

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

Order Instituting Rulemaking on the
Commission's Own Motion to Conduct
a Comprehensive Examination of
Investor Owned Electric Utilities'
Residential Rate Structures, the
Transition to Time Varying and
Dynamic Rates, and Other Statutory
Obligations.

Rulemaking 12-06-013
(Filed June 21, 2012)

**REPLY COMMENTS OF
PACIFIC GAS AND ELECTRIC COMPANY (U 39 E)
ON RATE DESIGN PROPOSALS**

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ON RATE DESIGN PROPOSALS**

I. INTRODUCTION AND SUMMARY

Pursuant to the Administrative Law Judge's June 21, 2013 ruling, Pacific Gas and Electric Company (PG&E) provides its reply comments on the various rate reform proposals in this proceeding. As discussed in more detail below, PG&E's comments respond as follows to the parties' July 12, 2013 opening comments:

- As a general matter, the parties' opening comments reaffirm the need for significant reforms of the residential electric rate structure, including legislation authorizing the Commission to approve needed rate design reforms. PG&E supports these comments.
- Although most parties support the need for rate design reform, they do not agree on the details and oppose certain elements of PG&E's rate design reform proposal. As discussed more fully below, most of these disagreements over the details of needed reforms should be resolved in specific utility rate-setting proceedings, where detailed factual evidence on cost causation and the appropriate balance among competing rate design principles (such as cost-based rates and incentives for conservation) can be

considered based on the specific costs and revenue requirements of the utilities.

- Several parties argue that fixed charges and flatter rates reduce “economic incentives” for distributed generation and energy efficiency because they reduce the volumetric price of electricity. No party has provided empirical evidence to support this claim and therefore this argument should be rejected. Also, even if this were true, it violates the core ratemaking principles of cost-based rates and transparency. PG&E has shown that flatter rates and a fixed charge can actually maintain or improve incentives for conservation while more fairly allocating fixed costs to all customers. Utilities and taxpayers already provide significant direct subsidies and support for distributed generation and energy efficiency through the utilities’ energy efficiency programs, the California Solar Initiative, the Self Generation Incentive Program, net energy metering, and the state and federal tax codes.^{1/}
- TURN’s and DRA’s arguments against PG&E’s methodology for defining fixed costs are unsupported by facts or economic theory regarding cost causation. PG&E is prepared to demonstrate in specific rate-setting proceedings that a fixed charge will recover only fixed costs of service. PG&E’s fixed charge proposal not only supports economic efficiency, it also helps mitigate an inequitable rate design that unfairly forces moderate income families with upper tier usage to pay far more than their cost of service in order to subsidize higher income, lower tier users whose rates do not cover their own fixed costs of service.

^{1/} Certain types of distributed generation, like residential rooftop solar, also pay no standby charges and are exempt from non-bypassable charges on their displaced load, as well as being exempt from interconnection fees.

- Although PG&E disagrees with the arguments by Greenlining Institute and Center for Accessible Technology (Greenlining/CforAT) against rate design reform, PG&E welcomes and agrees with Greenlining/CforAT's willingness to consider reforms of the CARE program to provide better targeting of benefits to customers for essential electricity needs. PG&E looks forward to working with Greenlining/CforAT on detailed initiatives in the next CARE proceeding.
- TURN's criticism of PG&E's analysis of income versus electricity usage is contrary to the facts and should be rejected. As PG&E's opening comments demonstrate, there is no significant correlation between electricity usage and income in its service area.
- Although PG&E agrees with TURN's caution about the potential adverse impacts of default TOU rates on residents who rely on air conditioning in the summer, PG&E believes that its proposal for optional TOU rates, coupled with robust customer outreach and education, can allow most of its residential customers to benefit from TOU rates, including those with significant summer air conditioning loads. DRA's claims that PG&E is somehow "reticent" about TOU rates should be rejected. PG&E's rate design proposal includes a broad commitment to customer-driven TOU rates; the only difference is that PG&E opposes DRA's recommendation that customers be defaulted to TOU rates without their affirmative consent.

