Supplemental Filing of SAN DIEGO GAS & ELECTRIC COMPANY (U 902 E) For Phase 1 Rate Change Proposals.

Rulemaking 12-06-013 Phase 1

PREPARED DIRECT TESTIMONY OF

CHRIS YUNKER

CHAPTER 1

ON BEHALF OF SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

February 28, 2014

#285683

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CHAPTER 1

I. INTRODUCTION

This testimony sets forth the policy basis for the rate design proposals set forth in the Supplemental Filing of San Diego Gas & Electric Company ("SDG&E") pursuant to the *Assigned Commissioner's Ruling Requiring Utilities to Submit Phase 1 Rate Change Proposals* ("ACR"), issued on February 13, 2014 in Rulemaking ("R.") 12-06-013 and in accordance with Assembly Bill ("AB") 327.

As is discussed in greater detail herein, SDG&E's proposals have been designed to comply with the following direction set forth in the ACR:

> "[A]ll changes must be consistent with the statutory requirements that changes be made through a reasonable phase-in schedule relative to rates in effect prior to January 1, 2014, that differentials between tiers should be gradual, that rates not unreasonably impair incentives for conservation and Energy Efficiency and that rates not overburden low income customers."[1]

SDG&E's proposals are also designed to achieve the Rate Design Principles the California Public Utilities Commission ("Commission" or "CPUC") updated and outlined in Phase 1 of R.12-06-013:

> *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*

[1] ACR, February 13, 2014, at p. 4.

4. Rates should encourage conservation and energy efficiency;

5. Rates should encourage reduction of both coincident and non-coincident peak demand;

6. Rates should provide stability, simplicity and customer choice;

7. Rates should avoid cross-subsidies, unless the cross-subsidies appropriately support explicit state policy goals;

8. Rates should encourage economically efficient decision-making;

9. Incentives should be explicit and transparent; and

10. Transitions to the new rate structure should emphasize customer education and outreach that enhances customer understanding and acceptance of new rates, and minimizes and avoids the potential for rate shock.[2]

My testimony is organized as follows:

- Section I: Introduction
- Section II: Purpose of My Testimony
- Section III: Overall Rate Design Structure
- Section IV: Tiered Rate Transition
- Section V: Fixed Charges
- Section VI: California Alternate Rates for Energy ("CARE"), Family Electric Rate Assistance ("FERA") & Medical Baseline Programs
- Section VII: TOU Periods Are Addressed in SDG&E Rate Design Window Application
- Attachment A: Response to Rate Design Questions

[2] Administrative Law Judge's Ruling Requesting Residential Rate Design Proposals, issued on March 19, 2013, Attachment A Principles of Rate Design.

In addition to the policy testimony set forth herein, SDG&E's Supplemental Filing is also supported by the following testimony:

- Chapter 2: (Cynthia Fang) Rate Design
- Chapter 3: (Leslie Willoughby) Default, Optional and Experimental TOU

A. Summary of Rate Proposals

SDG&E's Supplemental Filing lays out proposed 2018 default and optional rates, proposes a transition path to 2018 rates and makes proposals that support that transition.

The proposals outlined herein are designed to create a transition towards proposed 2018 default rates that include a time-of-use ("TOU") rate with a $10 Monthly Service Fee ("MSF")[3] that annually adjusts with the Consumers Price Index ("CPI") and a baseline credit, a flat rate with a $10 MSF[4] that annually adjusts with CPI and a baseline credit,[5] and an optional un-tiered TOU rate that includes a cost-based demand differentiated monthly service fee. The proposals SDG&E is making herein also create a transition path that will result in 2018 CARE rates that will comply with the statutory requirement of maintaining a 30% to 35% effective CARE discount range[6] for residential and non-residential CARE customers as well as the Commission's policy direction that changes not overburden low income customers. SDG&E is also seeking the Commission's approval of residential default TOU rates to be implemented in 2018.[7]

In order to begin a transition path towards rates that are based on marginal cost, reflect cost causation principles, provide stability, simplicity and customer choice, avoid cross-subsidies,

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[3] Public Utilities Code Section ("PU Code") 739.9(f) added by AB 327 establishes the maximum fixed charge at $10/month per non-CARE customer ($5/month per CARE customer).
[4] *Id*.
[5] PU Code Section 739.9(c) amended by AB 327 requires each electrical corporation to offer default rates to residential customers with at least two usage tiers.
[6] PU Code Section 739.1(c)(1) amended by AB 327 requires the CARE effective discounts to be in the 30% to 35% range.
[7] SDG&E seeks Commission direction to implement TOU rates in 2018 so that SDG&E can begin the process of implementing such rates. The specific rates and rate levels will be submitted in a future rate design proceeding as a part of the implementation process.

encourage economically efficient decision making, make incentives explicit and transparent, and maximize customer understanding of rates and how to respond more effectively to price signals, in 2015, SDG&E proposes to:

- Move Tier 1 up to Tier 2 and consolidate Tiers 3 and 4 to create a 2 tier structure,
- Create a transition path that includes a step down in the differentials between tiers to at least 40% in 2016, 30% in 2017 to a 20% differential by 2018,[8]
- Create an optional TOU rate with a cost-based Demand Differentiated Monthly Service Fee to be implemented in January 2015,
- Implement experimental TOU rates to study the impact of shorter on peak periods and inform additional TOU rate options that could be offered to customers,
- Implement a Monthly Service Fee of $5 for non-CARE customers in 2015 that will transition to $10 over three years and a Monthly Service Fee for CARE customers of $2.50 in 2015 that will transition to $5 over three years with annual adjustments for CPI beginning 2018, and
- Implement a proposal to transition CARE subsidies to meet legislative compliance by 2018 for both residential and non-residential CARE customers and a transition for non-CARE Medical Baseline rates.

In 2018, SDG&E also envisions proposing a number of yet-unknown alternative rate structures that would be designed to support customer choice as well as the efficient integration of distributed technologies into the grid, designed to maximize benefits to participating and non-participating customers alike and to align the interests of both. A critical component of SDG&E's

[8] Reduction in differential is accomplished by taking revenues from Monthly Service Fees from the upper tier, directing incremental increases in revenue requirements at a 2 to 1 ratio to the lower tier, directing any incremental revenue decreases to the upper tier and direct adjustments to the differentials if necessary to hit targets.

vision is to transition to rates that have been demonstrated[9] to provide more efficient utilization of the grid and to conduct research to support additional options, in particular additional optional TOU rates, for all residential customers.

SDG&E is taking steps now to offer alternative pricing options to customers through pilot programs and experimental rates that support SDG&E's research efforts that will enable widespread access to technologies and pricing options that meet the objectives of AB 327[10] to more effectively integrate distributed resources into the grid. For example:

- SDG&E is proposing experimental TOU rates that include shorter periods with a higher on-peak / off-peak differential to determine if the combination of shorter periods provides the same, better or worse customer response than a longer period that covers all of the required hours with less of an on-peak / off-peak differential.
- SDG&E was the first utility to file an application for a solar program with the *connected ..... to the sun application* (Application ["A"] 12-01-008), which included both a green tariff option and community solar program prior to the statutory requirements in Senate Bill ("SB") 43. The *connected .....to the sun* application provides universal access for all customers to the level of renewable energy that meets their needs through two separate options including a utility and third party option.
- SDG&E is actively engaging parties in the energy storage market to better understand the technical opportunities as well as the limitations, the various business models that are emerging within the industry, and the activities which may better

[9] See the testimony of Leslie Willoughby for studies supporting the deployment of default and optional TOU offerings.
[10] PU Code Section 769(b) added by AB 327 requires each electrical corporation to "submit to the commission a distribution resources plan proposal to identify optimal locations for the deployment of distributed resources."

support energy storage. SDG&E believes that rate reform is critical for customers to realize the full potential of energy storage and achieve a sustainable mass deployment of customer-side energy storage systems. Until this time, residential customers' only incentive is to install configurations with limited capabilities, focused solely on customer-side benefits.

- SDG&E will be filing a Vehicle to Grid Application that will promote the integration of electric vehicles into the grid including price signals that both encourage efficient utilization of the grid as well as encourage charging during periods expected to have excess intermittent renewable generation relative to load.

SDG&E sees customer education and outreach as a key ingredient to the successful transition to 2018 default rates as well as the introduction of new pricing alternatives. To ensure residential customers have a gradual, smooth and positive experience with the implementation of default TOU pricing in 2018, SDG&E will, in accordance with AB 327, provide residential customers: (1) one year of internal usage data from their advanced meter, which will inform them of their current usage patterns to help identify behavioral changes that can potentially save customers money; (2) customer education associated with TOU; and (3) one year of bill protection during which the total amount paid by the residential customer for electric service will not exceed the amount that would have been paid by the residential customers under that customer's previous rate schedule.[11] SDG&E will address Customer Education and Outreach in its March 21, 2014 supplemental filing in this proceeding.

[11] PU Code Section 745(c) amended by AB 327.

II. PURPOSE OF MY TESTIMONY

The purpose of my testimony is to provide Policy support for SDG&E's proposals in response to the Commission's February 13, 2014 ACR. My testimony supports SDG&E's proposals for 2018 default and optional rates, the transition path to those rates as well as SDG&E's specific proposals to begin that transition. SDG&E's proposed rate design roadmap is intended to lead to a sustainable rate design that provides customers with accurate pricing information regarding the energy alternatives that are available to them, allows innovation in new low carbon technologies to flourish, and enable customer choice and economically efficient decision-making.

