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ORA Project Mgrs.	:	Halligan
ORA Witnesses.	:	L. Tan, D. Khoury Tan, Danfoth, Kao, Khoury, Willis, Irwin, Flagg

Office of Ratepayer Advocates
California Public Utilities Commission

Opening Testimony of ORA On 2015 Rates and Beyond

San Francisco, California
September 15, 2015

MEMORANDUM

This testimony was prepared by the Office of Ratepayer Advocates ("ORA") of the California Public Utilities Commission ("Commission") in response to Assigned Commissioners' third amended scoping memo ruling dated April 15, 2014. The Ruling was issued in the Commission's Order Instituting Rulemaking ("OIR") to conduct a comprehensive examination of investor owned electric utilities' ("IOU") residential rate structures, the transition to time varying rates ("TVR") and dynamic rates, and other statutory obligations.

In this testimony, ORA presents its rate design proposals as well as responses to the 17 scoping issues identified in the ruling. Under Assembly Bill 327, the IOUs are not permitted to provide default time-of-use ("TOU") rates until 2018. Prior to 2018, customers only can be offered optional TOU rates. Therefore, tiered rates would remain the default tariff as least through 2017. During the transition period, ORA proposes to: (1) Gradually reduce the number of tiers from four to two (if feasible) in a way that minimizes customer confusion and unacceptable bill impacts; and (2) Introduce a simple opt-in TOU with a baseline credit. When it is lawful to implement default TOU rates, the IOUs should prudently move toward default TOU rates with a baseline credit. In addition, customers would have the ability to opt-out of TOU rates into tiered rates as specified in Public Utilities "PU" Code Section 745 (c)(6). The IOUs should proactively reach out to the customers who would be most impacted and/or are vulnerable, and provide them with integrated solutions as well as assist them in making an informed choice between rate options. The details of ORA's proposals are described in this testimony.

Dexter Khoury and Lee-Whei Tan served as ORA's project coordinators in this proceeding. Greg Heiden is ORA's counsel. Chris Danforth (Program and Project Supervisor) and Mike Campbell (Program Manager) oversaw this project and the review of this testimony.

List of ORA Witnesses and Respective Chapters

Chapter 1 – Default TOU Rate	Lee-Whei Tan
Chapter 2 – Fixed Charge Policy	Chris Danforth
Chapter 3 – PG&E Rates	Valerie Kao
Chapter 4 – SCE Rates	Dexter Khoury
Chapter 5 – SDG&E Rates	Dan Willis
Chapter 6 – CARE, FERA & Medical Baseline Rates	Louis Irwin
Chapter 7 – Rate Design Proposals & Implications on EE, Demand Response And Distributed Generation Programs	Michaela Flagg
Chapter 8 – Education And Outreach for Transition to Time Of Use Rates	Michaela Flagg
Appendix A	ORA responses to the 3rd amended scoping memorandum questions
Appendix B	ORA's Illustrative Rates
Appendix C	Bill Impacts by IOU
Appendix D	Statement of Qualifications

CERTIFICATE OF SERVICE

I hereby certify that I have this day served a copy of the foregoing document "**Testimony of ORA**" in R.12-06-013 .

A copy was served as follows:

[X] **BY E-MAIL**: I sent a true copy via e-mail to all known parties of record who have provided e-mail addresses.

[ ] **BY MAIL**: I sent a true copy via first-class mail to all known parties of record.

Executed in San Francisco, California, on the Fifteenth day of September, 2014.

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CHAPTER 1

DEFAULT TOU RATES

LEE-WHEI TAN

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CHAPTER 1

DEFAULT TOU RATES

LEE-WHEI TAN

I. SUMMARY AND RECOMMENDATIONS

The Office of Ratepayer Advocates ("ORA") recommends that the Investor Owned Utilities ("IOUs") prudently move toward default Time-of-Use ("TOU") rates with a baseline credit, when it is lawful to implement default TOU rates. In addition, customers would have the ability to opt-out of TOU rates into tiered rates as specified in Public Utilities "PU" Code Section 745 (c)(6). The IOUs should proactively reach out to the customers who would be most impacted and/or vulnerable, and provide them with integrated solutions as well as assist them in making an informed choice. The IOUs have indicated that they would be testing pilot TOU programs during the transitional period. Once feasible, the IOUs should offer a few opt-in TOU options that allow customers to select their preferred choice that can meet their life style or needs.

To avoid adverse bill impacts, the initial default TOU rate in 2018 should include a mild summer on-peak to off-peak differential.[1] This differential slowly would be increased until a fully cost-based TOU rate is achieved. For utilities that can successfully transition to a two-tiered rate design by 2018, this rate should be presented as a simple TOU rate with a baseline credit. The success of this transition will be dependent on the size of the revenue requirements increases between now and then. For utilities that still have more than two tiers in 2018, TOU rates should be introduced as a modest summer on-peak surcharge and year-round off-peak credit overlaid onto a tiered rate design with no seasonal differentiation.[2] Such a rate design

[1] In PG&E's Schedule A-1 rate for small business customers, the differential started at 4 cents/kWh. A differential of this magnitude would be appropriate for residential customers.

[2] ORA previously has called this rate design an "Introductory TOU rate" that would only be

(continued on next page)

would allow continuing the transition to two tiers while simultaneously introducing TOU rates.

ORA endorses working towards a default TOU rate with a baseline credit for the reasons summarized below.

- This rate structure allows customers to leverage on the advanced meter infrastructure ("AMI"), on which ratepayers invested billions of dollars.
- TOU rates best reflect the IOUs' cost of providing service.
- Such rates provide the potential for peak reduction and energy conservation, which have three benefits.
    - Deferring or avoiding generation and system upgrades and reducing environmental impacts.
    - Mitigating upwards pressure on the IOUs revenue requirements.
    - Allowing customers to manage their bills by reducing or shifting energy usage.
- TOU rates better align customer energy efficiency ("EE") and distributed generation ("DG") benefits with the IOUs' avoided costs.
- The time-of-use concept is understandable to customers.
- The baseline credit would continue the state's policy objective of providing affordable energy for basic usage or essential needs through a baseline rate. See P.U. Code §739(c)

To meet the brief periods of peak demand, the IOUs have about twice of the resources needed to serve the lowest monthly needs.[3] Therefore, charging more for the peak than for the off-peak demand hours is most consistent with the Commission's third rate design principle of cost-causation. The majority of the

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(continued from previous page)
offered as a transition rate. The end state rate would be a simple TOU rate with a baseline credit.

[3] SCE A.13-12-015, response to ORA data request no.4. RROIR, PG&E response to ORA data request no. 9, Q.5.

studies indicate that the customers do respond to electric price signals.[4] Therefore, implementing TOU rates will motivate customers to reduce expensive peak energy usage that allow utilities to avoid power purchases, and defer costly generation and system upgrades.[5] Deferring the need for new generation will further lead to a long-term reduction in electric system costs and mitigate the need for rate increases. Moreover, as the Energy Division White Paper ("ED") pointed out, TOU rates better align with state climate policy by reducing reliance on older generation assets during peak hours, which will lower greenhouse gas ("GHG") and other air emissions.[6] If customers are made aware of the cost of on-peak energy relative to off-peak energy, and the associated environmental impacts, many customers may participate to help mitigate the problems. Finally, many parties intervening in this proceeding support an end state of default TOU rates. For all of the above-mentioned reasons, ORA recommends that IOUs implement default TOU in 2018.

II. IOUS' PROPOSALS

PG&E recommends testing pilot TOU programs before making decisions on whether to implement default or stay with opt-in TOU in 2018.[7] SCE proposes opt-in TOU while SDG&E supports default TOU. Their proposals are briefly summarized below.

<u>PG&E</u>

- Starts with an opt-in non-tiered, two TOU period TOU (E-TOU) rate and $5 monthly customer charge in 2015. CARE customers would see a 35 percent energy rate discount and a $2.5 monthly customer charge.[8]

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[4] How to Induce Customers to Consume Energy Efficiently: Rate Design Options and Methods, p.63, by Adam Pollock and Evgenia Shumilkina of the National Regulatory Research Institute.

[5] In Appendix D of, DRA (ORA predecessor) shows that its cost-based TOU rate has the potential to reduce summer on peak-load about 2,400 megawatts, which is equivalent to the size of one nuclear power plant. (DRA May 29, 2013 filing responding the RROIR questions.)

[6] ED Staff Proposal on Residential Rate Reform, January 3, 2014, p.16.

[7] PG&E R.12-06-013, Phase 1 filing dated February 28, 2014, pp.2-62 through 2-65.

[8] PG&E R.12-06-013, Phase 1 filing dated February 28, 2014, p.2-52, lines 3-7.

- Eliminates the existing tiered TOU and seasonal rate options, which include E-6, EL-6, E-7, EL-7 in 2016.[9]

- Launches a pilot program in 2015 specific to PG&E's service territory and its customers before moving toward a default TOU rollout. Utilizes the pilot to evaluate the relative effectiveness of an opt-in versus default TOU approach.

SCE

- Proposes a non-tiered opt-in TOU rate called Schedule TOU-D in January 2015.[10]

- Schedule TOU-D has two options, one with the same customer charge (about $1) as the tiered residential rate while the other has a monthly customer charge of $16.

- Maintain the existing tiered TOU-D-T rate[11].

SDG&E[12]

- Schedules TOU-DR and EECC-TOU-DR-P would be made available as options for separately metered single family dwellings, flats, and apartments. These schedules would be non-tiered TOU rates with three TOU periods (on-peak, semi-peak and off-peak). The latter would contain a critical peak pricing ("CPP") overlay option. Customers on these rate schedules would receive separate bill credits for baseline usage and for 101%-130% of baseline usage, thus reflecting a three tiered rate design.

- A new cost-Based TOU Option, as part of an Experimental TOU Pilot, also would be available as an option for separately metered single family dwellings, flats, and apartments. This schedule would be a non-tiered TOU rate with three TOU periods (on-peak, semi-peak and off-

[9] Ibid, lines 7-8.

[10] SCE made this proposal in its pending Rate Design Window ("RDW") proceeding, A.13-12-015). In that Application, SCE proposed to have TOU-D to replace an existing EV-TOU rate, changed the on-peak TOU period to later evening hours, and proposed to open it to all residential customers.

[11] In the settlement resolving issues in SCE's Rate Design Window, A.13-12-015, this rate option would be maintained. Schedules TOU-D and TOU-D-T would have different TOU periods.

[12] SDG&E Responses to Third Amended Scoping Memo Attachment A questions, supplemental filing dated May 16, 2014, response to question 8. In the same response, SDG&E identified various other optional TOU schedules that are currently available.

peak) and a demand differentiated monthly service fee, that is, a monthly service fee that varies by the customer's monthly maximum hourly demand. The TOU pilot would include a shorter on-peak period than the standard TOU rate.

III. DISCUSSION & ORA'S PROPOSALS

A. ORA's Default TOU Rates

Over the last five to seven years, the ratepayers have funded billions of dollars[13] in installing smart meters to replace existing legacy meters. Smart Meters enable a utility to measure a residential customer's electricity usage in hourly increments. With this infrastructure in place, the ratepayers now can leverage the smart meter technology to employ TOU rates. These rates encourage the customers to reduce their electricity demand during "peak" periods, which is the summer afternoon for most utilities. TOU rates will help the utilities to defer investment needs, potentially reducing the utilities' costs and the ratepayers' monthly electric bills.

ORA's illustrative tiered and default TOU rates are shown in Appendix B. ORA emphasizes that these rates are purely illustrative because rates will change depending on each IOU's 1) annual revenue increases, 2) load changes, 3) baseline levels, and 4) the need to mitigate the bill impacts on both CARE and non-CARE customers.

B. TOU Rates Properly Reflect Cost-Causation (Rate Design Principles 2 & 3)

1. Peak Electric Demand Costs Californians more than Does Off-peak Demand

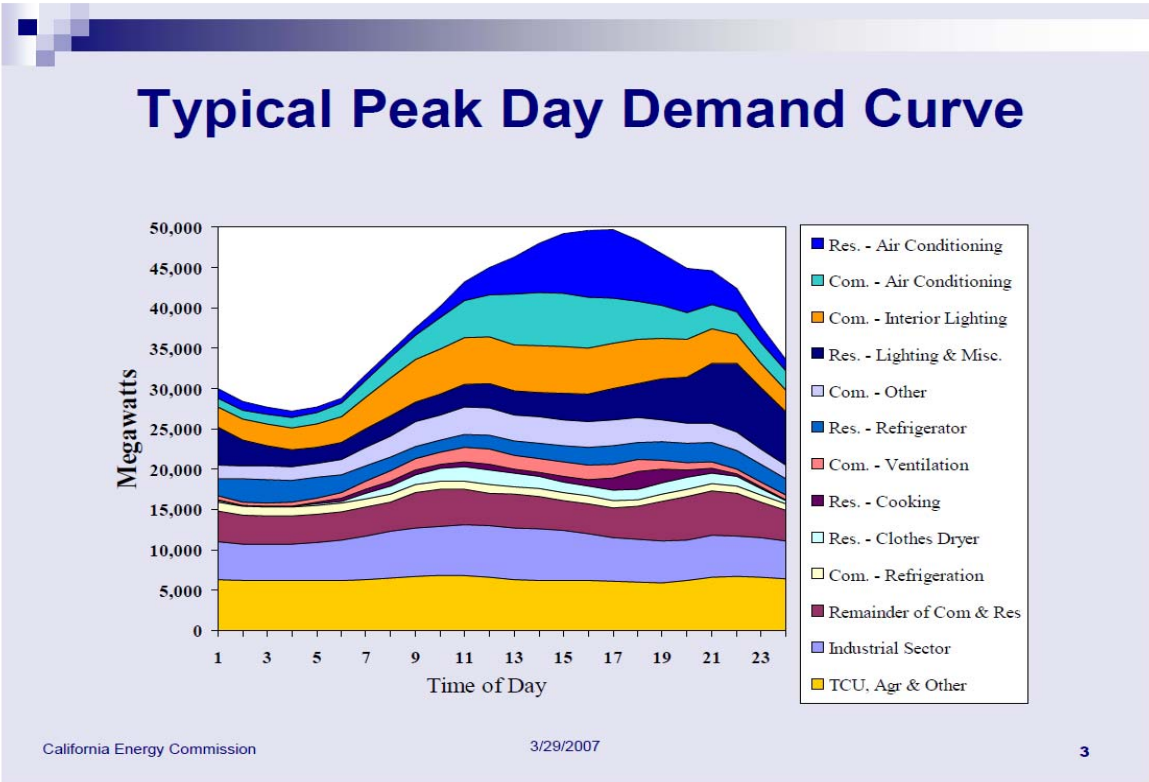
The Electricity required by residential, industrial, and commercial consumers is not constant. Customer needs vary daily and seasonally, but in

[13] The Commission adopted $1.7 billion for PG&E advanced meter infrastructure ("AMI") investment. (D.06-07-027, p.29.) In a subsequent order, the Commission further approved $572 million for PG&E AMI upgrade. (D.09-03-026, p.5, pp.23-24.) The Commission authorized $1.63 billion for SCE AMI investment. (D.08-09-039, p.2.) SDG&E received authorization of $572 million for its AMI investment. (D.07-04-043, p.2.)

predictable patterns. During the peak load periods, many consumers simultaneously use large amounts of electricity. To meet loads during these periods, utilities must have extra power plants in reserve. These peaking power plants generally are more expensive to run than base-load units. Their costs also must be amortized over much fewer hours. This makes the cost of electricity produced during the peak period relatively higher. Any electricity that the utility procures in the market also reflects these economics.

California's electricity demand generally peaks during summer afternoon and early evening hours due to air-conditioning load added on top of other electricity consumption. The following is a typical peak day demand curve in California.[14]

Figure 1-1

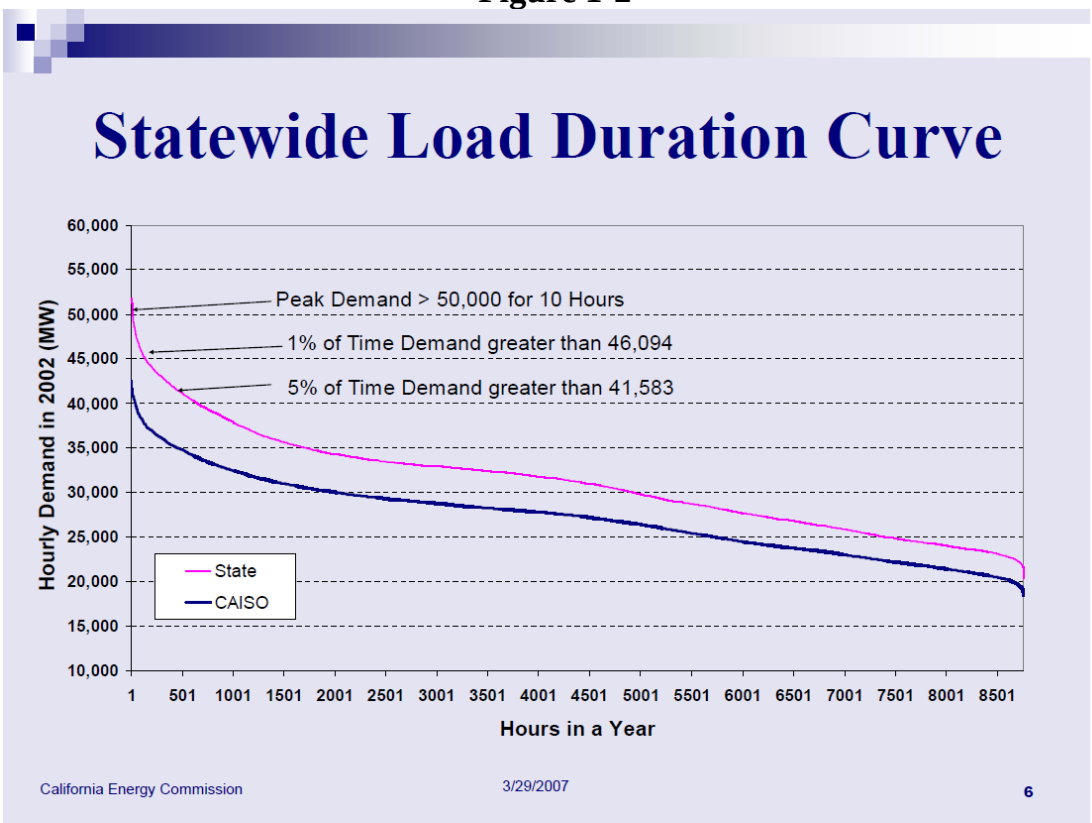


[14] California's Electricity System Supply & Demand Overview, presented by Jeffrey Byron, Commissioner, California Energy Commission for California State Assembly Utilities &Commerce Committee Informational Hearing March 29, 2007.

As shown in Figure 1-1, the demand during the peak hours is almost double that in the lowest demand hours. The air conditioning load is almost 30 percent of the total peak electricity consumption.

The following load duration curve shows that, in California, 10% of the generating capacity only serves the demand in only 1% of the hours.[15] The other 99% of the time, these power plants sit idle or are not utilized to their full capacity.

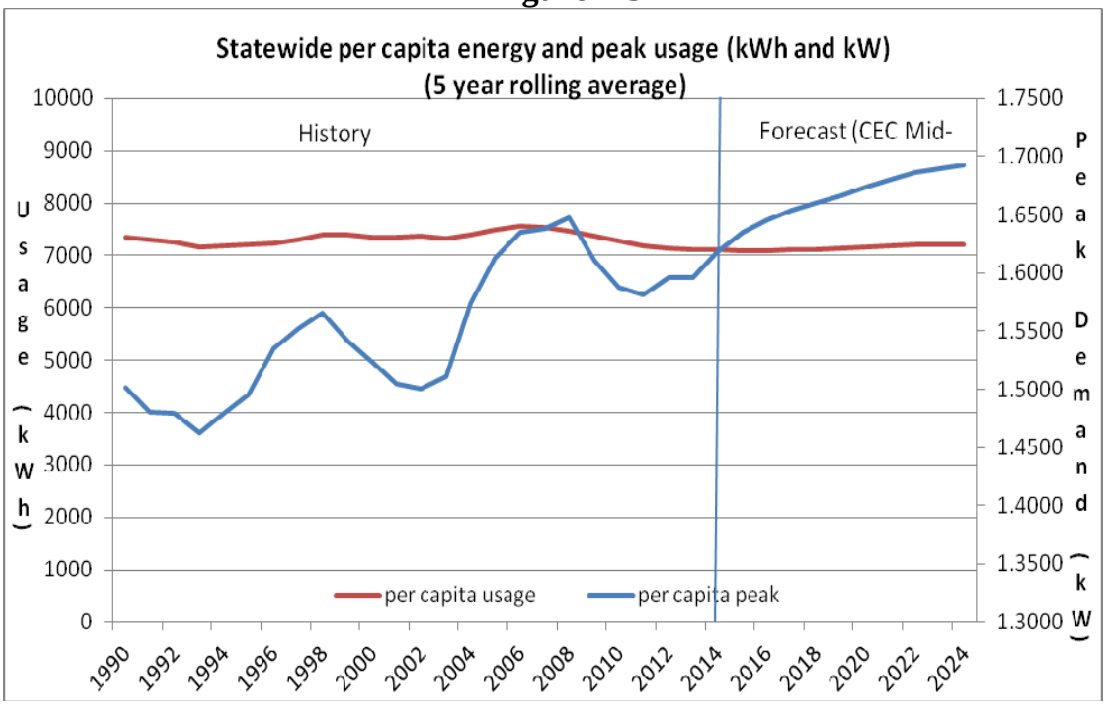
Figure 1-2



This problem is worsening. Based on the latest CEC demand forecast, California's peak energy per capita is predicted to continue to grow even though the per capita average usage has flattened. This is shown in the figure below. An increasingly peaky load curve will result in a less efficient utilization of the generating system as more generation capacity will be needed to meet a few peak hours.

[15] California's Electricity System Supply & Demand Overview, presented by Jeffrey Byron, Commissioner, California Energy Commission for California State Assembly Utilities &Commerce Committee Informational Hearing March 29, 2007.

Figure 1-3[16]



Studies show that one customer can save as much as 10% per year on air conditioning simply by turning the thermostat up 7° F to 10° F above its normal setting for 8 hours a day.[17] This can be done with simple programmable thermostats, which are readily available and relatively inexpensive. Based on the demand shown in Figure 1-1, if everyone turned up their thermostat in this manner, the peak demand could be reduced by 1,000 MW. Customers also can shift their more discretionary activities, such as clothes drying and pool pumping, from peak to off-peak hours. These actions can help flatten the demand curve, which reduces the need for costly peaking generating plants.

If California ratepayers take steps to reduce or shift peak hour demand, California can effectively avoid peak hour energy purchases, reduce adverse environmental impacts, and delay needs to invest in new generating facilities.

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[16] On p. 6, "Can Arizona's Success with Time-of-Use Rates Be Replicated in California?" by Dr. Robert Levin and Elise Torres.

[17] http://www.pge.com/myhome/saveenergymoney/moneysaver/#/default/m-central-ac

C. TOU Rates Promote Energy Conservation, Energy Efficiency, and Reduced Peak Energy Usage (Rate Design Principles 4, 5)

Numerous studies confirm that customers do respond to electric price changes, and that TOU rates will induce customers to reduce or shift their electric usage from high price to low price hours. ORA's TOU proposal also consists of a baseline credit, which further promotes conservation. Thus ORA's proposal encourages customers to save money both by shifting and by limiting electricity usage. ORA's end state conservation results are illustrated and described in Chapter 7.

The price elasticity of demand measures the percentage change in electricity consumption given a one percent change in price. Many studies show that residential customers do respond to electric price changes and that the price elasticity tends to be higher in the long run than the short run. An NRRI (National Regulatory Research Institute) literature survey confirms that the long-run demand elasticity is about 0.7 and 0.2 in the short run.[18] Thus, over time, ORA expects TOU pricing to have a significant effect on California's peaky load curve.

Some recent California load impact studies also showed that customers respond to TOU prices. For instance, PG&E showed that the average load reduction for E-6 customers was 0.22 kW, or 20% of usage during the summer.[19] A Joint IOUs' report filed before the Commission in December 2012 confirmed that electric vehicle owners, who signed up TOU rates, tend to shift their vehicle charging more to off-peak hours.[20] Electric vehicle ("EV") adaptation is

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[18] How to Induce Customers to Consume Energy Efficiently: Rate Design Options and Methods, p.63, by Adam Pollock and Evgenia Shumilkina of the National Regulatory Research Institute.

[19] 2012-2014 Demand Response Portfolio of PG&E, dated April 1, 2014, prepared by Lamine Akaba, Ujavlla Gupta, Derek Jones, Greg Mandelman and Gil Wong. Summer months are May through October, and peak hours are from 1 to 7 PM.

[20] Joint IOU Electric Vehicle Load Research Final Report, Filed on December 28, 2012 Appendix A, pp.50-52. For example, PG&E states "There is evidence that, amongst this group of early adopters and for this current composition of vehicles, customers on TOU PEV rates are charging during off-peak periods: E-9A customers use a lower percentage of energy in the on-peak period and a higher percentage in the off-peak period as compared to the residential

(continued on next page)

expected to continue to grow. If customers with electric vehicles are not aware of how their charging impacts the system costs, the peakiness of California's electric system could be worsened as EVs grow in popularity.

TOU prices also better align IOUs' avoided costs to the benefits that the Distributed Generation ("DG") or Energy Efficiency ("EE") programs provide. High on-peak price reflects high system costs, and DG customers are rewarded with large on-peak pricing bill savings and vice versa. On the other hand, there is less relationship between the tiered rates and the system costs. As PG&E explained:

> All customers are charged the lowest price level at the beginning of each month, but this price can increase throughout the course of the month for many customers based on their total usage, and without regard to when during the day or night they use electricity,….some customer can pay a significantly lower rate for summer peak usage than other customers pay for summer off-peak usage.[21]

D. Customers Understand TOU Rates (Rate Design Principle 6)

Customers already have substantial experience with TOU pricing. Telephone services used to be priced based on time-of-use. People normally waited for weeknight or weekend hours to make their phone calls to minimize their phone bills. Higher bridge tolls are charged during peak traffic hours to encourage drivers to shift their commute time to other hours. Air travel is more expensive during peak holiday seasons and less expensive at night. Everyone is familiar with "red eye specials."

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population; E-9B customers do 77% of their PEV charging in the off-peak period and just 7% in the on-peak period." Similarly, SCE states "On average residential PEV owners that are on a TOU rate, are responding to the price variation as they charge more during super off peak hours." And, SDG&E also notes "Current Time-of-use (TOU) rates coupled with charging timers result in super off-peak PEV charging. Peak times for PEV Demands are typically in the early morning hours compared to evenings for typical residential customers."

[21] PG&E R.12-06-013, Phase 1 filing dated February 28, 2014, p.2-53, lines 16-21,p. 2-54, line 1.

As part of this RROIR proceeding, the IOUs conducted a customer survey noting that 75 percent of customers said they had tried to save money on their bill by ***shifting*** their electricity use.[22] This signals that many customers already have the time of use concept in mind, whether or not they actually are on TOU rates. With proper education and outreach, customers can be induced to sign up for TOU rates and know the proper hours to shift usage. A recent "SMUD" (Sacramento Municipal Utilities District) TOU pilot program and subsequent survey also indicated most customers found TOU rates to be easy to understand and gave them more opportunities to save more money than the increasing block tariff.[23]

ORA's default two-tiered TOU rates can be structured as a simple TOU rate and a baseline credit (or excess usage surcharge). Using SCE's existing Schedule TOU-D-T as an example, the ORA proposal can be expressed as an untiered TOU rate with a 14.2 cents/kWh baseline credit (or excess usage surcharge).[24]

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[22] RROIR Customer Survey, Key Findings, p.21, by Hiner & Partners, sponsored by the three CA IOUs.

[23] RROIR Phase 1, Prepared Direct Testimony of Stephen George on behalf of SDG&E, June 30, 2014, p.SG-17, lines 1-3.

[24] The conventional way is to show this as a baseline credit. However, by expressing it as an excess usage surcharge sends a stronger signal to conserve energy.

Table 1-1

SCE Schedule TOU-D-T (NEW FORMAT)	
DOMESTIC TIME-OF-USE	
	$/kWh
Summer Season - On-Peak	0.34814
Summer Season - Off-Peak	0.13434
Winter Season - On-Peak	0.22814
Winter Season - Off-Peak	0.12318
Excess Usage Surcharge* =	0.14164
* Applies to usage over 130% of baseline	

This pricing structure is also easy to explain. It contains a message that tells customers that both *when* electricity is consumed and *how much* is consumed matters. It provides both conservation and efficiency pricing signals by charging more for peak hours and adding a surcharge for using above baseline or some other quantity as authorized by the Commission. ORA's specific opt-in TOU rate proposals are described further below.

E. ORA's Default Rate Preserves Energy Affordability (Rate Design Principle 1)

Baseline credits, which preserve energy affordability, should be part of default and optional TOU rates. When TOU rates become the default rate schedule, it is important to maintain baseline rates or a baseline credit to continue baseline protections and to maximize the number of customers who stay on TOU rates. Requiring that default and optional TOU rates have a baseline credit is good policy because it maintains the important baseline protections for more customers, makes a TOU tariff fair to customers with lower usage, and encourages customers to be on TOU rates.

P. U. Code Section 739(d)(2) summarizes the intent of baseline as: "…electricity and gas services are necessities, for which a low affordable rate is desirable." The presence of a baseline credit in ORA's end-state TOU rate design

primarily is to provide, to all Californians, access to an essential service at an affordable rate. This was the premise underlying the Warren-Alquist legislation that enacted to original lifeline allowance, which was the predecessor of the baseline allowance.[25] The TOU baseline credit should be set to provide the same benefit as the baseline rate in a two-tier rate design, which is the difference between the two rate tiers.

The Commission should require that baseline protections be offered on default rate structures and it is insufficient to offer such protections on voluntary or opt-in rate schedules. To expect customers to take action to opt into a rate program with more protections unfairly burdens these customers with the task of understanding arcane rate structures. The Commission has ruled on a similar argument in the original PG&E Smart Meter proceeding (A.05-06-028) stating the converse, that customers may opt out of a default tariff that contains certain statutory protections and into a voluntary rate that excludes them. But it also stated that there must be adequate disclosure to customers signing up for the optional rate that by doing so they are waiving certain statutory protections:

> DRA also argues that in order for there to be a knowing waiver of the AB 1X protections, a customer must be informed of what those protections are. **We agree that customers should be informed before they sign up for the CPP program of the AB 1X protections they may be giving up**.
>
> Accordingly, when PG&E signs customers up for the CPP program we will require it to provide, along with the other materials it provides customers (e.g., an application form), a disclosure notice that must include at least the following points ….(D.06-07-027, pp. 31-32, emphasis added)

A disclosure statement stating that the default tariff excludes statutory protections, and that a customer can only receive these protections by opting-out

[25] R.12-06-013, on page 3, states "The Warren-Miller Energy Lifeline Act of 1976 required the Commission to designate a baseline quantity of gas and electricity necessary to supply a significant portion of the reasonable energy needs of the average residential customer at rates below average cost."

to a different rate schedule, is difficult to communicate to customers and unreasonable.