II. PARTIES BROADLY AGREE ON THE NEED FOR RATE DESIGN REFORM AND THE NEED FOR LEGISLATION TO ENABLE RATE DESIGN REFORM.

A consensus has emerged among most parties in this proceeding that residential electric rate design must be reformed, and that legislation should enable reform. However, it is also clear that the parties disagree on the details of such reforms, including, *inter alia*: (a) what is the right balance between cost-based rates and rates that incent conservation and distributed generation;

(b) how to define fixed costs and whether to recover some or all of those costs through a fixed charge or volumetric rates; (c) whether TOU rates should be opt-in or default; (d) how to better target CARE assistance to qualifying customers while reducing the overall cost of the program; and (e) the length of any transition period for implementing the rate design reforms and educating customers on the reforms.

As discussed in the sections below, PG&E disagrees with the parties' comments which oppose the fixed charges, flatter rates, CARE reforms, and optional TOU rates included in PG&E's rate design reform proposal. However, these disagreements on the details of rate design reform require consideration of the specific facts of each utility's costs and current rate design structures, which cannot be done in a rulemaking proceeding. PG&E agrees with TURN that these details should be deferred to specific utility rate-setting proceedings and proposals. The factual record can be developed in detail in each individual utility's rate-setting proceeding, and the Commission can consider how to strike the balance among its adopted rate design principles based on that record.

III. PG&E'S PROPOSAL FOR A FIXED CHARGE AND FLATTER RATES ACCURATELY REFLECTS THE SCOPE OF PG&E'S FIXED AND VARIABLE COSTS AND MAINTAINS APPROPRIATE INCENTIVES FOR CONSERVATION AND DISTRIBUTED GENERATION

Several parties oppose fixed charges and/or flatter rates based on the theory that fixed charges and flatter rates will discourage customer investments in energy efficiency and distributed generation.^{2/} Some of these parties also oppose fixed charges based on their belief that the fixed charges proposed by the utilities include costs that are not, in fact, fixed.^{3/} Both these arguments should be rejected because they are either not supported by factual evidence or they contradict the Commission's core rate design principles.

^{2/} DRA, Opening Comments, pp. 3, 6, 13, 21; TURN, Opening Comments, pp. 1-2, 29-30, 35- 36; NRDC, Opening Comments, pp. 3, 5; Sierra Club, Opening Comments, pp. 7-8, 13.

^{3/} DRA, Opening Comments, pp. 9-11; TURN, Opening Comments, pp. 49-50.

For example, DRA argues that fixed charges reduce the incentive to conserve because they necessarily reduce the level of volumetric rates, particularly volumetric rates to large users.^{4/} DRA dismisses the routine adoption of fixed charges in other states because, in DRA’s words, those states “are less environmentally conscious, [and] do not promote conservation.”^{5/} Among the states DRA apparently is labeling as “environmentally less conscious” are New York (\$17 fixed charge); Connecticut (\$16 fixed charge); Minnesota (\$7.11 fixed charge), Maryland (\$7.50 fixed charge) and Colorado (\$6.75 fixed) – not a list that most observers would label as having “less environmentally conscious” energy and regulatory policies.^{6/} Moreover, the Sacramento Municipal Utility District (SMUD), which is generally considered to be an environmental leader for its energy efficiency and solar programs, currently has a \$12 customer charge that will be increased to \$20 over the next four years.

TURN concedes that PG&E’s proposal would produce a “net reduction” in energy consumption because reduced consumption by lower tier users would exceed any higher consumption by upper tier users: “TURN does not disagree with this mathematical result.”^{7/} However, TURN claims that, on a theoretical basis, tiered rates create more energy conservation than flat rates, given PG&E’s explicit acknowledgment of a -0.20 price elasticity estimate for residential electricity use.^{8/} TURN also cites the research by Dr. Ahmad Faruqui as well as results of a Colorado utility’s implementation of a two-tiered rate as evidence that tiered rates produce more conservation than flat rates.^{9/} TURN concludes that, “While rate design should reflect cost causation, it is also entirely appropriate for rate design elements to include incentives for conservation.”^{10/}

^{4/} DRA, Opening Comments, p. 13.

^{5/} *Id.*, p. 21.

^{6/} PG&E Rate Design Proposal, Figure 5-2, p. 86.

^{7/} TURN, Opening Comments, pp. 36-37.