My testimony also responds to questions posed in the Commission's ACR, including how SDG&E's proposals are consistent with the Rate Design Principles the Commission has identified in Phase 1 of R.12-06-013. My testimony also explains the alignment between the Energy Division's proposal[12] and SDG&E's proposal, which are largely the same.

On May 29, 2013, SDG&E submitted its Optimal Residential Rate Design proposal pursuant to the Ruling of Administrative Law Judge ("ALJ") McKinney and the November 26, 2012 Scoping Memo and Ruling of Assigned Commissioner ("Scoping Memo"). That proposal was based on SDG&E's belief that an Optimal Residential Rate Design that meets the Rate Design Principles the Commission has identified in Phase 1 of R.12-06-013 is one that meets the following criteria:

- 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.

[12] Staff Proposal for Residential Rate Reform in Compliance with R.12-06-013 and Assembly Bill 327, Energy Division, January 3, 2014 ("ED Staff Proposal" or "Energy Division Whitepaper").

The transition to a rate design that will support California's low carbon policy is one that cannot occur overnight and thoughtful steps need to be taken now in order to create a reasonable opportunity to achieve California's long-term emission reducing policy objectives such as California's Net Zero Energy Construction policy. In order to create the foundation necessary to support higher levels of distributed renewable generation, consistent with the state's public policy goals, rate structures must be designed to reasonably allocate and recover costs associated with the services that customers will require in this new world and to provide customers with more accurate information regarding the cost of the energy alternatives that are available to them. In order to successfully navigate this path, SDG&E will implement a messaging campaign to proactively communicate these changes to our customers.

III. OVERALL RATE DESIGN STRUCTURE

A. Summary of Rates

1. Default TOU Rate in 2018

As part of this filing, SDG&E is proposing and seeks CPUC approval to introduce default TOU rates for residential customers beginning in 2018. SDG&E is not requesting at this time that the CPUC approve the specific details of the default TOU rates that will be implemented in 2018 (e.g. associated prices for specific times of day); instead, SDG&E is requesting that the CPUC make an affirmative decision directing SDG&E to begin the process of implementing default TOU rates in 2018. Following this approval by the CPUC, SDG&E would begin the process, as set forth in this filing, to implement default TOU rates and propose in upcoming filings the specific rates and structure that would be associated with a default TOU regime. SDG&E's default structure would be a TOU rate on an un-tiered basis with a $10 MSF[13] and a baseline credit.

[13] Adjusted for CPI.

2. Optional Tiered Rate in 2018

Customers who prefer a rate structure that is more similar to the current tiered rate structure would have the option to "opt-out" of the default TOU rate onto a flat rate with the same baseline credit.[14] The two proposals would therefore provide a simple choice between a TOU rate and a flat rate, both with the same baseline credit.

3. Optional Un-Tiered TOU Rate in 2018 (introduced in 2015)

SDG&E will offer an optional un-tiered TOU rate starting in 2015. The rate will include a demand differentiated monthly service fee as outlined in the testimony of Ms. Fang. SDG&E would continue to offer the optional un-tiered TOU rate in 2018 for customers who prefer a more cost-based option to the default structure explained above. The measurement of the demand differentiated monthly service fee would exclude the super off-peak hours. These are hours that traditionally have low loads. Continuing to offer the optional un-tiered TOU rate will provide both continuity to customers who had previously opted onto the optional TOU rate and importantly provides a more accurate price signal that can promote the development and adoption of technologies that support California's vision of a low carbon future.

4. Experimental TOU Rates (introduced in 2015)

SDG&E believes that customers should have a variety of options that allow for greater accuracy and transparency in prices so that the Commission's Rate Design Principles can be met. In this Supplemental Filing, SDG&E is proposing experimental TOU rates with two shorter four-hour on-peak windows of 2 p.m. to 6 p.m. and 5 p.m. to 9 p.m., with higher on-peak to super off-peak ratios, to test customer response and adoption relative to the 2 p.m. to 9 p.m. seven-hour on-peak window with a lower on-peak to super off-peak ratio. SDG&E is proposing this now so that

[14] Flat rate with a baseline credit satisfies the requirement of an optional two tiered rate required by AB 327 (PU Code Section 739.9(c)). A baseline credit is a means by which to create an additional tier in the rate while offering simplicity for customers when making a choice between a TOU rate and a flat rate.

findings can be taken into consideration for the default TOU rate and optional TOU rates that will continue to be offered in 2018. The experimental rates are described in the testimony of Ms. Willoughby with the full proposal to be included in the March 21, 2014 Supplemental Filing. The experimental rates are proposed to address many of the questions that are posed in the ACR, such as:

> *30) Regardless of when and where TOU time periods and seasons are addressed please comment on the following potential list of issues and questions and add any additional issues or questions that should be addressed:*
>
> *…*
>
> *b) What is the optimal length of peak pricing periods that will induce peak demand reduction and load shifting;*
>
> *c) Would offering multiple TOU rate options (e.g., a choice of shorter or longer peak periods) increase the attractiveness of optional TOU rates?*[15]

B. Support for TOU Rates

1. **Default TOU Rate**

There is significant evidence that TOU rates for residential customers can result in significant demand reductions which can help lower overall system costs[16] as well as provide for conservation by avoiding building new infrastructure. As articulated in the testimony of Ms. Willoughby, studies and experiences in Canada[17], Arizona (Arizona Public Service ["APS']][18] and

[15] ACR, February 13, 2014, Appendix A Rate Design Questions.
[16] ED Staff Proposal, at p. 13: "Staff believes TOU rates will enable utilities to defer costly generation and system upgrades, resulting in reductions in electric system costs, which in turn benefit consumers by reducing or minimizing rate increases."
[17] Impact Evaluation of Ontario's Time-of-Use Rates: First Year Analysis, Brattle Group, November 26, 2013, Executive Summary pg iv.
[18] APS has approximately 50% of its residential customers enrolled in optional TOU rates.

Salt River Project[19]) and California (Sacramento Municipal Utility District ["SMUD"][20]) have shown that residential customers can successfully be transitioned to TOU rates with positive results both through default rates.

TOU rates provide for greater accuracy in pricing and provide a clear signal for conservation of all electricity demand at times when energy prices are high and increased demand could require additional infrastructure investments, and were supported by many parties (such as the Office of Ratepayer Advocates ["ORA"], Consumer Federation of California ["CFC"], and Environmental Defense Fund ["EDF"]) in Phase 1 of this proceeding. TOU price signals support Rate Design Principles 2, 3, 4, 5, 6, and 8 with the exception that TOU rates without a non-coincident demand signal can only encourage reduction of demand coincident with system peaks. SDG&E's optional un-tiered TOU rate does include a non-coincident price signal through the demand differentiated monthly service fee.

2. **Optional TOU Rate**

The optional TOU rate with a demand differentiated monthly service fee will provide an more accurate price signal than either the default TOU rate or the optional tiered rate will provide. Because the default TOU rate is subject to the statutory limitations on fixed charges in set forth in AB 327 (a $10 cap plus annual escalation in the CPI), the default rate can only address a portion of SDG&E's fixed residential customer costs and cannot send an accurate price signal regarding a customers' *"non-coincident demand," contrary to* CPUC Rate Design Principle 5 *"Rates should encourage reduction of both coincident and non-coincident peak demand."* SDG&E will also

[19] Effects of Three-Hour On-Peak Time-of-Use Plan on Residential Demand during Hot Phoenix Summers, Loren Kirkeide, The Electricity Journal, May 2012, at p. 11.
[20] SmartPricing Options Interim Evaluation, including SMUD Smart Pricing Option Pilot, Freeman, Sullivan & Co., Executive Summary, at pp. 1-11, and Chapter 5 Program Marketing, Customer Acceptance and Retention.

include a super off-peak exemption to the calculation of the demand differentiated monthly service fee in order to encourage customers to shift loads to periods where SDG&E has traditionally experienced low loads. Providing a more accurate price signal that is available to all customers is consistent with the spirit of Principle 5 because it will encourage customers to shift loads to periods that do not increase circuit or system peak demands. By contrast, while the optional TOU rate will create a more accurate price signal than currently exists, the optional tiered rate (the opt out choice to a two-tiered rate in 2018) will fail to provide an accurate price signal regarding either coincident or non-coincident demand. SDG&E believes that it is important to meet both of the objectives set forth in Rate Design Principle 5; price signals that better reflect the costs SDG&E incurs to meet non-coincident demand, as well as the costs SDG&E incurs to meet coincident peak demand which are also consistent with CPUC Rate Design Principle 3 *"Rates should be based on cost-causation principles."* Sending price signals that more accurately reflect the cots SDG&E incurs to meet coincident and non-coincident demand will encourage more efficient utilization of existing infrastructure, supporting CPUC Rate Design Principles 4 ("*Rates should encourage conservation and energy efficiency")* and 8 (*"Rates should encourage economically efficient decision-making").*

Customers who opt into a more accurate pricing structure will pay rates that are more closely aligned with their cost of service and support the Commission's Rate Design Principles. This, in turn, will help lay the foundation necessary to fully implement California's vision of a customer empowered low carbon future. Empowering customers to respond to the price signals created by the optional TOU rate will contribute to lowering the costs that are allocated to the

residential class as a whole.[21] As such any revenue shortfall created by customers migrating to this rate should be allocated equally to all customers in the residential customer class.

