs through energy charges.

19 SDG&E has fully deployed Smart Meters and therefore, the technological constraints for
20 cost-based rates no longer exist. Prior to Smart Meter deployment, 15-minute granular energy

²³ AB 372 Sec. 7.745 (c)(3).

²⁴ With the exception of California Solar Initiative (“CSI”), Self Generation Incentive Program (“SCIP”), and Demand Response (“DR”) program costs, which are included in the distribution rate, but are not incurred on the basis of providing distribution services.

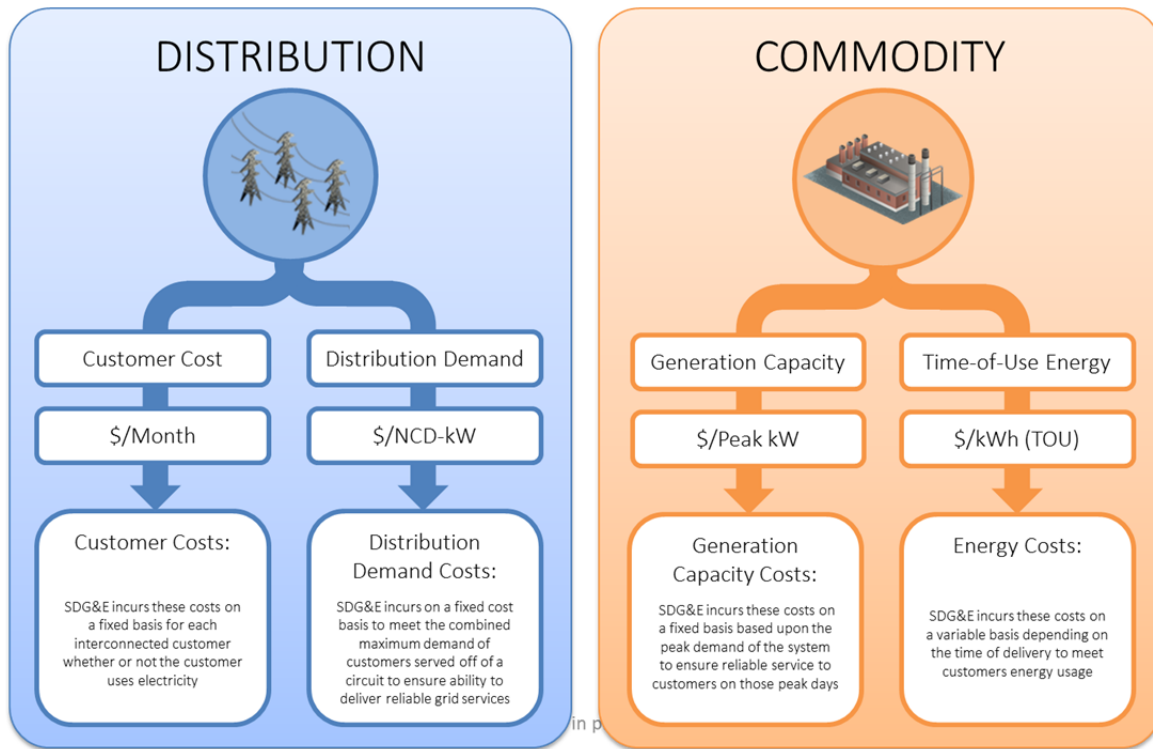
1 usage data (interval data) was primarily available to just those customers who exceeded 200kW
2 in demand per month. With Smart Meters, all customers can now easily view their energy usage
3 on-line at a granular level (hourly for residential and 15-minute for small commercial, M/L C&I
4 and agricultural customers). This provides the ability for customers to make informed decisions
5 by providing highly detailed information about electricity usage and costs and as such creates the
6 ability to provide customers with more accurate price signals. It is important for the utility to
7 provide accurate price signals to customers with the availability of this usage data to provide
8 customers with the ability to balance their energy usage with the cost of energy services as well
9 as ensure that these infrastructure investments are fully utilized. With a better understanding of
10 energy use and by providing accurate price signals customers can make informed decisions on
11 how to optimize their electricity consumption and demand, and ultimately, reduce their bills.

12 A fundamental premise of SDG&E's rate design proposals is that rates should be
13 designed to recover costs in the same manner as they are incurred. This objective is fully aligned
14 with the RDPs articulated in R.12-06-013; it is also enabled by technological developments
15 related to deployment of Smart Meters, which eliminate technological constraints for cost-based
16 rates.

17 Given the level of detail now available through Smart Meters, it is important for the
18 utility to provide accurate price signals to customers to enable them to balance their energy usage
19 with the related costs. With a better understanding of energy use, and with accurate price signals,
20 customers can make informed decisions on how to optimize their electricity consumption and
21 demand, and ultimately, reduce their bills. To that end, SDG&E proposes a rate design for the

1 recovery of distribution and commodity resources.²⁵ A summary of the optimal cost-based rate
2 design structure being addressed in this proceeding is provided in the diagram below.

3 **Diagram 2**



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6 Under SDG&E’s current rate design, the standard rate structure differs according to
7 customer class.

8 1) Residential: receive service under a fully bundled energy rate for the recovery of all
9 rate components. The rate structure is tiered (currently 3-tiers) and differs by season.