^{8/} *Id.*

^{9/} *Id.*

^{10/} *Id.*

NRDC claims that fixed charges “distort the price per kWh” because the current price of electricity “is already below the cost of new renewable energy resources plus new distribution systems (a measure of societal long-run marginal cost...)”^{11/} Sierra Club states that it used a “break even” analysis to demonstrate that “even a \$5 fixed charge negatively impacts incentives for EE and rooftop solar.”^{12/} Sierra Club also argues that flatter rates as proposed by PG&E, the other utilities and even by DRA and TURN “would likely cause a reduction in solar DG PV installations.”^{13/} Sierra Club claims that the PG&E and SCE rate design proposals would “eliminate the economic incentive to install DG PV for nearly all residential customers.”^{14/} According to Sierra Club, this is because “the higher marginal cost of energy consumed in upper tier consumption [sic] makes solar PV more cost competitive, but if tiers are flattened, this effect is diminished.”^{15/}

The Alliance for Solar Choice (TASC), representing rooftop solar PV installers and sellers, asserts that fixed charges “distort energy prices” and have “negative impacts” on incentives for air conditioning upgrades and conservation and energy efficiency.^{16/} According to TASC, it is “essential” that any rate design reform “respects the ‘long term investments that over 150,000 California customers have made in renewable [distributed generation (‘DG’)].”^{17/}

None of these arguments is based on any empirical evidence. For example, DRA’s conclusion that “a fixed charge that shifts costs to smaller users will in fact increase aggregate usage” is not substantiated.^{18/} Although DRA cites Dr. Faruqui’s conclusion that “Block 1 price elasticities might be expected to be lower than Block 2 price elasticities,” DRA provides no

^{11/} NRDC, Opening Comments, p. 5.

^{12/} Sierra Club, Opening Comments, p. 3.

^{13/} *Id.*, p. 8.

^{14/} *Id.*

^{15/} *Id.*, pp.8-9.

^{16/} TASC, Opening Comments, p. 13.

^{17/} *Id.*, p. 3.

^{18/} DRA, Opening Comments, p. 13.

elasticities of either block to substantiate its conclusion. DRA, unlike TURN, also fails to acknowledge the huge discrepancy between Block 1 usage (i.e., current Tier 1 and 2 usage, which comprises about 70 percent of total residential usage) versus Block 2 usage (i.e., current Tier 3 and 4 usage, which is just 30 percent of the total).

First, as TURN concedes, PG&E's non-CARE Tier 1 and Tier 2 usage currently represents a large majority (more than two-thirds) of all non-CARE usage. This means that the ratio between the combined usage in Tiers 1 and 2 and the combined usage in Tiers 3 and 4 is more than 2 to 1. Given that the sales distribution is heavily weighted towards the lower tiers, the price elasticity for Tiers 3 and 4 would need to be very high (i.e., three times or more the elasticity for Tiers 1 and 2) just to keep aggregate usage at the same level if rates are made less steep. Whatever the case, DRA has not done the mathematical calculations to support its assertion, and if it had done so, its calculation would support PG&E's conclusion, not DRA's.^{19/}

PG&E agrees with TURN that having rate structures that provide signals for conservation are both appropriate and important rate design objectives. However, given how "broken" residential rates are today – with very steep tiers that are completely divorced from cost of service – the Commission should give much greater weight to the core rate design objective that supports providing more equitable, accurate, cost-based price signals. Even if adding a customer charge and flattening tiers were to cause an overall increase in residential consumption, considerations of pricing efficiency and fairness would strongly argue they should be implemented anyway, and as soon as possible under a reasonable transition plan. But, that is not the case – PG&E has provided evidence that its proposed rate changes will *reduce* overall

^{19/} Also, DRA's claim that a customer charge will reduce the incentive to conserve because it necessarily reduces volumetric rates does not necessarily follow. If, as Professor Ito's results strongly suggest, customers respond to average rates, the implementation of a customer charge will result in lower average rates for upper-tier users (as DRA points out) but also *higher* average rates for lower-tier users (as DRA fails to mention). Thus, even as upper-tier users will have a weaker incentive to conserve, lower-tier users will have a *stronger* incentive to do so. Which of these offsetting effects dominates the other is an empirical question that depends on the specifics of the situation – the size of the customer charge, the amounts each tiered rate decreases, the distribution of sales by tier and the price elasticities.