Further, the default TOU rate should be designed to maximize customer participation and not including a baseline credit in the TOU rate structure would place TOU rates at a disadvantage compared to the tiered rate structure, which includes a baseline tier, for low usage customers. Not providing a baseline credit on the default TOU rate would create an incentive for some customers, especially low usage customers, to opt-out to the tiered rates that include the lower baseline rate. The Commission can maximize the number of customers who stay on default TOU rates by providing a baseline credit which will remove this incentive for customers to opt-out.

In addition, ORA recommends that the Commission exempt certain vulnerable customer groups, which are less likely to be able to modify their consumption behavior, from being placed on default TOU rates[26]. For example, in addition to medical baseline customers, "third party notification"[27] customers should remain on tiered rates and be exempted from default TOU rates.

IV. MANY PARTIES SUPPORT DEFAULT TOU RATES

There is ample support for an end-state default TOU rate structure by parties involved in this proceeding. These parties include ORA, SDG&E, CLECA[28], CFC, SEIA/Vote Solar, Sierra Club, and NRDC.[29]

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[26] See PU Code §745 (c) (1). Medical baseline, customers who have requested third party notification, and customers who the Commission has protected against disconnection without an in-person visit from a utility representative shall not be subject to default time-of –use pricing.

[27] Third party notification is described in Public Utilities Code section 779.1 (c) as a service for seniors, who are dependent adults. Under this program, the IOU would attempt to notify a person designated by the customer to receive notification when the customer's account is past due and subject to termination.

[28] The acronyms represent the following parties: "CLECA" for California Large Energy Consumers Association, "CFC" for Consumer Federation of California, "SEIA" for Solar Energy Industries Association, and "NRDC" for Natural Resources Defense Council.

[29] ED Staff Proposal on Residential Rate Reform filed in compliance with R.12-06-013 and AB327 (ED White Paper), pp.32-35.

- NRDC's rate design proposal includes two very simple rate designs: a three-tiered volumetric rate for small customers (defined as customers with demand of less than 7kW); and a TOU rate with simplified tiers for larger residential customers.[30]

- CLECA recommends a transition from the current increasing block rate structure to default TOU rates with dynamic pricing options for all residential customers.[31]

- CFC recommends the development of a fixed three-period summer and two-period winter TOU rate structure incorporating fixed low, medium, and high-cost time-periods, later phasing in optional RTP and CPP.[32]

- Sierra Club proposes a hybrid three-tiered, three-TOU period rate design.[33]

- The Joint Solar Parties propose a simplified, volumetric TOU rate design as the "optimal," long-term residential rate design goal for the California utilities.[34]

V. ORA'S TRANSITIONAL PLAN

Under Assembly Bill 327, the IOUs are not permitted to provide default TOU rates until 2018. Prior to 2018, customers only can be offered optional TOU rates. Therefore, tiered rates would remain the default tariff as least through 2017. During the transitional period, ORA proposes to 1) gradually reduce the number of tiers from four to two (if feasible) in a way that minimizes customer confusion and unacceptable bill impacts; 2) introduce a simple opt-in TOU with a baseline credit.

A. Tiered Rates

Any transition plan must consider the fact that the bill impacts of a rate realignment are on top of any Commission-approved rate increases that will occur

[30] NRDC Proposal, p.2, RROIR, May 29, 2013 filing.

[31] CLECA Proposal, p.5, RROIR, May 29, 2013 filing.

[32] CFC Proposal, p.4, RROIR, May 29, 2013 filing.

[33] Sierra Club Proposal, p.4, RROIR, May 29, 2013 filing.

[34] SEIA/Vote Solar Proposal, p.4, RROIR, May 29, 2013 filing.

during the transition period.[35] To facilitate the merging of tiers, ORA generally allows Tiers 1 and 2 to increase more than the residential class revenue increases. However, each utility's current state is unique, and thus ORA's approach for each one is different.

For example, PG&E has much lower CARE rates (especially Tier 3) and thus higher effective CARE discounts than the other utilities. Therefore, in transitioning to the statutory 30% - 35% discount, it is important to allow the CARE rates to increase somewhat more than do the non-CARE rates. However, when PG&E's summer 2014 rates were adopted, the CARE tiers 1 and 2 rates increased by about 10 percent. This took place before the upcoming PG&E GRC Phase 1 revenue requirement increases. Once the GRC revenue increases are approved, these same customers will see additional bill increases. The 2015 CARE rate design needs to factor in these cumulative bill impacts. ORA proposed to retain the current rate structure for PG&E's 2015 summer rates based on the aforementioned consideration.

SDG&E's current rates provide different constraints. For SDG&E, collapsing the top two tiers in 2015 and bottom two tiers in 2016 results in the most moderate bill impacts for the majority of its customers. Whereas, for the other utilities, it makes more sense to merge the two middle tiers first. Therefore, ORA recommends transitioning to a two-tiered rate design for SDG&E in a way that differs from the transition plan for the other two utilities.

In summary, ORA's proposed rate designs are tailored to each IOU's specific rate and CARE discount conditions. ORA's detailed tiered rate proposals are described in Chapters 3, 4, and 5.

[35] When the IOUs first sought 2014 summer rate changes, the Commission quickly recognized that reducing tiers would create too much bill impact on lower tier usage customers when the IOUs projected high revenue increases. As a consequence, the Commission directed IOUs to refile their 2014 summer rate proposal by maintaining the four tiered rate structure.

B. Opt-in TOU Rates

The IOUs propose to offer non-tiered TOU rates.[36] Such rates allegedly are simpler and easier to market than a TOU structure that also has tiers. This approach, however, disproportionally favors the larger users because the average rate in the non-tiered TOU schedule is higher than the tier 1 and tier 2 rates in default tariff. To mitigate this problem, ORA proposes to introduce a meaningful baseline credit into a simple TOU rate design as an option for small customers. This option would be offered in addition to the non-tiered TOU rates that the utilities propose. ORA also recommends monitoring the revenue shortfall that is likely to occur given that many of the early adopters to the rate may be ones who structurally benefit from the rate owing to their usage and load characteristics.[37]

Because the current tier differentials are quite large, a fairly large baseline credit is needed in order to make the rate attractive to small users. Using SCE's existing Schedule TOU-D-T shown in Table 1-1 above as an example, the "baseline" credit (or excess usage surcharge) must be 14.2 cents/kWh.[38] This credit would decrease over time as the tier differentials are reduced. ORA's detailed opt-in TOU rates are described in Chapters 3, 4, and 5.

Given that this rate will be marketed to smaller users, the better way to present this rate would be to display the lower Tier 1 rates along with an "excess usage surcharge" that would be added onto the tier 1 rates to produce the tier 2 rate. Again, an example of what ORA is proposing is shown in Table 1-1. Note that SCE currently markets its Schedule TOU-D-T rate as an off-peak discount

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[36] PG&E R.12-06-013, Phase 1 filing dated February 28, 2014, p.2-52, lines 3-7. SCE made this proposal in its pending Rate Design Window ("RDW") proceeding, A.13-12-015). In that Application, SCE proposed to have TOU-D to replace an existing EV-TOU rate, changed the on-peak TOU period to later evening hours, and proposed to open it to all residential customers. SDG&E Responses to Third Amended Scoping Memo Attachment A questions, supplemental filing dated May 16, 2014, response to question 8.

[37] SCE notes "As SCE's high-usage customers migrate to an optional cost-based TOU rate, a revenue deficiency will develop." SCE RROIR Phase 1 Feb 28, 2014 filing, SCE-5, p.48, lines 21-22.

[38] As explained previously, since tier 1 of Schedule TOU-D-T covers usage up to 130% of baseline, it cannot strictly be called a "baseline" credit.

plan. By posting the tier 1 rates of Schedule TOU-D-T, along with an excess usage surcharge, the customer can readily see that the off-peak rates for usage below 130% of baseline on Schedule TOU-D-T are lower than the current tier 1 and tier 2 rates on the default Schedule D. Posting the Schedule TOU-D-T tier 2 rates, along with a "baseline" credit, would not allow this comparison.

ORA previously promoted the idea of an Introductory TOU Rate that is an overlay over the existing tiered rate design, with a summer on-peak surcharge and year-round off-peak credit. It resembled the overlay concept that currently is used for residential critical peak pricing. The purpose of the Introductory TOU Rate was to allow phasing in TOU rates concurrently with winding down the four-tier rate structure, thus permitting an earlier introduction of default TOU rates. Now that the date when default TOU rates are allowed has been postponed to 2018, the emphasis has shifted to promoting a voluntary TOU rate in 2015 – 2017.

Offering a simple untiered TOU rate to larger customers, along with a simple TOU rate with an excess usage surcharge to small customers, might be easier to market than the Introductory TOU overlay. But, given that there wouldn't be a direct symmetry in the tier structure between the default tiered and optional TOU rates, the potential for revenue shortfall is greater.[39] This is one reason why ORA believes the shortfall should be monitored. ORA recommends employing the Introductory TOU Rate concept only if the Commission is unable to transition to a two-tiered rate by 2018 that cannot be expressed using a baseline credit or excess usage surcharge. This could occur if the revenue requirements between now and then are too large to allow merging the tiers without undesirable bill impacts.

[39] When the TOU and non-TOU rates both have the same underlying tier structure, revenue shortfalls will only come from differences in load shapes between the early adopters and the residential class as a whole. With the non-tiered TOU rate, it also comes as customers avoid the currently high tier 3 and tier 4 rates by switching to non-tiered TOU rates. ORA hopes that introducing an option with a large baseline credit will help to mitigate this potential problem.

VI. DEFAULT OR OPT-IN

PG&E and SCE do not support default TOU. PG&E presented information that implies that the existing opt-in rate programs have produced significantly more overall system demand response than have the fewer number of default programs.[40]

PG&E, however, is comparing "apples to oranges" in its attempts to make this argument in support of opt-in as opposed to default programs. The opt-in TOU pilots PG&E chose (OGE, SRP and APS)[41] have very large on-peak to off-peak price ratios in comparison to the default rate plans. Thus they can be expected to result in relatively larger demand response and load shifting. The default TOU pilots (Hydro One, PSE, Enel).[42] PG&E included comparatively small on-peak to off-peak price ratios and thus they also produced relatively small to moderate load reduction impacts. The following table demonstrates the load impacts for the various studies.

Table 1-2

Study	off-peak $	on-peak $	Price ratio	kW peak reduction/ participant	peak load reduction	Average Usage	Opt-in/ Default	Enabling Technology	Total Customers
APS	2.0	21.0	10.5	0.2	5%	3.8	Opt-in	no	1,200,000
EDF	4.6	5.8	1.3	1.0	45%	2.2	Opt-in	no	5,700,000
OGE	4.2	23	5.5	1.5	11%	5.0	Opt-in	yes	750,000
SRP	7.2	21.2	2.9	1.4	11%-13%	9.9	Opt-in	no	970,000
Enel	2.99	12.42	4.2	0.0	1%	0.6	Default	no	25,000,000
Hydro One	5.3	10.2	1.9	0.0	3%	1.2	Default	yes	4,500,000
PSE	4.7	6.25	1.3	0.1	4%	2.1	Default	no	945,000
UI	7.5	11.45	1.5	0.0	9%-10%	1.7	Default	no	325,000

Furthermore, as shown in the table above, average customer load for the opt-in rate plans (before the load reductions) was also much higher than the

[40] PG&E R.12-06-013, Phase 1 filing dated February 28, 2014, Figure 2-19, p.2-61.

[41] The acronyms represent the following utilities: "OGE" for Oklahoma Gas and Electric, "SRP" for Salt River Project, and "APS" for Arizona Public Service.

[42] The acronyms and names represent the following utilities: "Hydro One" is based in Ontario, Canada, "PSE" for Puget Sound Energy and Enel, based in Italy.

average customer load for default plans. These initial average customer load differences contribute to higher aggregate load reductions from opt-in programs in PG&E's Table 2-19. Given that California customers are more similar in average load to the default rate plan customers, one cannot use these results to infer what would happen in California in an opt-in program.

It also should be noted that more than 20 years were required for APS to reach a 53% enrollment rate. In its testimony, SCE shared a recent experience to promote opt-in TOU rate in 2011 and 2012, and concluded that it could be several years before education and outreach efforts produce any significant customer enrolment to an optional TOU tariff.[43]

SMUD has just completed its analysis of its Smart Pricing Option ("SPO") pilot program. The pilot showed that per customer load reduction for opt-in rates is almost double that of the default.[44] However, the number of participants in the default rate was significantly higher. Thus, in aggregate, the default rate produced about three times the load reduction as the opt-in pilot.[45]

As ORA explained earlier, TOU rates provide many benefits to ratepayers and allow the Commission to fulfill its energy policy goals. It is in the public interest to adopt a default TOU rate when it is lawful and feasible.

VII. CONCLUSIONS

The Commission should direct the IOUs to prudently move toward default TOU rates with a baseline credit, when it is lawful to implement default TOU rates. In addition, customers should be informed that they can opt-out of TOU rates into tiered rates as specified in P.U. Code Section 745 (c)(6). The IOUs should proactively reach out to the customers who would be most impacted

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[43] SCE R.12-06-013, Phase 1 filing dated February 28, 2014, p.49, lines 4-6 and footnote 77.

[44] RROIR Phase 1, Prepared Direct Testimony of Stephen George on behalf of SDG&E, June 30, 2014, p.SG-8, lines 13-15.

[45] Id, p.SG_9, lines 4-7.

and/or vulnerable, and provide them with integrated solutions as well as assist them in making an informed choice.

During transitional years, IOUs should offer both opt-in TOU with baseline credit as well as non-tiered TOU rates. Once feasible and lawful to implement default TOU, the IOUs should offer a few TOU options that allow customers to select their preferred choices that can best meet their lifestyle or needs.

CHAPTER 2

FIXED CHARGE POLICY

CHRISTOPHER DANFORTH

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CHAPTER 2
FIXED CHARGE POLICY
CHRISTOPHER DANFORTH

I. SUMMARY AND RECOMMENDATIONS

This chapter presents the Office of Ratepayer Advocates' ("ORA") policy reasons for opposing the implementation of fixed charges. ORA finds that most competitive markets do no use fixed charges to recover fixed costs. Moreover, the concept of fixed charges is difficult to reconcile with Commission longstanding policy of basing rates on marginal costs. Rate Design Principle #2 in this rulemaking reflects this policy.

Accordingly, DRA recommends that:

- Fixed costs be recovered through a minimum bill provision rather than through fixed charges, and the size of those minimum bills should be capped at $10 for non-CARE and $5 for CARE customers.
- The size of the minimum bills be determined in subsequent general rate cases ("GRCs") or rate design window ("RDW") proceedings.

Given that ORA has no recommendations to offer in this proceeding about the size of the minimum bills, it merely used the existing minimum bill and customer charge provisions in the rate designs it presents herein. Implementing minimum bill provisions near the $5 and $10 caps that ORA recommends would have a relatively small impact on the rates we present.

ORA observes that at least two of the utilities, Pacific Gas and Electric Company ("PG&E") and Southern California Edison ("SCE"),[1] have made the focus of this proceeding more on fixed charges and their assertions of economic efficiency rather than on the "Transition to Time Varying and Dynamic Rates," as expressed in the caption of this proceeding. Unwinding the existing tier structure

[1] Note, however, that San Diego Gas and Electric ("SDG&E") proposes a demand-differentiated fixed charge up to $80 in an optional TOU schedule. (See SDG&E February 28th testimony by Cynthia Fang, page CF-49.)

and transitioning to time varying rates, in itself, will have large enough bill impacts without also adding those associated with fixed charges. These bill impacts are detailed in Chapters 3, 4, and 5.

II. APPLICANT'S PROPOSALS

The fixed charge proposals of the three utilities are shown in Table 2-1.

TABLE 2-1

FIXED CHARGES PROPOSED BY UTILITIES[a]

Utility	2015	2016	2017	2018
PG&E	$5/$2.50	$10/$5	$10[b] /$5[b]	$10[b] /$5[b]
SCE	$5/$2.50	$7.50/$3.75	$10/$5	$10[b] /$5[b]
SDG&E	$5/$2.50	$7.50/$3.75	$10/$5	$10[b] /$5[b]

[a] The first number in each cell is for non-CARE and the second number is for CARE customers.

[b] The values in these years would be adjusted for inflation as allowed by Assembly Bill 327.

As shown, PG&E seeks to increase the fixed charges the most rapidly. Only SCE currently has a fixed charge, and it is 94 cents per month. The other two utilities rely on minimum bills to recover fixed costs. As described below, the three utilities generally see fixed costs as including generation, transmission, and distribution demand costs as well as customer-related costs such as distribution system hookup costs and customer services. They assert that their fixed costs, on a per customer basis, well exceed the fixed charges in Table 2-1. But they are limited by Assembly Bill ("AB") 327 to fixed charges of $5 and $10 for CARE and non-CARE customers respectively, adjusted for inflation.

III. DISCUSSION & ORA'S PROPOSALS

A. Most Competitive Markets Do Not Recover Fixed Costs Using Fixed Charges

The purpose of marginal cost based pricing in utility ratemaking is to mimic the pricing that would occur in a competitive market.[2] Yet very few

[2] See D. 96-04-050, which states "Since 1981, this Commission has used marginal cost principles to allocate the revenue requirement and to guide the design of specific rates… This Commission has relied on marginal cost principles in order to simulate, to the extent possible, the pricing

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competitive industries see the need to recover sunk fixed costs using fixed monthly charges. Fixed charges are anticompetitive in that they lock customers into one supplier. The most common approach to recovering fixed charges is to mark up the wholesale cost of the product to reflect overhead. This is essentially what the Equal Percent of Marginal Cost ("EPMC") process in the utility revenue allocation does.

The Regulatory Assistance Project ("RAP") has noted that many industries (e.g., airlines, groceries, automobiles, fuels, agricultural products, appliances, communications services, entertainment) do not recover sunk capital costs by using fixed charges. It states:

> … [being] highly capital intensive, the airline industry covers its costs through usage, per trip, prices. While ticket prices vary widely by duration, time of week and year, routing, cabin section, and even time of purchase, no airline requires its potential passengers to pay a fixed periodic charge simply for the opportunity to later purchase travel services. The idea, of course, is ludicrous. As it would be for automobiles, gasoline, shoes, package delivery, and the thousands of other goods and services that households and business purchase every day.[3]

It adds:

> In competition, a consumer who does not consume a product or service does not nevertheless pay for the mere *ability* to consume it. Thus, as a general matter, prices should be structured so that, if a consumer chooses not to purchase a good or service, he or she has no residual obligation to pay for some portion of the costs to provide that good or service.[4]

The RAP provides some examples of industries that use fixed charges, but states that, in each case, competitive alternatives exist that do not employ fixed charges in pricing. It acknowledges that fixed charges have become a dominant feature of pricing strategies in the cable television, internet, and telecommunications markets, but notes that players in those markets enjoy

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structure and resulting efficient resource allocation of a competitive market."

[3] *Charging For Distribution Utility Services: Issues in Rate Design*, December 2000, The Regulatory Assistance Project (Frederick Weston) p. 20-20.

[4] *Ibid*., P. 7.

significant market power.[5] We may be able to find other examples, such as health clubs, where fixed charges are widely used. But, in general, such pricing schemes in the retail and service industries are by far more the exception than the rule.

Accordingly, the RAP reaches the following general conclusion:

> Competitive markets are by their very nature hostile to the imposition of unavoidable charges upon consumers; such charges are only sustainable, by themselves, when a firm can exercise some degree of market power. Competitive markets provide goods and services in all sorts of ways, with an almost infinite variety of product offerings and pricing structures: consumers are given meaningful choices and are thus able to avoid costs either by not consuming or by finding substitutes. And the availability of goods and services on a price per-unit-purchased basis is a feature common to them all.[6]

A fixed monthly charge is not sustainable in a competitive environment partly because customers do not like unavoidable charges. Indeed, the results of the RROIR Customer Survey show that the existence of a monthly service fee "had more influence on rate choices than any other attribute."[7] The survey results also indicate that customers are strongly averse to a monthly service fee.[8]

B. Just Because other Utilities Use Fixed Charges Doesn't Mean They Are Appropriate for the Large California Electric IOUs.

PG&E and SCE justify their requests for fixed charges partly on the fact that many utilities inside and outside of California already have fixed charges. It appears, however, that the utilities that PG&E and SCE rely on as examples have very different ratemaking practices than do the California investor-owned utilities

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[5] *Ibid*, pp. 21 – 22. Note that, even fixed charges in many telephone pricing plans often limit the number of minutes allowed, and frequently those minutes can be rolled over to the next month, making these fixed price plans more analogous to a volumetric rate charged as on a prepaid basis

[6] *Ibid*, P. 22.

[7] Hiner & Partners, Inc., Residential Rate Design OIR Customer Survey Key Findings, Final Draft, April 16, 2013, Slide 18.

[8] *Ibid* at Slide 19.

("IOUs"). Specifically, they (1) Do not employ marginal cost based rate designs and (2) Do not have revenue decoupling mechanisms.

Regarding the first difference, fixed charges are much easier to justify using embedded cost rate design methods than with marginal cost methods. The reason is because embedded cost methods are based on the booked costs of the utility, many of which are fixed. Whereas, marginal costs are based more on current and future costs that are variable. From the viewpoint of existing customers, the booked cost associated with the customer hookup is an embedded sunk cost. A more detailed discussion of marginal cost ratemaking is in the next section.

Most of the utilities that PG&E and SCE reference use embedded cost ratemaking. It is not reasonable to use the practices of utilities that employ embedded cost methods to justify the use of fixed charges when the rate designs in this proceeding explicitly must be based on marginal costs (Rate Design Principle #2). SCE, in data request response ORA-SCE-9, Question 1, indicates that it does not know whether the 50 utilities referenced in Figure V-2 of its February 28th testimony employ marginal cost pricing, but it believes that most of them do not.[9] SCE also discusses, on lines 8 – 13 on page 31 of its February 28th testimony, the fact that SMUD is ramping up to a fairly high customer charge. When asked whether SMUD uses marginal cost methods, it stated in response to data request ORA-SCE-9, Question 2, that "SMUD appears to be using an 'embedded cost' methodology to determine the level of the fixed costs associated with each residential customer."

PG&E's February 28th testimony references the fixed charges of various utilities inside and outside of California.[10] When asked whether these utilities use marginal cost methods to determine rates, PG&E stated, for all of them, that it:

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[9] Since SCE did not indicate the names of the 50 utilities, ORA could not independently verify SCE's belief on this matter.

[10] See Table 2-1, which shows the fixed monthly charges for 33 publically-owned electric utilities in California; Table 2-2, which lists the fixed charges for five water utilities in California;

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> … has not researched the methods used by these POUs in developing their fixed charges. However, PG&E understands that, as a general practice in the utility industry, fixed monthly charges are designed using the same or similar rate design methodology as proposed by PG&E, including using marginal costs.

Given that there was some uncertainty in PG&E's response, ORA researched the rate design methodologies for 20 of the 22 investor-owned utilities presented in a study by Dr. Ahmad Faruqui on which PG&E relied.[11] ORA found that only three of the utilities that operate outside of California employ marginal cost methodologies.[12]

Regarding the second difference, utilities that do not employ decoupling mechanisms have a greater need than do the California IOUs to employ fixed charges to achieve revenue stability. Both fixed charges and decoupling are ways of achieving revenue stability. Though revenue stability is not one of the guiding principles in this OIR, it is an important goal of rate design for many utilities. Indeed, it is one of the eight principles of utility ratemaking that Bonbright lists.[13]

ORA asked PG&E and SCE whether the utilities they cite as having fixed charges also have revenue decoupling mechanisms. The information they provided is somewhat inconclusive, but it appears that many, if not most, of the cited utilities do not have decoupling. SCE, in responding to the question, provided a report detailing what states have adopted decoupling mechanisms.[14] The report relies on information gathered by the National Resources Defense

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and page 2-9, lines 21 – 29, which makes reference to a study by Dr. Ahmad Faruqui of the 22 largest utilities nationwide.

[11] See Page 2-9, lines 21–29 of PG&E's February 28th testimony.

[12] They are PacifiCorp, Detroit Edison, and Consumers Energy.

[13] Bonbright, James C., Principles of Public Utility Rates, New York: Columbia University Press, page 291.

[14] See Attachment to Question 1 of Data Request ORA-SCE-9. The report is entitled " A Decade of Decoupling for US Energy Utilities: Rate Impacts, Designs, and Observations," by Pamela Morgan of Graceful Systems LLC, Revised February 2013.

Council. ORA was able to find more recent information than what is in this report, and as of August 2013, only sixteen states had electric decoupling and, in three, the establishment of decoupling mechanisms was pending.[15] What is noteworthy is how the number of states with decoupling has grown. In 2009, only about 10% of the states had decoupling. It is possible that many states' fixed monthly charges predated the establishment of decoupling mechanisms.

SCE does not indicate what 50 utilities it relied upon in developing the information about fixed charges in Figure V-2. Thus ORA could not map the utilities to states to determine which ones have decoupling. ORA, however, was able to determine what specific utilities Faruqui used in the previously mentioned study that PG&E cited. A handful of the 22 utilities relied upon are California IOUs. Of those which are not, only two have decoupling mechanisms. SCE speaks about how SMUD is ramping up its fixed monthly charges. According to SCE, SMUD does not appear to employ revenue decoupling.[16]

PG&E and SCE do cite two small California IOUs that have fixed monthly charges that range from $5 to $7.05. The policy of having fixed charges for the small IOUs was established years ago, and the policy has been to slowly increase those charges with inflation. The smaller utilities also have a relatively larger percentage of residential customers, and having predominantly rural service areas, they have a greater percentage of cabins and second homes.[17] These factors all

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[15] National Resources Defense Council, August 2013.

[16] See answer to Question 2 of Data Request ORA-SCE-9. SCE also indicates that SMUD has a "Rate Stabilization Fund" as a "means of managing cash flow and deferring the need for rate increases when costs temporarily exceed revenue through rates." As explained in a SMUD document that SCE attached, excess revenues are transferred into the fund when costs are below the revenue requirement used to design rates. This is kept for a "rainy day" event when costs exceed that revenue requirement. This mechanism perhaps serves a similar purpose as a decoupling mechanism, but it works differently in that nothing is mentioned about whether this "Rate Stabilization Fund" also is used to adjust for sales fluctuations.

[17] Three-quarters of Pacificorp's customers are residential, and two-thirds of Liberty's residential customers are in residences with intermittent occupancy.

potentially lead to more revenue instability than that experienced by the three large IOUs.

If the Commission were to determine that monthly fixed charges should be established for the three large electric IOUs, it must keep in mind that the small IOUs have not had the history of rate spikes that led to a Tier 1 and Tier 2 rate freeze and a policy of protecting smaller customers. Thus, while the large IOUs will want to pursue a policy of "catch up," the institution and subsequent escalation of monthly fixed charges must take into consideration bill impacts on small users.

C. The Concept of Fixed Charges Does Not Fit Well With Pricing Based on Marginal Costs

1. How the Utilities View Fixed Costs

The utilities have provided an expansive view of what costs they consider "fixed." PG&E indicates that there is a "spectrum" of cost items from fixed to variable, where generation, transmission and distribution capacity costs "are more fixed than variable." [18] SCE identifies 68% of its costs as falling within this continuum.[19] SDG&E states that the sum total of these costs that can be regarded as fixed are $83/ customer/month.[20]

It is true that the cost of generation capacity, once it is built or procured, is fixed over the lifetime of the asset or contract. But the reason for building or procuring capacity pertains to the variability of load, which can be reflected in a volumetric rate. Indeed, one of the main purposes of TOU rates is to more effectively reflect in rates generation capacity costs since those costs can be time-

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[18] PG&E February 28th RROIR testimony, page 2-11.

[19] SCE February 28th RROIR testimony, Table V-11, page 27. SCE counts – in addition to customer costs – generation, transmission, and distribution capacity costs as well as ancillary/balancing services as fixed costs.

[20] On the table responsive to question #3 in its May 16, 2014 RROIR supplemental testimony, SDG&E has a line entitled "customer charge as a percentage of fixed costs." There it states that a $10 customer charge only would recover 12% of its fixed costs. This implies that it's fixed costs are $83 per month (=$10 / 0.12). According to SDG&E, fixed Costs include Distribution Customer and Capacity, Generation Capacity, and Transmission excluding Balancing Accounts.

differentiated. Thus, it is not good policy to capture generation capacity costs in a fixed charge, and ORA recommends utilizing TOU rates. Indeed, such rates will encourage behavior that will avoid the need for new capacity in the future while appropriately recovering costs of service.

TOU pricing might be somewhat less accurate for recovering marginal ***distribution*** capacity costs because a number of distribution feeders may experience peak loads that are non-coincident with the generation system peak loads. However, such costs could be reasonably recovered through a non-time-differentiated variable energy rate given that customers' non-coincident demands (in kW) are highly correlated with their energy usage (in kWh). As shown in Table 2-2 below, these correlations range from 0.699 to 0.784 for PG&E's system, and are highest in the summer, when customer demands tend to be the highest. Based on this analysis, any "fixed" costs associated with distribution capacity could and should be reasonably recovered through variable energy rates. In fact, variable energy rates are a much more accurate way to recover the marginal cost of distribution capacity than capturing them with a demand differentiated customer charge where the variation in a customer's demand is captured in a small number of fixed blocks.[21]

The only customers for whom this approach might be problematic are zero-net energy ("ZNE") households that employ solar energy. For these customers, ORA recommends that a separate rate schedule should be developed, as explained below, when developing the net energy metering ("NEM") successor rate pursuant to Assembly bill ("AB") 327. A separate schedule would not be allowed for current NEM customers, but they are capped at 5% of the load. ORA does not see the point of designing rates that are inappropriate for 95% of the load when only 5% of the load is NEM, and to date, very little of that load comes from customers that live in ZNE households.

[21] While they could be accurately recovered using demand charges, demand charges are too complicated for use in the residential class.

TABLE 2-2
CORRELATION BETWEEN KW AND KWH (PG&E)[22]

Month	Correlation Coefficient	Number of Observations
January	0.707	5576
February	0.714	5694
March	0.716	5849
April	0.699	5952
May	0.700	6085
June	0.750	6214
July	0.773	6349
August	0.784	6498
September	0.773	6602
October	0.709	6678
November	0.711	6736
December	0.720	6776

The one cost within the fixed cost continuum for which a reasonable argument could be made for recovering through a fixed charge are what have been called "marginal customer costs." These include the cost of the physical hookup (the transformer, service line, and meter) and various customer services such as billing and customer inquiry costs. But quantifying marginal customer costs, and explaining what they represent, has always been problematic. The debate about how to calculate marginal customer costs is described in the next section. As will be discussed, it took the Commission over a decade to figure out how to calculate marginal customer costs, and parties still don't agree. What gave rise to this debate is a very similar problem as exists today, and that is customers avoiding the payment of utility fixed costs through self-generation.