²⁵ SDG&E’s services provided to customers consist of distribution, transmission, and commodity resources. SDG&E does not address the rate structure for transmission resources herein because those assets are under the jurisdiction of the Federal Energy Regulatory Commission (“FERC”).

1 2) *Small Commercial*: receive service under a partially unbundled rate structure that has a
2 reduced monthly service fee (\$/month) for partial recovery of customer-related
3 distribution costs that varies by demand, while all remaining costs are recovered through
4 energy rates with commodity rates that differ by season and time-of-use (“TOU”) period.

5 3) *Medium and Large Commercial and Industrial (“M/L C&I”)*: receive service under an
6 unbundled rate structure that has: (1) distribution costs recovered through a monthly
7 service fee and demand charges, excluding program costs; (2) transmission costs
8 recovered through demand charges including RS;⁴ (3) commodity costs recovered
9 through a peak demand charge and TOU energy rates; and (4) all other costs recovered
10 through energy rates.

11 4) *Agricultural*: receive service under a partially unbundled rate structure that has a
12 reduced monthly service fee (\$/month) for partial recovery of customer-related
13 distribution costs that varies by demand, with all remaining costs recovered through
14 energy rates and commodity rates that differ by season and TOU period. Includes
15 optional rate that has an unbundled rate structure much like M/L C&I.

16 5) *Streetlighting*: billed on a monthly per lamp basis.

17 Thus, there is little consistency in how costs are recovered from each customer class,
18 notwithstanding the fact that they are incurred in the same manner by each customer class. In
19 addition, costs may not be recovered in a way that reflects the manner in which they were
20 incurred (this is particularly true with residential rates). In order to be truly cost-based, a typical
21 electric rate would have to reflect the following structure:

- 1 • Customer Costs – SDG&E incurs these costs on a fixed basis for each interconnected
2 customer whether or not the customer uses electricity; therefore, customer costs should
3 be recovered in a fixed or monthly charge (\$/month).
- 4 • Distribution Demand Costs – SDG&E incurs these costs independent of energy usage.
5 These costs are incurred on the basis of local capacity needs to meet the combined
6 maximum demand of customers served off of a given circuit. These costs are best
7 recovered on non-coincident demand (“NCD”), distribution demand costs should be
8 recovered in a NCD charge (\$/NCD – kW).
- 9 • Generation Capacity Costs – SDG&E does not incur these costs on the basis of energy
10 usage, but rather on the basis of meeting net peak capacity needs of the system; therefore,
11 system capacity costs should be recovered in a demand charge consistent with the time
12 period in which those costs occur, which is demand at the time of net system peak when
13 SDG&E may require additional capacity (\$/peak-kW).
- 14 • Commodity Energy Costs – SDG&E incurs these on a variable basis (based on energy
15 usage) and the cost depends on the time of delivery. Therefore, these costs should be
16 recovered in an energy charge (\$/kWh) that varies by time period.

17 ~~Recovering non-volumetric costs in a volumetric rate creates a cost shift where high users are~~
18 ~~paying for the low users’ costs.—The necessary changes to SDG&E’s current TOU proposal, as~~
19 ~~well as SDG&E’s rate design proposals are discussed in further detail below.~~

20 **1. TOU Period Definition**

21 SDG&E’s current standard TOU periods are presented in Table 1 below and include a
22 summer on-peak period of 11am to 6pm on non-holiday weekdays. These TOU periods have

1 been in effect since the early 1980s.²⁶ As is discussed in the testimony of Mr. Anderson
2 (Chapter 3), changes in SDG&E’s portfolio have resulted in a change in what drives the need for
3 generation resources. That need is based no longer solely on loads, but on “net load,” loads less
4 solar and wind resources in the local reliability area that have become a growing part of
5 SDG&E’s portfolio of resources. This change has moved the timing of SDG&E’s need for
6 generation resources to later in the day during the summer, and has created a need for “flexible
7 capacity” to accommodate “ramping needs,” the changes fossil generation to meet net load that
8 occur throughout the year as solar resources decline as the sun sets.

9 On January 31, 2014, SDG&E filed in its 2015 Rate Design Window (“RDW”), A. 14-
10 01-027, where it proposed to shift its TOU periods to later in the day, from a summer on-peak
11 period of 11am – 6pm to a summer on-peak period of 2-9 pm, in order to reflect the changing
12 needs for generation resources. In addition, SDG&E proposed consistent TOU periods for all
13 customer classes and included changing its off-peak to super-off peak for all classes. D.15-08-
14 040, adopting SDG&E’s 2015 RDW, denied without prejudice SDG&E’s proposal to shift its
15 TOU periods and SDG&E was permitted to introduce such a proposal in its currently open GRC
16 Phase 2 proceeding, with the following additional requirements:

- 17 • Provide evidence to demonstrate the extent to which the need for local capacity
18 will shift to later in the day, and that electric prices have already shifted ;²⁷
- 19 • Provide more data and analysis supporting a change in TOU periods;²⁸
- 20 • Provide a more credible forecast of load and prices, and²⁹

²⁶ D.83-12-065, p. 164-167.

²⁷ D.15-08-040, Findings of Fact (“FOF”) 6 and 8, and Conclusions of Law (“COL”) 3.

²⁸ *Id.*, FOF 10 and COL 4.