residential consumption. Consistent with TURN's comments, PG&E has analyzed and provided the energy conservation impacts of its illustrative two-tiered non-TOU rate structure under a variety of elasticity estimates, including the estimates used by Sierra Club in its proposal. As reported in PG&E's Opening Comments, this analysis shows that *moving from PG&E's existing four-tiered rate structure to a two-tiered non-TOU rate with a fixed charge would result in less residential usage overall (i.e., would be pro-conservation), given that the vast majority of PG&E's residential usage is in the lower two tiers.*^{20/} In contrast and as also pointed out in PG&E's opening comments, NRDC and Sierra Club have provided no published (peer reviewed) studies supporting their claim that flatter tiers would *reduce* energy conservation, given the current rates and usage in PG&E's territory.^{21/} It is important to note that PG&E had CPUC-approved two-tiered rates with a modest 1.15-to-1 ratio between Tier 2 and Tier 1 prices from the mid-1990s through mid-2001, with no detrimental impact to energy conservation.

Second and more importantly, all these arguments on the impact of flatter, cost-based rates and fixed charges are based on the faulty policy principle that residential electric rates should *not* be cost-based, but instead should be set at some arbitrary, artificial level in order to provide increased "incentives" (i.e., subsidies) to DG units that are less economic to customers installing them when priced at the actual cost of electricity incurred by the utility. PG&E supports public purpose programs such as the California Solar Initiative, as well as tax credits that directly and transparently incent energy conservation and renewable distributed generation at a reasonable cost. However, PG&E opposes the use of hidden subsidies in residential rates as a justification for an overly complex rate design structure that consistently and generally charges large numbers of low and moderate income residential customers at rates significantly above cost.

^{20/} PG&E, Opening Comments, pp. 9-11.

^{21/} *Id.*, pp. 8, 13.

Sierra Club’s “break-even” analysis proves the fallacy of objections to flatter rates and fixed charges. A “break-even” analysis by definition is simply a comparison of the economic viability of pricing one product at its cost and a reasonable return compared to the market prices of alternative, substitute products. In this case, all that Sierra Club’s analysis “proves” is that investment in a rooftop solar PV facility or a more energy efficient central air conditioning (AC) unit is rendered less cost-effective if utility electricity prices to customers are reduced in order to more accurately reflect cost.^{22/} This is an economic “truism” that requires no elaborate analysis. The fact is, that by pricing electricity above its cost, the *current* residential electric rate design structure forces consumers to pay prices for electricity significantly above cost, resulting in investments in alternative energy facilities appearing to be more economic than they actually are – a gross economic inefficiency. This gross economic inefficiency is compounded by arguments that “incentives” are needed to reflect “external” costs or “societal” benefits when such externalities are either already intended to be reflected through other costs included in residential electric rates, such as the costs of compliance with California’s greenhouse gas emissions regulations or the costs of California’s energy efficiency rebates and appliance standards for more efficient AC units, or they are compensated through some other means (e.g., tax incentives).

The simple fact is that subsidies through rate design for those installing rooftop solar or other resources are paid for by other customers through higher rates. Using residential rate design to subsidize rooftop solar discriminates against the vast majority of residential customers who do not (or cannot afford to) install solar.^{23/}

^{22/} Sierra Club seems to focus only on the narrow issue of which rate design structure will maximize the incentive for customers to install solar units, ignoring other important rate design objectives such as having equitable rates that appropriately reflect cost of service (which is particularly important given how far above costs upper-tier rates have grown). Taking Sierra Club’s argument to its logical extreme, why not charge upper-tier usage \$1.00 per kWh, or even \$10 per kWh, if fairness and cost of service do not matter and the only objective is to provide the maximum incentive for customers to install solar?

^{23/} Pub. Util. Code Section 453.