3. Experimental TOU Rates

SDG&E will be introducing experimental rates in addition to its optional TOU rate in order to study the how customers respond to alternative TOU structures consistent with the questions posed both in the ED Staff Proposal[22] and questions[23] that the Commission directed the investor-owned utilities ("IOUs") to respond to in the February 13 ACR. Depending on the results of the studies, SDG&E could offer additional rate options to customers to both enhance their experience as well as realize grid benefits that can lower costs for all customers. The need for experimental rates is outlined in the testimony of Ms. Willoughby and the details of SDG&E's optional TOU rate proposal are outlined in the testimony of Ms. Fang.

SDG&E believes that TOU rates will advance California's low carbon policy as is evident in the studies cited in the testimony of Ms. Willoughby. SDG&E also believes that each service territory and customers are unique and that optional and experimental rates will help educate and inform SDG&E so that optional rates can be proposed that meet SDG&E's customer's needs and provide benefits given how SDG&E's customers respond.

C. Potential Revenue Under-collection

1. Default TOU Rate Revenue Under-collection Considerations

The default TOU rate does not create a revenue shortfall relative to the opt-out tiered rate option in 2018. Transitioning the existing tiered rate structure to a tiered structure consisting of a

[21] ED Staff Proposal, at p. 13: "The Commission should require the utilities to offer customers optional, non-tiered, cost-based TOU and optional Critical Peak Pricing (CPP) rates in transition year 1 and throughout the transition period so that customers can immediately benefit from the opportunity to transition to a cost-based TVP rate."
[22] ED Staff Proposal, at p. 16.
[23] ACR, February 13, 2014, Appendix A Rate Design Questions.

flat rate with a 20% baseline credit will equalize the subsidy between the default TOU rate and the optional tiered rate. This mitigates the revenue shortfall that would otherwise result from customers migrating from the default TOU rate to the optional tiered rate. Essentially, a revenue shortfall occurs when the tiered rate provides a higher subsidy than the default TOU rate. As both the default TOU rate and the tiered rate (i.e. flat rate with a baseline credit) have the same baseline credit, the subsidy provided is equivalent.

2. Optional TOU Rate Revenue Under-collection Considerations

The costs allocated to non-residential customers should not be impacted by residential customer migration to optional TOU rates during the 2015-2018 transitional period and beyond. SDG&E recognizes that migration from the existing tiered rate structure to the un-tiered TOU structure will create an under-collection of revenues. However, and more importantly, this option will create an opportunity to generate interest in volunteering for TOU rates, enhance research that will make the transition smoother and more beneficial for other customers when SDG&E moves to default TOU rates in 2018, and will help pave the road to more accurate TOU pricing in the future.

SDG&E balances the two competing issues of revenue under-collections and the benefits of voluntary participation in TOU rates through the transition roadmap it is proposing in this proceeding. By reducing the differentials between the two tiers to 20% between 2015 and 2018, any revenue under-collection resulting from customer migration to the optional TOU rate will be reduced over time. In addition, customers who opt in to the optional un-tiered TOU rate will have one of the most accurately priced rates available to residential customers through the combination of fully allocated demand differentiated monthly service fees and TOU energy rates.

D. Protections for at Risk Customers on TOU Rates

If the Commission identifies a customer segment that needs to be protected, then any assistance that takes the form of a subsidy should be provided directly and transparently consistent

with the Commission's Rate Design Principle 9 *"Incentives should be explicit and transparent."* By providing assistance directly to at risk customers based on their need, as opposed to distorting the rate design, it enables these customers to actively participate in energy efficiency and demand response programs as they are subject to the same rates as other customers who are targeted for participation. This is consistent with the Commission's Rate Design Principle *7, "Rates should avoid cross-subsidies, unless the cross-subsidies appropriately support explicit state policy goals"* as customer savings realized from demand response and energy efficiency reduces the required subsides necessary to protect these customers. Providing the subsidy outside of rate design also allows these customers to participate in any rate including the optional TOU rate in 2018 which more closely matches the cost of service for these customers. Affording these customers the choice of rate designs is consistent with the Commission's Rate Design Principle 6 "*Rates should provide stability, simplicity and customer choice*." That choice includes rate options such as the optional un-tiered TOU rate in 2018 and satisfies the remaining Rate Design Principles of the Commission can be achieved for these at risk customers: (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; and (8) Rates should encourage economically efficient decision-making. The Commission's Rate Design Principle 10 will be further addressed in SDG&E's March 21, 2014 Supplemental Filing in this proceeding.

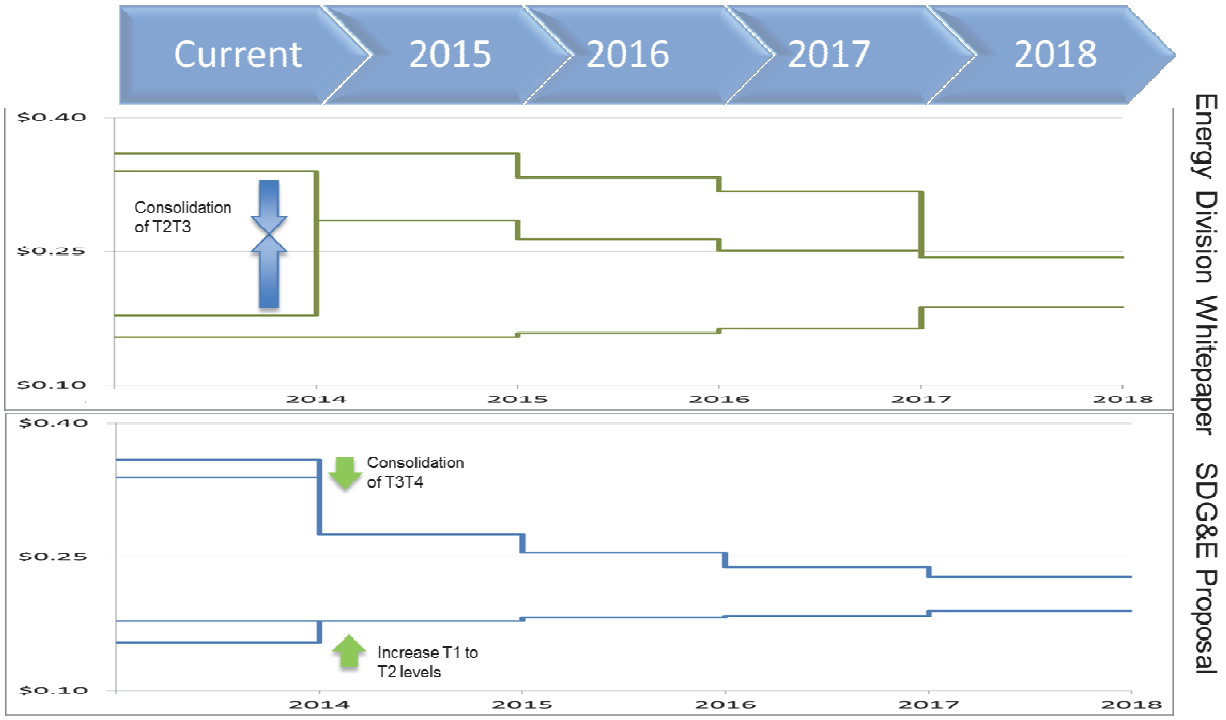
IV. TRANSITION FOR TIERED RATES

SDG&E proposes a smooth glide path from what is essentially an existing two tiered structure with a 50% differential to one with a 20% differential. SDG&E's current structure, while

having four tiers, is effectively a two tier structure. SDG&E's lower tiers are separated by 2.4 cents and the upper tiers are separated by 2 cents. The upper and lower tiers are separate by roughly 16 cents. Simply consolidating the upper and lower tiers and then moving the resulting upper and lower tiers closer together provides the smoothest path to a two tier structure with a 20% differential in rates. In 2018, the tiered rate will become optional and be transitioned to a flat rate with a baseline credit to simplify the choice between the optional tiered rate and the default TOU rate.

SDG&E supports the ED Proposal Staff Proposal, which was issued in this proceeding. However, given that SDG&E's current residential rate design is essentially a two tier system, as mentioned above, SDG&E provides an alternative transition path to default TOU in 2018 that results in less customer impact compared to Energy Division's suggested glide path. Below is a comparison of the ED Staff Proposal's tier transition with the proposal of SDG&E.

Chart CY-1: Illustrative Tier Transition Path of Energy Division and SDG&E



As noted above, as the tiers are transitioned to a 20% differential the revenue shortfall created by any migration to the optional TOU rate will be reduced. This is because the revenue shortfall is a function of how large the subsidy provided to Tier 1 customers is. The default TOU rate will have the same baseline credit as the optional tiered rate such that any revenue shortfall from customer migration between those two rates is mitigated. The transition path SDG&E is proposing is outlined in greater detail below.

a) Tier Consolidation in 2015: SDG&E propose to raise the Tier 1 rate up to Tier 2 levels and consolidate Tiers 3 and 4.

b) Transition of Tiered rates to 20% differential: SDG&E proposes to transition the tiered structure to a 20% differential by 2018. In doing so, SDG&E proposes to meet differentials between the tiers of 40% by 2016, 30% by 2017 and 20% in 2018. To accomplish this, SDG&E will use the following tools:

- Apply reduction in revenue requirements from Monthly Service Fees or otherwise to the upper Tier;
- Adjust any incremental revenue requirements to the lower tier at two times the percentage increase in the residential class average rate; and
- Direct adjustment to differential if target is not met.

c) Transition Tier structure in 2018 to a Flat Rate with a Baseline Credit: When the tiered rate becomes and optional rate in 2018 it will be restructured as a flat rate with a baseline credit of 20%.