²⁹ *Id.*, FOF 9.

- Demonstrate the need for change to customers and intervenors through dialogue.³⁰

As presented in the testimony of Mr. Anderson, SDG&E continues to see the need for generation resources from 2-9 pm.

In SDG&E's 2015 RDW proceeding, A. 14-01-027, most intervening parties expressed concerns about the proposed TOU period changes. SDG&E's TOU proposal presented in this proceeding better aligns TOU periods with current system needs, while also addressing the following intervenors' concerns:

- **Office of Ratepayer Advocates ("ORA")** – In its testimony provided in SDG&E's 2015 RDW proceeding, ORA expressed its concern that there is not enough clear evidence pointing to the need for a seven hour on-peak period.³¹ ORA proposed an alternative to SDG&E's proposal, an optional TOU rate with a shorter on-peak period, which would allow for a stronger price signal, and potentially a greater response from customers.³² SDG&E's TOU period proposal in this proceeding does include a shorter on-peak period; however, as the standard rate for all customers rather than limited to an option. The basis for this is to provide all customers the same price signal to use electricity when supply is high (i.e. during the day when solar is generating) but demand is low.
- **California Farm Bureau Federation ("Farm Bureau") and Water Districts** – Both the Farm Bureau and the Water Districts opposed SDG&E's TOU proposal in its 2015 RDW due, in part, to the reduction in off-peak hours on weekends. Their

³⁰ *Id.*, at p. 26.

³¹ ORA RDW Direct Testimony Set 1 – pp. 2, lines 3-5.

³² ORA RDW Direct Testimony Set 1 – pp. 3, lines 4-7.

1 concern stemmed from the fact that weekends and holidays currently offer the only
2 off-peak daylight hours, and that reduced off-peak hours would necessitate increased
3 water rates to offset costs.^{33,34} The proposed TOU changes in this proceeding
4 extended the weekend off-peak hours and would maintain 12:00 am to 2:00 pm as
5 super off-peak hours in both Summer and Winter on weekends and holidays.

6 SDG&E submits a similar proposal to change TOU periods in this proceeding. However,
7 while SDG&E's proposed on-peak TOU period in this proceeding differs from that of RDW,
8 SDG&E continues to see a need for generation resources during the 2 pm to 9 pm ~~onpeakon-~~
9 peak timeframe, presented in the testimony of Mr. Anderson. But, in re-examining potential
10 ways to meet that need and incorporating feedback from intervening parties in the 2015 RDW
11 proceeding, SDG&E makes the following modifications to the 2015 RDW TOU period proposal:

- 12 • **On-peak Period Shortened to Five Hours:** While SDG&E continues to see the need
13 during 2 pm to 9 pm, SDG&E proposes to meet that need through a combination of (1) a
14 shorter 4 pm to 9 pm summer on-peak period now applied every day including weekends
15 and holidays to meet ramping needs that occur every day and (2) a shorter event period
16 for dynamic pricing rates of 2 pm to 6 pm for those 0-9 event days of the year where
17 local reliability may be threatened.
- 18 • **Expanded Weekend Super Off-peak Hours:** Previously SDG&E proposed a 12
19 midnight to 6am super off-peak period. SDG&E's proposal is for a super off-peak period
20 applicable to all rate schedules to be all midnight to 6 am weekdays and with extended
21 hours on weekend and holidays of midnight to 2 pm.

³³ California Farm Bureau Federation ("CFBF") 2015 RDW Direct Testimony – pp. 27, lines 12-18.

³⁴ 2015 RDW Testimony of Gary Arant – pp. 2.

- Simplified TOU Periods:** SDG&E continues to propose the same TOU periods for all customers and all rate schedules and now proposes the same TOU periods for summer and winter, though with different rates for summer and winter. While the analysis presented in the testimony of Mr. Anderson supports a winter on-peak period of 5 pm to 9 pm, SDG&E is proposing to make the winter on-peak period match the summer period by also adding the 4 pm – 5 pm hour to the on-peak period to simplify the TOU periods to be identical for summer and winter.
- Off-peak represents all others hours.
- Critical Peak Pricing (“CPP”) Period Shortened to Four Hours:** SDG&E’s CPP period proposal is the same as was presented in its RDW. However, in this Application (with the proposed shorter on-peak hours) SDG&E proposes to address need identified during the 2-9 pm period through a combination of a shorter five-hour on-peak TOU period from 4-9 pm and a shorter four-hour CPP period from 2-6 pm on high demand days.

SDG&E’s proposed TOU periods are presented the Table 2 below, which includes a comparison with current and 2015 RDW proposed TOU periods.