DRA and TURN also argue that, regardless of the policy merits of a fixed charge, PG&E and the other utilities have not used a correct methodology for classifying costs as fixed versus variable. For example, DRA argues that *only* “revenue cycle services” costs such as metering and billing are properly classified as “fixed costs,” and that costs such as the final line transformer and service drop are not “fixed” because they vary with design demand.^{24/} To support its position, DRA provided a cost curve it claims demonstrates that the costs that do not vary with volumetric usage are only one-third of what PG&E claims are “fixed costs.”^{25/} DRA also argues that the costs of energy programs that are funded by customers without regard to their participation – such as energy efficiency and low income programs – are not “fixed” because the costs vary based on the number of customers.^{26/} Similarly, TURN argues that the calculation of “fixed costs” has been “fiercely debated” in general rate cases, and therefore the Commission should not make any decisions in this proceeding on how to calculate “fixed costs” for purposes of designing fixed charges.^{27/}

DRA’s exclusion of transformer and service drop costs from the definition of “fixed costs” is not supported by the factual characteristics of these costs or by the definition of fixed costs used by other utilities which employ fixed charges, such as the Sacramento Municipal Utility District (SMUD). In support of its decision in 2011 to increase its monthly fixed charge from \$10 to \$20 over a five-year period, SMUD conducted a study that concluded that its fixed costs were about \$25 per month. These costs included: meter equipment, billing, customer service (e.g., meter reading, call centers) and certain distribution facilities (poles, lines and transformers).^{28/} The fact that the size of service drops and final line transformers can vary

^{24/} DRA, Opening Comments, p. 9.

^{25/} *Id.*, pp. 10- 11.

^{26/} *Id.*, p. 16.

^{27/} TURN, Opening Comments, pp. 49-50.

^{28/} See SMUD General Manager’s Report, 2011, Addendum No. 2 (at pp.6-7).
<https://www.smud.org/en/about-smud/company-information/document-library/documents/GM-Rate-Report-Addendum-2-06-16-11.pdf>

based on design demand (i.e., that larger capacity wires and transformers are needed for a mansion than for a cottage) argues for having either a demand charge or, in the alternative, a fixed charge with multiple discrete levels – not for rolling these costs into energy charges. Moreover, only a small portion of the costs of transformers and line drops to residential customers vary by demand, and variations due to distance and geography do not make the costs “variable.” Clearly, every customer needs a service drop regardless of the mix of end-use loads in its dwelling, so these costs are largely fixed, per-customer costs, driven by the mere presence of a customer that needs to be served.^{29/}

TURN’s argument that the definition of “fixed costs” is “fiercely debated” and should not be decided in this proceeding, is a procedural argument, not a substantive argument. PG&E notes that fixed charges have *not* actually been “fiercely debated” in the context of *non*-residential rate design. These charges exist on every single one of PG&E’s non-residential rate schedules, and they generally have existed for decades with little controversy. While their levels may be debated, their existence is not. Fixed charges are a well-accepted means for collecting fixed costs of service on these schedules. Nevertheless, PG&E agrees with TURN that the utilities bear the burden of demonstrating with record evidence that the fixed costs proposed to be included in their fixed charges are in fact fixed in nature. PG&E also agrees that this showing is not appropriate for this rulemaking proceeding, but should be made and considered in the utilities’ specific rate-setting cases. PG&E is prepared to make a full evidentiary showing on the record in such a rate-setting case to support its definition of fixed costs.

DRA and Greenlining/CforAT also raised the concern that implementing a fixed customer charge might contradict the findings from the Customer Survey conducted in this proceeding. PG&E considered the Customer Survey findings while developing its rate design proposal, and notes that the Customer Survey findings are not intended to dictate optimal rate

^{29/} Arguments by parties that, in the long run, all costs are variable, should similarly be given little weight. Once a service drop is installed to a customer’s dwelling, for example, it stays in place for decades. This is a fixed cost by any reasonable interpretation, and should be considered so in designing appropriate cost-based rates.

design, but to provide input to rate design proposals and inform the transition to whatever rate structure will eventually be implemented. In addition, the Customer Survey findings were helpful for confirming the principle that rates should provide choice, stability and be simple to understand, however, these findings must be balanced with other rate-making principles, including the core principle that rates should be cost-based.