A. SDG&E Specific Considerations

As previously mentioned, while SDG&E currently has four tiers, SDG&E's residential rate is effectively a two tier system. SDG&E upper tiers are separated, by 2 cents/kWh and SDG&E's lower tiers are separated by roughly 2.4 cents/kWh. However, the upper and lower tiers are

currently separated by a gap of roughly 15 to 17 cents/kWh, roughly 6 to 8 times the 2 to 2.4 cent differential separating upper and lower tiers respectively. Consolidation of the upper and lower tiers would result in a rate structure similar to the structure SDG&E customers have been exposed to; the most noticeable rate and bill impacts would be driven by changes relative to that two tier structure.

The objective of the proposed consolidation of Tiers 3 and 4 rates, consistent with the rationale stated in SDG&E's 2012 General Rate Case Phase 2 Application (A.11-10-002), is to simplify residential rate design. Currently, SDG&E's upper tier rates are separated by 2 cents per kWh. As noted above, the upper tiers are separated from the lower tiers by roughly 15 to 17 cents per kWh, or approximately 6to 8 times the 2 cent separation of the two upper tiers. The two upper tiers provide the same relative price signal with summer Tier 3 and Tier 4 being 196% and 207% of Tier 2. Consolidating the two upper tiers is a simple proposal to simplify residential rates. The bill impacts from this consolidation are minimal and outlined in the testimony of Ms. Fang.

B. Consistency with the Commission's Rate Design Principles

SDG&E proposes raising the Tier 1 rate by roughly 2.4 cents/kWh, the current differential between Tiers 1 and 2. This would effectively create one lower tier at a discount to the class average rate applied to usage up to 130% of baseline. This flattening of tiered rates would implement a step towards rates that better align with marginal cost (Principle 2); better align with cost-causation principles (Principle 3); better encourage conservation and energy efficiency (Principle 4); provide more stability, simplicity and customer choice (Principle 6); reduce the level of cross-subsidies not supported by explicit state policy goals (Principle 7); and encourage more economically efficient decision-making (Principle 8).

Using a 2 to 1 ratio for incremental revenue requirement increases for Tier 1 and directing all incremental revenue requirement decreases to Tier 2 until such a time as a 20% differential in

tiers is achieved also supports the Commission's Rate Design Principles. Directing a larger portion of any increases to Tier 1 brings the lower tier closer to the cost of serving low use customers consistent with the Commission's Principles as noted above. Directing any revenue requirement decreases to Tier 2 until the 20% differential has been reached also support the Commission's Rate Design Principles. It does not make sense to reduce the lower tier rate when the Tier 1 rate would have to be increased in order to achieve a 20% differential. Reducing the lower tier would increase the volatility of the lower tier during the transition period to the two tier 20% differential rate in 2018. For these reasons, the measured steps SDG&E is proposing herein will support a smooth transition with is consistent with Principle 10 (*"Transitions to the new rate structure should emphasize customer education and outreach that enhances customer understanding and acceptance of new rates, and minimizes and avoids the potential for rate shock*"). Maintaining the 20% Tier 1 and Tier 2 differential also complies with the statutory baseline requirement.

C. Support for SDG&E's Tier Proposals

The majority, or 56%, of SDG&E's non-CARE residential sales are in Tier 1.[24] Tier 2 customers are also charged Tier 1 rates, lower tier customers all share in the absorption of the Tier 1 rate increase under SDG&E's proposal. Importantly, all upper tier customers also pay the Tier 1 rate as well. With all customers contributing, more relief can be achieved with smaller movements in tier 1 prices, mitigating the potential for rate shocks for a subset of customers. The bill impacts reflect this as outlined in the testimony of Ms. Fang.

In addition, SDG&E's upper and lower tier alignment is reasonable relative to other solutions such as creation of a temporary three tier system, which would introduce additional rate shock pressures, inconsistent with Principle 10 (*"Transitions to the new rate structure should emphasize customer education and outreach that enhances customer understanding and acceptance*

[24] Defined as all usage billed in Tier 1.

of new rates, ***and minimizes and avoids the potential for rate shock,*** *"* emphasis added). It is simple to see when looking at Chart CY-1 above that the two tier rate glide path is far smoother than the stair step that would happen by introducing an intermediary tier. A third intermediary tier could require reducing the sales covered by SDG&E's effective lower tier, currently comprised of Tier 1 and 2 sales. Removing the Tier 2 sales from the effective lower tier price level would create rate shocks for a minority of low energy consumer in the band between 100% to 130% of baseline.

Another alternative for a third intermediary tier would be to move sales covered in what is now closely priced Tier 3 and 4 rates into a third intermediary rate level. Such a move would require either moving the lower tier or upper tier rate level higher to make up the revenue for the sales that are no longer subject to the higher upper tier rate. Increasing the lower tier price beyond the existing band increases pressure contributing to rate shock beyond what would have been otherwise required. Increasing the upper tier level is counter to the relief sought by the rate reform in AB 327.

Maintaining the two tier structure also supports the ability to offer customers a relatively simple choice between a default TOU rate with a baseline credit and an optional flat rate with the same baseline credit. With a two tier structure, a single line item bill credit for lower tier usage could be applied on top of a TOU rate. Such a structure would simplify customer choice consistent with Principle 6 *"Rates should provide stability, simplicity and customer choice."*

A two tiered structure provides a solid foundation upon which future rate designs options for customers can be more simply and understandably be introduced. This meets the objective of simplicity and customer choice consistent with Rate Design Principle 6 and lays the foundation for a smooth transition consistent with Rate Design Principle 10. Lifting the price level of Tier 1 to Tier 2 also mitigates potential rate shock by spreading the impact amongst all effective lower tier users and providing a solid foundation upon which future rate options such as un-tiered TOU rates could

be incorporated. Given SDG&E's existing rate structure and the objective of minimizing rate shock a reasonable solution is to maintain, SDG&E's existing structure of two effective tiers by raising Tier 1 to the same level as Tier 2 and consolidating Tiers 3 and 4.

V. FIXED CHARGES

A. Fixed Charge Proposal

SDG&E proposes to introduce a Monthly Service Fee ("MSF") beginning in 2015 and phase it in through 2018. While SDG&E would prefer to immediately implement a MSF at the statutory capped level, SDG&E is proposing a phase in of the MSF consistent with the Energy Division Proposal. The revenues from the MSF will be used to decrease the proposed upper Tier 2. The transition of the monthly service is proposed as noted below and described in the testimony of Ms. Fang.

- 2015: $5/month Non-CARE and $2.50/month CARE
- 2016: $7.50/month Non-CARE and $3.75/month CARE
- 2017: $10/month Non-CARE and $5/month CARE
- 2018: begin CPI increase.

SDG&E also proposes to introduce a fully allocated Demand Differentiated Monthly Service Fee ("DDMSF") with the optional TOU rate to be implemented in 2015. The DDMSF will be used to capture the cost of distribution services of small, medium and large customers and will encourage reduction of both coincident and non-coincident peak demand, consistent with Rate Design Principle 5 because the demand differentiated customer charge would be based on a customer's non-coincident peak demand.

B. Monthly Service Fee Considerations

SDG&E believes in price signals that are based on marginal cost, cost causation principles, encourage conservation and economically efficient use of energy and infrastructure and support

economically efficient decisions consistent with Rate Design Principles 2, 3, 5 and 8. To the extent allowed under current law, SDG&E's proposals reflect that.

SDG&E proposes a flat monthly service fee for residential customers to reflect the fact that customer costs are fixed costs that are incurred for all customers without regard to their demands and because the $10 cap (+ CPI) is lower than the fully allocated customer costs. As such, SDG&E does not differ the charge based on the size of the customer as the costs being collected do not change based on the size of the customer. SDG&E also proposes the same phase in period for the MSF as proposed in the ED Staff Proposal.

Because SDG&E's optional TOU rate would only apply at the customer's choosing, on an opt-in basis, there would be no statutory cap on monthly service fees. As such, SDG&E is proposing to introduce a DDMSF with its optional TOU rate that takes into account the size of a customer based on an individual customer demand.

C. Consistency with Rate Design Principles

SDG&E's MSF and DDMSF are consistent with the Commission's Rate Design Principles and move towards SDG&E's optimal rate design. Low income and medical baseline customers will be protected by the effective discount for CARE customers of 30% to 35% as well as the baseline adjustment for medical baseline customers consistent with Principle 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")*. While reform of these programs will happen elsewhere, the question of affordability for those customers is handled through those programs. So while the CARE MSF is limited to $5 plus CPI, it is the effective discount that assures affordability. It follows that a fully allocated DDMSF for the optional TOU rate also meets Principle 1 as CARE customers will continue to receive the effective discount through a line item credit. As the TOU rate is optional, Medical Baseline customers need not expose themselves to the fully allocated

DDMSF unless the rate meets their specific needs. If medical baseline protections are reformed to take the subsidy out of the rate and provided directly then they too could participate with impacting the protections that are provided to them.