Table 2: Comparison of Current and Proposed TOU Periods

	TOU Period	Current Standard TOU	2015 RDW Proposal	2016 GRC P2 Proposal
Summer	On-Peak	11 a.m.-6 p.m. weekdays	2-9 p.m. weekdays	Shorten to 5 hours (4-9 p.m. daily)
	Semi-Peak	6-11 a.m. and 6-10 p.m. weekdays	All other hours	-

	Off-Peak	All other hours, weekends/holidays	-	All other hours
	Super Off-Peak	-	12-6 a.m. daily	Expanded Weekend Hours (12 a.m.-2 p.m. weekends/holidays, 12-6 a.m. weekdays)
Winter	On-Peak	5-8 p.m. weekdays	5-9 p.m. weekdays	Simplified same as summer
	Semi-Peak	6 a.m.-5 p.m. and 8-10 p.m. weekdays	All other hours	
	Off-Peak	All other hours, weekends/holidays	-	
	Super Off-Peak	-	12-6 a.m. daily	
	CPP Period	11 a.m.-6 p.m. year round	2-6 p.m. year round	Shorten CPP Period to 4 hours (2-6 p.m. year round)

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2 Regardless of the TOU period definition, the high cost hours will continue to be the high
3 cost hours. For TOU periods to be effective in aligning costs, TOU period definitions should
4 provide a group of high cost hours in the on-peak period, low cost hours in the super-off peak,
5 with mid-cost hours in the “mid-peak” period. TOU period definitions that follow that guidance
6 will create price signals that provide customers information about the high cost periods and the
7 low cost periods and thereby incent economically efficient behavior that reduce system costs
8 when customers reduce their bills by shifting energy usage to low cost time periods and avoiding
9 usage during high cost time periods. Under a TOU energy-only rate, a cost-based TOU
10 differential results from the average price for marginal energy in the period and the occurrence of
11 generation capacity need in the period.

1 TOU period definitions that fail to follow that guidance will result in high cost hours in
2 multiple periods, which once averaged, will result in muted TOU differentials and thereby fail to
3 provide customers meaningful signals regarding their actual cost of service and thereby
4 providing customers with little opportunity to save on their bills with changes in energy
5 consumption.

6 Since the definition of TOU periods are intended to provide customers with accurate
7 information regarding the high cost periods for commodity services and the low cost periods for
8 commodity services, TOU period definitions should be the same for all customers.

9 SDG&E proposes to address need identified during the 2-9 pm period through a
10 combination of a shorter five-hour on-peak TOU period from 4-9 pm and a shorter four-hour
11 CPP period from 2-6 pm on high demand days. Currently, SDG&E's CPP event period is 11am
12 – 6 pm, consistent with the definition of the current summer on-peak period. SDG&E's proposal
13 would result in a CPP event period that was defined differently than the on-peak period. When
14 reviewing the historic occurrence of peak during CPP event days since 2010, the peak has
15 occurred between 2-6 pm. While this is changing with the addition of significant solar energy,
16 the 2016 loss of load analysis detailed in the testimony of Mr. Anderson still shows a significant
17 probability of the need for capacity in the 2 pm – 6 pm period, in particular for the San Diego
18 sub-area of the San Diego Greater Reliability area. CPP will address that need. Currently the
19 availability of CPP-related options includes:

- 20 • CPP-D as the default commodity rate for M/L C&I customers since 2008,³⁵
- 21 • TOU-A-P as the default commodity rate for small commercial customers
22 beginning November 1, 2015.³⁶

³⁵ D.08-02-034.

³⁶ D.12-12-004.

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- TOU-PA-P as the optional commodity rate available for agricultural customers on May 1, 2014 and the default rate for large agricultural customers beginning November 1, 2015, and

- PTR optionally available for residential customers in 2012³⁷ and TOU-DR-P optionally available for residential customers on February 1, 2015.³⁸

While AB 327 provides the guidance that TOU periods should be effective for a minimum of five years, SDG&E proposes the ability to change CPP event periods more frequently. As the need for capacity in the local sub-area changes with added rooftop solar after 2016, the CPP period can be adjusted to later in the day.

While TOU periods are intended to provide customers with that “every day” price signal for when costs of providing commodity services are high, CPP is intended to incent customers to respond on those top 9 days of the year of the need for capacity.³⁹ By shortening the time period to respond and retaining greater flexibility to change the period to meet potentially future changing needs, event-based rates can provide more demand response during the times of expected need for capacity.

2. Accurate Price Signals for Distribution

In his inaugural address earlier this year, Governor Brown described the key role to be played by the electric grid in enabling California to realize a clean energy future. ~~Reform of the current NEM program—and~~ Adoption of a rate design that ensures that all users of the electric grid are paying for the service they receive is essential to accomplishing Governor Brown’s vision of a fully-integrated advanced electric grid. Governor Brown described the transformation of the electric grid into a platform capable of supporting “a wide range of initiatives: more distributed power, expanded rooftop solar, micro-grids, an energy imbalance market, battery storage, the full integration of information technology and electrical distribution and millions of

³⁷ D.08-02-034.

³⁸ D.12-12-004.

³⁹ While 0-18 events are permitted in a calendar year, the design is based on an average of 9 days.

1 electric and low-carbon vehicles.”⁴⁰ Indeed, the electric grid is a critical enabler of the State’s
2 policy agenda. In addition to providing safe and reliable services, strategic investments in the
3 grid will be critical for the on-going support of integration of increasing levels of renewable
4 energy and DER, utilization of battery storage, clean transportation efforts, demand response
5 programs and more.

6 As discussed above, achieving the State’s ambitious goals for increased DER adoption
7 through reliance on a technologically advanced electric grid requires a rate structure that ensures
8 that the prices customers see accurately reflect the cost of the services provided. While some
9 progress has been made toward this goal, further changes in the area of distribution rates is
10 critical. The infrastructure costs within the distribution rate component include (i) customer-
11 related costs; and (ii) distribution demand related costs.