[22] The correlation coefficients in the table were developed using the sample billing data built into PG&E's rate impact model developed for this proceeding. The data set includes 7,782 observations. Observations with missing data were excluded from the calculation. The actual number of observations used is shown in the far right column of Table 2-2. This data set is used by PG&E to develop rates and bill impacts. In doing so, each observation is weighted to reflect what percentage of the overall population each observation is intended to reflect. ORA could find no way to weight each observation in calculating a correlation coefficient. Thus it used the unweighted data without modification. Accordingly, this table provides only a rough approximation of the true correlation coefficient.

2. The Debate Concerning Marginal Customer Costs

The utilities are unanimous that any fixed charge ideally should recover at least its marginal customer costs. But, as indicated, the best way to calculate marginal customer hookup costs is still under debate, with PG&E preferring the so-called "New Customer Only" ("NCO") approach and SCE and SDG&E the "rental" approach, both of which are described below. In the most recent rate design proceedings which have been litigated, the Commission has favored the NCO approach.[23]

The debate about how to calculate marginal customer hookup costs, and whether to include them in revenue allocation, occurred mostly between 1985 and 1997. Prior to 1986, marginal customer hookup costs were excluded from the revenue allocation. As explained in D.85-12-108, the Commission viewed marginal costs in a hierarchical fashion with marginal energy costs at the top of the hierarchy and marginal customer costs at the bottom. UCAN had argued that marginal customer costs, as conceived by SDG&E, are not truly marginal costs and "send price signals to the wrong customers."[24] In other words, for existing customers who pay retail rates, such costs are sunk and cannot be avoided. If existing customers were to pay for their hookups, they should pay no more than the decremental cost of leaving the system, which would be the negligible salvage value of the existing hookup. The incremental cost of hooking up customers is only marginal to the developers that made the decision to hook up the homes to the utility grid to begin with. According to the decision, UCAN further stated that "The signal to customers coming on to the system is properly transmitted through line extension charges, not rates."[25]

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[23] See D.92-12-057, D.95-12-053, D.96.04-050, D.97-03-017, and D.97-04-082.

[24] D.85-12-108, p. 43. SDG&E had advanced a marginal cost proposal based on the cost of serving new customers, and had differentiated between customer-related and demand-related costs using a minimum distribution system concept. The latter reflects the minimum amount of distribution infrastructure needed to hook up a customer but not serve any load.

[25] *Ibid*, p. 40.

The decision agreed with UCAN, stating "… we will exclude customer costs from the allocation process, because it is difficult to avoid sending inaccurate price signals to the wrong customers using the approaches presented in this case."[26] However, it did recognize that excluding them led to a bypass problem with large customers, whose rates were increased by excluding customer costs, installing cogeneration facilities to generate their own electricity.[27] Thus it did express interest in including customer costs in future cases.

D.86-08-083, in a PG&E's Energy Cost Adjustment Clause proceeding, included marginal customer hookup costs in the allocation for the first time. They were included to avert customer bypass, given that PG&E estimated that 9.3% of its sales could be lost to cogeneration.[28] The decision stated that, ideally, marginal customer costs should be quantified using a weighted average of incremental and decremental hookup costs given the fact that these costs are incremental only for new customers. But it did not find that the record provided an adequate way to produce such a weighted average. Thus it adopted the Public Staff Division's ("PSD's")[29] "Directly Assignable Cost" ("DAC") methodology as a proxy because it was viewed as "quite conservative."[30] Under the DAC methodology, any equipment uniquely assignable to customers is designated as "customer-related" and everything else is "demand-related." That equipment that is directly assignable was deemed to be the final line transformer, service line, and meter (also called "TSM").[31] The PSD proposed the DAC approach in lieu of

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[26] *Ibid*, p. 44.

[27] The California Manufacturer's Association had argued about a "death-spiral" of ever increasing rates that could be caused by customer bypass (D. 85-12-108, p. 43)

[28] D.86-08-083, p. 19.

[29] The PSD was a predecessor of ORA.

[30] *Ibid*, p. 17

[31] The PSD designated the final line transformer as directly assignable for all classes except for residential and small light and power, where several customers share one transformer. Thus, for these two classes, it calculated separate marginal demand costs that included the final line transformers. In future decisions, final line transformers would be included in marginal customer costs for all classes. (*Ibid*, p. 14)

more empirical approaches recognizing the difficulty of statistically separating what costs are triggered by increases in demand and what costs are triggered by increases in the number of customers.[32]

The DAC estimate of marginal customer costs was annualized using a real economic carrying charge ("RECC"). This was said to simulate the kind of pricing that would occur in a competitive rental market.[33] Later decisions, starting in 1992, would reject the rental method in favor of the NCO method.

D.87-01-051 continued to use the DAC method, though data problems for SDG&E precluded including final line transformer costs in the calculation. D.88-12-085, in SDG&E's GRC, continued the practice but rejected the incremental-decremental approach endorsed in D.86-08-083. It stated that a competitive rental market would charge all customers an incremental cost.[34] UCAN had objected to conceptualizing the hookup costs in terms of a competitive rental market given that a true competitive market would provide for an ownership option.[35] In response, the decision stated that utility operations already provide for ownership of such equipment through special facilities charges that are excluded from the revenue allocation.[36] However, D.89-12-069 reinstated the incremental-decremental approach originally proposed by UCAN because SDG&E's recalculation of TSM costs in that proceeding using incremental costs would have otherwise drastically increased residential rates by 17% and decreased large industrial rates by 25%.[37]

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[32] Also see D.89-12-057, page 36, which states "The distinction between these two functions is not clear, since the same equipment can serve both functions, particularly at the secondary distribution level. Allocating the costs between these functions can become controversial …"

[33] D.86-08-083, p. 14. Note that, in a competitive market, rents and underlying property values tend to both rise at the same rate. The RECC reflects this fact.

[34] In theory, doing so is required to allow new entrants to the market.

[35] The ownership option was alleged to be cheaper owing to the use of a home mortgage interest rate to amortize the hookup costs, which is lower than the utility's weighted average cost of capital.

[36] D.88-12-085, p. 14.

[37] It applied a UCAN-calculated adjustment to SDG&E's incremental costs which effectively

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Knowing that the DAC approach is conservative, D.88-12-085 also explored the possibility of separating the demand-related from the customer-related costs of equipment upstream from the final line transformer. But it found that doing so was too difficult and thus it retained the DAC approach. It stated, "While there is not a clear line of distinction between demand and customer related equipment, we believe the TSM method provides us with the best approximation."[38]

The tide radically turned in a different direction again with D.92-12-057, when the rental method was thrown out in favor of an NCO method, proposed for the first time in this case by PG&E. The NCO method differs from the rental method in two ways: (1) The cost of new hookups is based on the number of new customers in the class, and (2) The full cost of the hookup, rather than the annualized cost, is assigned to the class. TURN endorsed the method, but DRA objected saying that such a method penalizes classes that are growing more quickly. PG&E responded that it is "exactly the growth in customers that causes PG&E to incur hookup costs."[39] The NCO method subsequently was adopted from then on in almost all rate design cases that were litigated.

3. Implications of This Debate for Fixed Customer Charges

As discussed in the last section, the most recent decisions that opine on how to calculate marginal customer costs favor the NCO method. One can see the rationality of the method from a utility system viewpoint where the classes that are growing the most are imposing the greatest costs on the utility at the margin. Thus an argument can be made to include the NCO-based hookup costs in the

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reduced the incremental costs by 29% to reflect the effects of such a weighted average. The decision further stated that its calculation of marginal customer costs was not intended to be definitive, and that they would be explored more fully in the next GRC. (D.89-12-069 , pp. 8-9)

[38] D.88-12-085, p. 12.

[39] D.92-12-057, p. 19.

revenue allocation given that the allocation is a "macro level" exercise that precedes the design of the actual rates that customers see.

ORA, however, does not believe that this approach should be carried into rate design by imposing a fixed customer charge. Indeed, a major function of marginal cost ratemaking is to influence customer behavior through rates. Yet, as pointed out back in D. 85-12-108, existing customers that pay retail rates have no way to influence the behavior of new customers. Charging them the cost of new hookups sends the wrong price signal to the wrong customers. For them, the cost of their own hookup is sunk, and any salvage costs if they move away and the property is abandoned are negligible. In contrast, they can, through their present behavior, influence how much electricity they use and when. By reducing or shifting their loads, they can reduce the utility's generation energy and demand costs. Given that equipment upstream of the final line transformer is shared with other customers, customers reducing or shifting their loads might allow the utility to defer upgrades to the distribution system to accommodate load increases from other customers.

Granted, excluding customer hookup costs from rate design means that a greater markup must occur on variable energy rates to allow recovery of the authorized revenue requirement associated with the hookup. Though some would claim that this leads to a loss of efficiency in the rate, ORA would note that it helps to compensate for environmental externalities not already internalized in the utility's cost of doing business.[40]

[40] The most commonly discussed environmental externalities are societal costs of power plant air emissions. While cap and trade should lead to internalizing some of these costs (for CO_2 emissions), there are other air emissions such as criteria pollutants (NO_X, SO_X, etc.) that are not covered by cap and trade. While there may be legal compliance and permitting costs associated with these emissions that are internalized in rates, legal compliance and permitting costs do not comprise the full spectrum of the cost to society of air emissions, even when such air emissions are within legally permitted limits. Thus, externalities remain.

The higher variable energy rates also helps compensate for the market barriers to customer energy efficiency investments owing to split incentives[41] and lack of access to capital.[42] Chapter 7 of ORA's testimony discusses multiple market barriers that exist and the evidence that suggests that customers are under-investing in energy efficiency, something commonly referred to as the "energy efficiency gap." Monthly fixed charges do not help promote conservation and energy efficiency, which is Rate Design Principle #4 in this proceeding. It is for these reasons that SDG&E's request for a fixed customer charge for residential gas service was denied in the recent D.14-06-007 (See Ordering Paragraph #11). In Finding of Fact #22 of that decision, the Commission states that "A customer charge dilutes the price signals for conservation and energy efficiency."

The one area where a marked up cost of electricity may be a problem is in the area of rooftop solar systems. The costs of such systems are approaching the residential average rate ("RAR") for PG&E and SCE, and are slightly below the RAR for SDG&E. But it is debatable whether the number of solar systems currently in existence is large enough to require that all customers, including non-solar ones, pay customer charges. As for future solar systems, AB 327 fortunately allows more flexibility in designing a successor tariff (sometimes called "NEM 2.0") to the net energy metering ("NEM") rates than currently exists. Presently, NEM customers must be charged the same underlying rates as non-NEM customers. This is not the case with NEM 2.0. Thus the problem of future NEM customers not paying their share of fixed costs could be mitigated by requiring NEM 2.0 customers to be on their own rate schedule.

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[41] "Split incentives" refers to the market failure where a landlord takes ownership of any capital investments that a renter makes to upgrade the property to lower the renter's the utility bill. This reduces the renter's incentive to make such investments.

[42] Providing low-cost loans for energy upgrades has been addressed in several energy efficiency proceedings, but providing such a program has encountered many difficulties. (cf. A.12-07-001.)

Rather than being an overlay on existing rate schedules, NEM 2.0 could be an independent tariff as currently exists for electric vehicles. Costs could be allocated to this tariff using billing determinants specifically for NEM customers. To the extent that they impose distribution costs on the utility at night, these would be allocated to them through the intra-class revenue allocation process. Being on their own tariff, the benefits of their load being largely non-coincident with the system generation peak load also could be reflected. Such a scheme would allow all the utility's fixed costs to be captured through such a tariff regardless of how the rate design apportions recovery through variable and fixed charges. The fact that many of the utility's costs are fixed does not mean necessarily that fixed charges are required because the cost of solar panels, once installed, are totally fixed as well.

Attempting to address this problem caused by the solar generation by imposing fixed charges on all customers fails on two counts. First, it impacts non-NEM customers who are not causing the problem. Second, if SDG&E is right about its fixed costs being $83/customer/month, a customer that bypasses utility generation through solar is creating stranded costs that exceed any reasonable quantification of marginal customer costs. What is being stranded is fixed plant that is already built, the costs of which no longer can be recovered. It is very difficult to recover such costs in any rate design system that is intended to reflect only the marginal costs of the utility.

D. A Minimum Bill is a Better Approach to Recovering Fixed Costs than Are Fixed Charges

ORA is committed to rate design principle #2, as identified in this proceeding, which states that rates should be based on marginal costs. But it also realizes that, in some limited cases, a rate design based entirely on variable energy rates may under-recover the utilities' fixed costs. The best way to charge marginal costs while assuring the recovery of critical fixed costs is through a minimum bill provision. That way the rate design isn't a mixture of marginal and fixed costs that weakens the marginal cost signal reflected in the rates. While it is

true that the utilities would characterize the customer hookup costs as marginal and valid for inclusion in the rate design, the discussion in Section C above shows that these costs really cannot be regarded as marginal for existing customers that pay retail rates. As stated before, they send an irrelevant price signal than has no meaningful influence on customer behavior.

The utilities raise two major objections to a minimum bill provision. First, such a provision would recover much less revenue than would a fixed customer charge. Second, it would create an equity problem in that a customer consuming no electricity and one consuming just enough to trigger the minimum bill provision would both be charged the same amount though one consumes electricity and the other does not.[43]

Regarding the first objection, the objective of a minimum bill provision is not to maximize the amount of revenues that would be recovered.[44] Its purpose is to address a very narrow problem of recovering enough revenue, generally from very low-usage customers, to pay for the embedded cost of the equipment that is dedicated to them. Whereas fixed charges impact all customers, including those who are not causing a fixed cost recovery problem, which is unnecessary.

As for the second objection, PG&E explains the problem using a hypothetical example of two customers, one that consumes no electricity and one that consumes a minimal amount small enough to trigger the minimum bill provision. It states that it is inequitable to charge customers consuming different amounts of electricity the same dollar amount.[45] ORA acknowledges this problem but favors limiting it by restricting the minimum bill to the distribution portion of the bill. That way, the two hypothetical customers would be charged different

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[43] See PG&E, February 28th RROIR testimony, page 2-8, and SCE, February 28th RROIR testimony, pages 40 – 42.

[44] To the extent that such revenue would allow more rapid closure of tier differentials, ORA would favor just doing the latter over a longer time period than embedding the rate design for years to come with a charge that doesn't make sense.

[45] PG&E, February 28th RROIR testimony, loc. cit.

amounts for the generation and transmission services that they use. Though the inequity problem would still remain for the distribution part of the bill, the magnitude of the problem depends on how many customers are affected by the minimum bill provision, which in turn depends on the size of the minimum bill. ORA recommends that the minimum bill be kept low enough so as to affect a relatively small number of customers who use very little energy from the grid.

Offsetting these objections, a minimum bill provision has an advantage over customer charges in that they are less disruptive to the baseline concept than are fixed customer charges. PG&E's summer baseline allowances range from 225 to 550 kWh. Adding a $10 fixed charge effectively increases the baseline rate.[46] For a customer consuming at a 225 kWh baseline allowance, it increases the effective baseline rate by 4.4 cents/kWh, and for a 550 kWh baseline allowance, it increased it by 1.8 cents.[47] If a baseline credit of 5 to 6 cents/kWh is deemed to best reflect the legislative intent of the baseline statute, most of that benefit is lost for a customer with a 225 kWh baseline allowance who consumes at baseline level. However, the effect of a minimum bill on the baseline rate disappears at a much lower usage level. If the minimum bill were applied to the distribution rate (without conservation incentive adjustment), public purpose program rate, nuclear decommissioning, and the competition transition charge, the effect would disappear above 122 kWh.[48]

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[46] A number of Commission decisions interpreted customer charge revenues as being additive to the baseline energy rate in determining the size of the baseline discount. See, in particular, D.00-04-060, p.107, which states: "Section 739(c) (Public Utilities Code) requires the Commission to establish "baseline rates" which apply to the lowest block of an increasing block rate structure. The statute is premised on the principle that "electricity and gas are necessities, for which a low affordable rate is desirable." (739 (c)(2)). Section 739.7 similarly requires an "appropriate inverted rate structure." These code sections have been consistently interpreted to include the customer charge in determining whether the rate structure is, in fact, inverted. Under this "composite Tier differential" approach, customer charges are considered part of the Tier I, or baseline, rate for the purpose of calculating Tier differentials. (D.87-12-039, 26 CPUC2d 213,270; D.89-01-055; D.97-04-082, p.118)" The quoted code sections were not modified by AB 327.

[47] Note that 1.8 cents/kWh = $10 / 550 kWh and $4.4 cents/kWh = $10 / 225 kWh.

[48] In PG&E's case, the sum of all the charges that would be covered by the minimum bill is

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The difficult question is what to include in the minimum bill. Ideally, it only should recover distribution costs, as PG&E proposed in its 2012 RDW and as SCE currently does. Also, it only should include mainly the cost of equipment that is uniquely dedicated to the individual customer and that would be stranded if the customer didn't pay for it. Any ***shared*** equipment wouldn't be included since capacity not used by one customer can serve load increases by another. Strictly speaking, only the meter and service line directly connected to the person's meter are uniquely dedicated. The minimum bill should be based on the embedded costs of this uniquely dedicated equipment amortized over the lifetime of that equipment using standard ratemaking practices.

As for customer services such as billing, maintenance, and customer inquiries, it is unclear whether any of the underlying fixed infrastructure to deliver such services is uniquely dedicated to any customer. One could include the variable labor and consumables costs associated with billing as well as with the maintenance of meters and services. While these costs are not sunk costs that could be stranded, they are costs that are incurred monthly to serve a customer whose bill is too small to recover them.

ORA recommends performing the actual calculation of a minimum bill amount in upcoming GRCs where depreciation and rate base are considered. There, the costs could be adjusted depending on the sizes of customers that would most likely be affected by minimum bills.[49] ORA would recommend that the minimum bill be limited to $10 (or $5 for CARE customers) based on the fact that the $5 and $10 limits in Public Utilities Code Section739.9(a) also applies to "any other charge not based upon the volume of electricity consumed." This language

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$0.08192/kWh. One could purchase 122 kWh for $10 at $0.08192/kWh.

[49] As shown in SCE's workpapers in A.14-06-014, both the costs of meter and customer service lines vary by between single family, multiple family, and master metered customers. These three types of customers impose significantly different kW demands on the distribution system.

was intended to be fairly broad and should be applied to the minimum bill provision.[50]

Finally, ORA stresses that a minimum bill provision serves a different function than does a fixed customer charge. It mainly captures the sunk ***embedded*** costs that would be stranded if the revenues from the customer were insufficient to pay for it. Whereas, a fixed customer charge treats customer hookup and service costs as costs that are ***marginal*** but not variable with respect to changes in demand or energy consumption. If the Commission were to authorize customer charges in lieu of a minimum bill provision, ORA would recommend that the customer charge be limited to cost items that truly do not vary with changes in demand. This recommendation is based on the non-standard nature of fixed monthly charges in competitive industries, explained in Section A above, as well as the difficulty of isolating costs that are purely customer-related, described in Section C above. Thus, a monthly customer charge would exclude transformers and service lines from the calculation. It also could include billing costs and potentially other customer service costs. But it would exclude maintenance costs associated with transformers and services. As noted in the rest of this testimony, however, imposing additional fixed charges would send improper price signals to customers and be inconsistent with general Commission policy, and should not be approved.

IV. CONCLUSION

ORA is fully committed to the concept of marginal cost pricing. Moreover, it is not troubled by the fact that marginal costs must be scaled to fully recover the authorized revenue requirement. Such scaling is analogous to the markups that are commonplace in competitive markets. The concept of monthly

[50] SCE states, on page 42 of its February 28th testimony, that a minimum bill level should not be impacted by the limits specified Public Utilities Code Section739.9(a) because the trigger for a minimum bill is the customer's usage. ORA would counter that, though the trigger may be based on usage, the ***size*** of the minimum bill theoretically should be based on costs that are fixed and thus not variable with usage. The latter should take precedence in interpreting the statute.

fixed charges is largely antithetical to market principles. To the extent fixed costs exist that cannot merely be recovered through volumetric rates, ORA recommends that they be recovered through a minimum bill provision. This provision would allow keeping the rates pure and reflective of marginal costs. It also would affect very few customers, thus maintaining robust marginal cost pricing for most customers. A minimum bill also has some analogs in the unregulated competitive market in that some service providers require that the customer purchase a minimum quantity of a service to adequately recover the provider's transaction costs.

CHAPTER 3

RECOMMENDATIONS FOR PACIFIC GAS & ELECTRIC COMPANY'S RATES

VALERIE KAO

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CHAPTER 3

RECOMMENDATIONS FOR PACIFIC GAS & ELECTRIC COMPANY'S RATES

VALERIE KAO

I. SUMMARY AND RECOMMENDATIONS

This chapter presents the Office of Ratepayer Advocates' ("ORA's") recommendations with respect to Pacific Gas and Electric Company's ("PG&E's") 2015 residential rates and general rules that should apply to subsequent rate changes through 2017. The overall intent of ORA's recommendations is to:

1. Move existing tiered rates toward a two-tiered structure in a meaningful way;
2. Maximize the number of residential customers to whom a voluntary time-of-use ("TOU") rate structure would appeal until residential customers are defaulted onto TOU rates;
3. Bring the effective California Alternate Rates for Energy ("CARE") discount to within 30 and 35 percent of the non-CARE rates on a reasonable glide path; and
4. Minimize customer confusion and potential bill impacts resulting from year-to-year rate changes.

ORA also evaluated PG&E's fixed monthly service fee proposal in the context of Objective 4. ORA finds that this proposal could introduce unnecessary confusion and would result in unreasonably large and abrupt bill impacts on smaller customers. For this reason, and for other reasons discussed in Chapter 2 of ORA's testimony, ORA recommends that the Commission reject PG&E's fixed monthly service fee proposal in favor of ORA's proposal to recover certain fixed costs using a minimum bill provision.

Objectives 1 and 4 above will be, more or less, in tension with each other depending on a number of factors that are difficult to forecast. These include changes in load growth and load shapes and the revenue requirement increases that are approved and allocated to the residential class during each year of rate restructuring. In the interest of procedural efficiency, and based on its analysis of

the potential bill impacts of PG&E's 2015 rate proposal, ORA proposes general guidance rather than concrete rules for subsequent years' rate changes.

In summary, ORA recommends:

- Given the bill impacts from PG&E's approved revenue requirement increases from August 2014 till summer 2015, ORA recommends maintaining the current four-tiered default rate structure for PG&E's non-CARE residential customers (for summer 2015).
- The Commission should monitor revenue requirement increases after 2015 to determine when reducing the number of tiers to three and then two is feasible.
- The Commission should reject PG&E's proposal for a fixed monthly service fee.
- PG&E should offer at least one optional TOU rate that includes a meaningful baseline credit to encourage lower-usage customers to opt into TOU rates, thereby gaining familiarity with TOU rates.
- When TOU rates become the default rate schedule, the TOU rate should have a baseline credit.
- For rate changes in 2016 or later, the cumulative change for rates applicable to baseline usage should be limited by the change in the residential class average rate ("RAR"), plus three percent, over a given twelve-month period.

II. APPLICANT'S PROPOSALS

PG&E proposes the following changes to default residential rates:

- In 2015, introduce a fixed monthly service fee of $5.00 for all non-CARE rate schedules and $2.50 for all CARE schedules, and increase the fee over time to collect a portion of the fixed costs of serving residential customers through a fixed charge.
- Reduce the number of tiers for all non-CARE rate schedules from four to three in 2015, and further reduce the number from three to two in 2018, while progressively narrowing the rate differential between the top-tier and bottom-tier rates until reaching a 1.2:1 ratio in 2018.
- Redefine the current three-tiered rate structures for all CARE rate schedules in 2015 to match the same three-tier definitions proposed for non-CARE schedules, and then similarly reduce the number of tiers on all CARE rate schedules from three to two in 2018, with a similar 1.2:1 ratio between the top-tier and bottom-tier rates.

- Gradually reduce the wide price differentials that exist today between CARE and non-CARE rates to achieve an effective CARE discount between 30 and 35 percent by 2018.

PG&E recommends deferring a decision on whether to default residential customers to a TOU rate schedule to 2018, which is when default TOU is first allowed by statute. In the interim, it proposes to introduce an optional, non-tiered TOU rate and to close its existing tiered TOU and seasonal rate options. PG&E suggests that the non-tiered TOU rate is simpler to market.[1]

III. DISCUSSION & ORA'S PROPOSALS

A. Overall Intent of ORA's Recommendations

As indicated above, the intent of ORA's recommendations is to:

1. Move existing tiered rates toward a two-tiered structure in a meaningful way;
2. Maximize the number of residential customers to whom a voluntary TOU rate would appeal until residential customers are defaulted onto TOU rates;
3. Bring the effective CARE discount to within 30 and 35 percent of non-CARE rates on a reasonable glide path;
4. Minimize customer confusion and potential bill impacts resulting from year-to-year rate changes.

With respect to Objective 1, ORA acknowledges that PG&E's current tiered rate structure has diverged from a more cost-based structure, and this divergence has grown significantly since 2006. The rates for usage below 130 percent of baseline have remained relatively flat while average rates and the higher tier rates have continued to go up. Thus PG&E should be allowed to increase rates on usage below 130 percent of baseline levels.

Objective 2 addresses the ideal end-state for residential default rates as articulated in ORA's May 29, 2013 rate design proposal and further supported in Chapter 1 of ORA's current testimony. PU Code §745(c) prohibits defaulting residential customers onto TOU rates until 2018. In the time leading up to the

[1] See, e.g., PG&E's Phase 1 Testimony, filed February 28, 2014, p.2-55.

ideal end-state, customers should have a viable rate option that enables them to gain familiarity with the concept that generating and delivering electricity costs more during certain time periods and less in other time periods.

Objective 3 reflects a requirement from Assembly Bill (AB) 327 (2013) that the effective CARE discount be brought to within 30 and 35 percent of non-CARE rates. As of August 1, 2014, PG&E's effective CARE discount was approximately 44 percent.[2] ORA's proposed changes to CARE rates are consistent with this particular objective, but also balanced by Objective 4.

Objective 4 is the top priority for ORA, given the uncertainty about what revenue requirement increases will be allocated to the residential class between now and 2018. Adverse bill impacts could lead to ratepayer opposition to rate restructuring and to the transition to default TOU rates. For this reason, it is appropriate to focus more on general guidance rather than to provide a concrete and specific percentage increase that would be applied to a given rate.

B. Recommendation for PG&E's 2015 Residential Rates

Based on the guidance in the February 13, 2014 Assigned Commissioner Ruling, ORA has constructed a scenario where the revenue requirement is assumed to increase at a 2.1 percent annual inflation rate. Section 2 below discusses how ORA constructed rates for 2015 under that scenario, and how rates for 2016 – 2018 could be developed.

ORA, however, has recently learned that the revenue requirement increase between the summer of 2014 and the summer of 2015 will be approximately eight percent, with most of that increase occurring this fall.[3] Given this increase, ORA

[2] R.12-06-013 Pacific Gas and Electric Company Long-Term Residential Electric Rate Design Reform Proposal, Phase 1, Updated Rate Tables, filed August 1, 2014, Appendix 2, p. A2-1

[3] Based on D.14-08-032 adopting PG&E's 2014 GRC Phase 1 application (with modifications), and several rate changes that ORA anticipates will take effect before summer 2015, as detailed in PG&E's Annual Electric True-Up, Advice Letter (AL) 4484-E (filed August 29. 2014). The Commission has yet to adopt this AL and PG&E has yet to file the AL regarding implementation of D.14-08-032, thus this estimate is subject to change.

concludes that moving to three tiers will not be possible in 2015. Thus, in Section 1 below, ORA presents a four-tiered rate design. Whether it will be possible to move to two tiers by 2018 will be contingent on revenue requirement increases after the summer of 2015. If it is not possible, then ORA recommends implementing an Introductory TOU rate design in 2018, as explained in Chapter 1.

It will be important to monitor the revenue requirement increases in the intervening years before 2018 to determine the timing of further tier closure. It is very difficult at this time to lay out a trajectory of rates for PG&E that should occur given the uncertainties in its future revenue requirement. While ORA hopes that revenue requirement increases after 2015 will return to the 2.1 percent annual level, whether they will is very uncertain at this time.

1. Given the potential bill impacts from PG&E's approved revenue requirement increases from August 2014 till summer 2015, ORA recommends maintaining the current four-tiered default rate structure for PG&E's non-CARE residential customers for summer 2015

Phase 2 of this proceeding was initiated in large part due to the IOUs' warnings of large revenue requirement increases and the potential impact they would have on high-usage customers if they were not afforded some rate relief. In PG&E's case, the main source of this increase was its 2014 GRC Phase 1 application, which the Commission adopted (with modification) two weeks after PG&E's summer 2014 rates went into effect.

As a result of D.14-06-029 in Phase 2 of this proceeding, higher-usage customers started to see significant bill reductions beginning in August 2014, *before* a major increase to PG&E's approved GRC revenue requirements was approved. This meant that low-usage customers saw bill increases, which soon will be followed by increases from the GRC. The bill impacts from Phase 2 of this proceeding are shown in Figures 3-1 (dollars) and 3-2 (percent), and in Table 3-1.