The fact that customers overall tended to prefer rate plan options without a fixed charge underscores the importance of appropriate communication during the transition to a new rate structure that includes fixed charges. Communication on fixed charges should focus on the benefits of fixed charges to customers, including more cost-based and fair rates for everyone. In addition, further insights on customer perceptions of fixed charges can be gained from the widespread adoption of fixed charges in the rates of electric and gas utilities and other utilities (water, telecommunications, etc.) across the country.^{30/}

PG&E's rate design proposal also reflects this finding by recommending an appropriate timeframe for phase-in of the fixed charge to manage bill impacts, and that all rates, including the standard rate, include a fixed charge to reduce the disparity that would happen if fixed charges are only applied to optional rates.

IV. PG&E WELCOMES AND AGREES WITH GREENLINING/CFORAT'S WILLINGNESS TO CONSIDER REFORMS OF THE CARE PROGRAM

Greenlining/CforAT continue to oppose reducing and flattening residential rate tiers as well as adoption of fixed charges.^{31/} PG&E has addressed Greenlining/CforAT's arguments earlier in this proceeding or elsewhere in these comments.^{32/}

^{30/} See PG&E Rate Design Proposal, pp. 83-88.

^{31/} Greenlining/CforAT, Opening Comments, p. 1.

^{32/} See PG&E Rate Design Proposal, pp. 30-43; PG&E Opening Comments, pp. 13-19. DRA in its opening comments similarly objects to proposals to reduce the current effective CARE discount, arguing that it does not matter that the energy bill is a small percentage of household income. (DRA, Opening Comments, pp. 44-45, 56.) DRA then inexplicably agrees that 30% is an appropriate average CARE discount for SCE and SDG&E customers, but not for PG&E customers, which DRA argues should receive at least a 35% discount. (*Id.*, pp. 38, 41.) Given that PG&E's current average effective

However, Greenlining/CforAT also address the potential for reforms of the CARE program and how the design of CARE rates and the CARE discount affect the affordability of electricity in California.^{33/} Although PG&E does not agree with all the policy conclusions Greenlining/CforAT draw from the facts on the CARE program, PG&E welcomes Greenlining/CforAT's willingness to consider specific reforms of the CARE program that would more effectively target CARE assistance to the most needy customers and families, based on updating needs assessments and other fact-based evaluations of the current design of the program. Specifically, PG&E believes that variations in income eligibility requirements for CARE recipients are worthy of consideration.

PG&E looks forward to working with Greenlining/CforAT in the next CARE proceeding to consider CARE reforms that more effectively target CARE assistance while reducing the overall financial burden of the program on non-CARE customers.

V. TURN'S CRITICISM OF PG&E'S INCOME VS. USAGE ANALYSIS IS CONTRARY TO THE FACTS AND SHOULD BE REJECTED

TURN claims that PG&E income vs. usage analysis focused only on RASS (Residential Appliance Saturation Survey) data, while TURN used RASS data, utility data, and demographic analysis.^{34/} TURN asserts that PG&E's overall usage correlations coefficient of 0.33 masks the relationship between income and usage when climate zone differences are adjusted.^{35/} According to TURN's analysis, there is a very strong correlation between average rates and median incomes in cities both in PG&E's and SCE's service territories.

TURN's methodology and conclusion are unsupportable and inaccurate. In TURN's analysis, it used only a handful of cities that severely misrepresents PG&E's residential

CARE discount is 47%, DRA's objection to measures to reduce that discount to 30% - 35% needs further explanation.

^{33/} Greenlining, Opening Comments, pp. 22-23.

^{34/} TURN, Opening Comments, pp. 44-46.

^{35/} *Id.*

customers. Specifically, TURN chose only the top 15 and bottom 15 cities based on an average rate paid by non-CARE residential electric customers. These cities have an insignificant number of households compared to the rest of the cities served by PG&E.^{36/} Moreover, as described in detail in PG&E's Opening Comments, calculating a correlation between *city-level median* income and *average* rate is an indirect, aggregate approach that is not valid.^{37/} Rather, correlation should be calculated between usage and income *directly* and *at the customer level*, not the city level. Using average rates as a proxy for average usage is also not necessary, since usage data are available directly, and at the individual customer level.^{38/} Also, TURN did not recognize that there is a large variation of usage (or average rate, which is TURN's imperfect proxy for usage) across customers within the cities themselves. Overall, TURN's indirect approach to this analysis is not invalid, and its resulting comments on correlation are inaccurate.