12 (I) Customer-related costs include the costs of ensuring that customers are ready to
13 receive services from the utility before they even begin to use electricity, also
14 described as “curb to meter” services. These costs include:

15 1) The cost of the meter, which provides the ability to measure customer’s
16 energy and load;

17 2) The cost of the service lines, which connect individual customers to their
18 service transformer;

19 3) The cost of the transformer, which step down voltage to levels that are usable
20 and more safe; and

21 4) The cost of customer services, which represents costs for such activities as
22 customer service field, advanced metering, billing, credit & collections.

⁴⁰ Edmund G. Brown Jr., Inaugural Address Remarks as Prepared January 5, 2015. Available at:
<http://gov.ca.gov/news.php?id=18828>.

1 branch office, customer contact center, residential customer services,
2 commercial & industrial services, communications, and customer programs.

3 (ii) Distribution demand costs include the costs of the grid that is needed to deliver
4 electric services to the customer. Distribution demand costs include the following:

5 1) Feeders and Local Distribution: the costs associated with the primary distribution
6 system and consist of switches, conductors, capacitors, line regulators, insulators,
7 poles, vaults, conduit, fuses etc.; and

8 2) Substation: the costs associated with the point of conversion from transmission to
9 distribution voltages occurs and consists of transformers, circuit breakers,
10 switches, insulators, bus work, control houses, system protection etc.

11 Customer-related costs are incurred independent of the amount of energy that a customer
12 uses, and are incurred on a per customer basis, and therefore should be collected on a \$/month
13 basis to reflect cost-causation. Distribution demand costs ensure ability to deliver energy
14 services, and as such are impacted by customer load and customer generation and therefore,
15 should be recovered on a \$/kW-non-coincident demand (“NCD”) basis to reflect cost-causation.

16 As is discussed in SDG&E witness John Baranowski’s testimony (Chapter 5), SDG&E’s
17 electric distribution system is designed to meet individual customer service requirements, not to
18 meet system peak demand. Designing the system in this way is a utility industry standard
19 method, and it increases the system’s safety and reliability, and decreases the possibility of
20 system failures. A system that is designed this way is best supported by the recovery of
21 distribution related costs through a non-coincident demand charge, rather than a peak demand
22 charge.

1 **III. GRC PHASE 2 APPLICATION OVERVIEW**

2 SDG&E’s proposals in this Application include the traditional elements of GRC Phase 2
3 proceedings, such as marginal cost analysis, revenue allocation and rate design as well as
4 proposals for new rate options. The Application is supported by the following testimony:

- 5 • **Chapter 2 (Christopher Swartz):** Presents SDG&E’s proposal to update rates to reflect
6 updated sales forecast, time of use (“TOU”) period definition, updated electric revenue
7 allocation and rate design proposals, as well as various compliance requirements, with
8 rate design proposals including:
 - 9 ○ Movement towards more cost-based rates which includes:
 - 10 ▪ Moving the Monthly Service Fee (“MSF”) for business customers towards
11 more cost based recovery of customer costs;
 - 12 ▪ Moving the recovery of distribution demand charges toward 100% non-
13 coincident demand (“NCD”) for medium/ large commercial and industrial
14 (“M/L C&I”) customers with distribution demand charges;
 - 15 ▪ Moving the recovery of peak generation capacity costs toward more cost
16 based recovery through a peak demand charge for customers using a
17 commodity on-peak demand charge; and
 - 18 ▪ Moving small commercial and agricultural customers toward more cost-
19 based TOU rate differentials.
 - 20 ○ Providing additional options for customers to better manage their energy costs.
 - 21 ○ Updated streetlighting rates.
- 22 • **Chapter 3 (Robert B. Anderson):** Provides the evidentiary basis for SDG&E’s proposal
23 for updated TOU periods.

- 1 • **Chapter 4 (Kenneth E. Schiermeyer):** Provides support for SDG&E’s proposal for
2 updated 2016 test-year sales forecast and describes SDG&E’s proposal to update test-
3 year sales annually.
- 4 • **Chapter 5 (John Baranowski):** Sets forth the basis for recovery of distribution demand
5 costs through a non-coincident demand charge.
- 6 • **Chapter 6 (William G. Saxe):** Supports SDG&E’s proposed distribution marginal costs
7 (both customer costs and demand costs) as well as the cost basis for distribution revenue
8 allocation.
- 9 • **Chapter 7 (Jeffrey J. Shaughnessy):** Sets forth the basis for SDG&E’s commodity
10 marginal cost showing (both energy costs and generation capacity costs) as well as the
11 cost basis for commodity and Competition Transition Charge (“CTC”) revenue
12 allocation.
- 13 • **Chapter 8 (~~Dawn Welch~~ Jennifer Reynolds):** Describes SDG&E’s proposal for small
14 commercial rate eligibility compliance requirements pursuant to D.14-01-002 adopting
15 SDG&E 2012 GRC Phase 2 Application (A.11-10-002)⁴¹ and describes SDG&E’s
16 stakeholder outreach efforts.
- 17 • **Chapter 9 (Leslie Willoughby):** Describes the change in requirements to SDG&E’s
18 event day trigger threshold for its Critical Peak Pricing default (“CPP-D”) rate, to align
19 with the Smart Pricing Program (“SPP”) and Peak-Time Rebate triggers, to ensure
20 consistency across all of SDG&E’s dynamic rate offerings .