Figure 3-1

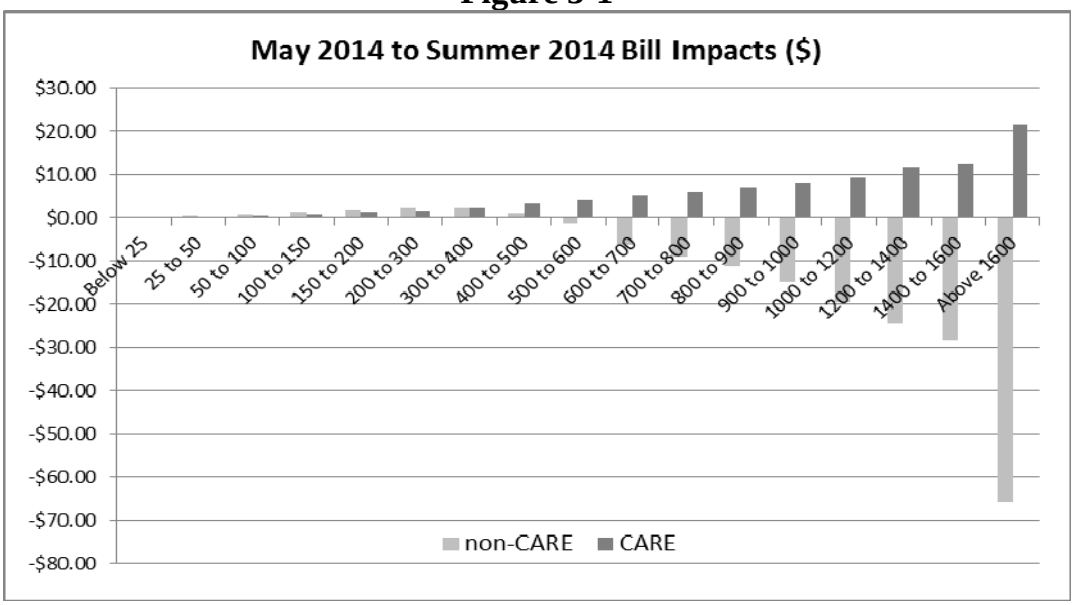

Figure 3-2

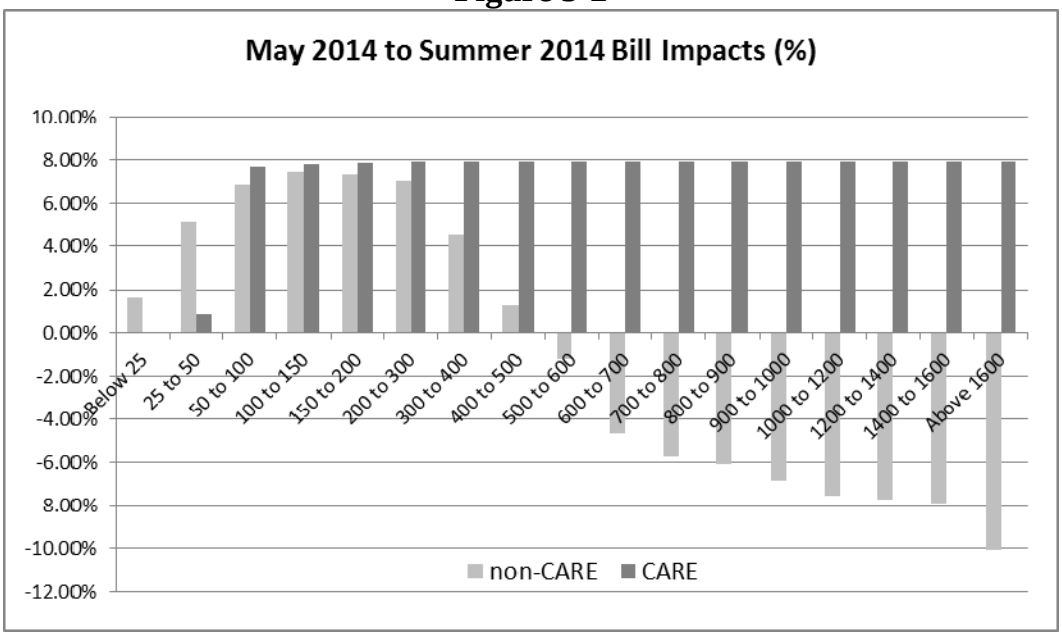

Table 3-1

Summary Bill Impacts - May 2014 to Summer 2014								
	E-1 (non-CARE)				EL-1 (CARE)			
	% Cust.	# Cust.	Ave $ Impact	% Impact	% Cust.	# Cust.	Ave $ Impact	% Impact
Below 25	0.74%	24,723	$0.08	1.66%	0.27%	3,452	$-	0.00%
25 to 50	0.55%	18,298	$0.39	5.11%	0.35%	4,420	$0.03	0.91%
50 to 100	2.87%	96,346	$0.80	6.88%	2.43%	30,842	$0.54	7.69%
100 to 150	4.69%	157,226	$1.30	7.44%	2.12%	26,846	$0.84	7.80%
150 to 200	5.47%	183,494	$1.78	7.34%	6.08%	77,154	$1.19	7.84%
200 to 300	10.56%	353,998	$2.48	7.04%	14.54%	184,311	$1.69	7.90%
300 to 400	18.08%	606,357	$2.38	4.51%	16.89%	214,155	$2.46	7.92%
400 to 500	12.60%	422,385	$0.94	1.29%	14.32%	181,521	$3.21	7.92%
500 to 600	10.34%	346,693	-$1.18	-1.22%	14.23%	180,411	$4.22	7.92%
600 to 700	9.20%	308,584	-$6.06	-4.69%	8.37%	106,140	$5.33	7.92%
700 to 800	7.55%	253,279	-$9.03	-5.74%	7.09%	89,857	$5.92	7.92%
800 to 900	5.50%	184,346	-$11.16	-6.09%	3.63%	45,973	$7.07	7.92%
900 to 1000	2.72%	91,152	-$14.84	-6.88%	2.27%	28,729	$8.01	7.92%
1000 to 1200	4.82%	161,687	-$19.58	-7.54%	2.59%	32,882	$9.27	7.92%
1200 to 1400	2.15%	72,069	-$24.40	-7.72%	2.03%	25,801	$11.53	7.92%
1400 to 1600	0.92%	30,900	-$28.50	-7.89%	1.44%	18,228	$12.42	7.92%
Above 1600	1.25%	42,014	-$65.70	-10.10%	1.37%	17,309	$21.59	7.92%
Total	100%	3,353,549			100%	1,268,031		

As shown, the majority of customers started to see bill increases ranging from approximately 1.3 to 7.4 percent (for non-CARE customers) and zero to 7.9 percent (for CARE customers) prior to the GRC. Pursuant to the Phase 2 settlement, any subsequent increases to approved revenue requirements (prior to a decision on Phase 1 of this proceeding) would be allocated on an equal cents per kWh basis. Based on D.14-08-032 in the GRC (among other anticipated rate increases), ORA's best estimate of the revenue requirement increase from August 2014 to summer 2015 is approximately eight percent.[4] The Settlement agreement adopted by D.14-06-029, in Phase 2 of this proceeding, sets a further limitation that the increases to the non-CARE Tier 1 rate, the CARE Tier 1 rate, and the CARE Tier 2 rate be capped at 1.5 cents per kWh. It further specifies that the revenue shortfall resulting from these caps be collected on an equal-cents-per-kWh basis from sales in non-CARE Tiers 2, 3, and 4 and in CARE Tier 3. Table 3-2

shows illustrative summer 2015 rates reflecting an RAR increase of eight percent, allocated on an equal cents per kWh basis subject to the 1.5 cent cap limitation imposed on non-CARE Tier 1 and CARE Tiers 1 and 2 rates.

Table 3-2

PG&E Default Residential Rates Illustrative Summer 2015 (8% Increase, Equal Cents per kWh)		
E-1	Tier 1	$0.162
	Tier 2	$0.190
	Tier 3	$0.278
	Tier 4	$0.338
	Tier 5	$0.338
	Monthly Svc. Fee	$0.00
	Minimum Bill	$4.50
EL-1	Tier 1	$0.107
	Tier 2	$0.121
	Tier 3	$0.171
	Tier 4	$0.171
	Tier 5	$0.171
	Monthly Svc. Fee	$0.00
	Minimum Bill	$3.60

As shown, the proposed rate increase would be 1.5 cents/kWh for Tier 1 of Schedules E-1and EL-1 and Tier 2 of Schedule EL-1, and 2 cents/kWh for the other tiers on both schedules.[5] .[6] What this means is that, for lower usage customers, the potential cumulative bill change (from D.14-06-029 and D.14-08-032) is -3.8 to 18.3 percent (for non-CARE customers) and zero to 25.2 percent

(continued from previous page)

[4] As discussed in Section III.B.

[5] There is significant uncertainty associated with the 2015 revenue forecast. If the actual revenue allocated to residential turns out to be smaller, the 1.5 cent cap may not be triggered. If it were not triggered, then, all the tiers would be increased equal cents.

[6] Based on the 2014 total revenue for E-1 and EL-1, and the total sales for E-1 and EL-1, included in PG&E's rate model. PG&E's model is set up to allocate all revenue increase to distribution, therefore, this results in over-allocating costs to residential class. Therefore, these rates are likely over-stated.

(for CARE customers). This will occur before the Commission makes a decision on summer 2015 rates. The cumulative increases are shown in Table 3-3.

Table 3-3

Summary Bill Impacts - Cumulative from May 2014 to post-GRC Phase 1 decision								
	E-1				EL-1			
	% Cust	# Cust	Ave $ Impact	% Impact	% Cust	# Cust	Ave $ Impact	% Impact
Below 25	0.74%	24,723	$ 0.20	4.11%	0.27%	3,452		0.00%
25 to 50	0.55%	18,298	$0.94	12.45%	0.35%	4,420	$0.24	6.57%
50 to 100	2.87%	96,346	$1.98	17.08%	2.43%	30,842	$1.72	24.65%
100 to 150	4.69%	157,226	$3.20	18.28%	2.12%	26,846	$2.71	24.96%
150 to 200	5.47%	183,494	$4.41	18.20%	6.08%	77,154	$3.80	25.07%
200 to 300	10.56%	353,998	$6.33	17.94%	14.54%	184,311	$5.38	25.19%
300 to 400	18.08%	606,357	$7.94	15.03%	16.89%	214,155	$7.75	24.90%
400 to 500	12.60%	422,385	$8.22	11.25%	14.32%	181,521	$9.97	24.59%
500 to 600	10.34%	346,693	$7.95	8.22%	14.23%	180,411	$12.91	24.21%
600 to 700	9.20%	308,584	$5.05	3.91%	8.37%	106,140	$15.97	23.74%
700 to 800	7.55%	253,279	$3.97	2.52%	7.09%	89,857	$17.92	23.98%
800 to 900	5.50%	184,346	$3.62	1.98%	3.63%	45,973	$21.09	23.64%
900 to 1000	2.72%	91,152	$1.92	0.89%	2.27%	28,729	$23.96	23.69%
1000 to 1200	4.82%	161,687	$(0.11)	-0.04%	2.59%	32,882	$27.51	23.52%
1200 to 1400	2.15%	72,069	$(1.14)	-0.36%	2.03%	25,801	$33.80	23.23%
1400 to 1600	0.92%	30,900	$(2.05)	-0.57%	1.44%	18,228	$36.98	23.60%
Above 1600	1.25%	42,014	$(24.79)	-3.81%	1.37%	17,309	$62.06	22.77%
Total	100%	3,353,549			100%	1,268,031		

Because a large proportion of customers will have already seen average monthly bill increases of near ten dollars or more before a Phase 1 decision in this proceeding – not accounting for concomitant increases to their average monthly gas bills – ORA recommends that PG&E's 2015 residential default rates not be restructured. That is, the non-CARE default residential rate should remain a four-tiered rate for summer 2015.

2. For a 2.1 percent revenue requirement increase scenario, it would be possible for PG&E's residential default rate schedules (E-1 for non-CARE and EL-1 for CARE) effective by the summer of 2015 to consist of three tiers.

This section describes a scenario using a 2.1 percent revenue requirements increase in order to provide contrast with PG&E's proposal, which uses the same revenue requirement assumption. This analysis demonstrates how one can

establish rules to rationally reform PG&E's current residential rate under a more normal revenue change scenario.

The starting point of ORA's analysis under this scenario is the default residential rates (Schedules E-1 and EL-1) that became effective on August 1, 2014.[7] In designing rates that would be effective after that date, PG&E's rate model is designed to "solve" for a particular rate residually. That is, a particular rate (e.g., for CARE Tier 1) is calibrated, after defining constraints on all other rates, to collect a specific amount of allocated revenues. ORA chose to solve for the current non-CARE (E-1) Tier 3 rate in calculating its August 1, 2015 rates. ORA's process was iterative in nature, given the need to assess:

1. Whether the CARE effective discount would decrease (Objective 3), and
2. The bill impacts (Objective 4) that would result from the rates generated by PG&E's model.

With the general intent of minimizing both dollar and percentage increases among usage bins/categories, ORA chose the following constraints:

1. Increase the current non-CARE and CARE Tier 1 rates by the assumed Residential class Average Rate (RAR) increase plus five percent;
2. Increase the highest non-CARE and CARE tiers (the current Tier 4) by the RAR plus three percent;
3. Combine the current Tiers 2 and 3, and then solve for the rate for this new combined Tier 2.

ORA chose a design that would have the increase applied to the Tier 4 rate be less than the increase to the Tier 1 rate to help reduce the current large difference between Tier 1 and Tier 4 rates. The rate increases to these tiers also moderate the rate increase for usage within the current Tier 2, which becomes part of the *new* Tier 2 after the current Tier 3 is combined with the current Tier 2.

ORA also used PG&E's rate model for future years to assess whether and how the default rates might have moved toward a two-tiered rate structure by 2018, based on ORA's overall objectives. Under the "base case" scenario of a

[7] These are the same "current rates" that PG&E updated in its August 1, 2014 filing.

2.1 percent annual increase in revenue requirements for the four years between 2014 and 2018, ORA finds that it would have been reasonable for PG&E's default rates to move to two tiers by 2018, as illustrated in Table 3-4 below.

Table 3-4

PG&E Default Residential Rates* Illustrative 2015-2018 Rates Based on ORA Proposal							
		Prior Rates	Present Rates	ORA Proposed			
		May 2014	August 2014	2015	2016	2017	2018
E-1	Tier 1	$0.136	$0.147	$0.158	$0.166	$0.174	$0.183
	Tier 2	$0.155	$0.170	$0.206	$0.222	$0.239	$0.255
	Tier 3	$0.320	$0.259	$0.206	$0.222	$0.239	$0.255
	Tier 4	$0.360	$0.319	$0.335	$0.310	$0.282	$0.255
	Tier 5	$0.360	$0.319	$0.335	$0.310	$0.282	$0.255
	Monthly Svc. Fee	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Minimum Bill	$4.50	$4.50	$4.50	$4.50	$4.50	$4.50
EL-1	Tier 1	$0.086	$0.092	$0.099	$0.100	$0.107	$0.115
	Tier 2	$0.099	$0.106	$0.127	$0.134	$0.147	$0.161
	Tier 3	$0.140	$0.151	$0.127	$0.134	$0.147	$0.161
	Tier 4	$0.140	$0.151	$0.159	$0.178	$0.173	$0.161
	Tier 5	$0.140	$0.151	$0.159	$0.178	$0.173	$0.161
	Monthly Svc. Fee	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
	Minimum Bill	$3.60	$3.60	$3.60	$3.60	$3.60	$3.60
	CARE Discount	47.4%	41.4%	40.8%	40.1%	38.5%	37.0%
Percent rate change from prior year							
E-1	Tier 1		7.9%	7.1%	5.1%	5.1%	5.1%
	Tier 2		9.9%	21.2%	7.6%	7.7%	6.7%
	Tier 3		-19.1%	-20.2%	7.6%	7.7%	6.7%
	Tier 4		-11.4%	5.1%	-7.5%	-8.9%	-9.5%
	Tier 5		-11.4%	5.1%	-7.5%	-8.9%	-9.5%
EL-1	Tier 1		7.9%	7.1%	1.2%	6.8%	7.7%
	Tier 2		7.9%	19.8%	5.5%	9.5%	9.3%
	Tier 3		7.9%	-15.6%	5.5%	9.5%	9.3%
	Tier 4		7.9%	5.1%	12.4%	-2.6%	-7.3%
	Tier 5		7.9%	5.1%	12.4%	-2.6%	-7.3%

**Rounded to the nearest thousandth due to space constraints.*

The constraints ORA used to set 2016-2018 rates varied slightly from those used for setting 2015 rates. ORA experimented with setting different tiers residually, with the goal of reducing the rate difference between Tiers 2 and 3 to facilitate merging them in 2018. It ended up doing the following:

2016:

1. Increase the non-CARE Tier 1 rate by the RAR plus three percent;
2. Increase non-CARE Tier 2 rate by the RAR plus five percent.
3. Set the new Tier 3 rate at approximately the 2014 level;
4. Set the CARE discount for Tiers 1, 2, and 3 at 39.5 percent and, for Tiers 4 and 5, at 42.5 percent of corresponding non-CARE rates.

2017:

1. Increase the non-CARE Tier 1 rate by the RAR plus three percent;
2. Increase the non-CARE Tier 2 rate by the RAR plus five percent.
3. Reduce new non-CARE Tier 3 by the RAR minus six percent.
4. Set the CARE discount for all tiers at 38.5 percent of the corresponding non-CARE rates.

2018:

1. Increase the non-CARE Tier 1 rate by the RAR plus three percent;
2. Combine the non-CARE Tiers 2 & 3, increasing the new Tier 2 rate by the RAR plus one percent.
3. Reduce the new non-CARE Tier 3 by 12 percent.
4. Set the CARE Discount for all tiers rates at 37 percent of the corresponding non-CARE rates.[8]

The percentage increases to the lower tiers and the potential bill impacts of the illustrative rates in Table 3-4 indicate that, even under a "base case" scenario, it would have been challenging to moderate bill impacts while moving toward a two-tiered rate structure.

[8] The percentage changes in Table 2 are slightly different than the constraints described for each year, due to (1) the structure of PG&E's rate model, which referred to but did not exactly equate a given year's "proposed rates" to the subsequent year's "current rates"; and (2) rounding.

C. Assessment of PG&E's Proposals

1. The Commission should reject PG&E's proposal for a fixed monthly service fee.

On a policy basis, as discussed in Chapter 2 of ORA's testimony, ORA rejects PG&E's proposal for a monthly service fee for residential customers. This Chapter addresses the bill impacts that would result from the introduction of a monthly service fee, and compares them with the bill impacts of ORA's proposed rate structure. ORA finds that the bill impacts from its proposal are more consistent with the overall objective of *gradual* rate reform than those resulting from PG&E's default rate proposal. Figure 3-3 (followed by Table 3-5) shows the year-to-year and cumulative bill impacts that would result from PG&E's proposed default rate structure, and compares those with the bill impacts from ORA's proposal. Most significantly, the cumulative bill impacts (from Summer 2014 to 2018) for more than half of PG&E's residential customers (average monthly usage up to 500 kWh) range from 28 to nearly 151 percent under its proposal, as opposed to 7 to 28 percent under ORA's proposal.[9] Based on ORA's proposal, lower-usage customers' bills would indeed increase each year as a result of tiered rate restructuring, but the year-to-year percentage impact is less drastic than what PG&E proposes.

[9] In reality, many customers are likely to see even more drastic cumulative bill impacts, especially for low usage and low income customers if the GRC 1 revenue increase is also reflected.

Figure 3-3

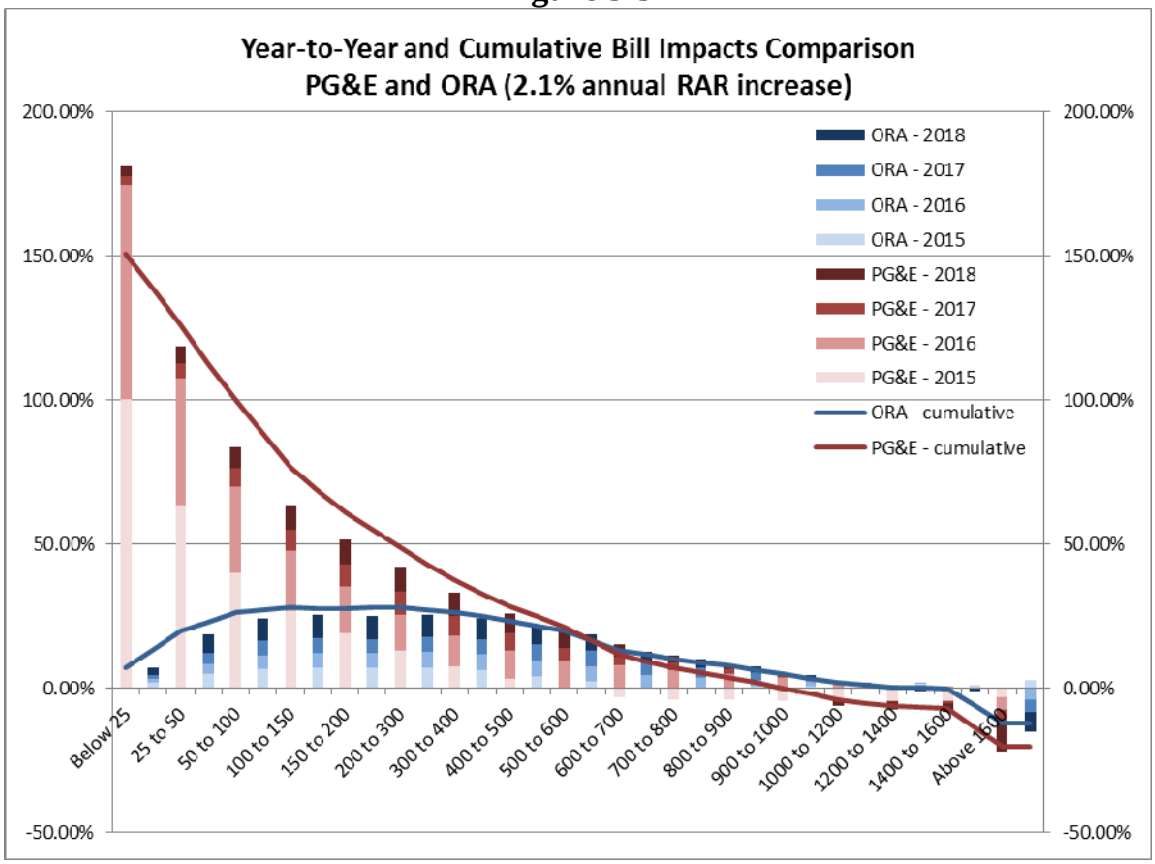
Year-to-Year and Cumulative Bill Impacts Comparison
PG&E and ORA (2.1% annual RAR increase)
200.00%
150.00%
100.00%
50.00%
0.00%
-50.00%
ORA - 2018
ORA - 2017
ORA - 2016
ORA - 2015
PG&E - 2018
PG&E - 2017
PG&E - 2016
PG&E - 2015
ORA cumulative
PG&E - cumulative
Below 25
25 to 50
50 to 100
100 to 150
150 to 200
200 to 300
300 to 400
400 to 500
500 to 600
600 to 700
700 to 800
800 to 900
900 to 1000
1000 to 1200
1200 to 1400
1400 to 1600
Above 1600

Table 3-5

Summary Bill Impacts - PG&E and ORA Illustrative Rates for 2015-2018 (2.1 Percent RAR Increase) (%)										
	PG&E					ORA				
	2015	2016	2017	2018	**2015-2018 cumulative**	2015	2016	2017	2018	**2015-2018 cumulative**
Below 25	100.1	74.5	3.3	3.5	**150.7**	1.7	1.3	1.4	2.4	**6.9**
25 to 50	62.9	44.8	5.2	5.6	**125.8**	4.8	3.6	3.7	6.3	**19.7**
50 to 100	40.0	30.0	6.3	7.0	**99.7**	6.5	4.9	4.9	7.8	**26.3**
100 to 150	26.4	21.4	7.2	8.0	**76.5**	6.9	5.1	5.1	8.2	**27.8**
150 to 200	19.1	16.3	7.7	8.5	**61.0**	6.9	5.0	5.0	8.1	**27.5**
200 to 300	13.1	12.5	7.8	8.7	**48.8**	7.1	5.2	5.2	7.9	**28.1**
300 to 400	7.5	10.6	6.9	8.1	**37.2**	6.1	5.4	5.5	7.2	**26.4**
400 to 500	3.0	10.0	5.8	7.1	**28.4**	4.0	5.6	5.6	6.4	**23.4**
500 to 600	-0.2	9.1	4.9	6.1	**21.2**	2.3	5.3	5.4	5.6	**19.9**
600 to 700	-3.5	7.6	3.3	4.0	**11.6**	0.1	4.2	4.3	4.0	**13.1**
700 to 800	-4.4	6.2	2.4	2.7	**6.9**	-0.2	3.4	3.5	3.0	**9.9**
800 to 900	-4.3	4.8	1.7	1.6	**3.7**	0.3	2.5	2.6	2.1	**7.7**
900 to 1000	-4.5	3.5	0.8	0.1	**-0.3**	0.5	1.6	1.6	0.9	**4.6**
1000 to 1200	-4.5	2.1	-0.1	-1.5	**-4.1**	0.8	0.6	0.6	-0.3	**1.7**
1200 to 1400	-4.4	1.0	-0.7	-2.5	**-6.4**	1.2	0.0	-0.1	-1.0	**0.1**
1400 to 1600	-4.6	0.8	-0.9	-2.7	**-7.4**	1.2	-0.1	-0.2	-1.2	**-0.3**
Above 1600	-3.4	-4.2	-4.7	-9.8	**-20.5**	2.7	-4.0	-4.6	-6.6	**-12.1**

In a more detailed analysis, ORA examined the year-to-year average bills for each of the 7,782 customer bins into which PG&E divided its sample data. As an indicator of relative bill volatility, ORA compared the standard deviations for each of those bins' 2015-2018 bills under PG&E's and ORA's proposals. ORA found that the standard deviation was lower under its proposal for 7,124 of those 7,782 bins, or roughly 91.2 percent of all customers (accounting for the weight of each bin). At the same time, ORA's 2018 rates still reach a two-tiered rate structure, just like PG&E's proposal but without the addition of a fixed charge.

ORA's proposal has the benefit of avoiding the introduction of a new bill component for PG&E's residential customers, which is especially important during a period of significant change to default rates and with increased emphasis on encouraging the adoption of TOU rates. Ensuring that customers understand their bills will be difficult enough, during this time of rate restructuring, without the introduction of a new, fixed, component.

2. PG&E should include at least one optional TOU rate that would appeal to lower-usage customers.

PG&E's main TOU proposal is an optional, non-tiered TOU rate (Schedule E-TOU). Apart from this, PG&E also provides a high-level overview of a suggested TOU pilot program to assess different variables, including "Presenting baseline as two tiers versus a 'baseline credit.'" PG&E states that its intent is "that significantly more residential customers opt-in to TOU rate plans over the next several years."[10] ORA finds, however, that the proposed Schedule E-TOU is likely to only attract larger-usage customers.[11] To broaden the appeal of voluntary TOU rates in the time period before residential customers are defaulted onto TOU, ORA recommends that PG&E develop at least one optional TOU rate schedule with a meaningful baseline credit to attract lower-usage customers. Such a rate would also be more consistent with the default TOU rate that is allowed by PU Code §739 when default TOU becomes permissible.[12]

Regardless of whether the Commission ever adopts default TOU rates, all residential customers should have at least one viable option to take service under a TOU rate structure. For lower-usage customers on the existing tiered rates, a non-tiered TOU option like PG&E's proposed Schedule E-TOU would likely not prove attractive given that those rates will be generally higher than the otherwise applicable lower-tier rates. In this context, offering a credit for baseline usage will enable a greater number of customers to gain familiarity with TOU rates while also allowing them to manage their bills by minimizing total usage.

PG&E's main reason for proposing a non-tiered TOU optional rate is that, PG&E suggests, non-tiered TOU rates are simpler to market. Regardless of the

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[10] R.12-06-013 Pacific Gas and Electric Company Long-Term Residential Electric Rate Design Reform Proposal, Phase 1 Prepared Testimony, filed February 28, 2014, p. 2-57.

[11] ORA's analysis shows that customers with usage above approximately 800 kWh would be better off under PG&E's E-TOU proposal (without the customer charge) than under ORA's proposed tiered rates.

[12] As enacted by Assembly Bill 327 (2013) and discussed further in Chapter 1, Section III.E of ORA's testimony.

relative simplicity of marketing a non-tiered TOU rate as opposed to a TOU rate with a baseline credit, marketing simplicity is not a sufficient basis for withholding a TOU rate option that (1) encourages lower-usage customers to enroll in TOU and (2) provides for a more seamless transition to default TOU.

A straightforward way for PG&E to implement ORA's recommendation would be to incorporate an optional baseline credit into its proposed non-tiered TOU rate schedule. Specifically, the baseline credit should be calculated as the difference between the weighted average of non-baseline rates and the baseline rate. Over the next few years, the amount of the baseline credit would decrease as the differences between the tiered rates decrease. For ORA's illustrative 201 – 2017 rates under a 2.1 percent annual RAR increase scenario, the applicable baseline credits for PG&E's proposed Schedules E-TOU and EL-TOU are shown in Table 3-6.

Table 3-6

Illustrative baseline credits applicable to PG&E Schedules E-TOU and EL-TOU			
	2015	2016	2017
E-TOU	$0.09967	$0.09112	$0.08204
EL-TOU	$0.03833	$0.04820	$0.04850

In a separate but related proceeding, ORA illustrated the significant revenue shortfall that could result from high-usage customers moving from rates with significant tier differentials to a TOU rate with relatively low off-peak rates.[13] It might seem that ORA's recommendation to offer a TOU option with a baseline credit could exacerbate this problem by increasing the revenue shortfall by increasing TOU participation. But the total shortfall from both high and low use customers would be limited to those customers that have better than average load factors. Whereas, a TOU rate that encourages high use customers to move off

[13] A.13-12-015 (Application of Southern California Edison Company (U 338-E) for Approval of its 2013 Rate Design Window Proposals) Testimony on Southern California Edison's 2013 Rate Design Window Application, served by ORA on June 30, 2014, see Table 6 (page 9).

the default schedule, without there being an offsetting incentive to move low use customers off the rate, creates an additional shortfall by reducing the percentage of high use customers, who fund the below cost Tier 1 and Tier 2 rates, on the default rate. It is difficult to know in advance what the cumulative shortfall from these two groups will be. Therefore, it will be important to monitor the revenue deficiencies of customers moving from tiered rates to TOU as tiered rates are being restructured.

With respect to its non-tiered TOU proposal, PG&E states: "[t]o the extent such shortfalls occur, they will be recovered within the residential class over an appropriate period of time and enrollment in Schedule E-TOU will be temporarily capped as appropriate." ORA agrees with this approach and further recommends that PG&E monitor revenue deficiencies from all TOU offerings. ORA further proposes that a threshold or "trigger" amount be established based on the level of shortfall that would compromise a measured restructuring of the default tiered rates. Based on the bill analyses that ORA has performed, it would recommend a trigger equal to a shortfall greater than 0.5 percent of residential revenues.

D. Proposed Guidance for Future Rate Changes

Given staff's experience thus far with reviewing the bill impacts of various rate restructuring scenarios, it is critical to continuously monitor each utility's specific circumstances at the time that the Commission is considering a rate change. The guidance ORA has used for developing PG&E's 2015 rates may prove of little use for subsequent years since any number of unforeseeable changes could occur. ORA has focused on one major uncertainty, and that is the level of revenue requirement increases during each year of rate restructuring.

It also is reasonable to consider the timing of approved rate restructuring since it may not align with approved requests for incremental cost recovery. This occurred most recently with the Commission's approval of D.14-06-029, adopting the settlement among PG&E, ORA and TURN for summer 2014 rates, and the Commission's adoption of PG&E's GRC Phase 1 application, as discussed above

(Section III.B). The timing of these decisions impacted ORA's recommendation for PG&E's 2015 non-CARE rate structure. Specifically, if the summer 2014 rate increase had reflected the adopted revenue requirement increases from PG&E's 2014 GRC Phase 1 application, it may have been reasonable to allow the non-CARE rate to move to a three-tiered structure in 2015. Instead, the bill impacts from multiple consecutive rate changes from August 2014 till summer 2015 lead ORA to recommend maintaining the current four-tiered rate structure for summer 2015. To guard against a similar situation in the future, ORA recommends a general rule that, for rate changes after the summer of 2015, the cumulative change for rates applicable to baseline usage should be limited to the change in the RAR, plus three percent, over the twelve-month period spanning from the summers of 2015 and 2016. One way this recommendation could be implemented would be to: (1) Limit residential rate changes to once per twelve-month period, and (2) Following one rate change, make any interim decisions on incremental cost recovery effective as of the date of the next residential rate change (i.e., August 1, 2016).