PG&E has calculated correlations between income and usage from a large sample of RASS customers representing cities throughout its territory, and has adequately covered all climate zones and customers of diverse income levels. Unlike TURN, PG&E did not select only a handful of cities to analyze. PG&E also calculated correlations between annual usage and income at the customer level for different climate zones individually and, in order to understand this in depth, PG&E also studied correlations of non-CARE and CARE customers separately. The correlations were found low for both CARE and non-CARE customers across the PG&E service territory. Table 1 below summarizes PG&E's results:

^{36/} These 30 cities represent *just 2 percent* of the population of all the cities served by PG&E. (PG&E, Opening Comments, p.14, footnote 35.)

^{37/} *Id.*, pp. 13-19.

^{38/} TURN apparently used average rates as a proxy for usage since average rate increases with usage. However, because tier boundaries vary by climate zone, average rates increase faster with usage in more temperate climate zones where baseline quantities (which define tier boundaries) are lower. Thus, an average rate is an imperfect proxy for usage.

Table 1
Income-to-Usage Correlation By Climate Zone

Area	All Customers	Non-CARE	CARE
Coast (Q, T, V)	0.30	0.29	0.26
Hills (X)	0.38	0.33	0.42
Inner Valley (S, P)	0.33	0.16	0.28
Outer Valley (W, R, Y, Z)	0.26	0.12	0.28

Given that a perfect correlation would be a 1.0 figure, and no correlation would be a 0.0 result, Table 1 shows that, based on PG&E’s analysis, *the correlation of usage to income is low in all parts of PG&E’s service area, and for both CARE and non-CARE customers.* The Commission should find that TURN’s criticism of PG&E’s income vs. usage analysis is unsupported.

VI. PG&E’S OPTIONAL TOU RATE OFFERING WILL PROVIDE BENEFITS TO MOST RESIDENTIAL CUSTOMERS

DRA asserts that the IOUs appear to place greater importance on fixed cost recovery than on transitioning customers to time-varying (TOU) rates.^{39/} Along with DRA, PG&E supports TOU rates as part of the solution for reforming rate design to meet the principles adopted by the Commission in this proceeding. However, PG&E does not agree that a major purpose of this rulemaking is to default *all* residential customers to time-varying rates as quickly as possible, and without customers’ affirmative choice. DRA appears to consider maximizing residential enrollment in TOU rates as quickly as possible to be the primary objective of rate design reform. However, PG&E’s rate design reform proposal aims to balance *all* of the Commission’s rate design principles, including the goal of providing customers with choice, simplicity and stability.

^{39/} DRA, Opening Comments, p. 6.

To this end, transitioning a significant number (not all) of residential customers to TOU rates with an opt-in approach will better balance *all* of the rate design principles in this rulemaking. PG&E is in the process of transitioning its entire small/medium business segment to TOU rates by default, employing significant education and outreach including one-to-one contact with those most impacted. Based on the experience with small/medium business customers, applying a default approach with residential customers (including similar one-to-one contact with most impacted customers) would not only be very time-consuming but would be prohibitively expensive and threaten the core customer-centric principles in this rulemaking – namely, that rates should provide affirmative *choice* and stability.

PG&E’s experience with customer education and outreach also demonstrates that residential customers who opt-in to time-varying rate plans are more engaged and more satisfied than those who are not given a choice. For example, currently (as of July 15, 2013) PG&E’s opt-in SmartRate residential Critical Peak Pricing program has over 120,000 enrolled customers – well over PG&E’s goal of 100,000 by year-end 2013. This growth has already made SmartRate the largest opt-in residential time-varying rate program in the country, and perhaps the world – and the program is expected to continue to grow. Satisfaction among customers in this program is consistently higher than for customers who have not opted in to an alternate rate. Load impacts have also been significant and sustainable. Customer “churn” has been low, meaning most customers stay on SmartRate once enrolled. PG&E plans to leverage learning from the SmartRate program, along with online tools, to build a significant and satisfied residential opt-in TOU customer base that can provide the load shifting that TOU rates are designed to encourage.