⁴¹ D.14-01-002, p. 16.

1 **IV. SDG&E'S RATE DESIGN PROPOSALS ARE ALIGNED WITH THE**
2 **COMMISSION'S RATE DESIGN POLICY OBJECTIVES**

3 **A. SDG&E's Proposals Provide a Gradual Transition Path to Accurate Price**
4 **Signals and Promote Transparent Incentives.**

5 SDG&E's Application includes rate design proposals to better reflect SDG&E's cost to
6 serve customers, more specifically rates that better reflect marginal cost and cost-causation. As
7 described in the testimony of SDG&E witness Swartz (Chapter 2), SDG&E proposes a gradual
8 movement toward cost-based rates for all of its customers, which more accurately reflect how
9 costs are incurred. SDG&E proposes to gradually transition the MSF for business customers
10 towards a more cost-based fee.

11 SDG&E also proposes a gradual transition for customers with demand charges to charges
12 that better reflect how costs are incurred, as presented by Mr. Swartz (Chapter 2). The costs
13 recovered through demand charges are capacity costs that are independent of a customer's
14 energy usage, but rather are dependent on a customer's energy profile. For customers with
15 demand charges, SDG&E's proposal is a transition path for a more cost-based recovery of
16 generation capacity through an on-peak commodity demand charge and more cost-based
17 recovery of distribution capacity costs through a distribution non-coincident demand charge. Mr.
18 Baranowski (Chapter 5) describes how customer-specific demand (i.e., non-coincident demand)
19 drives the design of SDG&E's electric system and its resultant costs. By providing a price signal
20 related to more localized resources (i.e., distribution) based on non-coincident demand, and by
21 providing price signals for system-level resources (i.e., generation capacity) based on system
22 pricing (i.e., system peak demand), SDG&E rates are better designed to recover costs on the
23 basis they are incurred. SDG&E is also proposing a gradual transition path for implementing
24 these proposals, to provide the best opportunity for customers to progressively become more

1 engaged and informed about the choices that are available to them and to understand how the
2 changes will impact them.

3 In addition, SDG&E proposes to move the collection of California Solar Initiative
4 (“CSI”) and Self-Generation Incentive Program (“SGIP”) revenues from the distribution rate
5 component to the Public Purpose Program (“PPP”) rate component. This change supports
6 SDG&E’s policy objective of providing more accurate price signals by ensuring that incentives
7 are explicit and transparent. Distribution costs are intended to accurately reflect the costs to
8 provide distribution services. Currently, CSI and SGIP are collected through distribution rates,
9 which obscure the cost of distribution services. CSI and SGIP are incentives intended to further
10 California policy and as such these costs should not be included as part of SDG&E’s overall
11 distribution costs. Moving the collection of CSI and SGIP to PPP increases transparency in the
12 cost of distribution services to customers.

13 ~~Similarly, consistent with SDG&E’s approved glidepath for residential California~~
14 ~~Alternative Rates for Energy (“CARE”) customers,⁴² SDG&E proposes to move the Expanded~~
15 ~~CARE rate (i.e., non-residential CARE) subsidies currently embedded in the rates to a single line~~
16 ~~item discount, along with gradually reducing the Expanded CARE discount in compliance with~~
17 ~~AB 327. SDG&E’s Expanded CARE customers, qualified non-residential customers, receive~~
18 ~~additional subsidies embedded in rates that result in an effective discount greater than the current~~
19 ~~legislative compliance levels. SDG&E’s proposal to move the Expanded CARE rate subsidies~~
20 ~~currently embedded in the rate to a line item discount is in line with Commission policy that~~
21 ~~incentives or subsidies deemed necessary to further public policy objectives are separately and~~
22 ~~transparently identified.~~

⁴² SDG&E Advice Letter 2783 Efiled on August 24, 2015 pursuant to D.15-07-001, p. 295, for rates effective September 1, 2015.

1 FinallyIn addition, SDG&E is proposing to gradually reduce and eliminate the Peak-Time
2 Rebate (“PTR”) credit adjustment, now that the SPP rate options are available for residential
3 customers. This proposal is consistent with SDG&E’s position in its dynamic pricing
4 proceeding,⁴³ which described PTR as a “transitional mechanism” that would be available “until
5 a dynamic pricing rate can be implemented for residential customers.”⁴⁴ SDG&E proposes a
6 multi-year transition plan to reduce and ultimately eliminate the PTR credit.

7 Finally, SDG&E proposes the implementation of an electric rate assistance program for
8 eligible food banks pursuant to Public Utilities Code (“PU Code”) Section 739.3, which was
9 added by AB 2218. On September 26, 2014 Governor Brown signed into law AB 2218 requiring
10 that “each electrical corporation and gas corporation subject to the direction and supervision by
11 the commission, to develop and implement a program of rate assistance to eligible food banks, as
12 defined, at a fixed percentage to be determined by the commission.”⁴⁵ Currently, in addition to
13 rate assistance programs for eligible residential customers, such as CARE, FERA and medical
14 baseline, which recognize the need to ensure these customers have access to energy services to
15 meet all of their energy needs, the Expanded CARE program for non-residential customers
16 provides equivalent benefits (discount of 30-35%) for non-profit group living facilities. AB 327
17 provides that the effective discount for residential as well as non-residential CARE-eligible
18 customers be between 30 to 35%.⁴⁶ AB 2218 recognizes the critical role that eligible food banks
19 play to “stabilize our most underserved and economically challenged families from across the

⁴³ See, D.12-12-004 approving A.10-07-009.