IV. CONCLUSIONS

ORA's recommendations for PG&E's default residential rates include:

- Given the bill impacts from PG&E's approved revenue requirement increases from August 2014 till summer 2015, ORA recommends maintaining the current four-tiered default rate structure for PG&E's non-CARE residential customers (for summer 2015).
- The Commission should monitor revenue requirement increases after 2015 to determine when reducing the number of tiers to three and then two is feasible.
- The Commission should reject PG&E's proposal for a fixed monthly service fee.
- PG&E should offer at least one optional TOU rate that includes a meaningful baseline credit to encourage lower-usage customers to opt into TOU rates, thereby gaining familiarity with TOU rates.
- When TOU rates become the default rate schedule, the TOU rate should have a baseline credit.

- For rate changes in 2016 or later, the cumulative change for rates applicable to baseline usage should be limited by the change in the RAR, plus three percent, over a given twelve-month period.

CHAPTER 4

RESIDENTIAL RATES FOR SOUTHERN CALIFORNIA EDISON

DEXTER KHOURY

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CHAPTER 4

SCE RESIDENTIAL RATES

DEXTER KHOURY

I. SUMMARY AND RECOMMENDATIONS

This chapter presents ORA's recommendations for residential rates for Southern California Edison Company ("SCE"). ORA recommends moving from the current four tiers to two tiers of residential rates over the next several years. This rate design would be a good platform for ORA's preferred default Time of Use ("TOU") rates[1]. ORA hopes to build on the progress made in Phase 2 of this OIR for summer 2014 rates, where the process of narrowing the differentials between rate tiers was started. When risks of bill shock can be mitigated and revenue requirements do not significantly increase, rate tiers can be combined and the differentials between rate tiers can be further reduced. Thus, ORA proposes to move from four tiers to three tiers of residential rates in 2015 as long as the residential average rate ("RAR") increases are 3% or less. ORA shows illustrative rates for the years 2015 to 2018 that are based on the assumption of a 2.1% increase in revenue requirements per year.[2]

In summary, ORA recommends:

- If SCE's residential average rate ("RAR") increases by less than 3 percent between August 2014 and August 1, 2015, reduce the number of residential rate tiers from four tiers to three tiers on Schedule D.
- If SCE's RAR increases by more than 3 percent between now and August 2015, maintain four tiers of residential rates but reduce the differentials between the rate tiers.

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[1] See Chapter 1 where ORA recommends a default two-tiered TOU rate with a baseline credit or excess usage surcharge when allowed and when conditions are appropriate.

[2] ORA uses Summer 2014 rates as the starting point. SCE used January 2014 rates, which were the current rates when SCE filed its testimony in February 2014. As SCE's RAR increased by 7.9% between January 2014 and July 2014, SCE's proposals using a 2.1% increase in RAR are already out of date. For 2015 rates, ORA's starts with summer 2014 rates as a base, and then escalates SCE's RAR by 2.1%.

- Make further movement in subsequent years towards a two tier rate by reducing the differential between rate tiers. This would set the stage for a default TOU rates with two tiers, including a baseline credit or excess usage surcharge. Changes to the residential rate design should only be made when it is possible to do so without substantial bill impacts.
- The Commission should reject SCE's proposal for a monthly service fee.
- SCE should study and refine its three optional residential TOU rate schedules[3] and make progress towards a residential TOU rate future. SCE should examine which TOU schedules attract customer interest and how customers respond to these rates. ORA recommends that SCE monitor these rates and refine them further to maximize customer participation and peak demand reduction. ORA further recommends that future TOU rates should include a meaningful baseline credit, which hopefully will make TOU rates more attractive to low-usage customers.
- When TOU rates become the default rate schedule, the TOU rate should have a baseline credit to comply with Public Utilities ("PU") Code §739.[4]
- For rate changes after 2015, the cumulative change in RAR for a full year should be considered before further rate design changes are made.
- ORA's proposed rates maintain an average CARE discount of approximately 32.5 percent, which is in the middle of the 30 percent to 35 percent range specified by PU Code §739.1 (c) (1).
- The current baseline allowance, based on 53 percent of average usage for each climate zone, should be maintained.

II. SCE'S PROPOSALS

SCE proposes the following changes to default residential rates:

- In 2015, implement a fixed charge of $5.00 for all non-CARE rate schedules and $2.50 for all CARE schedules, and increase these fixed charges to $7.50/$3.75 in 2016, and to $10/$5 in 2017.
- Reduce the number of tiers for all non-CARE rate schedules from four to three in 2015, and further reduce the number from three to two in 2016, while narrowing the rate differential between the top-tier and bottom-tier rates until reaching a 1.2:1 ratio in 2018.

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[3] If the settlement in SCE's 2013 Rate Design Window Application, A.13-12-015 is adopted, SCE will be offering three residential TOU options.

[4] See PU Code §739 (a) (1) and (b).

- Redefine the current three-tiered rate structures for all CARE rate schedules in 2015 to match the same three-tiered definitions proposed for non-CARE schedules, and then similarly reduce the number of tiers on all CARE rate schedules from three to two in 2016.
- Maintain an effective CARE discount between 31 and 32 percent.

SCE proposes to continue to offer optional TOU rates. If the settlement in its Rate Design Window (A.13-12-015) is adopted, SCE will be offering three TOU options—one non-tiered option with a customer charge, and two options with baseline credits or excess usage surcharges.

III. DISCUSSION & ORA'S PROPOSALS

A. Recommendation for SCE's 2015 Residential Rates

ORA proposes to proceed with electric rate reform in 2015 by moving from four to three tiers of residential rates, as long as the increase in SCE's RAR is three percent or less. Given that most of the increases forecasted for this past year have been implemented, and the known revenue requirements increases for the next year, ORA is optimistic that this change can be made in 2015 for SCE.

If, however, an increase to SCE's RAR exceeds three percent for the period August 2014 to August 2015, it would be preferable to stay with four tiers of residential rates, similar to what was done for setting summer 2014 rates. IOUs were originally considering moving to three tiers in 2014 until it became clear that revenue requirements alone would have resulted in large bill increases. Changing the residential rate design and implementing the large projected revenue requirements increases would have resulted in prohibitive bill increases. To prevent this from happening, the Commission provided guidance that "…the IOUs should maintain the existing four-tiered structure and should not entail any major adjustments to California Alternative Rates for Energy (CARE), Family Electric Rate Assistance Program (FERA) or medical baseline programs. Instead, changes should be limited to increases in lower tiers commensurate with projected increases in the overall revenue requirement allocated to the residential class, plus no more than a few percentage points, if necessary, to keep the upper tiers within a

range that will avoid the potential for significant bill volatility and rate shock in the summer."[5] Ultimately, a settlement was reached between SCE, ORA, and TURN that maintained four tiers but also made progress in narrowing the differential between rate tiers.

This narrowing of the tier differentials in 2014, plus the lower expected revenue requirements increases for summer 2015 potentially makes it easier to move to three tiers of rates for SCE in 2015. If revenue requirements increases become larger and the associated bill impacts become too large, it would be preferable to wait, and make progress in a sustainable manner that avoids significant customer discontent.

ORA calculated rates for 2015 to 2018 assuming annual increases to average residential average rates ("RAR") of 2.1 percent and 5 percent. The ACR asked parties to show proposals based on a 2.1 percent increase in RAR, or close to the recent level of inflation. ORA indeed hopes that annual average residential rate increases will be 2.1 percent of less, but ORA also calculates rates based on a 5 percent[6] increase in SCE's RAR. ORA used SCE models to calculate the rates for these two scenarios and the bill impacts that would result from these scenarios.

Reviewing the bill impact calculations, ORA concludes that progress on residential rate reform can be made if SCE's RAR increases by 3 percent or less. The bill impacts from the 5 percent RAR increase scenario were significant enough for ORA to recommend moderating the pace of rate reforms. This is what the Commission did in 2014, and that is a sensible guideline for the future as well. Even after the movement in 2014, the rates for the current tiers 2 and 3 remain different enough that merging these two tiers into one has too high an

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[5] See the Second Amended Scoping Memo and Ruling of Assigned Commissioner and Assigned Administrative Law Judge that was filed on January 24, 2014, pp. 2-3.

[6] ORA does not have any specific information on increases to RAR for SCE beyond 2015, but notes that the RAR increased 10.7% in the past year. ORA thus examined rates and bill impacts at 5% RAR increases, which is in between the 2.1% forecast of inflation and the RAR increase of the last year.

impact on any customer whose usage only reaches the top of the current tier 2 range (130% of baseline) if the RAR increase exceeds three percent. Moreover, the tier 1 and 2 rates already experienced large increase in the summer of 2014. Between October 2013 and summer 2014, SCE's RAR increased by 10.7%, the non-CARE tier 1 rate increased 16%, the tier 2 rate by 20.5%, the CARE tier 1 rate increased 13.6% and the tier 2 rate by 17.1%.[7] Because of these recent significant rate increases, the Commission should be cautious considering further increases to tier 1 and tier 2 rates in 2015.

ORA's three tier rate design is accomplished by combining the current tier 2 and tier 3 rates. Tier 1 rate would continue to be up to baseline usage; the new tier 2 rates would be for usage between 101% to 200% of baseline; and the new tier 3 would be for usage above 200% of baseline. For 2015, ORA escalated tier 1 rates by RAR plus 3 percent; tier 2 rates were calculated residually to collect revenue requirements; and tier 3 rates were escalated by RAR. Table 4-1 below shows ORA's calculation of 2015 rates assuming RAR increases of 2.1 percent and 5 percent.

[7] These were calculated from inputs from SCE's original rates model and its updated model.

Table 4-1 SCE 2015 Rates

Illustrative 2015 SCE Residential Rates Based on 2.1% and 5% increases to RAR			
		'base case' 2.1% RAR increase	5% RAR increase
D	Tier 1	$0.156	$0.1604
	Tier 2	$0.24	$0.2480
	Tier 3	$0.24	$0.2480
	Tier 4	$0.328	$0.3371
	Monthly Svc, Fee	$0.94	$0.94
	Minimum Charge	$1.80	$1.80
D-CARE	Tier 1	$0.101	$0.1040
	Tier 2	$0.168	$0.1730
	Tier 3	$0.168	$0.1730
	Tier 4	$0.229	$0.2360
	Monthly Svc, Fee	$0.73	$0.73
	Minimum Charge	$1.43	$1.43
Percentage rate change from July 2014			
E-1	Tier 1	5.1%	8.0%
	Tier 2	24.5%	28.6%
	Tier 3	-14.6%	-11.7%
	Tier 4	2.1%	5%
	Monthly Svc, Fee	0.0%	0.0%
	Minimum Charge	0.0%	0.0%
EL-1	Tier 1	4.7%	7.8%
	Tier 2	34.1%	38.1%
	Tier 3	-20.6%	-18.3%
	Tier 4	8.2%	11.5%
	Monthly Svc, Fee	0.0%	0.0%
	Minimum Charge	0.0%	0.0%

B. Rates for Years 2016 to 2018

ORA also calculated illustrative rates for 2016 through 2018. It should be emphasized that these rates are illustrative, as it is very difficult to know what increases in revenue requirements and RARs will occur in the future. ORA calculated rates assuming annual RAR increases of 2.1 percent and 5 percent. The 2.1% scenario is shown in Table 4-2 below, and the 5 percent RAR scenario is presented in the appendix. Assuming that the RAR stays close to 2.1 percent

annual increases, it will be easier to move to two tiers of residential rates by 2018. As previously stated, with larger increases in RAR, it may take more time to move to two tiers and also avoid large bill increases.

Table 4-2 SCE Illustrative Rates from 2015 to 2018 (RAR increase of 2.1%)

		Present Rates	ORA Proposed			
		July 2014	2015	2016	2017	2018
D	Tier 1	$0.1485	$0.156	$0.166	$0.1724	$0.1812
	Tier 2	$0.1928	$0.24	$0.242	$0.252	$0.279
	Tier 3	$0.281	$0.24	$0.242	$0.252	$0.279
	Tier 4	$0.321	$0.328	$0.310	$0.315	$0.279
	Svc. Fee	$0.94	$0.94	$0.94	$0.94	$0.94
	Minimum Bill	$1.80	$1.80	$1.80	$1.80	$1.80
D-CARE	Tier 1	$0.0965	$0.101	$0.107	$0.112	$0.118
	Tier 2	$0.1253	$0.168	$0.169	$0.176	$0.195
	Tier 3	$0.2117	$0.168	$0.169	$0.176	$0.195
	Tier 4	$0.2117	$0.229	$0.229	$0.221	$0.195
	Svc. Fee	$0.73	$0.73	$0.73	$0.73	$0.73
	Minimum Bill	$1.43	$1.43	$1.43	$1.43	$1.43
	CARE Discount	32.5%	32.4%	32.4%	32.5%	32.5%
Percent rate change from prior year						
D	Tier 1	16%	5.1%	5.1%	5.1%	5.1%
	Tier 2	20.5%	24.5%	0.8%	4.1%	10.7%
	Tier 3	3.3%	-14.6%	0.8%	4.1%	10.7%
	Tier 4	2.9%	2.1%	0%	-3.9%	-11.4%
D-CARE	Tier 1	13.6%	4.7%	5.9%	4.7%	5.4%
	Tier 2	17.1%	34.1%	0.6%	4.1%	10.8%
	Tier 3	1.8%	-20.6%	0.6%	4.1%	10.8%
	Tier 4	1.8%	8.2%	0%	-3.5%	-11.8%

C. Optional TOU Rates before 2018

Default TOU rates are not allowed until 2018.[8] Optional TOU rates are permitted and should be provided to customers in a manner that allows parties to evaluate TOU designs. This will allow the IOUs and the Commission to learn what type of TOU rate designs appeal to customers and how to best educate customers about TOU rates. The recent settlement in SCE's Rate Design Window (A.13-12-015) is a good starting point for offering optional TOU rates. The settlement would allow three separate TOU rates. Schedule TOU-D-T, a two tiered rate, would remain open,[9] and SCE would offer two new TOU options, TOU-A with a baseline credit and TOU-B without a baseline credit and with a large customer charge. TOU-A is designed to appeal more to smaller users and TOU-B would appeal more to larger users.

These three TOU rate options should be studied for customer acceptance and for success in reducing peak demand. What is learned can be used to improve these rates or to propose improved TOU rates in future proceedings. It is important to offer attractive TOU rate options until the time when default TOU rates are possible. It is important for the Commission and the IOUs to learn as much as possible about these optional TOU rates. This information is important for maximizing the number of voluntary TOU customers, and for providing guidance concerning the optimal default TOU rates when the Commission adopts default TOU rates. The Commission can learn which options are more attractive to customers and how customers respond to these rate options.

D. Baseline Credits with TOU Rates

Baseline Credits should be part of default and optional TOU rates. When TOU rates become the default rate schedule, it is important to maintain baseline

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[8] See PU Code §745 (c).

[9] As part of the settlement to A.13-12-015, SCE will present rates as a single tier rate with either a baseline credit or excess usage surcharge.

rates or a baseline credit to continue baseline protections and to maximize the number of customers who stay on TOU rates.[10]

ORA supports the goals and existence of the baseline program[11] to provide affordable rates for essential uses of energy. "…while observing the principle that electricity and gas services are necessities, for which a low affordable rate is desirable and while observing the principle that conservation, is desirable in order to maintain an affordable bill."[12] Baseline protections should be offered on default rate structures and it is insufficient to only offer such protections on voluntary or opt-in rate schedules.

ORA recommends that baseline be provided in TOU rates as a baseline credit or excess usage surcharge. This is intended to make TOU rates simpler to understand. This can be presented on bills as a single tiered TOU rate with a baseline credit or excess usage surcharge. This issue is discussed in more detail in chapter 1 on TOU rates.

ORA further supports baseline credits as they will help in making optional TOU rates more attractive to low usage customers, and will also help in the transition to default TOU rates. Customers have the ability to opt-out of any default TOU rate adopted by the Commission.[13] Customers can opt-out to a tiered rate schedule that will include a baseline rate. If a default TOU rate does not have a baseline credit, this will create an incentive for some customers, especially low-usage customers, to opt-out to the tiered rates that include the lower baseline rate. The Commission can maximize the number of customers who stay on default TOU rates by providing a baseline credit which will remove this incentive for customers to opt-out.

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[10] Please see Chapter 1 for more discussion on this issue.

[11] See PU Code §739 (a) (1) and (b).

[12] See PU Code §739 (d)(2)

[13] See PU Code §745 (c) (6). "Residential customers have the option to not receive service pursuant to a time-of-use rate schedule and incur no additional charges as a result of the exercise of that option".

E. CARE Discount

Currently SCE has an average CARE discount of approximately 32.5%. This is the middle of the range of 30 to 35 percent specified in PU Code §739.1 (c)(1). ORA has attempted to maintain the CARE discount at the current level of 32.5 percent.

ORA's calculation of the CARE discount does not include the climate dividend. ORA fully supports the Commission's policy to not include the climate dividend[14] because the twice yearly climate credits provide money to ratepayers to compensate for the higher prices they are paying for goods and services. The providers of these goods and services pass on the costs of carbon credits to their customers, and the climate credits are designed to partially offset these higher costs. The climate credits could have been returned to ratepayers directly by check, but it was easier administratively and cheaper to pass them on to customers as credits on their bills. As the climate credits have no relation to standard IOU rates, they cannot be properly considered as part of a discount to CARE rates.

The Commission's current policy on this issue is logical and should be continued. ORA further notes that the climate credit has only a modest impact on the CARE discount calculation for SCE. ORA's proposed rates would result in a 32.5% CARE discount without including the climate credit, and would be 34.5% if the climate credit were included. Both of these results comply with the requirement that average CARE discounts be between 30 and 35 percent.

F. Baseline Allowance

SCE current baseline allowance is calculated as 53 percent of the average residential consumption per climate zone. This is in lower end of the allowable range of 50 percent to 60 percent.[15] SCE proposes to reduce its baseline allowance to 50 percent in 2016, which is the lowest amount allowed by statute.

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[14] This policy was adopted by the Commission in phase 2 of this OIR for summer 2014 rates.

[15] PU Code §739 (a)(1).

ORA opposes SCE's recommendation and instead proposes to maintain the current allowance of 53 percent for four primary reasons:

1. It would be better to limit the total number of rate design changes coming from this rulemaking given that this is yet another change that will lead to bill increases for some low usage customers;

2. This change is unnecessary when a two-tiered residential rate design is achieved;

3. Before the energy crisis when a two-tiered rate design existed, most IOUs had a baseline allowance in the middle of the range at 55 percent; and

4. Setting the baseline at the bottom of the range could result in baseline allowances becoming out of compliance if the baseline calculation is not updated every year.

It makes sense to prioritize which rate design changes are most important going forward, and make only the most important changes at this time. Lowering the baseline allowance to 53 percent of average usage per climate zone will increase bills for some lower usage customers, and thus should not be adopted at this time.

The IOUs have been recommending lowering the baseline allowance the past few years. Originally they stated that it was the only tool they had available to lower upper tier rates. In this rulemaking, parties are now considering a variety of ways to restructure residential rates. ORA proposes to move to a two tier residential rate structure, starting with going to three tiers in 2015. Once a two-tiered rate structure is reached, the level of the baseline allowance is no longer an important tool for lowering the tier 2 rate. At that point, the tier 2 rate will be substantially lower than the current upper tier rates, and both the tier 2 rate, and the differential between the tier 1 and tier 2 rates can be directly determined in rate design proceedings.

Before the energy crisis there were two tiers of residential rates, and there was little controversy regarding the level of the baseline allowance. It was routinely set at 55 percent or the mid-point of the allowable range for SCE and

SDG&E, and was at the upper end of the range for PG&E.[16] During the Baseline OIR, the Commission moved the baseline allowances for PG&E, SCE, and SDG&E to the maximum level of the allowable range or 60 percent.[17] This was maintained for several years, and then the IOUs gradually attempted to lower these allowances. As parts of various settlements, SCE's baseline allowance was first reduced to 55 percent, and then later to the present 53 percent. For PG&E, it went first to 55 percent, and then recently to 52.5 percent. For SDG&E it gradually shifted to its current level of 53 to 54 percent—the allowance in kWh was not reset as average usage changed each year. ORA's preferred position is to set the baseline allowance again at 55 percent of average residential consumption—in the middle of the allowable range. But as ORA also wants to minimize the number of rate design changes made during restructuring, ORA recommends simply maintaining the current baseline allowance based on 53 percent.

As a practical matter, baseline allowances are updated every three years, or sometimes longer. If average residential consumption were to increase during this time interval, baseline allowances set initially at 50% of average consumption would become out of compliance if average consumption increased while baseline allowances remained the same. Baseline allowances set at 53% of average consumption would likely remain in compliance.

[16] See D.02-04-026, p.10. "PG&E, as authorized by the Commission, sets its target baseline quantities at the highest percentage allowed by law, and proposes to continue doing so here. SoCalGas and SDG&E currently set their target baseline quantities at the midpoint of each range. SCE has some targets set at the maximum, with others set at the midpoint."

[17] See D.02-04-026, mimeo, p. 2. "Specifically, we require the utilities to update the data used for calculating baseline allowances to reflect current usage of both gas and electricity, **to increase baseline allowance to the maximum percentage levels allowed by state law** for those customers not already receiving those maximum allowances…"(emphasis added).

G. Reject SCE's Residential Customer Charge Proposals

ORA opposes the proposals for customer charges made by PG&E, SCE, and SDG&E. ORA opposes these proposals for the policy and practical reasons explained in chapter 2. In this chapter, ORA also shows the bill impacts from SCE's rate design proposal are far worse than those from ORA's proposals. Thus, the adverse bill impacts for some customers during this time of rate reform alone would be a sufficient reason to reject SCE's customer charge proposals. As noted above, the rate restructuring that both ORA and SCE recommend will result in substantial bill increases for lower usage customers on a nominal and percentage basis. SCE's proposals on customer charges make the bill increases for low-usage customers even worse as shown in Table 4-3 below, which shows the bill impacts of SCE's proposals and ORA's proposal assuming a 2.1 percent increase in average residential rates from 2015 to 2018. ORA shows the percentage and nominal dollar difference in bills that would result for bills from July 2014 rates and the proposed 2018 rates, at different usage ranges. To make a balanced comparison, ORA calculated SCE's rates[18] based on the same July 2014 starting point that ORA uses to calculate rates in this chapter.

[18] ORA recalculated SCE's proposed rates using July 2014 rates as the starting point, 2.1% escalation of average residential rates per year, and SCE's proposed rate design changes for 2015 to 2018. ORA did not make SCE's proposed changes to baseline allowances, as this change is difficult to make in SCE's bill impact model. Reduced baseline allowances would result in even larger increases in bills for low usage customers with SCE's proposals. ORA's calculation of SCE's proposed rates with July 2014 rates as a starting point is shown in Appendix B.

Table 4-3:

Summary Bill Impacts SCE and ORA Illustrative Non-CARE Rates for 2015-2018 (2.1 Percent RAR Increase)						
	SCE		ORA		SCE's Proposals Exceed ORA's Proposals by	
	2015-2018[19] cumulative	Avg Cum $ [20] Increase	2015-2018 cumulative	Avg Cum $ Increase	2015-2018 cumulative	Avg Cum $ Increase
Below 50	260.2%	$9.64	16.6%	$0.63	243.60%	9.01
50 to 100	99.1%	$12.69	20.4%	$2.61	78.70%	10.08
100 to 150	75.1%	$14.74	21.0%	$4.11	54.10%	10.63
150 to 200	62.2%	$16.94	21.3%	$5.80	40.90%	11.14
200 to 250	54.5%	$19.06	21.5%	$7.51	33.00%	11.55
250 to 300	49.5%	$21.17	22.0%	$9.42	27.50%	11.75
300 to 350	43.1%	$22.46	22.0%	$11.46	21.10%	11.00
350 to 400	37.6%	$23.51	22.2%	$13.87	15.40%	9.64
400 to 450	32.9%	$23.85	21.3%	$15.41	11.60%	8.44
450 to 500	26.0%	$22.35	18.6%	$16.01	7.40%	6.34
500 to 550	23.2%	$22.32	18.0%	$17.28	5.20%	5.04
550 to 600	18.8%	$20.67	16.3%	$17.93	2.50%	2.74
600 to 650	14.4%	$17.87	14.1%	$17.49	0.30%	0.38
650 to 700	9.6%	$13.53	11.2%	$15.71	-1.60%	-2.18
700 to 750	7.8%	$11.96	10.3%	$15.83	-2.50%	-3.87
750 to 800	5.7%	$9.53	9.0%	$15.04	-3.30%	-5.51
800 to 850	2.7%	$4.90	7.1%	$13.09	-4.40%	-8.19
850 to 900	0.3%	$0.53	5.6%	$11.12	-5.30%	-10.59
900 to 950	1.5%	$3.10	6.5%	$13.45	-5.00%	-10.35
950 to 1000	-2.8%	-$6.47	3.6%	$8.28	-6.40%	-14.75
1000 to 1100	-3.5%	-$8.66	3.2%	$7.92	-6.70%	-16.58
1100 to 1200	-6.5%	-$18.48	1.3%	$3.54	-7.80%	-22.02
1200 to 1300	-7.9%	-$24.63	0.3%	$1.06	-8.20%	-25.69
1300 to 1400	-10.0%	-$34.43	-1.1%	-$3.94	-8.90%	-30.49
1400 to 1500	-10.5%	-$38.70	-1.3%	-$4.92	-9.20%	-33.78
1500 to 2000	-13.7%	-$61.95	-3.5%	-$15.96	-10.20%	-45.99
2000 to 2500	-17.5%	-$106.01	-6.2%	-$37.70	-11.30%	-68.31
> 2500	-22.8%	-$354.84	-9.8%	-$152.17	-13.00%	-202.67
Totals	8.5%	$10.64	8.5%	$10.62	0.00%	0.02

[19] ORA calculated bills based on July 2014 rates and proposed 2018 rates. This column shows the percentage increase in bills between these periods for different usage range.

[20] This column shows the average monthly dollar change in bills between summer 2014 and proposed 2018 bills.

This table shows that lower usage customers would receive significantly larger bills under SCE's proposed rates than they would with ORA's proposed rates. It will be challenging moving to two tiers of residential rates in 2018 even following ORA's recommendations. It would be much more difficult to do this if SCE's proposals for residential fixed charges are adopted, because this would exacerbate bill impacts, especially for the lower usage customers.

The bill impacts from ORA's proposal are less severe and thus are more conducive to a successful gradual rate reform than those that result from SCE's proposals. The cumulative bill impacts from 2014 to 2018 for 37 percent of SCE's non-CARE residential customers (with average monthly usage up to 400 kWh per month) range from 37.6 to 260.2 percent increases under SCE's proposals to 16.6 to 22.2 percent increases under ORA's proposals. Lower usage customers would pay significantly more per month under SCE's proposals. Customers with usage up to 450 kWh a month would receive increases in monthly bills in the range of $8.44 to $11.75 more per month. These bill increases would largely result from SCE's proposal to increase to the fixed residential customer charge to $10 per month. Based on ORA's proposal, lower-usage customers' bills would increase each year as a result of rate restructuring, but the year-to-year percentage and nominal dollar impact is less drastic than what SCE proposes.

IV. CONCLUSIONS

For all the reasons stated above, ORA recommends that the Commission move to three tiers of residential rates for SCE as long as its RAR increases by three percent or less. The Commission should set general goals for rate reform for future years, but be patient and avoid large bill increases that potentially could upset large numbers of customers. These customers could become less receptive to rate reform and the transition to TOU rates, and later could blame bill increases on TOU rates.

When considering rate changes for future years, it is important for the Commission to consider the cumulative year to year increases to average

residential rates. It is difficult to forecast these future requirements changes, thus, each step of restructuring should be reviewed taking these changes into account.

ORA recommends that SCE study and improve its TOU rates. Baseline allowances should continue at 53 percent of average consumption for each climate zone, and the CARE discount should stay at the current level of an average 32.5 percent discount.

CHAPTER 5

ORA RECOMMENDATIONS FOR SAN DIEGO GAS & ELECTRIC COMPANY'S RATE DESIGN

DAN WILLIS

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CHAPTER 5

ORA RECOMMENDATIONS FOR SAN DIEGO GAS & ELECTRIC COMPANY'S RATE DESIGN

DAN WILLIS

I. SUMMARY AND RECOMMENDATIONS

This chapter presents the Office of Ratepayer Advocates' ("ORA's") analysis of San Diego Gas and Electric's ("SDG&E's") Testimony on residential rate design and ORA's alternative proposals for 2015-2018. As stated in Chapter 1, ORA supports a measured transition to default TOU rates in 2018. For SDG&E, this should be accomplished through gradual collapsing of the current four-tiered default rate structure, while offering optional time-of-use ("TOU") rates during the years leading up to 2018.

ORA agrees with much of SDG&E's general framework for rate design. But it finds SDG&E's proposals too extreme, particularly in their impact on lower usage customers' summer bills in 2015. Thus, ORA proposes to:

- Transition to a three-tiered rate design in 2015, bringing the current Tiers 3 and 4 together into a single Tier 3 for usage in excess of 130% of baseline.
- As early as 2016, if revenue requirement increases and associated bill impacts allow, combine Tier 1 and Tier 2 to create a two-tiered default rate.
- When Tier 1 and Tier 2 are combined, provide a "baseline credit" for usage up to 130% of baseline and begin to reduce the usage to which this credit would apply to bring it to 100% of baseline with a target date of 2018.[1]
- Over time, move the newly-created two tiers closer together, taking into consideration the increase to the residential average rate ("RAR") and the increases to the lower tiers.
- Equalize summer and winter tiered rates during this period of transition, allowing for less bill volatility in the summer months for higher usage customers, and simplifying the transition from tiered to TOU rates.

[1] In the interim, a term other than "baseline credit" may have to be used. As discussed in Chapter 1, this could be called an "excess usage surcharge."

- Carefully adjust the discounts to each California Alternative Rates for Energy ("CARE") usage tier in order to reduce the effective CARE discount to 38% in 2015, to 36% in 2017, and to 34% in 2018.

II. SDG&E'S PROPOSALS

Chapter 2 of SG&E's February 28, 2014 Testimony presents its proposal for default residential rate design from 2015-2018. ORA presents an outline of SDG&E's proposals below.

Tiered Rate Structure

For the tiered rate structure that will remain the default residential rate until at least 2018, SDG&E proposes a number of changes meant to flatten the rate over time:

- Move to a two-tiered rate structure in 2015, and transition towards a 20% rate difference between the two tiers by 2018, targeting a 55% difference in 2015, 40% in 2016, 30% in 2017.
- Reduce baseline quantities for basic service customers to the lowest level permitted by statute in 2015.
- Reflect the seasonal differentiation of summer and winter commodity rates in both tiers beginning in 2015.
- Implement a residential monthly service fee ("MSF") in 2015 of $5 for Non-CARE customers and $2.50 for CARE customers, increasing to the maximum levels allowable by AB 327 by 2018.
- In 2018, make the two-tiered rate structure resulting from the above four steps a voluntary rate option that would be presented as a flat rate with a volumetric credit provided for usage up to 130% of baseline.
- Implement a default TOU rate in 2018 that would have a volumetric credit for usage up to 130% of baseline.