Principles 2 (*"Rates should be based on marginal cos"),* 3 ("*Rates should be based on cost-causation principles"),* and 5 ("*Rates should encourage reduction of both coincident and non-coincident peak demand"),* are met to the extent allowed under statute. The MSF will collect fixed costs through fixed charges removing distortions in the variable rate. This is different from the minimum bill which retains the distortion in the variable rate. Taking the fixed cost out of the variable rate and collecting it directly through a fixed charge will remove this distortion. The DDMSF for the optional TOU rate will be fully allocated, encouraging the reduction of a customers' non-coincident demand and providing an accurate on-peak price signal to encourage the reduction of coincident peak demand, demand at times when the load on the system is highest.

By creating more accurate price signals, fulfilling Principles 2, 3 and 5, and providing for direct incentives consistent with Principle 9, SDG&E's proposals will better achieve the Commission's Rate Design Principle 4 (*"Rates should encourage conservation and energy efficiency")* without compromising the other Principles. By recovering fixed costs through fixed charges in the MSF and distribution costs based on the size of the customer in the optional TOU rates DDMSF, SDG&E advances the accurate price signals that are required to ultimately provide a sustainable rate design that meets the Commission's Rate Design Principles. Attempting to achieve energy efficiency by distorting the variable rate can undermine attempts to encourage the reduction of non-coincident demand. This can lead to unintended cost shifts between customers which is counter to Principle 7 ("*Rates should avoid cross-subsidies, unless the cross-subsidies appropriately support explicit state policy goals").* Encouraging conservation through a distorted energy rate undermines an explicit policy goal to reduce non-coincident demand.

Accurate price signals with direct incentives support Principle 8 ("*Rates should encourage economically efficient decision-making").* In addition to empowering customers to make more economically efficient decisions on the basis of more accurate information, accurate price signals will better protect all customers from subsidies that result from inaccurate rate structures.[25]

MSF and DDMSF charges will also provide greater stability, consistent with Principle 6 ("*Rates should provide stability, simplicity and customer choice").* Customers who are susceptible to the effects of heat waves and requiring air conditioning (such as the elderly on fixed incomes), have greater stability when their fixed costs are removed from the variable rate. This is because:

- When a heat wave hits, customers needing air conditioning can use far more than their average consumption;
- Baseline usage is based on averages so baseline rates or credits do not fully protect these customers from short spikes in energy use in a given billing cycle; and
- The higher the variable rate, the higher these customers bill can go during these heat wave periods.

Collecting fixed costs through fixed charges stabilizes a customer's bill by removing some of the variability that can occur due to sudden temporary changes in a customer energy use.

SDG&E's proposal meets Principle 10 ("*Transitions to the new rate structure should emphasize customer education and outreach that enhances customer understanding and acceptance of new rates, and minimizes and avoids the potential for rate shock").* SDG&E's transition period is over three years consistent with the ED Staff Proposal.

[25] California Net Energy Metering Ratepayer Impacts Evaluation, California Public Utilities Commission, prepared by E3, October 28, 2013, at p. 6: "costs associated with all NEM generation are forecast to be approximately $1.1 billion per year in 2020 (in $2012)."

VI. CARE, FERA, AND MEDICAL BASELINE PROGRAMS

In order to limit further growth in the effective CARE subsidy of 39%, create greater transparency, and transition the CARE subsidy to the legislated effective CARE discount of 30% to 35% SDG&E is proposing to remove the CARE subsidy[26] from rates to a line item discount. The effective discount will then be reduced to 38% in 2015 and 2% annually thereafter until it reaches an effective discount of 34%. The specifics of SDG&E's CARE rate proposal and the impacts of SDG&E's proposals on FERA are addressed in the testimony of Ms. Fang. Medical Baseline customers who had been receiving subsidies that have been tied to the old CARE rate structure will be transitioned over a four years period to the appropriate rate structure aligning medical baseline customers with the subsidy intended by statute in order to minimize customer bill shock.

In January 2013, the effective CARE discount was 34%. Because of rising upper tier rates today the effective CARE discount is roughly 39%, increasing about 5% in 10 months. By mid-2014, SDG&E estimates the CARE discount could rise to the mid 40%.

SDG&E Tier 3 CARE rates are currently frozen, but the effective CARE discount is not. Therefore, currently, whenever the non-CARE upper tier rates increase, the effective CARE discount increases. Given that the non-CARE upper tier rates have been growing much faster than the lower tiers, the subsidy provided to the high use CARE customers in Tiers 3 has been growing faster than the subsidy provided to low use CARE customers.

The CARE rate subsidy that had been provided to non-CARE medical baseline customers also creates cost pressure on upper tier rates. Phasing this rate subsidy out over four years balances providing relief to the upper tiers and the bill impacts to non-CARE medical baseline customers as they are transitioned to non-CARE rates. Ensuring that non-CARE medical baseline customers will

[26] CARE subsidy includes the exclusion of the exemption to Department of Water Resources-Bond Charge ("DWR-BC") and the California Solar Initiative ("CSI").

continue to receive their medical baseline subsidy is consistent with transitioning non-CARE medical baseline customers off of CARE rates, while maintaining the additional baseline allotment, consistent with Rate Design Principles 1 and 7 (*"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," "7. Rates should avoid cross-subsidies, unless the cross-subsidies appropriately support explicit state policy goals.").*

Providing incentives and subsidies in a transparent manner will allow the incentives and subsidies to be appropriately sized as market conditions change. This is critical as is evident in the rapid growth in CARE subsidies, in particular to high use customers relative to low use customers. A transparent subsidy that is not implemented through a rate design that distorts accurate price signals allows for state policy direction to be more clearly and cost-effectively implemented. It also allows for the costs to be appropriately tracked and collected. When subsidies or incentives are buried in rates, the level of the incentive or subsidy is hidden and who ultimately bears the cost of the incentive or subsidy can be difficult to see.

SDG&E's proposal is not intended to supersede any outcome in a subsequent, separate phase of this proceeding that will closely examine CARE, FERA and Medical Baseline structure. Rather SDG&E's proposal is proposed as a means to simply transition from the existing effective level of CARE discounts to comply with the 30-35% statutory requirement. Currently the effective CARE discount is driven by the difference between the existing CARE structure and the non-CARE rate. With the non-CARE rate also being reformed removing the CARE discount from the rate structure reduces the number of moving pieces and can simply provide the same effective discount level in the CARE rate structure to all customers and smoothly transition these customers to statutory required levels.

VII. TOU PERIODS ARE ADDRESSED IN SDG&E'S RATE DESIGN WINDOW APPLICATION

SDG&E believe that TOU periods should be driven by utility-specific concerns including customer composition and behavior in the adoption of low carbon technologies, utility procured renewables and the individual utilities grid reliability requirements that drive infrastructure build. That is why SDG&E proposed changes to its TOU periods in its Rate Design Window Application, filed on January 31 2014.[27] SDG&E will respond in full to the Commission's questions on TOU periods and TOU rates in the March 21, 2014 supplemental filing, which will cover questions 26-38 as provided in the ACR.

Customer composition includes not only the mix of traditional rate classes but will increasingly be affected by consumer preferences and adoption of low carbon technologies. Adoption of distributed renewables, and the performance of the renewable technologies, will depend on the preferences of the customers in an IOU's territory as well as the weather in the utilities respective territories. Electric vehicles are an emerging technology that can also create differences in future loads IOUs' serve not only due to differing adoption rates for electric vehicles but also the geography of the IOUs' territory which can impact charging behaviors of customers who have adopted electric vehicles. As customers adopt more low carbon technologies, and new technologies are introduced, an IOU's customer composition and customer behavior will be a growing contributor to the distinct nature of an IOU's load.

The utility scale renewable resources developed in a utilities load planning area also impact the net load requirements. Net load is the load less must-take renewable resources. Net load resources drive costs and infrastructure requirements.

[27] In the event SDG&E's TOU period request to change its periods for all customers to 2-9p.m. on-peak is found to be out of scope it its Rate Design Window Application, SDG&E requests consideration of this issue in this proceeding.

Given the utility specific concerns associated with the determination of TOU periods, it is appropriate that TOU periods be determined in utility specific rate design proceedings.

This concludes my testimony.

VIII. QUALIFICATIONS

My name is Christopher F. Yunker. My business address is 8330 Century Park Court, San Diego, California, 92123. I have been employed as the Rates & Analysis Manager overseeing the Electric Rates, Load Analysis and Demand Forecasting groups for San Diego Gas & Electric Company since 2010. Prior to my position as Rates & Analysis Manager I was employed as Strategic Planning Manager from 2009 to 2010. I have held a variety of positions at SDG&E in the Resource Planning, Technology Development and Finance departments. I began work with Sempra Energy in 2002, working as a Financial Analyst with Sempra Connections. Prior to my work with Sempra Energy, I worked for GEA Power Cooling Systems, Inc., as an Application Engineer and Project Development Engineer developing vacuum condensing systems for combined cycle, combined heat and power and waste to energy power plants.