⁴⁴ See, A.10-07-009, Prepared Direct Testimony of William G. Saxe (Chapter 3), pp. WGS-20 and WGS-21.

⁴⁵ PUC Section 739.3(a).

⁴⁶ PUC Section 730.2(c)(1).

1 state.”⁴⁷ One of the primary reasons identified justifying the need for this program which would
2 increase subsidies paid for by all other customers is the electricity costs “to maintain their
3 refrigeration units to house perishables such as fruits, vegetables, and dairy products.”⁴⁸ The
4 CARE program, which offers a 30-35% discount, is intended to ensure access for residential
5 customers to all energy service needs for residential customers which support refrigeration and
6 other food related services, as well as lighting, heating, and cooling, etc. Given that AB 2218
7 addresses a more limited range of support for underserved and economically challenged families
8 and recognizing the cost of additional subsidies to other customers, SDG&E proposes a 20% line
9 item discount for eligible food bank customers. SDG&E proposes that the recovery of this
10 discount be consistent with the recovery of the CARE discount, that is, that the recovery be
11 through PPP rates and be recovered from all non-CARE customers. In addition, recovery of the
12 discounts in rates would be addressed through annual PPP advice letters and going forward
13 budgets would be addressed through SDG&E’s Low Income proceedings. As is the case with the
14 current CARE discount, SDG&E would record the cost of the discount and associated revenues
15 in a balancing account. SDG&E witness Christopher Swartz (Chapter 2) speaks to the eligibility
16 requirements for this program.

17 **B. SDG&E Proposes Rate Options that Allow Customer Choice.**

18 In addition to its proposal for a transition path to move existing rate schedules towards a
19 more cost-based rate structure, SDG&E also proposes to introduce more fully cost-based options
20 to be available for customers that vary by customer class. These cost-based options vary by
21 customer class due to the differences between existing rates available in each class. SDG&E
22 recognizes the need for a transition path to move existing rate schedules towards a more cost-

⁴⁷April 21, 2014, hearing of the Assembly Committee on Utilities and Commerce, AB 2218 Bill Analysis,

p. 1.

⁴⁸Id.

1 based rate structure for existing rate schedules in order to (1) mitigate customer bill impacts and
2 (2) allow for continued customer education and outreach, SDG&E also believes it is important to
3 provide more cost-based options for customers which will provide customers with price signals
4 that reflect their cost of service. Doing so will provide customers with accurate price signals that
5 incent economically efficient behavior that in turn would help to reduce system costs while
6 enabling customers to also reduce their energy bills.

7 SDG&E witness Swartz (Chapter 2) describes SDG&E's proposals to introduce the
8 following new rate options for customers:

- 9 1. Residential EV: more cost-based option for residential EV customers that includes a
10 monthly service fee and a rate design to further incent charging in the super off-peak
11 period.
- 12 2. Small Commercial: (i) A new option that provides bill stability for small business
13 customers that have less flexibility to change their energy use and (ii) another option
14 that introduces small commercial customers to demand charges and provides for
15 another way to save energy by managing their demand.
- 16 3. M/ C&I: A new option for M/L C&I customers that have flexibility to shift energy
17 use to SDG&E's Super Off-Peak period.
- 18 4. Street lighting: a new dimmable option available to street lighting customers.

19 **C. SDG&E Proposes a Gradual Implementation Path for Rate Design Changes,**
20 **to Minimize Impacts and Enhance Customer Transition.**

21 In this Application, SDG&E is attempting to create greater transparency for its customers
22 and the Commission as to the intent and direction of its vision for electric rate design. In the
23 quest for accurate prices and transparent incentives to provide the necessary foundation for the
24 State's vision for a low carbon future to be achieved in a sustainable manner, these changes must

1 be done with consideration of customer bill impacts along the way. For this reason, SDG&E has
2 proposed a multi-year transition path for proposals to continue movement toward cost-based
3 rates (as identified in Section A above). In addition, as discussed in more detail in the testimony
4 of Ms. ~~Weleh~~Reynolds, SDG&E commits to educating and informing customers about rate
5 design changes before they occur. Providing customers with information about upcoming rate
6 design changes will give customers the opportunity to make more informed decisions about their
7 energy use prior to change occurring.

8 **D. SDG&E Proposes Annual Sales Updates for Greater Stability in Rates and**
9 **Customer Bills.**

10 Currently SDG&E utilizes the test-year sales adopted in its rate design proceedings
11 (RDW or GRC Phase 2 proceedings) for the development of rates for the recovery of authorized
12 revenue requirements. Once adopted, these test-year sales remain in effect until the next test-
13 year sales with the implementation of the next approved rate design proceeding with no
14 mechanism for additional adjustments in interim years. SDG&E's current effective rates are
15 based on a 2015 test-year sales from its 2015 RDW proceeding (A.14-01-027) which was
16 implemented November 1, 2015.⁴⁹ Prior to that, SDG&E's rates were based on a 2012 test-year
17 sales from its 2012 GRC Phase 2 proceeding (A.11-10-002) which was implemented May 1,
18 2014.⁵⁰ Prior to the implementation of SDG&E's 2012 GRC Phase 2, SDG&E rates were based
19 on 2009 test-year sales from its 2009 RDW proceeding (A.08-11-014) which was implemented
20 on January 1, 2010.⁵¹ Table 3 below presents SDG&E's actual system annual sales since 2010
21 and compares to the authorized sales at that time.