SDG&E also proposes to reduce CARE rate subsidies over time to comply with AB 327, and to reduce the discount provided to Non-CARE Medical Baseline Customers. SDG&E recommends to:

- Convert the CARE discount into a line item discount provided after CARE rate exemptions. To comply with AB 327, SDG&E proposes a 38%

effective discount in 2015, 36% discount in 2016, and 34% in 2017 and 2018. Discounts for commercial and industrial CARE customers would also be reduced by 3-4% per year to reach the target level of 35%.

- Adopt a transition path for non-CARE medical baseline rates designed to ensure that, by 2018, non-CARE medical baseline customers pay the same non-CARE rates as those that are applicable to all other non-CARE customers, excluding a DWR rate exemption.

Optional TOU beginning in 2015

SDG&E proposes to introduce a "cost-based" TOU rate in 2015 with the following features:

- A demand-differentiated MSF based on non-coincident demand, ranging from $28 to $80 per month, which includes $14.52 for "customer costs."
- No tiers or baseline credit.
- Only the commodity costs would be time-differentiated.

In addition, SDG&E plans to conduct an experimental TOU pilot program to test three different TOU period options. Also, SDG&E will offer a new DR-TOD-C rate to comply with its 2012 GRC Phase II Settlement. This would be a TOU rate with a credit provided for usage up to 130% of baseline and a customer charge equal to that of the default tiered rate.[2]

III. ORA'S PROPOSALS & DISCUSSION

A. ORA Proposed Illustrative Roadmap for 2015-2018 Default Tiered Rates

ORA chose to perform most of its modeling with an assumed 2.1% system revenue increase per year, in accordance with ALJ direction. This leads to an RAR increase of 2.25% per year when using SDG&E's consolidated rates model. Table 5-1 below presents the current 2014 rates along with SDG&E's and ORA's proposals for 2015 rates using a 2.1% system revenue increase from August 1,

[2] ORA email from C. Fang, 5/21/14

2014 rates.[3] Table 5-2 describes an illustrative roadmap that ORA used to construct 2015-2018 rates, also with a 2.1% system revenue increase per year. The rates based on this roadmap in Table 5-2 are presented in Table 5-3.

Table 5-1
SDG&E and ORA proposals for 2015

SDG&E Default Tiered Rates	August 2014 AL 2632	SDG&E Proposal 2015	% Change	ORA Proposal 2015	% Change
Res Ave Rate	0.21420	0.21901	2.2%	0.21901	2.2%
Non-CARE Summer					
Tier 1 0-100%	0.16474	0.19752	19.9%	0.17668	7.2%
Tier 2 100-130%	0.18856	0.19752	4.8%	0.20599	9.2%
Tier 3 130-200%	0.36896	0.29381	-20.4%	0.32099	-13.0%
Tier 4 >200%	0.38896	0.29381	-24.5%	0.32099	-17.5%
Non-CARE Winter					
Tier 1 0-100%	0.16474	0.17333	5.2%	0.17668	7.2%
Tier 2 100-130%	0.18856	0.17333	-8.1%	0.20599	9.2%
Tier 3 130-200%	0.33371	0.25782	-22.7%	0.32099	-3.8%
Tier 4 >200%	0.35371	0.25782	-27.1%	0.32099	-9.3%
Customer Charge	0	$5.00	$5.00	0	0
CARE Summer					
Tier 1 0-100%	0.10499	0.12293	17.1%	0.11196	6.6%
Tier 2 100-130%	0.12292	0.12293	0.0%	0.13206	7.4%
Tier 3 130-200%	0.18673	0.18718	0.2%	0.18673	0.0%
Tier 4 >200%	0.18673	0.18718	0.2%	0.18673	0.0%
CARE Winter					
Tier 1 0-100%	0.10499	0.10678	1.7%	0.11196	6.6%
Tier 2 100-130%	0.12292	0.10678	-13.1%	0.13206	7.4%
Tier 3 130-200%	0.17445	0.16316	-6.5%	0.18673	7.0%
Tier 4 >200%	0.17445	0.16316	-6.5%	0.18673	7.0%
Customer Charge	0	$2.50	$2.50	0	0

[3] Rates shown for SDG&E reflect ORA's best understanding of SDG&E's 2015 rates if updated to reflect August 1, 2014 rates as the starting point, per ORA Data Request 11. Bill impacts for these rates are presented in Appendix C.

Table 5-2
Roadmap for ORA's Rate Changes with 2.1% Revenue Increase per Year

2015	• Combine Tiers 3 & 4, increase Tier 1 by RAR + 5% • Equalize summer and winter tiered rates • CARE Discount 38%
2016	• Combine Tiers 1 & 2 by increasing Tier 1 by RAR + 5% • Set baseline at 65% along with the two-tiered rate design • CARE Discount 38%
2017	• Bring (newly-created) two tiers closer together, reduce baseline quantities to 62.5% • CARE Discount 36%
2018	• Continue to bring two tiers closer depending on RAR increases and bill impacts • Reduce baseline quantities to 60% • Introduce default TOU rate with baseline credit equivalent to that of the tiered rate • CARE Discount 34%

Table 5-3
ORA Proposed Tiered Rates for 2015-2018 with 2.1% Increase per Year

ORA Illustrative Roadmap 2014-2018	August 2014 AL 2632	ORA 2015	ORA 2016	ORA 2017	ORA 2018
Res Ave Rate (RAR)	0.21420	0.21901	0.22392	0.22893	0.23405
RAR Increase		2.25%	2.24%	2.24%	2.24%
Non-CARE					
Tier 1 0-100%	0.16474	0.17668	0.18947	0.20318	0.21789
Tier 2 100-130%	0.18856	0.20599	0.18947	0.20318	0.21789
Tier 3 130-200%	0.36896	0.32099	0.30699	0.29461	0.28156
Tier 4 >200%	0.38896	0.32099	0.30699	0.29461	0.28156
Customer Charge	-	0.00	0.00	0.00	0.00
% from previous yr					
Tier 1 0-100%	-	7.2%	7.2%	7.2%	7.2%
Tier 2 100-130%	-	9.2%	-8.0%	7.2%	7.2%
Tier 3 130-200%	-	-13.0%	-4.4%	-4.0%	-4.4%
Tier 4 >200%	-	-17.5%	-4.4%	-4.0%	-4.4%
CARE					
Tier 1 0-100%	0.10499	0.11196	0.11733	0.12754	0.13928
Tier 2 100-130%	0.12292	0.13206	0.11733	0.12754	0.13928
Tier 3 130-200%	0.18673	0.18673	0.18673	0.19046	0.19427
Tier 4 >200%	0.18673	0.18673	0.18673	0.19046	0.19427
Customer Charge	-	0.00	0.00	0.00	0.00
% from previous yr					
Tier 1 0-100%	-	6.6%	4.8%	8.7%	9.2%
Tier 2 100-130%	-	7.4%	-11.2%	8.7%	9.2%
Tier 3 130-200%	-	0.0%	0.0%	2.0%	2.0%
Tier 4 >200%	-	0.0%	0.0%	2.0%	2.0%
Eff. CARE Discount	41%	38%	38%	36%	34%

B. Discussion of SDG&E's Default Rate Proposals and ORA Alternatives

ORA supports several aspects of SDG&E's proposal from a policy perspective. These include:

- Transitioning to default TOU rates in 2018.
- Gradually collapsing the lower and upper tier rates over time.
- Lowering the CARE discount slowly to meet AB 327 requirements.
- Offering optional TOU rates and testing TOU period definitions in pilot studies.
- Continuing to provide baseline protection in both default and optional rates.

However, ORA takes issue with a number of SDG&E's proposals on how to achieve the above goals. It discusses its alternatives in the following sections.

1. Drastic increases to lower-usage customers' rates in 2015

Three of SDG&E's proposals have the compounding effect of drastically increasing monthly bills for lower-usage customers in the span of less than one year. They are: (1) Introducing a "monthly service fee," (2) Combining Tiers 1 and 2 through a very large increase to the Tier 1 rate, and (3) Reducing baseline quantities as originally proposed in its 2014 RDW Application.[4] ORA's proposal represents a much more reasonable and deliberate transition from the current four-tiered default structure to a two-tiered design as soon as 2016. ORA discusses its arguments against the imposition of a new "monthly service fee" in Chapter 2.

Parties reached a settlement on 2014 summer residential rate changes, which the Commission found reasonable, that increased the Tier 1 rate by two percentage points higher than the RAR increase with respect to February 2014 rates, but not less than seven percentage points. In contrast, SDG&E intends to

[4] Reductions in the baseline quantities allow SDG&E to further reduce the upper tier rates. But it also means that many customers will reach higher tiers and thus pay higher rates at a lower level of usage than under the current baseline quantities. ORA proposes to delay SDG&E's proposed reduction in baseline quantities by one year.

increase the summer Tier 1 rate by 15% if there is no revenue requirement increase and by 20% if there is a 2.25% increase in the residential average rate (resulting from a 2.1% increase to the system average rate).[5] SDG&E's proposal is much too far reaching in raising the lower tier rates. Even at a low level of revenue requirement increases of 2.1% in 2015, customers consuming in the higher portion of the first tier would see their bills increase approximately 30% per month owing to the combined effects of the MSF and reduction in the baseline allowance. This applies to a significant number of customers and is not a trivial impact in dollar terms. For example, Non-CARE Coastal customers who reach the top of the current Tier 1 range (340 kWh) currently pay around $48 per month in the summer, and would pay over $60 under SDG&E's proposal.[6]

Since the energy crisis, higher-usage customers have borne a larger share of rate increases than have lower-usage customers. However, this trend does not justify such rapid bill increases given how long it took to get to the current rate differences between the tiers. SDG&E's proposal amounts to correcting the majority of the disparity between lower-usage and higher-usage rates that has been created during a decade-long process in less than one year. In addition, some customers who were in the higher tiers in the past could be in a lower tier now, and vice versa, due to changes in household composition, usage patterns or customer churn. Customers should not be responsible in the future for the level of their bills in the past. The rate increases to lower tier customers that SDG&E is requesting are simply too drastic to consider and are likely to create significant customer backlash.

ORA supports collapsing the steeply differentiated tiers over time, introducing a default TOU rate with a baseline credit in 2018 along with a voluntary two-tiered rate design. Substantial progress can be made in 2015

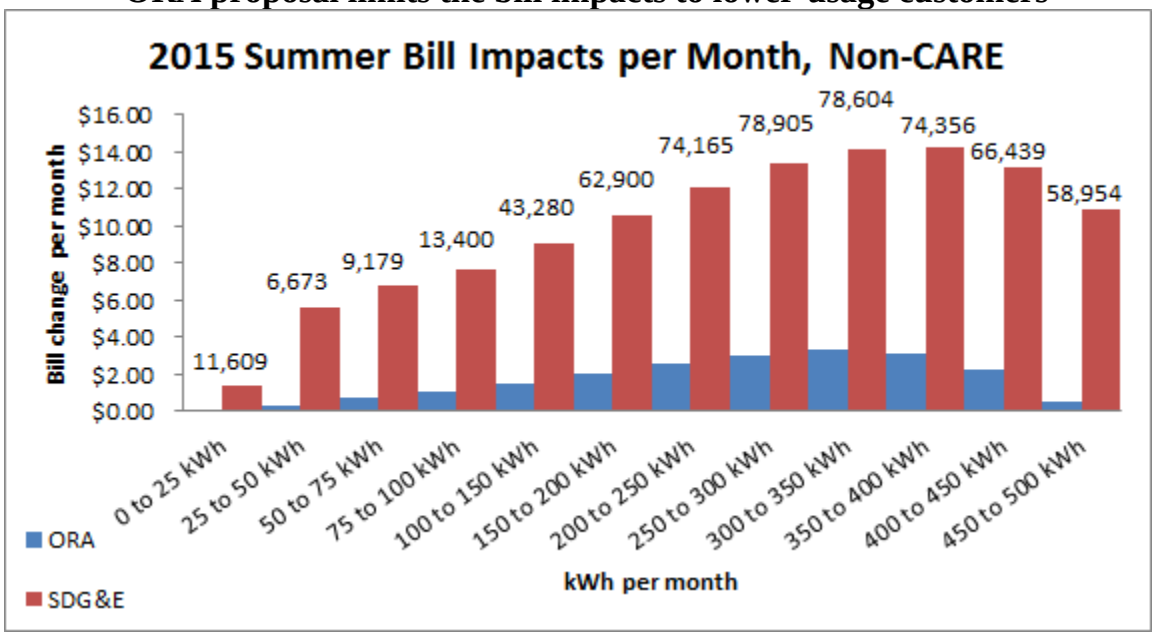
[5] Response to ORA Data Request 11. SDG&E's figures for RAR included the California Climate Credit, so a 2.4% RAR increase is shown.

[6] There are over 77,000 Non-CARE Coastal customers consuming between 200 and 350 kWh per month, whose collective average bill increases per month would fall between $12 and $15.

toward these longer-term goals without moving directly to two tiers and without the substantial level of bill impacts that result from SDG&E's proposal.

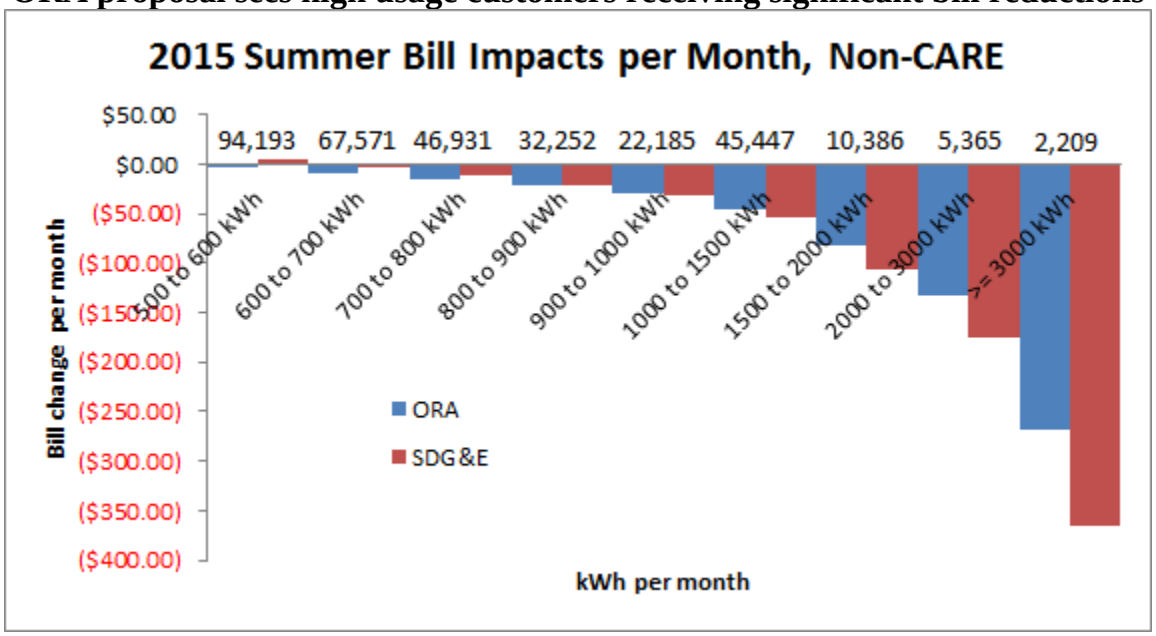
Figure 5-1 compares summer bill impacts of SDG&E's and ORA's 2015 rates for all of SDG&E's Non-CARE customers with usage under 500 kWh per month. Under ORA's proposal, average bill impacts per month for each range of usage do not exceed four dollars. For SDG&E's rates, about 660,000 customers, with usage averaging from 25 kWh per month to 600 kWh per month, would see summer monthly bill increases above five dollars per month, and around 494,000 of those would see average increases above 10 dollars per month.[7] As Figure 5-2 demonstrates, ORA's mitigated bill impacts do not come at the expense of customers consuming more than 600 kWh per month. As shown, substantial savings are realized by these customers under both proposals. More detailed bill impacts for both sets of rates are contained in Appendix C.

Figure 5-1
ORA proposal limits the bill impacts to lower-usage customers



[7] SDG&E Response to ORA Data Request 15, providing bill impacts for ORA's and SDG&E's rates assuming a 2.1% revenue increase in 2015.

Figure 5-2
ORA proposal sees high usage customers receiving significant bill reductions



2. <u>The Commission should focus on mitigating bill impacts and not on specific rate differentials.</u>

SDG&E proposes to set rates for the newly-created upper and lower tiers in 2015-2018 strictly based on the targeted ratios between the two, without regard for customer bill impacts or potential revenue increases.[8] ORA, alternatively, has designed its rates and developed its proposal using SDG&E's rate design model by solving for the upper tier rates once parameters are set for increases to the lower tiers. ORA sets the lower tier rate increase to five percentage points higher than the RAR increase, shifting the focus to limiting lower usage customer bill increases rather than achieving certain ratios between rates for the two tiers.

If the Commission finds it desirable to eventually decrease the rate difference between the new Tier 1 and Tier 2 to as low as 20 percent, such a change should happen over several years, as both SDG&E and ORA propose. But, depending on the level of revenue requirement increases, it may not be feasible to move to such a rate difference by 2018, as SDG&E proposes.

[8] SDG&E Testimony 2/28/14, Chapter 2 (Fang) p.26 Table CF-1.

ORA provides a roadmap based on an assumption of RAR increases of 2.2% per year in Table 5-2 above. This roadmap shows ORA's proposed transition from the current four-tiered default rates to a two-tiered rate with a small baseline credit in 2018. ORA proposes that increases to the lower tiers be limited to five percent above the RAR increase for the transition period. This limits the bill impacts that low-usage customers will see as a result of the tier collapsing.

Table 5-2 presents guidelines that the Commission can use to set SDG&E's default tiered rates during the 2015 – 2018 transition period. If, however, the RAR increases by a significantly more than 2.25% each year, ORA cautions the Commission against strictly employing the rule(s) described in the table, and certainly advises against employing SDG&E's method for collapsing rates. In such a case, a higher priority should be assigned to protecting the majority of the IOUs' residential customers (i.e, those using below 500 kWh per month) from large bill increases than to winding down the tiers. Table 5-4 below shows the rate changes that would occur if the same rules were applied to a scenario in which the RAR increased by 5% per year for both ORA's and SDG&E's proposal.[9]

[9] SDG&E response to ORA Data Request 11 contained an updated consolidated rates model that SDG&E used "to reflect an updated proposal for 2015 and going forward" using "rates effective August 1, 2014 as the 'current/present' rates." ORA used this model to produce table 5-4, inputting ratios between Summer Tiers 1 and 2 from Table CF-1 of SDG&E's 2/28 Testimony.

Table 5-4
Rate Changes with an Annual 5% Revenue Increase

Illustrative 5% RAR Increase per Year: Summer	August 2014 AL 2632	2015	% Change	2016	% Change	2017	% Change	2018	% Change
Res Ave Rate	0.21420	0.22564	5.3%	0.23767	5.3%	0.25029	5.3%	0.26354	5.3%
ORA Non-CARE									
Tier 1 0-100%	0.16474	0.18178	10.3%	0.20056	10.3%	0.22123	10.3%	0.24401	10.3%
Tier 2 100-130%	0.18856	0.21183	12.3%	0.20056	-5.3%	0.22123	10.3%	0.24401	10.3%
Tier 3 130-200%	0.36896	0.33086	-10.3%	0.32558	-1.6%	0.32192	-1.1%	0.31712	-1.5%
Tier 4 >200%	0.38896	0.33086	-14.9%	0.32558	-1.6%	0.32192	-1.1%	0.31712	-1.5%
Customer Charge	0.00	0.00	0.0%	0.00	0.0%	0.00	0.0%	0	0.0%
SDG&E Non-CARE									
Tier 1 0-100%	0.16474	0.19947	21.1%	0.21622	8.4%	0.23141	7.0%	0.25254	9.1%
Tier 2 100-130%	0.18856	0.19947	5.8%	0.21622	8.4%	0.23141	7.0%	0.25254	9.1%
Tier 3 130-200%	0.36896	0.30918	-16.2%	0.30270	-2.1%	0.30083	-0.6%	0.30305	0.7%
Tier 4 >200%	0.38896	0.30918	-20.5%	0.30270	-2.1%	0.30083	-0.6%	0.30305	0.7%
Customer Charge	0.00	5.00	---	7.50	50.0%	10.00	33.3%	10.21	2.1%

3. Summer and winter tiered rate differential

The Commission should reject SDG&E's proposal to differentiate lower tier rates by season. This is an unnecessary added complication in default tiered rates, especially during a time when significant other rate changes will be going into effect. PG&E and SCE rates currently do not reflect the difference in cost of service between summer and winter. Given that SDG&E's residential rates are the highest on average among the three IOUs, its summer rates would be significantly higher than those of the other two utilities.

ORA recommends that customers be given two clear choices: (1) A tiered rate that increases only with usage, and (2) A TOU rate that varies by time of day and by season.

The ability to bring the higher and lower tiers closer together for Non-CARE summer rates also is hindered by increasing the summer and winter tiered rate differential, as shown in Table 5-5 below. In ORA's illustrative roadmap presented in Table 5-2 above, summer 2018 rates for usage in the newly-created second tier are 28 cents per kWh, whereas when using the same modeling inputs except for maintaining the differential between summer and winter tiered rates

proposed by SDG&E, the summer higher tier rate is 32 cents per kWh, over 10 cents higher than the lower tier rate.

Table 5-5
Summer-Winter Rate Differentials

2014-2018 Summer-Winter Differential	August 2014 AL 2632	2015	2016	2017	2018
Res Ave Rate	0.21420	0.21901	0.22392	0.22893	0.23405
Non-CARE Summer					
Tier 1 0-100%	0.16474	0.17668	0.18947	0.20318	0.21789
Tier 2 100-130%	0.18856	0.20599	0.18947	0.20318	0.21789
Tier 3 130-200%	0.36896	0.35609	0.34199	0.33202	0.32160
Tier 4 >200%	0.38896	0.35609	0.34199	0.33202	0.32160
Non-CARE Winter					
Tier 1 0-100%	0.16474	0.15882	0.16911	0.18022	0.19193
Tier 2 100-130%	0.18856	0.18517	0.16911	0.18022	0.19193
Tier 3 130-200%	0.33371	0.32010	0.30524	0.29450	0.28330
Tier 4 >200%	0.35371	0.32010	0.30524	0.29450	0.28330
Customer Charge	0.00	0.00	0.00	0.00	0.00

In Chapter 2 of its testimony, SDG&E explains that its commodity rates are seasonally differentiated, and that before the passage of Assembly Bill 327, this commodity difference only could be reflected in the Tier 3 and 4 rates. SDG&E states, "D.14-01-002 approved SDG&E's uncontested proposal to limit the Summer/Winter total rate differential for residential rates to 75% of the Summer/Winter commodity differential."[10] Indeed, SDG&E's application in that proceeding, Phase II of its 2012 General Rate Case ("GRC"), reads, "For SDG&E's current non-TOU residential tiered rates, SDG&E proposes to set the Summer/Winter total rate differential at 75% of commodity rate differential to mitigate seasonal bill impacts."[11]

ORA finds SDG&E's characterization of it proposal as "[limiting] the total rate differential" to be confusing and misleading. SDG&E's current proposal to

[10] SDG&E Testimony 2/28/14, Chapter 2 (Fang) p.26 ll. 7-9

[11] A.11-10-002, Chapter 3 p. 20

"reflect this seasonal difference in all tiers for all tiered rate schedules… to better reflect the costs of proving commodity services,"[12] does not in fact mitigate seasonal bill impacts.[13] Rather, it increases summer rates and decreases winter rates, relative to the current rate structure. Though D.14-01-002 approved SDG&E's proposal in its GRC Phase II, ORA wishes to revisit the issue in light of AB 327.

4. Reduction in CARE discount over time

SDG&E's current Tier 3 CARE rate reflects a higher discount compared to the equivalent non-CARE rate than do the discounts for the other two CARE tiers. SDG&E proposes to apply the same line item discount to each CARE rate tier in order to provide the target level of effective CARE discount. As discussed before, SDG&E proposes to rapidly decrease the higher Non-CARE tiered rates. In fact, the decrease is rapid enough that the higher tier CARE rate can remain near its current level throughout the transition period and remain in compliance with AB 327.

ORA is open to the concept of applying the same discount to each CARE tiered rate in the future, but this could not be done during the transition period between 2014 and 2018 with ORA's Non-CARE rates. Because ORA's non-CARE upper tier rates decrease more slowly than do SDG&E's, applying a uniform discount to each tier in ORA's rates would require increasing the CARE Tier 3 initially, and then decreasing it as the Non-CARE tier rate differential is decreased. In order to prevent "yo-yoing" the rate, ORA has chosen to hold the upper tier CARE rate at its current level through 2016.

ORA proposes to delay a further reduction in the effective CARE discount from 38% to 36% until 2017. This is because CARE customers, along with Non-

[12] SDG&E Testimony 2/28/14, Chapter 2 (Fang) p. 26 ll. 11-14

[13] SDG&E is not proposing to limit the differential between summer and winter tiered rates, but to reflect a greater share of it in rates. Seasonal bill impacts would be limited relative to reflecting 100% of the commodity rate differential in rates, but SDG&E was not proposing to reduce the seasonal difference in this way in its GRC II, but was setting a ceiling for the differential.

CARE customers, will see significant changes to their rate design in both 2015 and 2016.

5. Medical Baseline rates

SDG&E proposes to eliminate the CARE benefit that Non-CARE medical baseline customers currently receive. As proposed by SDG&E, medical baseline customers would still receive the additional baseline allowances as part of the program, and the transition would happen over four years. SDG&E states "Impacts to Medical Baseline customers are further discussed in the response to Rate Design Question 15 in Attachment H." ORA found a very brief response to this question (actually #16) in SDG&E's attachment I, in which impacts were discussed in no greater detail than in Ms. Fang's chapter. To ORA's knowledge, bill impacts to medical baseline customers are not included in SDG&E's filings. ORA recommends that SDG&E be required to demonstrate the effect of their proposal on medical baseline customers, and provide adequate evidence that these customers will not be overburdened by the changes before they take effect.

C. Optional TOU Rates

1. SDG&E's Optional "Cost-Based" TOU Rate

SDG&E proposes to introduce an optional, non-tiered TOU rate with a "demand-differentiated monthly service fee" ("DDMSF") ranging from $28 to $80. ORA does not see the value or logic in offering TOU rates that attempt to avoid the "complications" of a tiered rate component but instead have the complication of a tiered monthly service fee. Moreover, SDG&E has not provided evidence that such a rate will lead to increased bill stability as SDG&E claims.[14] ORA expects only sophisticated, very high-usage customers would be

[14] On page 46 of Ms. Fang's testimony, SDG&E suggests that a DDMSF "[provides] for greater bill stability as customers become accustomed to the concept of demand." While this may be true as a customer becomes familiar with the concept of demand, another source of bill instability is introduced in that the customer's monthly bill would leap by $10 or $20 upon moving into a higher kW bracket. Overall, ORA does not see that this approach provides for greater bill stability than any traditional method for collecting distribution costs from residential customers.

interested in such a rate option, and many of them would likely prefer a TOU rate meant for larger customers to have a much smaller customer charge, if any. In addition, SDG&E proposes to test three different time periods using this rate. If the on-peak period for this rate is shifted to later in the evening, as proposed in SDG&E's RDW application, the option will likely be even less attractive to residential customers. ORA doubts whether a study intended to test customer reactions to different time of use periods would be effective if using a rate that is likely to be unattractive to all but a very small subset of customers.

For these reasons, ORA opposes SDG&E offering its proposed TOU rate with a DDMSF even on an optional basis. ORA is comfortable with SDG&E primarily marketing the kind of rate that ORA proposes in the next section below. That rate is a simple TOU rate with a baseline credit designed to mirror the tier differences that would exist in the default rate. Such a rate does not pose a danger of revenue shortfalls and would be fair to all customers. ORA would be open to SDG&E also offering a non-tiered rate with a more moderate customer charge as PG&E and SCE propose. If the Commission agrees, then SDG&E should be directed to design such a rate.

In contrast to ORA's proposal, the optional TOU rate with the large DDMSF that SDG&E proposes could lead to serious revenue shortfalls because the volumetric rates are lower than the upper tier rates on the default tiered rate. Being lower, such tariffs might tend to favor large users with relatively high load factors. ORA expressed concern about this issue in testimony in SCE's Rate Design Window ("RDW") Application (A.13-12-015). There, ORA noted that offering a non-tiered TOU rate while simultaneously offering a steeply tiered non-TOU rate potentially creates large revenue shortfalls as the larger customers who would save money by avoiding tiered rates (structural benefiters) self-select and pay lower bills.

Thus, if the Commission were to approve SDG&E's optional TOU rate, or another form of non-tiered TOU rate, ORA recommends placing a cap on the percentage of customers that can select this rate during the interim transition

period when the tier differentials on the default rate remains high. ORA agrees with SDG&E's proposal to have any revenue shortfall that may materialize be recovered on an equal cents per kWh basis from the entire residential class.[15]

2. Optional TOU Rate to attract a wide range of customers

ORA supports a move toward default TOU rates, and this transition would be more widely accepted if a significant number of customers elect optional TOU rates during the transition period, which will last at least until 2018. In order to encourage a large number of customers to elect TOU rates, ORA proposes to offer a TOU tariff with a large enough baseline credit that lower-usage customers would not be averse to it. Such customers are not likely to self-select into SDG&E's proposed optional TOU rate because they would be forced to forego their baseline and lower tier protections.

SDG&E currently offers a TOU-DR rate, which is tied to the default residential tiered rate, but the enrollment on this rate is extremely low. In any case, SDG&E proposes to close this TOU-DR rate to new customers in 2015 and to offer a new TOU rate, which is labeled in its workpapers at DR-TOD-C.[16] This rate would be a simpler TOU rate with a baseline credit and a customer charge. This rate option could be modified slightly to align more closely with ORA's proposed default tiered rate by providing a larger baseline credit while removing the customer charge. These adjustments would require some additional modifications to the TOU rate levels to collect similar revenue.

After the default tiered rate is reduced to two tiers, ORA recommends gradually reducing the differential between the remaining tiers. On a parallel track, the baseline credit for the optional TOU rate should be decreased.[17] ORA envisions that, in 2018, this could become the default TOU rate, with an

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[15] SDG&E Testimony 2/28/14, Chapter 2 (Fang) p. 48 ll 6-9.

[16] ORA email from C. Fang 8/18/14

[17] ORA provides illustrative DR-TOD-C rates for 2015-2018 in Appendix B

equivalent baseline credit provided to the now optional tiered rate, as long as RAR increases are not so large as to preclude moving to two tiers by 2018.[18] Table 5-6 below compares SDG&E's proposed 2015 DR-TOD-C rate with a modified version that reflects a higher baseline credit and no customer charge.[19]

Table 5-6
Optional TOU Rates

2015 DR-TOD-C Rate	SDG&E	ORA
Period	cents / kWh	cents / kWh
Summer On	0.33282	0.39885
Summer Semi	0.27569	0.34172
Summer Off	0.23682	0.30285
Winter On	0.25792	0.32395
Winter Semi	0.24333	0.30936
Winter Off	0.22309	0.28912
Credit <130% Summer	-0.05786	-0.14138
Credit <130% Winter	-0.04784	-0.14138
Customer Charge	$5.00 / mon	$0.00 / mon

ORA notes that its optional TOU rate might be easier to market to small customers if the baseline credit were converted to an "excess usage surcharge." Effectively, this amounts to subtracting 14.138 cents/kWh from each of the volumetric rates shown and charging customers 14.138 cents/kWh more for usage above 130% of baseline. Given that the summer and winter off-peak rates would be lower than ORA's proposed 2015 Tier 1 rate (See Table 5-3), it could be marketed as an "off-peak discount plan."