I received a B.S. in Mechanical Engineering from the University of California, San Diego and a Masters in Business Administration from the University of Southern California. I am a Professional Engineer in Mechanical Engineering in the State of California and a Certified Energy Manager through the Association of Energy Engineers.

I have previously provided testimony to the Commission.

ATTACHMENT A
RESPONSE TO RATE DESIGN QUESTIONS
SAN DIEGO GAS AND ELECTRIC COMPANY – ELECTRIC DEPARTMENT
SUPPLEMENTAL FILING RULEMAKING 12-06-013 PHASE 1

Rate Design Questions

2) Briefly describe how your rate design proposal conforms to each of the 10 rate design principles in R.12-06-013.

As is discussed below, SDG&E's proposals are designed to conform with the Rate Design Principles the Commission updated and outlined in Phase 1 of R.12-06-013:

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;*

   SDG&E's proposal is consistent with the legislated levels for CARE discounts pursuant to AB 327. SDG&E transitions to the statutory discount for CARE of 30% to 35% by applying the discount to all sales equally and then backing down the percentage of the discount directly over time.

2. *Rates should be based on marginal cost;*

   SDG&E allocates costs between customers based on marginal cost studies in order to appropriately allocate costs to classes of customers based on how the class contributes to marginal energy, capacity and grid infrastructure requirements.

   SDG&E introduces optional and experimental TOU rates in 2015 to provide a rate option to customers which aligns periods of high and low costs with the rate that customers see.

   In 2018, SDG&E proposes to default customers to TOU rates so that a greater percentage of our customers will be on rates that align the price signals they see with the costs the utility incurs.

3. *Rates should be based on cost-causation principles*

   Beginning in 2015, SDG&E proposes to charge customers a fixed monthly service fee, also known as a fixed charge. The fixed charge will ultimately be set at a level consistent with AB 327. This will allow SDG&E to recover a portion of fixed costs that

do not vary with consumption in the manner in which these costs are incurred. SDG&E has an obligation to serve all of its customers in its service territory and must build and maintain adequate facilities to serve the needs of its customers. While it will not provide for recovery of distribution demand costs, the fixed charge will help to pay for a portion of the costs that are necessary to serve each individual customer.

TOU rates have higher rates for periods in which increased customer demand results in higher costs and lower rates for periods where costs to serve customers are low. Therefore, if customers are using more electricity at times during high levels of demand or when the system is constrained (e.g., peak times), they will pay a price that more accurately reflects the cost of electricity during that period of use.

The optional TOU rates that SDG&E will propose beginning in 2015 will include monthly service fees that are different based on the amount of capacity a customer requires to serve its electrical needs. This approach is also known as "demand differentiated." These demand differentiated monthly service fees will supplement the recovery of fixed customer costs through fixed charges with a mechanism designed to recover distribution costs based on the size of the customer. SDG&E designs distribution system to meet all customers' non-coincident demands, or all customers' individual peak demands. Charging a customer for the cost of the grid based on their individual peak demands will better align SDG&E's recovery of distribution infrastructure costs with how it incurs those costs.

4. Rates should encourage conservation and energy efficiency;

By moving customers to default TOU rates in 2018, SDG&E will create the opportunity for customers to better understand that their energy usage has a different cost at different times in the day. Currently, the conservation signal is sent to customers purely from a total bill standpoint. But, by sending customers the signal that certain

times of the day are more expensive, customers will realize opportunities to save money by changing their behavior and conserving at times when electricity is more expensive. This will encourage a higher percentage of customers to participate in energy efficiency as well because rebates can be sized to provide an economic incentive that ties to all sales based on high cost periods where conservation and energy efficiency provide the greatest benefit. Today only 30% of residential sales receive any conservation signal that upper tiers may provide. By providing an incentive or rebate to an un-tiered rate, all customers will have more meaningful opportunities to participate in energy efficiency regardless of whether they are high or low users of energy.

5. *Rates should encourage reduction of both coincident and non-coincident peak demand;*

TOU rates send a price signal that encourages customers to reduce their coincident peak demand while the existing tiered structure does not because the prices charged to customers only vary depending on which tier they are in and that price does not reflect the difference in the cost of electricity service when the system is at peak. TOU periods are designed to recover a greater percentage of capacity costs during on-peak periods resulting in a higher on-peak price period.

SDG&E is also proposing optional TOU rates to be offered starting in 2015. These rates will include demand differentiated monthly service charges. The fixed charges that are differentiated by a customer's demand addresses the issue of non-coincident peak demand because differentiating fixed charges by customer size sends a price signal that will encourage customers to reduce their individual peak demand. Again, the current tiered rate structure does not accomplish this goal.

6. *Rates should provide stability, simplicity and customer choice;*

Currently, the four tier system is not working as intended. For SDG&E, the difference between summer Tier 2 and Tier 3 is over $0.17 (Tier 2 is $0.178 and Tier 3 is $0.349). This gap continues to grow. Should a customer move from Tier 2 to Tier 3 in a given month, this will have drastically different impacts on their bill. This jump from one tier to the next and the associated price difference is neither stable nor simple. By providing prices that accurately reflect the cost to serve a customer, massive jumps in prices will be minimized or eliminated. Customers will begin to become comfortable that electricity is more expensive during peak times and less expensive during non-peak times – the same way customers know flights are more expensive during the holidays. This, in turn, increases stability. Steeply inclining tier blocks result in prices spiking for a minority of customers that can result from loading a minority of sales with a disproportionate level of cost increases.

SDG&E's TOU proposals reduce the tier differentials, or in the case of the optional TOU rate, eliminate them.

In 2018, both the default TOU rate and the optional tiered rate will include the same tiering mechanism in the form of a baseline credit. This is a $/kWh credit provided for usage up to baseline levels. By providing the same credit for both the default TOU and optional flat rate, customers will have a simpler choice.

7. *Rates should avoid cross-subsidies, unless the cross-subsidies appropriately support explicit state policy goals;*

SDG&E includes default TOU rates in 2018 and optional TOU rates starting in 2015 which include demand differentiated monthly service fees. These TOU rates are more accurate than the existing tier structure. Greater accuracy in pricing reduces cross subsidies as they more accurately recover a customers' cost of service. Additionally, the fixed charges that are being proposed will apply to all customers to cover a portion of the

customers fixed costs. When customers' energy use is low, their contribution to those costs that are fixed is lowered and other customers pick up these costs. The fixed charge will help reduce this cross-subsidy.

8. Rates should encourage economically efficient decision-making;

First and foremost, accurate prices are required for customers to make economically efficient decisions. If a customer is paying less than the cost to serve overall or is being charged less than what it costs to serve that customer at a specific time of day, that customer will not make the most economically efficient decision. The converse is also true. SDG&E's proposals, whether it is the optional TOU or default TOU rate structures, by their nature are a more accurate pricing regime than the current system. As a result, customers will be more equipped with the information they need to make more economically sound decisions.

Additionally, today's rates are "all-in" rates. That is, the rate a customer is charged covers both the fixed and variable components of their bills. By implementing a fixed charge, the customer is better able to understand what the true cost of the variable component is. The variable component of a customer's bill is that portion they have the most control over because it directly correlates to their usage.

9. Incentives should be explicit and transparent; and

SDG&E proposes that subsidies be offered transparently through bill credits that minimize the distortion in the rate for energy and grid services. Offering line item discounts for CARE, Medical Baseline and tiering through a baseline credit will allow customers to more transparently see their cost of service.

10. Transitions to the new rate structure should emphasize customer education and outreach that enhances customer understanding and acceptance of new rates, and minimizes and avoids the potential for rate shock.[1]

SDG&E's transition takes into account SDG&E's current rate structure as well as SDG&E's 2018 rate structure. Customer outreach and education will be addressed in the March 21, 2014 filing. In terms of minimizing and avoiding rate shock, SDG&E's transition to default TOU rates includes the introduction of optional TOU rates in 2015 and experimental TOU rates to assess alternative structures that can lead to additional options for customers which can ease customer acceptance.

In the transition to the opt out structure, SDG&E will leverage what is essentially a two tier structure, consolidate the lower tiers and upper tiers (which are roughly 2 cents apart) and then bring the two tiers closer together from the current spread of roughly 16 cents. In 2018 the tiered rate would become optional and the structure would be transitioned to a flat rate with a baseline credit of 20%.

4) Does your default rate design request for 2018 and beyond include two, three, or four tiered rates?

SDG&E's default rate in 2018 is a TOU rate with a $10 Monthly Service Fee (escalated at CPI) and a baseline credit. The baseline credit creates a two tier structure.