49 AL 2791-E, approved on October 29, 2015, for rates effective November 1, 2015.

50 AL 2595-E and AL 2595-E-A, approved on July 22, 2014, for rates effective May 1, 2014.

51 AL 2115-E, approved on December 15, 2009, for rates effective on January 1, 2010.

1 **Table 3: Comparison of Historic Authorized and Actual Sales**

Year	Authorized Sales (GWh)	Actual Sales (GWh)
2010	20,890	19,485
2011	20,890	19,515
2012	20,890	20,026
2013	20,890	19,757
2014	20,809	20,116

2
3 This variance between actual and authorized sales creates greater volatility to customer
4 rates and bills due to the impact of balancing accounts intended to capture these differences. As
5 discussed in more detail in the testimony of Mr. Schiermeyer, in addition to the approval of 2016
6 test-year sales, SDG&E requests approval of post-test year sales for the interim years until
7 SDG&E's next rate design proceeding. A fully developed test-year forecast would continue to
8 be requested through rate design proceedings. SDG&E proposes the ability to make these
9 adjustments through a Tier 2 advice letter that would then be incorporated into SDG&E's annual
10 Electric Consolidated advice letter for January 1 effective rates.

11 **V. CONCLUSION AND SUMMARY**

12 As California continues to look forward to a clean energy future, SDG&E plays a critical
13 role in this pursuit. SDG&E's rate proposals would provide the necessary platform for utility
14 customers to make economically efficient decisions in their investments in energy resources; that
15 is, choices for investments in energy efficiency ("EE"), demand response ("DR"), and DER, are
16 ~~done so~~ made with proper information based on accurate price signals (i.e. without cross
17 subsidies). SDG&E's proposals continue to build a solid foundation for California's clean
18 energy policies through accurate price signals and direct, transparent incentives. The proposals
19 in this Application continue the path to further SDG&E's rate design vision as well as the
20 Commission's rate design policy objectives by (i) continuing movement toward equitable pricing

1 for all customers through accurate price signals; (ii) transparently identifying subsidies deemed
2 necessary to further public policy; (iii) continuing to provide customers with options that best
3 meet their needs; while (iv) providing a transition path that minimizes customer impacts.

4 This concludes my prepared direct testimony.

5

1 **VI. WITNESS QUALIFICATIONS**

2 My name is Cynthia Fang and my business address is 8330 Century Park Court, San
3 Diego, California 92123. I am the Rate Strategy and Analysis Manager in the Customer Pricing
4 Department of San Diego Gas and Electric (“SDG&E”). My primary responsibilities include the
5 development of cost-of-service studies, determination of revenue allocation and electric rate
6 design methods, analysis of ratemaking theories, and preparation of various regulatory filings. I
7 began work at SDG&E in May 2006 as a Regulatory Economic Advisor and have held positions
8 of increasing responsibility in the Electric Rate Design group. Prior to joining SDG&E, I was
9 employed by the Minnesota Department of Commerce, Energy Division, as a Public Utilities
10 Rates Analyst from 2003 through May 2006.

11 In 1993, I graduated from the University of California at Berkeley with a Bachelor of
12 Science in Political Economics of Natural Resources. I also attended the University of
13 Minnesota where I completed all coursework required for a Ph.D. in Applied Economics.

14 I have previously submitted testimony before the California Public Utilities Commission
15 and the FERC regarding SDG&E’s electric rate design and other regulatory proceedings. In
16 addition, I have previously submitted testimony and testified before the Minnesota Public
17 Utilities Commission on numerous rate and policy issues applicable to the electric and natural
18 gas utilities.

APPENDIX – GLOSSARY OF ACRONYMS

AB	Assembly Bill
C&I	Commercial and Industrial
COS	Cost of Service
CPP-D	Critical Peak Pricing Default
CSI	California Solar Initiative
CTC	Competition Transition Charge
DER	Distributed Energy Resources
DR	Demand Response
EE	Energy Efficiency
ERRA	Energy Resource Recovery Account
GHG	Greenhouse Gas
GRC	General Rate Case
IOUs	Investor-Owned-Utilities
MSF	Monthly Service Fee
NCD	Non-Coincident Demand
NEM	Net Energy Metering
PG&E	Pacific Gas & Electric Company
PPP	Public Purpose Program
PTR	Peak-Time Rebate
RMI	Rocky Mountain Institute
RPS	Renewables Portfolio Standard
SB	Senate Bill
SCE	Southern California Edison Company
SDCAN	San Diego Consumer Action Network
SDG&E	San Diego Gas & Electric Company
SGIP	Self-Generation Incentive Program
SPP	Smart Pricing Program
TOU	Time of Use
TY	Test Year