[18] The DR-TOD-C rate designed by SDG&E and modified by ORA is an attractive, optional TOU rate that ORA supports as a way to encourage customers to adopt a TOU rate. However, ORA is open to further discussion regarding the details of an optimal TOU rate design, such as the assignment of capacity costs to different periods and the length of those periods, in future proceedings that will determine the structure of a default TOU rate in 2018.

[19] SDG&E's proposal for this rate, found in its workpapers, is not explained in its testimony, and has not been updated to reflect SDG&E's August 2014 rate change. Thus, using SDG&E's consolidated rates model, ORA provides its best estimate of the rate SDG&E will use for this rate given a revenue increase of 2.1% from August 2014, as ORA used to design its DR-TOD-C rate.

3. Experimental TOU Pilot Study

Chapter 3 of SDG&E's Testimony presents a proposal for experimental TOU pilot rates testing three different on-peak periods, one with seven hours and two with four hours.

Although it appears that SDG&E will not be able to test the effectiveness of a default TOU rate owing to the restrictions imposed by AB 327,[20] ORA supports the concept of piloting different on-peak periods within optional TOU rate designs. The exact hours that will be used for these pilots will depend on the outcome of SDG&E's RDW Application (A.13-01-027). ORA notes that SDG&E plans to test different TOU periods using its "cost-based" TOU option with a demand-differentiated monthly service fee. As discussed above, ORA opposes SDG&E's proposal to use a DDMSF, and thus recommends the pilot study be conducted on a simpler TOU rate, such as ORA's modified DR-TOD-C.

IV. CONCLUSIONS

ORA's proposal is reasonable and meets the Commission's "Guiding Principles for Rate Design." It meets all of the principles as indicated below:

Simplicity, customer choice, customer acceptance (Principles 6 and 10)

This is a very important and attractive feature of ORA's proposal. If ORA's proposals were adopted, customers would be able to choose between tiered rates and an optional TOU rate that would provide meaningful baseline allowances. Additional TOU rates could be designed that could also help the Commission study customer acceptance and peak demand reduction.

Affordability (Principles 1 and 10)

Giving customers clear choices that include TOU rates with a sufficient baseline credit will give a wide range of customers the opportunity to save money

[20] An email ruling by ALJ McKinney on 8/28/14 directs parties to submit briefs on this issue.

on their bill by shifting usage. Measured, gradual transitions to flatter tiers and lower CARE discounts will give lower-usage and lower-income customers time to adapt to their changing rates so that they are not overburdened by higher electric bills. Also, as explained in Chapter 1, wide-scale adoption of TOU rates and corresponding load shifting will improve the efficiency of the grid by avoiding some of the need for excess generation capacity, in turn limiting production costs and average rates over time.

Economic Efficiency (Principles 2,3,7,8,9)

Reducing the existing large differences between the higher and lower tiers over time brings the default rate closer to a cost-based rate, while recognizing that a tiered rate does not take into account that cost of service varies with the time of day and part of the year in which customers use energy. Transitioning to time-varying rates will better reflect cost of service and align customer incentives with California energy policy and the efficiency of the grid.

Conservation, Energy Efficiency, and Reducing Peak Demands (Principles 4 and 5)

To the extent that tiered rates encourage conservation and energy efficiency, ORA's retention of a tiered option will provide a meaningful incentive for both. TOU rates encourage customers to shift load off peak and to invest in more efficient appliances used heavily during peak times.

The Commission should adopt ORA's recommended modifications to SDG&E's proposed rate design, as they amount to a more reasonable transition toward SDG&E's and ORA's largely shared goals.

CHAPTER 6

CARE, FERA & MEDICAL BASELINE RATES

LOUIS IRWIN

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CHAPTER 6

CARE, FERA & MEDICAL BASELINE RATES

LOUIS IRWIN

I. SUMMARY AND RECOMMENDATIONS

This chapter addresses ORA proposals for the low-income and Medical Baseline programs. The concept of "energy burden" is central to policy discussions for these programs. This is why the Commission required each utility to report on the energy burdens for various customer groupings in its May 16, 2014 supplemental testimony. This chapter explores and critiques the concept of "energy burden" before addressing ORA's presentation of rate proposals. Energy burden is a statistic that reflects the ratio of energy bills to income. The statistic is of interest to any utility customer with high bills and / or low income. So it is of definite interest to CARE, FERA and many Medical Baseline customers.

ORA's proposals for the latter three programs are below:

- CARE: No changes to the existing customer charges.
- FERA: No changes to the existing customer charges,[1] and set the effective discount to 20%.
- Medical Baseline: No changes to the effective discount rate or to the review, audit, and reporting protocols.

Note that the CARE rate proposals do not include full rate redesign, as that is deferred until Phase 3 of this proceeding.

ORA is sensitive to recent history that included a freeze on CARE rates while upper tier non-CARE rates have increased, which created larger and larger effective discounts for CARE customers. The Commission should be careful to consider the adverse impacts on low income customers if these discounts are reduced too quickly and create rate shock. CARE is one of many discounts for essential services and programs provided by the state designed to alleviate the

[1] ORA's policy on customer charges is detailed in Chapter 2 of ORA's testimony.

consequences of poverty and, although the effective CARE discount has grown, hasty moves to reduce the discount will have significant and harmful effects on California's most vulnerable.

II. APPLICANT'S PROPOSALS

The following table summarizes the proposals of the three utilities for CARE. They all aim to transition the CARE discount to the current statutory level by 2018.

Table 1 CARE[2]

CARE	2014	2015	2016	2017	2018
PG&E					
Effective Discount	49 %	43%	39%	36%	35%
Monthly Service Fee	N/A	$2.50	$5.00	$5 + CPI	$5 + CPI
SCE					
Effective Discount	33%	33%	34%	34%	34%
Monthly Service Fee	N/A	$250	$3.75	$5.00	$5 + CPI
SDG&E					
Effective Discount	39%	38%	36%	34%	34%
Monthly Service Fee	N/A	$250	$3.75	$5.00	$5 + CPI

III. DISCUSSION AND ORA'S PROPOSALS

A. Energy Burden: A Concern for all Utility Customers, Especially Low-Income

ORA is concerned with several aspects of the utilities' presentations and review of energy burden and historical rates. But first, ORA will address the general economic conditions in California to provide context to its discussion on energy burdens. Then it will review the statistical methods used to compute energy burdens and the resulting statistics. ORA's main concern is that the

[2] Long-Term Residential Electric Rate Design Reform Proposal," PG&E, February 28, 2014, p. 2-27, lines 20 – 22.

"Phase 1 Residential Rate Change Proposal of Southern California Edison," SCE, February 28, 2014, Table 1, p. ii. "Prepared Direct Testimony of Chris Yunker, Chapter 1," February 28, 2014, p. 25, lines 1 – 8.

energy burden statistics that the utilities have presented may be misleading because of the underlying data and how the statistics are calculated and presented.

1. A Review of Rate Trends and Energy Affordability

Both SCE and PG&E make long-term comparisons of rates and inflation trends. SCE states that "Over the last 15 to 20 years, the increase in SCE's system average rate has remained below the rate of inflation."[3] PG&E compares CARE rates to those in 1993 and concludes that, compared to CPI inflation, CARE customers have received a 42% discount in real terms[4]. They also claim that California's energy burdens are among the lowest in the country. A full evaluation of energy burden, however, must include trends in income, and the fact that two major recessions occurred during this time frame.[5] Indeed, declining real rates were often offset by declining real income. This has led to an increased level of energy insecurity, discussed below.

SCE argues that a focus on percentage increases to Tier 1 and 2 rates must not obscure the fact that the associated dollar changes are small.[6] While one might make the first argument in regard to non-CARE customers, we must remember that even a small dollar change in bills can be difficult for low-income customers who have trouble making ends meet. If a customer's budget is tight, all cost increases are challenging. These allegedly small dollar changes in bills must be balanced against California's higher cost of living. A recent CNBC article listed the cost of living in California as the sixth highest in the nation.[7] A Forbes study examined regional cost of living differences by asked where paychecks go the

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[3] Phase 1 Residential Rate Change Proposal of Southern California Edison," SCE, February 28, 2014, p. 68, lines 1 – 6, 8-10.

[4] "Long-Term Residential Electric Rate Design Reform Proposal," PG&E, February 28, 2014, p. 2-29 lines 18-19.

[5] These were the post Energy Crisis 2002 and the sub-prime mortgage meltdown 2008.

[6] Phase 1 Residential Rate Change Proposal of Southern California Edison," SCE, February 28, 2014, p. 68, lines 1 – 4.

[7] CNBC.COM/110082479# "America's Top Cities to do Business In," online August 2014.

farthest. According to the study, they go the farthest in the Central and Southern parts of the United States – not in California or the west coast.[8]

Because of California's high cost of living, the 2013 Low Income Needs Assessment ("LINA") report found that a comparatively low energy burden did not alleviate the concerns of many of California ratepayers. This report provides a micro level view of customer attitudes through a measure it created and called "energy insecurity."[9]

The authors of the LINA report, Evergreen Economics, included survey and phone interview information from a sample of 1,028 customers. About half a dozen survey questions were developed focusing on this concept of "energy insecurity." Questions included inquiries about whether customers have had to make a choice between paying utility bills, groceries, and medicine, whether they have had to borrow funds to pay utility bills, whether they have gone without desired heating or cooling, and whether they have received disconnection notices. In accordance with the frequency of these compromises, customers were classified as either having "high," "moderate" or "low" energy insecurity.

Based on this analysis, 6% of California's overall low-income customer population was found to have a high level of energy insecurity, and 37% have a moderate level. Collectively, this means that over 40% of the low income customers have moderate to high energy insecurity.[10] Therefore, utility assurances about low energy burdens have not translated to low energy insecurity for all of California's ratepayers.

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[8] See "The Cities Where America's Paychecks Stretch the Furthest," on Forbes.com

[9] "Needs Assessment for the Energy Savings Assistance and the California Alternate Rates for Energy Programs Volume 2: Detailed Findings," Evergreen Economics, December 16, 2013, Section 5.5.1.

[10] Ibid.

2. A Review of Statistical Methods and Results for Energy Burden

i. An Overall View of Energy Burden Statistics

SCE's discussion of energy burden states that California's energy burden ranks as the ninth lowest among the 50 states.[11] SCE reports that both California and SCE-specific energy burdens, for all residential customers, are at or below 2.0%.[12] Similarly, SDG&E estimated the energy burden in its territory to be about 2%.[13] PG&E does not address the energy burden for all residential customers. Rather, it specifically addresses the overall energy burden trend for California's low-income customers, noting that the burden has decreased slightly from 4.2% to 4.1% in the six years since the last LINA report.[14] [15]

While these statistics appear to be favorable on the surface, deeper analysis shows the statistics to be inconclusive and misleading. In the 2013 LINA report, Evergreen Economics created an alternate and arguably more accurate energy burden statistic that it calls the "*Customer* Energy Burden."[16] Evergreen

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[11] Phase 1 Residential Rate Change Proposal of Southern California Edison," SCE, February 28, 2014, p. 68, lines 16-17.

[12] Phase 1 Residential Rate Change Proposal of Southern California Edison," SCE, February 28, 2014, p. ii. Table 1.

And p. 42, lines 21 – 22.

[13] SDG&E reports the following statistics: Non-CARE Basic (2.2%), Non-CARE All-electric (1.4%), CARE Basic (1.5%) and CARE All-Electric (1.0%) figures are found on tables from "SDG&E Supplemental Testimony," May 16, 2014, Appendix A, Response to Q. 1a – 1b. ORA has not calculated a weighted average of these four subtotals. With a range of values from 1.0% to 2.2%, however, an overall value of 2% is supportable as an approximate figure.

[14] "Long-Term Residential Electric Rate Design Reform Proposal," PG&E, February 28, 2014, p. 2-37, lines 1-2. While PG&E provided an Energy Burden calculating model, ORA has not as of yet obtained an overall figure. But the overall results for the state and other utilities strongly suggests that the PG&E statistic is in the same range of 2%. While PG&E provided an Energy Burden calculating model, ORA has not as of yet obtained an overall figure. But the overall results for the state and other utilities strongly suggests that the PG&E statistic is in the same range of 2%

[15] PG&E did provide an Energy Burden calculating model, however, its default settings were set for subtotals by climate zone. ORA conferred with PG&E, but this did not result in a sufficient roadmap of how to adapt the settings for a system wide energy burden calculation.

[16] "Needs Assessment for the Energy Savings Assistance and the California Alternate Rates for Energy Programs Volume 2: Detailed Findings," December 16, 2013, p. Section 5.52.

Economics prefers this alternative measure for reasons that will be described in Section ii below.[17] This method provides remarkably different and less favorable results than the first statistic, which for clarity is referred to as the "*Overall* Energy Burden." PG&E is the sole utility that refers to this 2013 LINA report, noting a *Customer* Energy Burden statistic for its own low-income customers of 9.9%. This is well over twice that of the 4.1% finding for the first statistic, the *Overall* Energy Burden for all of California's low-income customers.[18] While the statewide low-income *Customer* Energy Burden is a bit less at 8.0%, it too is nearly twice that of the statewide *Overall* Energy Burden of 4.1%.[19].

Rather than investigate the startling difference between the 4.1% and 9.9% energy burden statistics, PG&E chooses to compare the latter with an even higher 13.6% estimate of this statistic for the nation as a whole.[20] Both of the 4.1% and 9.9% statistics cast the California and low-income energy burden in a less alarming light compared to the rest of the country. But this is a transparent attempt to draw attention away from the 9.9% *Customer* Energy Burden for PG&E's low-income customers. ORA has a heightened concern regarding both PG&E's as well as the statewide Customer Energy Burden of 8.0%. This is four times the 2% or less figures that are cited directly above for *Overall* Energy Burden for all customers, including those who are not low-income.

ii. Methods of Calculating Energy Burden

As indicated above, the most recent LINA report introduces an alternate energy burden statistic, called the "*Customer* Energy Burden," which is based on

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[17] Ibid.

[18] Long-Term Residential Electric Rate Design Reform Proposal," PG&E, February 28, 2014, p. 2-37, lines 16-17.

[19] Needs Assessment for the Energy Savings Assistance and the California Alternate Rates for Energy Programs Volume 2: Detailed Findings," Evergreen Economics, December 16, 2013, Section 5.5.1.

[20] "Long-Term Residential Electric Rate Design Reform Proposal," PG&E, February 28, 2014, p. 2-37, lines 7-9.

the energy burden for specific customers[21]. For continuity with its previous 2007 study, Evergreen Economics still calculates the *Overall* Energy Burden statistic, but prefers the new *Customer* Energy Burden calculation due to its use of customer specific data.[22]

The *Overall* Energy Burden statistic is a type of macro statistic that does not require customer specific identification of usage, resulting bills, and income on a customer-by-customer basis. Instead, for any particular category (e.g. all CARE customers), it takes the sum of all customer bills over the sum of all customer income[23]. In contrast, the *Custome*r Energy Burden is based on customer specific data. For *each sampled customer* in a category (e.g. CARE), it takes a ratio of the same factors as the previous statistic (i.e., energy bill divided by income). Then it averages the results for all the customers in the category.

Both the method and outcome is significantly different. As noted before, California's Low-Income *Overal*l Energy Burden was 4.1%, but it was 8.0% using the new *customer* specific methods for low-income customers.[24] The large spread is because the *Overall* method implicitly weights the bills by income, whereas the final weighting for the *Customer* specific Energy Burden is by the customer. In the prior *Overall* Energy Burden statistic, the customers with the most income tend to wash out the results of customers with less income.[25]

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[21] Ibid. Section 5.5.1.

[22] Ibid.

[23] As per SCE and PG&E Supplemental Testimony, May 16, 2014, it is possible to have customer specific sample data and still aggregate the data and calculate n Overall energy Burden. Therefore, it is that they choose not to present a Customer Energy Burden (using the customer specific data). In contrast, SDG&E uses Census tract data for income. This precludes customer specific calculations.

[24] Needs Assessment for the Energy Savings Assistance and the California Alternate Rates for Energy Programs Volume 2: Detailed Findings," Evergreen Economics, December 16, 2013, Section 5.5.2.

[25] A simple example calculation would be as follows. Consider two customers, one with a monthly income of $5,000 and a bill of $100 and a second customer with monthly income of $1,000 and a bill of $200. The first customer has a burden of 2% (= 100 / 5,000). The second customer has an energy burden of 20% = (200 / 1,000). The second method, the *Customer* Energy Burden will take a simple average of the two, will get an answer of 11% (= (2% + 20%) / 2). In contrast, the first method, the *Overall* Energy Burden, takes the sum of all bills over all

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The *Overall* Energy Burden Statistic ignores the distribution of income when making its calculation. Thus, the situations of those who are relatively better off mask the difficulties encountered by the lowest income persons within the population.[26] ORA understands that customer specific data may not always be available, making the *Overall* Energy Burden more readily calculated. Nonetheless, both the formulators of these statistics and parties reviewing them need to be aware of the implications, strengths, and weaknesses of the statistics provided. Simply put, the *Overall* Energy Burden statistic distorts and dampens the results by weighting by income rather than by customer.

iii. A Review of Utilities' Results for Energy Burden

In response to a Commission request, PG&E, SCE and SDG&E provide energy burden statistics in their May 16, 2014 Supplemental Testimony. The energy burden statistics that the utilities provided are incomplete and very unclear about the method of calculation. For SDG&E both the results and discussions with the utility, as described below, make it clear that the *Customer* Energy Burden was not calculated. Discussions with SCE and PG&E led to claims that, for each usage bin, the *Customer* Energy Burden method was used. However, the results, especially at the total level, are much lower than expected, resembling instead the *Overall* Energy Burden. Moreover, the tables are not labeled as containing *Customer* Energy Burdens. It is possible that a mixed method was used, one for bins, the other for totals where provided. The ALJ's Question #1 did not specifically ask for *Customer* Energy Burden, so the utilities were under no

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incomes (= (100 + 200) / (5,000 + 1,000)). The result is $300 / $6,000, which is only 5%. As stated before, since the *Overall* Energy Burden is influenced more by the customer with the larger income, the result is closer to that *Customer* Energy Burden value for the higher income customer. That is, the 5% result is closer to the 2% value for the higher income customer than to the 20% value for the lower income customer.

[26] This statistical disparity might not be as broad when looking at narrow usage levels (bracketed data) where there are fewer customers, and possibly less income disparity. The May 16, 2014 Supplemental Testimony provided by the utilities did not provide this comparison, nor did the Commission solicit it.

obligation to provide it. In addition, there are issues of standardization, missing totals and obscured calculation formulas that created barriers to both cross-utility comparisons and to reaching conclusions on the aggregate level.

Both SCE and PG&E use sample data (3,600 and 7078 observations, respectively).[27] In contrast, SDG&E presents energy burden data using Census tract data.[28] The main weakness of SDG&E's approach is in the income data used to calculate the denominator of the statistic. The numerator uses billing data disaggregated by broad groups (e.g., CARE and Non-CARE) *and by energy usage level.* But the income data used in the denominator, for each customer type and size category, is the average for each Census track. Moreover, SDG&E used a single income data point per climate zone. Although some of SDG&E's more populated climate zones may have over 500 Census tracts, SDG&E chose to use the average income by climate zone. So ORA's understanding is it effectively reduces the income information to one data point per climate zone.[29]

One of the areas of interest to both IOUs and ORA is to identify the energy burden by customer type and specifically at what usage level the energy burden peaks. The SDG&E data is not capable of exploring this issue in a meaningful way since the income was not differentiated by usage level. The outcome is that the SDG&E energy burden tables show a constant rise in the energy burden with increased usage level. Whereas, the energy burdens for the other utilities may or may not go up with increased usage, depending on the level of the paired sample income data. For SCE and PG&E, the maximum energy burden frequently occurs between 450 kWh and 1100 kWh usage per month.[30] In startling contrast,

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[27] "Supplemental Testimony," of SCE and PG&E, May 16, 2014, at table totals.

[28] "Supplemental Testimony," SDG&E, May 16, 2014, Response 1, table footnote (Response 1 has over a dozen tables, not all of which are footnoted).

[29] Census tract per SDG&E climate zones were provided by Leslie Willoughby in a conference call regarding DR l3, August 2014.

[30] These observations are the result of the author's direct observation of the tables provided in the utility Supplemental Testimony, Question 1.

the energy burden for SDG&E continues to rise with usage level without a break or peak.

In addition to this issue, the IOUs take liberties with their data presentations, selecting various methods of organizing and subtotaling the data and by different energy usage bin sizes. These differences are not trivial. PG&E does not provide any of the major energy burden totals and subtotals (i.e., system wide, all CARE, Non-CARE, Basic, All-Electric). Whereas, SCE has several dozen tables for the various combinations of climate zones, CARE, Non-CARE, Basic, All-Electric. But none of these tables, at least in the May 16, 2014 release, had overall totals. Only the detail by energy bin was provided. This precluded making the broader conclusions that could be drawn from aggregate totals. Another inconsistency is that, while PG&E took the ALJ suggestion to condense results to four aggregated climate zones, SCE did not.

Because of these problems, drawing conclusions from the energy burden data provided in the utilities' Supplemental Testimony is challenging for a variety of reasons. Some use sample data and other uses Census tract information. None provide both the Overall Energy Burden and the alternate Customer Energy Burden. Methods of subtotaling and bracketing the usage bins differ as well. These results tend to downplay energy burden issues and are not robust under more intense scrutiny. The Commission has rightly chosen to investigate and ask utilities to report on energy burden concerns. But it's not clear that the utilities' Supplemental Testimony on Energy Burdens is useful for this effort.

B. Discussion of ORA's Rate Proposals

1. CARE Rate Proposals

Most issues related to CARE rate design are deferred to Phase 3 of this proceeding. Two issues remain in this Phase: (1) How to transition to the statutory 30% to 35% range, and (2) Whether customer charges for both Non-CARE and CARE customers should be introduced.

While SCE is currently within the proscribed effective discount for CARE rates, both PG&E and SDG&E are above, currently trending to surpass 50% and 40% respectively. All three utilities propose to introduce fixed customer charges which escalate to the maximum statutory amount for Non-CARE and CARE ($10 and $5, respectively), although the escalation schedules differ by utility. Table 6-1 above summarizes the effective discount rates and fixed customer charges for all three utilities.

Though ORA agrees with the objective of reducing the CARE discount rate, it's trajectory is somewhat different owing to tradeoffs it made in transitioning the non-CARE rate to two tiers. ORA's specific proposals for the three utilities are explained in Chapters 3, 4, and 5. ORA presents its objections to fixed customer charges in Chapter 2. Though ORA's positions on these issues are largely explained in Chapter 2–5, a few generalized concerns will be stated here. These concerns pertain specifically to low-income customers who often have both high energy burdens and constrained budgets.

SCE notes that its proposed customer charges, with their resulting lower volumetric rates, could actually benefit CARE customers that are higher users.[31] But this is a zero sum game, with a significantly greater number of CARE customers who are lower users experiencing higher bills due to customer charges. The cross class subsidy that has received much attention in this proceeding is impacted much more by the spread between the tiered rates than it is by any constraints imposed on customer charges by Assembly Bill 1X. This fact is demonstrated in SCE's analysis of how much each component of its rate proposal improves rate efficiency.[32]

According to SCE, "rate efficiency" is the extent to which rates reflect cost causation. Increased rate efficiency therefore leads to reduced interclass

[31] "Phase 1 Residential Rate Change Proposal of Southern California Edison," SCE, February 28, 2014, p. 65.

[32] Phase 1 Residential Rate Change Proposal of Southern California Edison," SCE, February 28, 2014, p.17-18.

subsidies. Even SCE's model of rate efficiencies, which contains SCE's controversial cost-causation values, shows that changes to the volumetric tier rates has a bigger influence on SCE's rate efficiency values than changes to the fixed charges.[33] Further cost inefficiency reductions can be achieved by going to TOU rates. Though SCE's analysis does not separately report the rate efficiencies of CARE and non-CARE rates, the improved efficiency from reforming CARE rates is greater because their current tier 3 rates are significantly below cost.

Although the ACR design principles stress matching rates with cost causation, it is still misguided and misleading of the utilities to target fixed costs. The first reason, as covered in Chapter 2, is that the estimation of fixed costs is very contentious on both principles and amounts. The second reason has just been stated above – far more subsidy dollars can be eliminated by tier reshaping than by establishing the proposed customer charges.

Reshaping the tiers and fixed customers charges not only have different outcomes, they have different start points (status quo). A prime reason that reshaping the tiers can greatly impact the subsidy dollars is quite simply because CARE customers, for a long time, were protected from the energy crisis surcharges and thus did not have rate tiers above tier 2. So the IOU proposals for CARE and non-CARE tariffs to have the same number of tiers, each having a more uniform CARE discount, both ameliorates subsidy and puts CARE customers more on a par with Non-CARE customers. This scenario where both CARE and Non-CARE have the same number of tiers and tier ratios provides a benefit through greater parity and uniformity. In contrast, going from volumetric rates to fixed customer charges produces much smaller benefits.

[33] Phase 1 Residential Rate Change Proposal of Southern California Edison," SCE, February 28, 2014, p. ii. Table V-7, p. 17.

2. FERA Program Proposals

ORA proposes a standardized 20% discount off whole bill for all of California's FERA customers. In contrast, all the utilities attempt to approximate the status quo FERA discount going forward. The proposals are as follows:

- PG&E calculated a 5-year average of FERA effective discount rates. The resulting average was 12.5% and applied to the whole bill for its proposal.
- SCE calculated a 5-year average effective FERA discount of 9.7%. It proposes rounding this figure up and using a 10% whole bill discount off of a Non-CARE bill whether the FERA customer has elected a tiered, non-tiered or TOU rate plan.[34]
- SDG&E states that it will continue provide Tier 3 usage at Tier 2 rates.[35] Presumably it is shadowing the former Tier 3 usage band to do this. A data response confirms that SDG&E's effective discount in recent years is approximately 12% as well.[36]

The current FERA rate discount allows customers to pay Tier 2 prices for Tier 3 usage. This favors customers whose usage runs to the top of Tier 3 (131% to 200% of baseline). The other tiers are not discounted, so there is no advantage to customers whose usage exceeds 200% of baseline or for customers whose usage does not get above 130% of baseline. Since tiers other than Tier 3 remain undiscounted, the overall effective discount will be far less than the Tier 3 discount. For instance, PG&E's Tier 3 discount for FERA customers is 53%, while its five-year average effective discount for all tiers is only 12.5%.[37] SCE states that these complexities may be hard for customers to understand.[38] This complexity is increased by the utility proposals to collapse Tier 3. This means that current FERA rates, which are already complex, can only be continued by a

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[34] SCE Supplemental Testimony, May 16, 2014, p. 4-5.

[35] Prepared Direct Testimony of Cynthia Fang, Chapter 2," SDG&E, February 28, 2014, p.36.

[36] DR 17, Q. 1, September 8, 2014. Effective discount calculated for mid-2010 to mid-2013.

[37] "Long-Term Residential Electric Rate Design Reform Proposal," PG&E, February 28, 2014, p. 2-22, lines 10 – 19.

[38] "Phase 1 Residential Rate Change Proposal of Southern California Edison," SCE, February 28, 2014 '.p. 52, lines 14-15.

shadow creation of what the Tier 3 rate would have been. This is what SDG&E proposes to do. In contrast, SCE and PG&E opt for simplification, proposing flat whole bill discounts. In addition to greater understandability, it rewards FERA customers uniformly at all usage levels

ORA understands the IOU efforts to approximate the current FERA effective discount either by creating a shadow calculation or approximating equivalent end results with an effective whole bill discount. However, ORA is concerned about the disparity between the FERA and CARE discounts. The CARE discount under the utilities' proposals will be approximately three times the size that of the FERA program. The effective FERA discounts for all three utilities range from approximately 10% to 12.5%, while the mandated effective discount for CARE is 30% to 35%. Yet the qualifying income ranges of these two programs is not that different. CARE qualifying income is 0 to 200% of the Federal Poverty line while the FERA qualifying income level is the next level up, 200% to 250%. So CARE customers whose income starts near the top of the qualifying band would drop from 30% to 35% down to 10% (for SCE) if their income should increase to the next level. This steep reduction in the discount is hard to justify. Historically speaking, the CARE rate has been increasing since AB1X. In contrast, the effective FERA discount has remained relatively flat in the last few years for all three utilities. So there has been a widening gap between the FERA and CARE effective discounts.

ORA proposes a 20% discount for FERA customers. ORA is sensitive to the fact that such a discount increase runs counter to the direction of the CARE effective discount. Nonetheless, as described above, the effective discount difference between CARE and FERA is large and has been increasing. ORA's proposal reverses this trend and cuts the gap by a little less than half.[39] Because

[39] If the CARE effective discount minimum (30%) is compared to the average utility FERA effective discount 11.5% (which is a straight average of the 3 IOU effective discounts of 10%, 12% and 12.5%), the gap is 18.5% (30 – 11.5). The ORA proposal is 20% - an increase of 8.5% over 11.5%. And this 8.5% is less than half of the 18.5% gap.

the CARE enrollment is far greater than the FERA enrollment, the increased subsidy implied by the ORA proposal is not significant compared to the CARE subsidy decrease. In addition to the increased FERA discount, the ORA proposal provides uniformity across utilities. Since the recommendation is for a whole bill discount, it will also be uniform across all tiers.

3. Medical Baseline Rate Proposals

The utilities each propose to maintain Medical Baseline program essentially the same as it currently exists, except that SDG&E proposes to transition Non-CARE Medical Baseline customers off of CARE rate benefits that they were receiving. This is discussed further in Chapter 5 of ORA's testimony. The Medical Baseline program extends the baseline rate for an additional 16.5 kWh per day at baseline rates. ORA supports the continuation of Medical Baseline discounts at their current level.

SCE proposes that a study be performed in a future, more appropriate proceeding on the actual load demands of various medical devices. It cites sleep apnea machines specifically, noting that the monthly load is only 30 kWh.[40] Since this involves a future proceeding, ORA will only comment briefly. While there may be accuracy in SCE's observation, there are two outstanding reasons to deny such a study.

First, there is an adequate review process already implemented at all three utilities. This review is limited to those Medical Baseline customers who request an additional Medical Baseline Allowance, presumably based on additional medical conditions and devices needed. In these cases, IOU staff reviews the requests on a case-by-case basis. So a review process already exists.