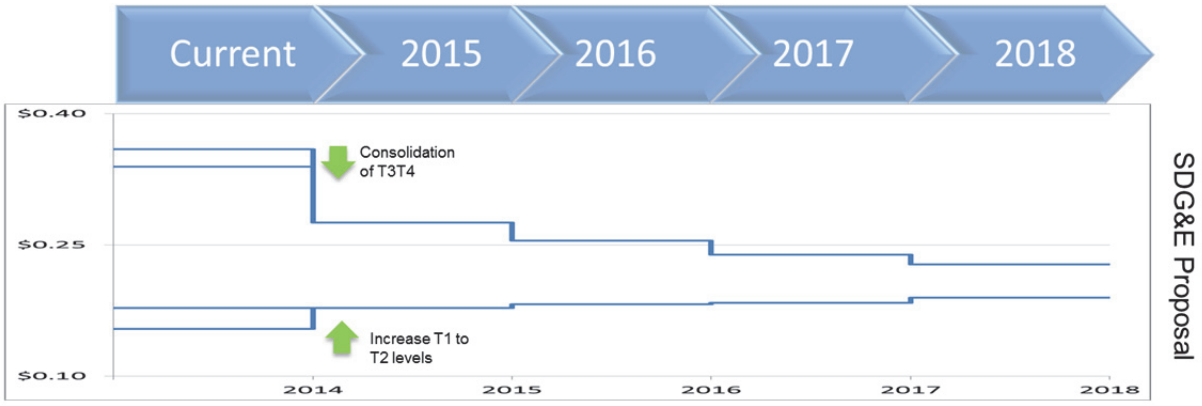
If so, how steeply tiered should these rates be?

SDG&E proposes to provide a baseline credit of 20% discount for the default TOU rate for up to the baseline level of energy use.

[1] Administrative Law Judge's Ruling Requesting Residential Rate Design Proposals, issued on March 19, 2013, Attachment A Principles of Rate Design.

If you propose fewer than four tiers, how should the tiered rates transition over time to ensure a reasonable phase-in schedule?

SDG&E's current structure, while having four tiers, is effectively a two tier system. SDG&E's lower tiers are separated by 2.4 cents and the upper tiers are separated by 2 cents. The upper and lower tiers are separate by roughly 16 cents. By simply consolidating the upper and lower tiers and then moving the resulting upper and lower tiers closer together provides the smoothest path to a two tier system with a 20% differential in rates



Assumes current rate levels. Changes reflect change to rate structure only.

If you propose retaining more than two tiers in 2018 and beyond, either as a default or an optional rate, please discuss the rationale for retaining three or more tiers.

SDG&E does not contemplate retaining more than two tiers

5) Does your rate design request propose default time-of-use (TOU) rates beginning January 1, 2018 or thereafter? Why or why not?

SDG&E's roadmap includes default TOU rates beginning in January 1, 2018. There is significant evidence that TOU rates for residential customers can result in significant demand

reductions which can help lower overall system costs as well as provide for conservation by avoiding building new infrastructure. As outlined in the testimony of Leslie Willoughby, studies and experience in Canada[2], Arizona (APS[3] and Salt River Project[4]) and California (SMUD[5]) have shown that residential customers can successfully be transitioned to TOU rates with positive results both through optional rates as well as through default.

SDG&E includes in the supplemental filing a request to approve the move to default TOU periods in 2018 based on the merits of TOU pricing. SDG&E will then propose a specific TOU rate proposal including rate levels as part of the implementation in a following rate design proceeding.

6) Regardless of whether you propose defaulting customers to a TOU rate, please explain why default TOU rates should or should not be tiered?

Tiering of default TOU rates should be done through a single baseline line item adjustment. A line item adjustment provides for greater transparency in the price signal and customers' cost of service. By including a baseline credit as the tiering structure, SDG&E's proposal will allow for the same baseline credit to be offered for the optional tiered rate as well. This will simplify a customer's choice between the optional TOU rate and the tiered rate to one of simply a TOU rate or a flat rate, as both rates will have the same baseline credit.

While eliminating tiers would provide a more accurate price structure, SDG&E's proposal has been designed to avoid disagreements over baseline issues. As such, SDG&E

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[2] Impact Evaluation of Ontario's Time-of-Use Rates: First Year Analysis, Brattle Group, November 26, 2013, Executive Summary pg iv.
[3] APS has approximately 50% of its residential customers enrolled in optional TOU rates.
[4] Effects of Three-Hour On-Peak Time-of-Use Plan on Residential Demand during Hot Phoenix Summers, Loren Kirkeide, The Electricity Journal, May 2012, at p. 11.
[5] SmartPricing Options Interim Evaluation, including SMUD Smart Pricing Option Pilot, Freeman, Sullivan & Co., Executive Summary, at pp. 1-11, and Chapter 5 Program Marketing, Customer Acceptance and Retention.

includes it with the default rates. However, SDG&E also includes an optional un-tiered rate with a demand differentiated monthly service fee as an option for customers to have a more accurate price signal.

7) If you are proposing default TOU in 2018, what is your proposed opt-out rate or rates? For tiered rates, how many tiers are included and how steeply tiered are they?

SDG&E's opt-out rate in 2018 is a two tiered rate with a 20% differential. The tiering would be accomplished by providing a line item baseline credit with on top of a flat rate.

SDG&E also plans to offer an optional TOU rate that is un-tiered with a cost based demand differentiated monthly serve fee which would be introduced starting in 2015. SDG&E is also considering offering a suite of TOU rates that could include shorter on-peak periods with higher on-peak to super off-peak differentials. The ultimate optional rates proposed will depend on the outcome of the experimental rate study that SDG&E proposes to begin in January 2015.

8) Prior to 2018, does your rate design request include optional TOU rates?

SDG&E proposes to introduce an optional un-tiered TOU rate and experimental TOU rates in January 2015.

Please explain whether and why these optional TOU rates should be tiered or not.

SDG&E does not propose to tier the optional TOU rate. SDG&E seeks to introduce accurate price signals to customers to achieve the maximum benefits that TOU price signals can provide. Tiering distorts this price signal.

If your proposal includes optional TOU rates with fewer tiers than the default rate, do you expect some amount of revenue shortfall associated with higher cost upper tier customers migrating to the TOU rate?

Yes. SDG&E would anticipate that some high use customers would voluntarily migrate to TOU rates. An optional un-tiered TOU rate is aligned with the CPUC Rate Design Principles and promotes California's policy for a low carbon future. Rates that reflect accurate price signals would better reflect marginal cost (Rate Design Principle 2), better reflect cost causation principles (Rate Design Principle 3), create greater simplicity and stability and promote customer choice (Rate Design Principle 6), encourage economically efficient decision making (Rate Design Principle 8) and would create opportunities for all customers to participate meaningfully in energy efficiency, demand response and pursue low carbon technologies (Rate Design Principle 4).

How would you handle that revenue shortfall?

The revenue shortfall would be kept within the residential class and rolled back into residential rates on an equal cents per kWh basis.

Should the optional TOU rates remain revenue neutral to the default rate during the 2015-2018 transitional period? Why or why not? What about after 2018?

Optional TOU rates should remain revenue neutral to the residential class during the 2015-2018 transitional period and beyond. SDG&E recognizes the issue that migration from the existing tiered rate structure to the un-tiered TOU structure could create. On one hand, eliminating tiers from optional TOU rates will arguably encourage customers to voluntarily opt in to TOU rates which can provide benefits by reducing on-peak demand avoiding the need for new infrastructure in the future. However, migration from the tiered structure to un-tiered structure can result in revenue shortfalls that need to be accounted for.

SDG&E balances these two competing issues through the transition roadmap. By reducing the differentials between tiers to 20% between 2015 and 2018 the revenue under-collection will be reduced over time. The default TOU rate in 2018 will have a baseline credit equal to the baseline credit on the optional flat rate (optional tiered rate required by AB 327). By

setting the two credits equal migration between the default TOU rate and the optional tiered rate would not create any revenue under collection.

For the optional un-tiered rate in 2018, there could still be a revenue under-collection. However, customers who opt in to this rate would have one of the most accurately priced rates available to residential customers with fully allocated demand differentiated monthly service fees and TOU energy rates. Because the default TOU rate is subject to the statutory limitations on fixed charges, $10 cap plus escalation, in AB 327 the default rate can only address fixed customer costs and falls short of addressing a customers' *"non-coincident demand",* CPUC Rate Design Principle 5 *"Rates should encourage reduction of both coincident and non-coincident peak demand."* The optional tiered rate addresses neither coincident nor non-coincident demand. SDG&E believes both of the objectives should be met as reducing non-coincident demand recovers costs of the distribution system consistent with how these costs have been incurred, CPUC Rate Design Principle 3 (*"Rates should be based on cost-causation principles")*. Sending coincident and non-coincident demand signals encourages increased utilization of existing infrastructure which supports CPUC Rate Design Principle 4 ("*Rates should encourage conservation and energy efficiency")*. More accurate price signals will also encourage conservation because accurate price signals empower customers to make economically efficient decisions, consistent with CPUC Rate Design Principle 8 (*"Rates should encourage economically efficient decision-making").*

Customers who opt in to a more accurate pricing structure by choosing the optional TOU rate in 2018 will be more closely paying their cost of service and supporting the Commission's Rate Design Principle. This, in turn, will support California's policy for a low carbon future. Responding to the price signals from the optional TOU rate will contribute to lowering the costs that are allocated to the residential class.

9) What other optional residential tariffs are you proposing either in this proceeding or in other proceedings? Do you propose additional optional time-variant pricing options that would take effect between 2015 and 2018? If yes, then describe these rates, e.g. critical peak pricing, electric vehicle rates, etc. Include specific details on: peak event period timing and pricing, event notification, and rate structure.