Secondly, ORA is not aware of the Commission basing qualification for the basic Medical Baseline allowance on any particular medical devices plus heating and cooling loads. It is a flat reward where loads may vary but the allowance

[40] "Phase 1 Residential Rate Change Proposal of Southern California Edison," SCE, February 28, 2014 '.p. 46, lines 17 – 19.

does not. Thus, singling out any single medical condition, such as sleep apnea, for qualification for the basic allowance fails to consider these additional factors. ORA cannot read into Commission intent, but it is possible that the Commission granted Medical Baseline allowance as a flat benefit to qualifying customers based on a variety of factors including increased energy needs in addition to having in many cases, greater medical and employment challenges. For these reasons, ORA proposes that the Commission deny SCE's request for an energy audit of the Medical Baseline allowance program.

IV. CONCLUSION

ORA's proposals include no change in customer charges for CARE and FERA customers. For FERA customers, ORA recommends raising the effective discount rates, from the 10.0% to 12.5% range that exists for the three utilities, to a 20% level for all California utilities. For the Medical Baseline program, ORA makes no proposals for this Proceeding and requests that the Commission deny SCE's request for a future energy audit of the program.

As a preface to ORA's proposals, ORA reviewed affordability and energy burden statistics. ORA found that the utilities presented the energy burden and affordability issue in a much more favorable light than is warranted by closer analysis. ORA showed that statistics presented in the utility's direct testimony do not demonstrate energy burdens are low in California. The recent LINA report showed that 43% of California's low-income utility customers suffer what it calls moderate to high energy insecurity. Finally, ORA showed that the data calculation and presentation of energy burden statistics, as per Commission request in Supplemental Testimony, was inconsistent and incomplete in some cases. The results were that the desired conclusions were either obscured or slanted towards deflating concerns about energy burden for California ratepayers. ORA urges the Commission to incorporate energy burden when deciding rate policy for low-income customers.

CHAPTER 7

RATE DESIGN PROPOSALS & IMPLICATIONS ON EE, DEMAND RESPONSE AND DISTRIBUTED GENERATION PROGRAMS

MICHAELA FLAGG

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CHAPTER 7

RATE DESIGN PROPOSALS & IMPLICATIONS ON EE, DEMAND RESPONSE AND DISTRIBUTED GENERATION PROGRAMS

MICHAELA FLAGG

I. SUMMARY AND RECOMMENDATIONS

This chapter presents a discussion of the impacts of the investor-owned utilities' ("IOUs") and the Office of Ratepayer Advocates' ("ORA") rate proposals on customer conservation incentives and energy efficiency ("EE"), demand response ("DR") and distributed generation ("DG") program participation. The chapter headings are designed to respond to the specific questions outlined in the third amended scoping memo.

II. IMPACTS OF APPLICANTS' PROPOSED RATES

This section provides a summary and discussion of the IOUs responses to Question 5 of the third amended scoping memo in their May 16, 2014 supplemental testimony.

A. Quantify and discuss the impacts of any proposed rate design changes over the period 2015-17 on customer participation and load impact in Energy Efficiency, Demand Response and Distributed Generation programs.

The IOUs describe the difficulty of quantifying the impacts of their rate design proposals on the customer participation and load impacts of their Demand Side Management ("DSM")[1] programs. PG&E explains that DSM program participation is driven my multiple factors such as advertising and rebate levels, and therefore isolating the impact of rate changes would be difficult.[2] ORA is

[1] EE, demand response and distributed generation programs are commonly referred to as DSM programs collectively.

[2] PG&E, pp. 7-8. May 16, 2014 Supplemental testimony.

also not aware of existing data that could be used to accurately quantify the impacts of rate reform on DSM program participation at this time and agrees that measuring these impacts would be difficult. Without such supporting data, the IOUs present speculative examples of how their rate design proposals may impact DSM program participation, as discussed in section C below.

B. If data is not currently available, discuss what types of information should be collected and analyzed to quantify the impacts.

SDG&E and SCE provide proposals for how program participation impacts could be quantified going forward. SDG&E proposes to estimate impacts on DSM participation by conducting an analysis at least two years after the rate changes so that participation rates can be compared to those of previous years before the rate reform. However, SDG&E states that it does not believe that statistically significant estimates of load impacts from tier 1&2 increases can be produced.[3] For TOU rates, SDG&E states that efforts can be made in SDG&E's experimental TOU pilot to quantify load impacts within that study framework.[4] SCE explains a possible experimental design study in which residential customers could be randomly assigned to alternate rate structures in order to estimate DSM participation impacts empirically.[5]

ORA agrees with SCE that an experimental design study would lead to the most useful estimates of participation and load impacts. Such evaluations, however, require significant resources and time. Also, because the potential bill impacts involved with different rate proposals will vary, randomly assigning customers to certain rates may be deemed unfair. In any case, SDG&E is already planning on launching its TOU pilot in 2015. ORA supports efforts that would

[3] SDG&E, p.9.

[4] SDG&E, p. 9.

[5] SCE, p. 7.

evaluate changes in participation rates in other customer programs caused by rate design changes.

To gain even more insight, ORA recommends leveraging current evaluations conducted for the DSM programs themselves. For example, many EE evaluations focus on program attribution, or what is referred to as the Net-to-Gross (NTG) ratio.[6] In these evaluations, the evaluator focuses on the customer's motivation for participation in EE programs in order to better estimate the impact of the EE program itself on the participant's behavior. ORA assumes that the impact of rate design changes on participation could be estimated here as it would also be in the best interest of the EE evaluators to account for it in the NTG studies. It would be best to consult with the Energy Division who manages these evaluations and are subject matter experts to determine the feasibility of addressing this issue in NTG evaluations.

C. Be sure to include impacts of all rate design elements (such as Fixed Customer Charge, changes to tiered rates, TOU rates) in your answer

1. Impacts of flattening the tiers

The IOUs explain the impact of flattening of the tiers on the incentive for conservation and speculate on the effects on DSM program participation. Generally, the IOUs state that reducing the differential between the lower and upper tiered rates will give customers consuming in the lower tiers additional incentives to participate in DSM programs, while customers consuming in the upper tiers would have less incentives to do so.[7] For example, SCE notes that most NEM customers and those currently enrolled in SCE's Summer Discount Plan are higher-usage customers. SCE speculates that, if lower tier rates rise, low- and medium-use customers may be more likely to participate in these

[6] The net energy savings reflect the impact caused by the EE program after other factors that influenced the customers' decisions are netted out. The gross energy savings reflect the total conservation achieved regardless of what caused it.

[7] PG&E, p. 8. SCE, pp. 6-9. SDG&E, p. 7.

programs in order to manage their bills. However, SCE acknowledges that, while the participation data may illustrate a correlation, it does not establish causation.[8] SDG&E also states that, if a low-use customer does install a solar system, the increase in their electric bill due to the rate reform would likely play an insignificant role in the customers' decision.[9]

ORA acknowledges that these accounts are speculative in nature as specific impacts could not be estimated, as explained in responses to Question 5a. Because the IOUs rate reform proposals increase bills for some customers and reduce them for others, impacts on total DSM program participation are unclear.

2. Impacts of implementing a fixed customer charge

In responses to question 5 in their May 16, 2014 supplemental testimony, the IOUs do not explain the impacts of a fixed customer charge on DSM program participation.

ORA is certain that implementing a fixed charge would decrease the incentive for conservation and DSM program participation by reducing variable rates and the incentive for customers to take action to reduce their bills. The fact that the IOUs largely ignore the impacts of fixed charges in their supplemental testimony is concerning because fixed charges are central in discussions about the extent to which rate structures promote conservation and DSM program participation. ORA further elaborates on this issue in section III C below.

[8] SCE, p. 9.

[9] SDG&E, p. 8.

D. Estimate total load reduction and peak period reduction or load shifting using the "Conservation Tab" of the PG&E RROIR Bill Impact Calculator or an equivalent tool. Use an appropriate elasticity assumption and justify and explain your choice of elasticity assumption.

1. The IOUs total load reduction estimates

The IOUs provide estimates of total load reduction in their supplemental testimony using a variety of elasticity assumptions. SCE uses a fixed elasticity factor of -0.2 and estimates a 1% reduction in load.[10] SDG&E uses an elasticity of -0.1 and shows an *increase* in load of 4 - 5%. SDG&E also estimates a peak load reduction of 3.5% for their proposed default TOU rate for non-CARE customers using an elasticity estimate of –0.2.[11] PG&E uses a variety of elasticity scenarios but reports a load reduction of 3.5% using a constant price elasticity of -0.2.[12]

2. Critiques of the load reduction estimates

The analyses used to determine these impacts rely on multiple assumptions about how customers respond to electricity prices. Because changing any one of these assumptions could change the results significantly, it is important to make them explicit. For example, the method that is used in PG&E's "Conservation Tab" to compare PG&E's current tiered rates to the proposed tiered rates applies the elasticity input and calculates load changes within each tier. However, it is unclear that a customer would respond to changes in the price of each tier. It could be argued that customers may only respond to the change in price of their marginal rate (in other words, the rate of the highest tier paid by a customer). This would change the IOUs results because now the change in the price of tier 1 would only impact the usage of tier 1 customers, and while upper tier customers have use in the lower tiers, their use would only be impacted by the change in

[10] SCE, p. 7.

[11] SDG&E's July 23, 2014 Additional Supplemental Filing, Appendix A.

[12] PG&E's February 28, 2014 testimony, pp. 2-66–2-68.

price of their highest tier. We would expect that, under this assumption, the conservation impacts would be smaller than reported because the increases in lower tier rates will impact less usage.

III. DISCUSSION & ORA'S PROPOSALS

A. Quantify and discuss the impacts of any proposed rate design changes over the period 2015-17 on customer participation and load impact in Energy Efficiency, Demand Response and Distributed Generation programs.

As stated above, ORA is not aware of data that would support concrete estimates of changes to program participation from ORAs proposed TOU rate. Under TOU rates, customers will have higher incentives to invest in energy efficient measures that reduce usage during peak hours and less incentive to invest in measures that reduce usage in off peak hours. To the extent that distributed generation systems produce energy during peak hours, incentives to invest in those systems will rise. How TOU periods are defined will impact this incentive.

B. If data are not currently available, discuss what types of information should be collected and analyzed to quantify the impacts.

As discussed above, SCE and SDG&E provide options for quantifying DSM participation and load impacts. The approach employed will depend on the level of rigor that the Commission and IOUs are willing to undertake. An experimental design study would be appropriate to assess the impact of opt-in (or default) TOU rates on other DSM program participation that can be tracked (such as EE appliance rebates). ORA supports the efforts to measure other DSM program participation within SDG&E's experimental TOU pilot.

ORA also proposes that the IOUs leverage existing net-to-gross (NTG) studies for estimating the impacts of rate reform on EE programs. NTG studies are currently conducted in order to deduce the impact of the EE program itself on the customer's decision to participate. Such studies usually are conducted through customer surveys, and a variety of questions are asked concerning

different motivations for program participation. ORA recommends adding a question concerning the impact of the rate design on program participation. The Commission and/or IOUs should consult with the Energy Division staff overseeing such studies to confirm the feasibility of such an augmentation to existing studies. This approach would be less rigorous than an experimental design but will provide useful information by merely expanding current evaluation activity.

C. Be sure to include impacts of all rate design elements (such as Fixed Customer Charge, changes to tiered rates, TOU rates) in your answer.

1. A fixed customer charge would reduce the incentive for conservation and DSM program participation

ORA does not propose a fixed customer charge, as explained in Chapter 2. The IOUs largely ignore the impacts of fixed charges in their supplemental testimony even though they are relevant in discussions about the extent to which different rate structures promote conservation. A rate structure that is based on volumetric charges and does not have a fixed charge will provide greater incentive for customers to reduce their bills. A lower fixed charge results in slightly higher volumetric rates, which in turn will increase the customer's bill savings from investing in EE and distributed generation and shorten the payback period.

Ensuring customers have proper incentives to participate in EE is particularly important because the Energy Action Plan emphasizes the importance of EE and demand side resources to the achievement of California's climate goals. In fact, the Energy Action Plan lists EE as the most important tool for addressing greenhouse gas emissions in the energy sector in the light of the unprecedented levels of investment that are needed to meet AB 32 goals.[13] As the State pursues this policy, EE savings are becoming increasingly more difficult to attain as the "low-hanging fruit," or highly cost effective investments, have already been made.

[13] Energy Action Plan: 2008 Update, p. 6.

While EE is critical for California to meet its aggressive climate goals and is first in loading order, the level of EE investment depends on customers' willingness and ability to participate. Multiple market barriers exist and evidence suggests that customers are ultimately under-investing in EE. This is commonly referred to as the "EE Gap" and is critical to overcome in order to maximize EE gains.[14] While the size of the gap is debated, the policy implications are large.

California pursues a variety of strategies to address market barriers and achieve high levels of EE savings. The major California energy IOUs collectively spend more than a billion dollars a year on EE programs. These program funds are included in the IOUs revenue requirement and are collected in rates. However, designing the rate structure to promote conservation when possible can increase EE investment at no additional cost to ratepayers. The absence of a fixed customer charge will give customers more opportunity to reduce their energy bills and thus make them more likely to invest in EE. As this action comes at no additional cost to the IOUs revenue requirements, ratepayers as a whole will benefit.

2. The impact of ORA's proposed TOU rates on DSM program participation

Though a TOU rate will reduce peak usage, the impact on EE and distributed generation program participation is not known. However, under TOU rates, customers will have more incentive to invest in energy efficient measures that reduce usage during peak hours and less incentive to invest in measures that reduce usage in off peak hours. To the extent that distributed generation systems produce energy during peak hours, incentives to invest in such systems will rise. As stated above, these impacts may be evaluated in current or future TOU evaluations because participation in many EE and DG programs can be tracked.

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[14] A thorough discussion of the EE Gap:

Gillingham, Kenneth and Karen Palmer. "Bridging the Energy Efficiency Gap: Insights for Policy from Economic Theory and Empirical Analysis" Resources for the Future, January 2013.

D. Estimate total load reduction and peak period reduction or load shifting using the "Conservation Tab" of the PG&E RROIR Bill Impact Calculator or an equivalent tool. Use an appropriate elasticity assumption and justify and explain your choice of elasticity assumption

ORA used PG&E's "Energy Conservation" and "FlattoTOUCalc" tabs to estimate total and peak period load reduction under ORA's proposed TOU rate. The models used in PG&E's calculator are the Brattle Group's 3-period (Summer) and 2-period (Winter) PRISM models.[15] ORA updated the consumption data to that reported in PG&E's E-TOU rate design model. PG&E's assumes an elasticity of substitution of -0.2 and an own-price elasticity of -0.04 in the "Conservation Tab." These are reasonable assumptions given elasticity of substitution estimates reported in recent studies from -0.07 to -0.4 and own-price elasticity assumptions reported from -0.02 to -0.1.[16] In the tables below, ORA also presents a high and low case scenario which assumes the extreme values for the two elasticity inputs.

In the model, ORA uses the rates shown in Table 7-1. The "old" rate is the weighted average of PG&E's January 2014 E-1 and EL-1 rate schedules that PG&E used in its May 16, 2014 supplemental testimony. This is appropriate because the own-price elasticity is estimated to capture the change in overall consumption due to the change in the *average* daily price.[17] The "new" rate is a fully cost-based TOU rate was developed by ORA. Even though the model uses an own-price that is based on a change in average rates, it uses an elasticity of substitution that considers the variation in price by TOU period.

[15] As cited in PG&E's Bill Impact Calculator

[16] Ahmad Faruqui and Sanem Sergici. "Arcturus: International Evidence on Dynamic Pricing."

[17] Ibid. p. 16.

Table 7-1

		Weighted Average Old Rate ($/kWh)	New Summer Rate ($/kWh)	New Winter Rate ($/kWh)
Non-CARE	peak	$0.207	$0.378	
	part-peak	$0.207	$0.255	$0.202
	off-peak	$0.207	$0.188	$0.188
CARE	peak	$0.100	$0.303	
	part-peak	$0.100	$0.179	$0.126
	off-peak	$0.100	$0.112	$0.112

Table 7-2

	Elasticity assumptions used in PG&E Conservation Tab		**Low Case**		**High Case**	
	Substitution Elasticity -0.2 Own-price Elasticity -0.04		**Substitution Elasticity -0.07 Own-price Elasticity -0.02**		**Substitution Elasticity -0.4 Own-price Elasticity -0.1**	
Season	Consumption Change (%)	Change in usage (kWh/season)	Consumption Change (%)	Change in usage (kWh/season)	Consumption Change (%)	Change in usage (kWh/season)
Summer Peak	-11.34%	(396,073,648)	-4.22%	(147,480,267)	-22.00%	(768,321,131)
Summer Partial-Peak	-3.47%	(94,194,294)	-1.32%	(35,956,786)	-7.57%	(205,792,014)
Summer Off-Peak	3.44%	340,300,813	1.09%	108,206,485	6.09%	602,859,105
Summer Total	-0.93%	(149,967,130)	-0.47%	(75,230,568)	-2.30%	(371,254,040)
Winter Partial-Peak	-1.32%	(23,603,769)	-0.44%	(7,896,406)	-2.54%	(45,497,982)
Winter Off-Peak	0.35%	46,361,304	0.14%	19,244,617	0.77%	102,850,241
Winter Total	0.15%	22,757,535	0.08%	11,348,211	0.38%	57,352,259
Annual Total	-0.41%	(127,209,595)	-0.20%	(63,882,357)	-1.01%	(313,901,781)

As presented in Table 7-2 above, ORA estimates the impact of its proposed TOU rate design for PG&E to be about -0.4% of load total consumption and -11% of peak load consumption using a substitution elasticity of -0.2 and an own-price elasticity of -0.04.

IV. CONCLUSIONS

Examining the impacts of rate design changes on DSM program participation is of upmost importance. While there is currently a lack of data

necessary to estimate impacts of ORA's proposed rate on DSM programs, ORA believes that experimental design studies and leveraging current DSM program evaluations we can lend a better understanding of these impacts. However, ORA estimates the impact of our proposed TOU rate for PG&E on conservation incentives and the results show about a 0.4% decrease in load total consumption and an 11% decrease in peak load consumption. Finally, ORA stresses the importance of creating an environment that facilitates DSM adoption and energy conservation when possible in order to support California's climate goals. Implementing a fixed charge on customer bills will reduce conservation incentives, contradictory to this goal.

CHAPTER 8

EDUCATION AND OUTREACH FOR TRANSITION TO TIME OF USE RATES

MICHAELA FLAGG

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CHAPTER 8

EDUCATION AND OUTREACH

MICHAELA FLAGG

I. SUMMARY AND RECOMMENDATIONS

This chapter presents a discussion of the investor-owned utilities' ("IOUs") Education and Outreach plans as proposed in their responses to the third scoping memo's Question 7 in their May 16, 2014 supplemental testimony. Effective outreach and education is necessary when customers face major rate changes so that they can understand the new rate structures in advance and be prepared for potential bill changes. In order to achieve a smooth transition for customers and maximize optional rate program participation, the IOUs and Commission must monitor the performance of the IOUs education and outreach efforts. Given the extensive education and outreach efforts taken in other program areas[1], there is opportunity to leverage and streamline efforts in order to cost effectively achieve the desired results.

ORA recommends:

- Targeting TOU outreach to customers most likely to personally benefit and also in geographic areas where behavioral impacts can produce the greatest benefit to the grid.
- Leveraging existing efforts and funding sources to fund rate reform outreach activities.
- Prioritizing performance metrics and tracking.

ORA agrees with the utilities emphasis on targeting outreach to customers who are vulnerable or whose bills may be significantly impacted by a transition to default TOU rates.

[1] Other program areas include: Energy Efficiency, Low-income, and Demand Response.

II. APPLICANT'S PROPOSALS

A. PG&E

PG&E plans to conduct a multi-channel[2] outreach campaign focusing on building customer awareness of rate reform and education on how to minimize bill impacts. Messaging would include descriptions of changes to the tier structure and monthly service fee in each year of the transition, decreases in the CARE discount, personalized rate comparisons, energy reduction tips and bill management options. PG&E recommends targeting highly impacted customers, hard-to-reach customers and customers enrolled in rate schedules that will be eliminated.

PG&E's planned outreach also includes educating customers on the availability of optional rate plans such as the new non-tiered Time-of-Use ("TOU") rate schedules and SmartRate. PG&E would leverage the current SmartRate targeting model and will focus TOU outreach efforts on customers with the highest propensity to both shift load from peak periods and enroll. However, PG&E will monitor customer enrollment and adjust its targeting approach to mitigate revenue recovery loss resulting from sizable enrollment of high consuming customers.

PG&E has conducted initial research to help understand the most effective rate change messaging, style and tone, outreach channels and level of detail surrounding rate increase notification. Performance metrics are under development but PG&E will track traffic to webpage and program enrollments.

Finally, PG&E proposes tracking expenditures in memorandum or balancing account for 2014–2016. Expenditures after 2016 will be included in next GRC. PG&E estimates total cost to be $13.4–$16.4 million for 2014–2018.[3]

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[2] A multi-channel outreach campaign involves interacting with customers on various platforms such as a website, letter, radio add, email, social media etc.

[3] PG&E, pp. 11–20.

B. SCE

SCE's 2015-2018 outreach plan focuses on the themes of transparency and choice. SCE plans a broad outreach to all customers as well as targeted outreach to those customers who are most likely to experience the largest bill impacts, those who are most likely to benefit from TOU rates, and hard-to-reach customers. This outreach plan would be similar to SCE's education and outreach efforts for summer 2014.

SCE plans to leverage news and media, bill messaging, and a network of community based organizations. All marketing, evaluation, and outreach ("ME&O") channels will direct customers to a central website that will provide specific, easy-to-understand information on available rate options, customer specific rate plan comparisons, links to relevant programs and services, and visual education tools.

SCE proposes a data-driven and targeted approach for its opt-in TOU rate. SCE will aim to attract the maximum number of customers and to gain further insight related to customers' response to TOU rates. SCE will incorporate market research, internal customer engagement data, and lessons learned from previous related customer outreach efforts. SCE currently tracks levels of customer engagement through customer surveys and plans to continue doing so. For the proposed TOU rate, SCE will track information such as enrollment numbers, marketing channels, and customer demographic and geographic data.

SCE has not developed customer outreach and education costs because it is uncertain of significant rate reform details. Rate transition operational costs include system enhancements, customer inquiry, enrollment and de-enrollment processing, and requests for rebill.[4]

[4] SCE's May 16, 2014 Testimony, pp. 11–15. SCE's March 21, 2014 Testimony, Appendix A, pp. A12-A13.

C. SDG&E

SDG&E's education and outreach plans will focus on educating customers about rate reform and providing customers with a comprehensive set of tools to reduce bill impacts. SDG&E proposes a Smart Pricing Program Outreach and Education Plan ("SPP") that will take an Integrated Demand Side Management ("IDSM") approach to customer communication. This outreach plan would build on existing strategies and coordinate pricing plan messages with the ("EE"), demand response ("DR"), Energy Savings Assistance ("ESA"), and Energy Upgrade California ("EUC") campaigns. SDG&E's planned outreach includes a variety of communication strategies and channels and would include reaching out to low-income, hard-to-reach and vulnerable customers as well as local solar contractors to discuss net-energy-metering ("NEM") impacts.

SDG&E plans to track customer feedback quarterly and use online customer insight panels to test new concepts, messages, and offers. SDG&E recommends using evaluation metrics specific to customer awareness and tracking the number of events, presentations, and business/community partners utilized to support E&O.

SDG&E does not request separate funding at this time but proposes the use of a memorandum account to identify existing sources of funding that can be used for communication activities.[5]

III. DISCUSSION & ORA'S RECOMMENDATIONS

ORA largely supports the IOUs education and outreach strategies. ORA appreciates efforts to target highly impacted, low-income and hard-to-reach customers and efforts to present information in an understandable manner through various outreach channels. ORA offers the following recommendations:

A. TOU outreach should be targeted to customers most likely to personally benefit as well as customers in

[5] SDG&E May 16, 2014 Supplemental Testimony, pp. 13–16, and SDG&E March 21, 2014 Direct Testimony of Alex Kim.

geographic areas where behavioral impacts can produce the greatest benefit to the grid.

The IOUs present different strategies for TOU rate outreach. Their strategies include data collection and tracking to target different groups of customers and monitor impacts on revenue recovery. PG&E and SCE propose targeting customers who are likely to benefit from a TOU rate schedule. ORA appreciates using these strategies to gain insight about customer behavior and to increase costumer familiarity with such rate schedules. However, ORA recommends that the IOUs also target customers who have the potential to produce the greatest benefits to the grid. These may be customers in geographically constrained areas such as those impacted by the San Onofre Nuclear Generating Station shutdown.

ORA also recommends that the IOUs emphasize education and outreach for optional TOU rates because doing so is critical in achieving desired participation and response from customers. The IOUs should refer to time variant pricing education and outreach best practices established in the industry thus far. These education and outreach strategies were presented at the July 30–31, 2014 workshop in this proceeding on "Best Practices and Lessons Learned in Time Variant Pricing TVP," held by the Energy Division.[6] For example, PG&E stated that customers responded well when presented with a customized comparison of bill impacts.[7] SDG&E stated that customers are more willing to try a TOU rate when bill protection is available.[8] The Sacramento Municipal Utility District ("SMUD") stated that customers want the industry terms to be explained, specific examples of how to reduce energy use, and to be aware of goals.[9]

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[6] Presentations from the workshop are posted on the Commission's website at: http://www.cpuc.ca.gov/PUC/energy/Electric+Rates/Time+Variant+Pricing_TVP.htm

[7] Maril Pitcock, PG&E presentation at 7/31/2014 workshop, slide 6.

[8] Alex Kim, SDG&E presentation at 7/31/2014 workshop, slide 4.

[9] Jennifer Potter, SMUD presentation at 7/31/2014 workshop, slides 5 & 37.

B. The IOUs should leverage existing outreach efforts and funding sources to fund rate reform outreach activities.

1. Statewide ME&O Activities

The Commission has established a statewide ("SW") ME&O initiative aimed at streamlining outreach in the different customer programs and ensuring a consistent message. This SW ME&O plan includes outreach on general energy education and energy rates. The IOUs and the Commission should leverage these efforts when creating the rate reform education and outreach plans.

The 2013-2014 Energy Efficiency Guidance Decision (D.12-05-015) recognized the importance of ME&O coordination among all demand-side programs and designated Energy Upgrade California as the statewide brand. The IOUs were directed to file standalone applications that outlined their approach to statewide ME&O and expenditures related to all energy education and outreach for all demand-side programs. D.12-05-015 specifically directed the SW ME&O plans to provide general energy education, including information about *the impacts of energy use and energy costs and rates*.[10] D.13-12-038 authorized the SW ME&O plan and designated the California Center for Sustainable Energy ("CCSE") as the statewide implementer.

General energy education about energy use and rates is within the scope of the SW ME&O plan. Thus the IOUs should coordinate their activities with CCSE to include the outreach related elements of rate design awareness that are common statewide. This should include education about opt-in time-varying rate schedules and the environmental benefits that go along with reducing energy use during peak hours. The IOUs should also assure that local education and outreach plans are consistent and complimentary to the SW outreach.

[10] D.12-05-015 OP 117.

2. Leveraging existing funding sources

Through 2012-2014, the IOUs have been authorized over $31 million dollars for California Alternative Rates for Energy ("CARE") program outreach, over $13 million for ESA outreach, and over $50 million dollars for demand response ME&O.[11] The IOUs should not only leverage these strategies and activities but also should identify unused ME&O funding. ORA supports the holistic approach that SDG&E presents and believes that messaging and funding can be streamlined in order to achieve cost effective results.

When the IOUs can produce more detailed estimates of education and outreach costs, they should explicitly identify where efforts and funding can be leveraged from the SW ME&O plan, local DSM program outreach, and outreach funds requested through the general rate case.

C. The IOUs should provide well-defined performance metrics and regularly report performance

The IOUs do not present detailed performance metrics in their supplemental testimony. Performance metrics and tracking should be a priority because the success of education and outreach is critical for a smooth implementation of rate changes and desired participation in optional rate programs. In order to ensure that SW ME&O dollars were spent cost effectively and prudently, D.13-12-038 directed CCSE to develop program performance metrics ("PPM's") for the SW ME&O plan that were to provide concrete indicators to measure performance.[12] The Commission should similarly establish performance metrics for the rate reform education and outreach proposals.

ORA recommends that the following quantitative performance indicators established in D.13-12-038 also be applied to the rate reform outreach proposals:

- Customer exposure to advertising and related cost-benefit analysis.

[11] D.12-08-044 authorized CARE and ESA budgets and D.12-04-045 authorized funding for the IOU's demand response programs.

[12] CCSE filed Advice Letter 49 outlining a list of proposed PPM's on July 21, 2014.

- Website activity: Length of time, number of pages visited, etc.
- Number of featured stories and significant mentions in news media, social-media links/followers, etc.
- Number and quality of key strategic partners.

D.13-12-038 also included energy use and rate-focused performance metrics that are directly applicable to the proposed rate reform outreach. ORA strongly recommends the following metrics:

- Increase in the number of Californians that understand the benefits of modifying their energy use and know where to go to learn more about energy and energy management options.
- Establish a baseline for the number of customers that are seeking information about programs and services from their utility and other providers.
- Establish a baseline for the number of consumers that have checked to see if they are on the best rate for them.[13]

The IOUs should also look to the performance metrics approved for PG&E's non-residential TOU and Peak Day Pricing ("PDP") outreach and education plan in Resolution E-4381. ORA specifically recommends the following metrics:

- Proportion of customers that understand there are peak hours during the day when demand for electricity is the greatest and the cost of providing electricity is more expensive.
- Proportion of customers that have received information about new technologies that can help them manage energy use on the TOU pricing plan (ex. programmable thermostats).
- Proportion of customers that understand that by taking action during these few specific days they can help reduce overall system costs and constraints in supplying energy (e.g. reduce the need to build or

[13] D.13-12-038 at pp. 68–71.

maintain rarely used power plants, reduce the risk of power interruptions, etc.).[14]

ORA also recommends more general metrics such as:

- Percent of high impacted customers that IOU customer service representatives have directly contacted.
- Percent of escalated customer complaints received.
- Proportion of customers that are aware of the rate changes and the potential impacts on their bills.

The IOUs should be able to leverage the evaluation of the SW ME&O, PG&E's non-residential TOU and PDP outreach, and other education and outreach efforts' performance metrics and/or refer to them to tailor more specific metrics to be used for their local rate reform outreach. The IOUs should provide well defined performance metrics and regularly report their education and outreach performance with respect to these metrics to the Commission and stakeholders.

IV. CONCLUSIONS

Effective outreach and education is critical when customers face major rate changes. Customers must understand the new rate structures in advance, be prepared for potential bill changes, and be aware of optional rate schedules. Overall, ORA supports the education and outreach plans the IOUs have presented. However, in order to achieve a smooth transition cost effectively and maximize the benefits of the option rate schedules, ORA recommends the following: 1) The IOUs should geographically target TOU outreach where impacts can produce the greatest benefits to the grid, 2) The IOUs should leverage existing efforts and funding sources, and 3) The IOUs and Commission should establish performance metrics and monitor the performance of the IOUs education and outreach efforts.

[14] Resolution E-4381, January 27, 2011, pp. 14-17.