SDG&E believes that customers should have a variety of options that allow for greater accuracy and transparency in prices so that all the Commission's Rate Design Principle can be met. In this supplemental filing, SDG&E is proposing experimental TOU rates with two shorter 4-hour on-peak windows of 2 p.m. to 6 p.m. and 5 p.m. to 9 p.m. with a higher on-peak to super off-peak ratios to test customer response and adoption relative to the 2 p.m. to 9 p.m. seven-hour on-peak window with a lower on-peak to super off-peak ratio. SDG&E is proposing this now so that findings can be taken into consideration for additional optional TOU rates that could be offered in 2018. The details of the experimental rate are in the testimony of Leslie Willoughby.

SDG&E is actively engaging parties in the energy storage market to better understand the technical opportunities as well as the limitations, the various business models that are emerging within the industry, and the activities which may better support energy storage. SDG&E believes that rate reform is critical for customers to realize the full potential of energy storage and achieve a sustainable mass deployment of customer-side energy storage systems. Until this time, residential customers' only incentive is to install configurations with limited capabilities, focused solely on customer-side benefits.

SDG&E will also be filing a Vehicle to Grid Application that will promote the integration of electric vehicles into the grid including price signals that both encourage efficient utilization of the grid as well as encourage charging during periods expected to have excess intermittent renewable generation relative to load.

10) How should the Commission ensure that any time-of-use rate schedule does not cause unreasonable hardship for senior citizens or economically vulnerable customers in hot climate zones?

SDG&E's proposals provide greater protection for customers in hot climate zones than the current tiered structure. While SDG&E's default TOU rate in 2018 includes the baseline credit the bigger protection is that SDG&E's proposals reduce the significant variable energy rate, in the form of the upper tier rate, that customers can see during heat waves today. Baseline credits cover a customer's average use however they can be inadequate in dealing with heat waves which can drive customers into the upper tier usage if they require air-conditioning for prolonged periods of time and/or are home all day. Today's upper tier rates are significantly higher than the summer on-peak rate for the optional TOU rate in 2015 of $0.196/kWh and the default TOU rate in 2018 of $0.272/kWh. By removing fixed and distribution demand cost from the variable rate SDG&E's proposals mitigate the significant impacts which can occur from heat waves coupled with today's significantly inclining tier block structure.

In addition, nothing about SDG&E's proposal will alter the discount that is allowed under CARE. If the Commission identifies additional customer segments beyond those that are eligible for CARE, the SDG&E can modify its proposal to meet the needs of those customers. By providing assistance directly to at risk customers based on their need, as opposed to distorting rate designs to accomplish these objectives, SDG&E's proposals will enable these customers to actively participate in energy efficiency and demand response programs as they are subject to the same rates as other customers who are targeted for participation. This is consistent with the Commission's Rate Design Principle *7 ("Rates should avoid cross-subsidies, unless the cross-subsidies appropriately support explicit state policy goals")* as customer savings realized from demand response and energy efficiency reduces the required subsides necessary to protect these customers. Providing the subsidy outside of rate design also allows these customers to

participate in any rate including the optional TOU rate in 2018 which more closely matches the cost of service for these customers. Affording these customers the choice of rate designs is consistent with Commission Rate Design Principle 6 *Rates should provide stability, simplicity and customer choice*. That choice includes rate options such as the optional un-tiered TOU rate in 2018 and satisfies the remaining Rate Design Principles of the Commission can be achieved for these at risk customers: (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; and (8) Rates should encourage economically efficient decision-making. The Commission's Rate Design Principle 10 will be address in the March 21, 2014 supplemental filing.

19) How would proposed rate design changes affect the IOU's ability to meet or exceed Commission-adopted energy efficiency (EE) and demand response (DR) goals?

SDG&E's proposal will expand the pool of customers and sales that can be targeted for EE and DR goals. Currently, 16% of SDG&E's sales come from non-care customers that have all usage in Tier 1 and have no incentive to reduce, while roughly 30% of residential sales are exposed to higher tier 3 and 4 prices. Accurate price signals with direct incentives are able to target 100% of SDG&E's sales. When all tier usage is made to accurately reflect system costs, all customers will be encouraged to evaluate their participant costs and return on investments. This should in turn encourage more EE and Demand Response Program ("DRP") participation. Measures and installations for HVAC, load control devices (e.g. pool pumps and Programmable Communicating Thermostats, ["PCTs"]) will become more cost effective from the customer's perspective, and encourage customers to install these measures at their own

cost. This could lead to market transformation, thereby reducing the need for ratepayer-funded EE/DRP incentives.

20) If you are proposing or piloting new EE measures for use of programmable and communicating thermostats (and other similar devices) please describe such efforts and discuss how such EE measures are or should be coordinated with efforts to encourage adoption of TVP rates.

SDG&E's plan is to combine TVP rates, technology such as PCTs, and EE and DR programs in such a way they provide the maximum value to the customer and the grid. The idea being is to make it easy and affordable for the customer to participate in these rates and increase participation. SDG&E is currently segmenting its customers to best determine which ones are most inclined to participate in a TVP rate and or program and then Target marketing the various technologies we can offer including a PCT. A PCT interact with SDG&E rates by providing enabling technology to a customer so they can easier participate in a demand response program or rate such as Peak Time Rebate ("PTR") or Critical Peak Pricing ("CPP"). SDG&E is also studying the potential energy efficiency economic benefit for the customer in terms of a reduction in energy use. Today that energy efficiency benefit comes without are regard for when that energy reduction occurs on a daily recurring basis. By introducing default TOU rates PCTs have the potential to reduce energy consumption on a daily basis during periods where SDG&E incurs higher costs to generate that energy.

21) Please quantify and discuss the impacts of any rate design changes on customer participation and load impact in EE, DR, and distributed generation (DG) programs (for example estimate the elasticity factor and Ex Ante load impact to answer this question).

SDG&E is proposing a TOU pilot in this proceeding. The information from this pilot will enable us to better predict what the ex-ante load impacts of a default residential time of use rate will be. While SDG&E expects that default residential TOU rates will increase customer awareness of how prices vary by time period and therefore increase awareness and participation in EE and DR programs, at this time SDG&E does not have enough information to quantify this effect. SDG&E is also proposing other changes to the standard rate structure to create rates that more closely reflect the cost-of service. SDG&E does not expect these other changes to have negative impacts on participation in EE, DR or distributed generation programs, but rather open up a larger percentage of residential sales for participation in such programs.

Energy Efficiency is accomplished primarily through rebates and technology incentives. These are coupled with retail rates to provide customers bill savings to encourage the adoption of energy efficient measures. With upper tiers reflecting only 1/3 of residential retail sales, incentives that are provided to encourage adoption with the upper tier rates miss incentivizing 2/3 of residential sales. If tiers are removed and rebates and incentives are provided that encourages adoption of EE technologies, then 100% of sales would be encouraged to be adopted.

SDG&E's evaluation of energy procurement contracts, SDG&E's retail rates and SDG&E's EE and DR programs will all be based on the same time periods as proposed in the Rate Design Window which aligns the time periods used for evaluation of California's Loading Order. SDG&E will be updating its avoided cost calculations to reflect an on-peak period of 2 p.m. to 9 p.m. for the summer, which are the same time periods used to evaluate SDG&E's procurement contracts as well as the same time periods that were proposed in SDG&E's Rate Design Window Application for retail rates.

22) How would the proposed rate design changes affect the value of net energy metered facilities for customer generators and the cost born by non-participants?

Net Energy Metering ("NEM") customers are eligible for the otherwise applicable rate. As such, the rate reform that impacts residential NEM customers is SDG&E's schedule DR. NEM allows a customer to avoid the variable rate so the impact on NEM customers is driven by changes in the levels of the upper and lower tiers.

The net impact of SDG&E's rate reform proposals on a NEM customer's bill is driven by the percentage of retail sales they avoid in the upper and lower tiers and the percentage of sales remaining in the upper and lower tiers after the NEM facilities generation has been netted out of their monthly usage.

SDG&E proposes to reduce the tier differentials, which reduces the avoided upper tier rate. However, this also increases the avoided lower tier rate. In that way there is a degree of offset in the value to NEM of a declining upper tier rates and an increasing lower tier rate. In terms of prospective future NEM customers, the value of NEM facilities increases for lower tier customers and is decreasing for upper tier customers.

24) How would the proposed rate design changes impact the value of customer-side distributed energy storage systems?

The introduction of a TOU rate provides a price signal to customers based on the cost of energy at different times of the day. The current tiered rate structure does not send a price signal based on periods of high or low cost. The value of batteries is the ability to move energy production from one period to energy use in another. In that way, the introduction of optional TOU rates proposed by SDG&E supports the adoption of distributed storage systems. However, the rate design that SDG&E proposes is designed to recover a customer's cost of service and not designed with the purpose of unlocking the full value of customer-side distributed storage or mitigating cost shifts that can occur when a technology unbundles services that are bundled within a utility's rate structure.

ATTACHMENT A
RESPONSE TO RATE DESIGN QUESTIONS
SAN DIEGO GAS AND ELECTRIC COMPANY – ELECTRIC DEPARTMENT
SUPPLEMENTAL FILING RULEMAKING 12-06-013 PHASE 1

SDG&E is actively engaging parties in the energy storage market to better understand the technical opportunities as well as the limitations, the various business models that are emerging within the industry, and the activities which may better support energy storage. SDG&E believes that rate reform is critical for customers to realize the full potential of energy storage and achieve a sustainable mass deployment of customer-side energy storage systems. Until this time, residential customers' only incentive is to install configurations with limited capabilities, focused solely on customer-side benefits.