DRA, CLECA, SEIA, Vote Solar and EDF all have referenced the very recently released preliminary results of SMUD’s Smart Pricing Option pilot.^{40/} PG&E applauds SMUD’s efforts to conduct the empirical analysis required to understand the best way to engage their residential

^{40/} See Freeman, Sullivan Co., and Ms. Jennifer Potter, Sacramento Municipal Utility District: “Interim Results from SMUD’s Smart Pricing Options Pilot,” CRRI 26th Annual Western Conference, June 19-21, 2013.

customer base in time-varying rates. The SMUD pilot is one of many residential time-varying rate pilots that have been conducted over the past several years in the U.S., and probably has one of the best empirical designs assessing different enrollment approaches, as well as having been one of the first to show aggregate load impacts. Although certain pilots might be able to provide valuable insights to PG&E's approach to transitioning customers to time-varying rates, there are significant limitations. Great care must be taken when attempting to apply insights from others' pilots – such as to consider study design and how differences in PG&E's service territory such as climate zones, demographics and regulatory construct might change the outcome of the pilot approach. Therefore, it is premature to conclude that there is sufficient evidence from these pilots that defaulting residential customers to time-varying rates is the best approach for the California IOUs. PG&E is reviewing SMUD's preliminary results and is looking forward to the release of its final detailed report on findings to date, as well as additional findings for the full 2013 season. Some of the important outstanding questions are:^{41/}

1. What was the role of enabling technology in the default groups?

SMUD's research design included two opt-in groups; one that was offered an In-Home Device (IHD) and one that was not. The preliminary results show significantly more load impacts from the opt-in group that was offered an IHD. However, all of the default groups were offered an IHD, so there was no statistical comparison of how an IHD impacted results for defaulted customers.

2. What was the cost of offering an IHD for the default group?

Default is considered to be an inexpensive method to engage customers on rates compared to an opt-in approach that employs direct-to-consumer marketing. However, there were individual consumer marketing costs for SMUD's default groups, including the cost of the IHD for those customers that accepted the offer. Depending on the cost of the IHD, this could

^{41/} PG&E understands that SMUD expects to report final results of its pilot once summer 2013 data is included and analyzed.

results in large “direct” marketing costs in a default approach, especially if applied to PG&E’s 4.6 million customers.

3. How do the results for a fairly homogenous, relatively small customer base in a single climate zone with extreme summer temperatures apply to PG&E’s large customer base spanning 10 climate zones, many of which do not have extreme summer temperatures?

If the SMUD pilot results hold true, and defaulting customers were a less expensive and more effective way to achieve aggregate load reduction and satisfied customers, then PG&E would be willing to consider a similar pilot in one of its hot climate zones, in order to determine whether the SMUD results can be replicated elsewhere.

4. Are the results sustainable?

SMUD’s preliminary results reported on activity for summer, 2012. Further results on the 2013 season can help determine whether preliminary results are repeatable and might be sustainable.

In summary, PG&E supports transitioning residential customers to time-of-use rates, and plans to fully understand implications from the time-varying-rate pilots completed and underway, and how those implications apply to PG&E’s residential customers. In addition, PG&E’s proposed approach to transition a significant number (not all) of residential customers to TOU rates with an opt-in approach will better balance *all* rate design principles in this rulemaking.

VII. PG&E’S RATE DESIGN PROPOSAL MODERATES BILL VOLATILITY BETTER THAN TURN’S PROPOSAL

TURN argues that its proposed tiered rates would moderate summer bill volatility as compared to present rates.^{42/} While this is true, TURN’s rate structure is not as effective as PG&E’s two-tiered non-TOU rate structure in reducing current bill volatility. Figure 1 below shows that if usage doubled (i.e., increased 100 percent) due to a weather event (such as a heat wave), under the current rate structure, the customer’s bill would increase disproportionately –

^{42/} TURN, Opening Comments, p. 18.

by 160 percent. Under PG&E's new proposed rate structure, however, the resulting bill increases would be approximately 100 percent, consistent with the usage increase. In contrast, TURN's proposed rate structure would result in a bill increase of about 130 percent. While this is an improvement over the 160 percent increase under current rates, TURN's proposal would still penalize customers with an additional 30% bill increase (relative to the more appropriate proportional increase of 100 percent) for their increase in usage from a weather event beyond their control.^{43/}

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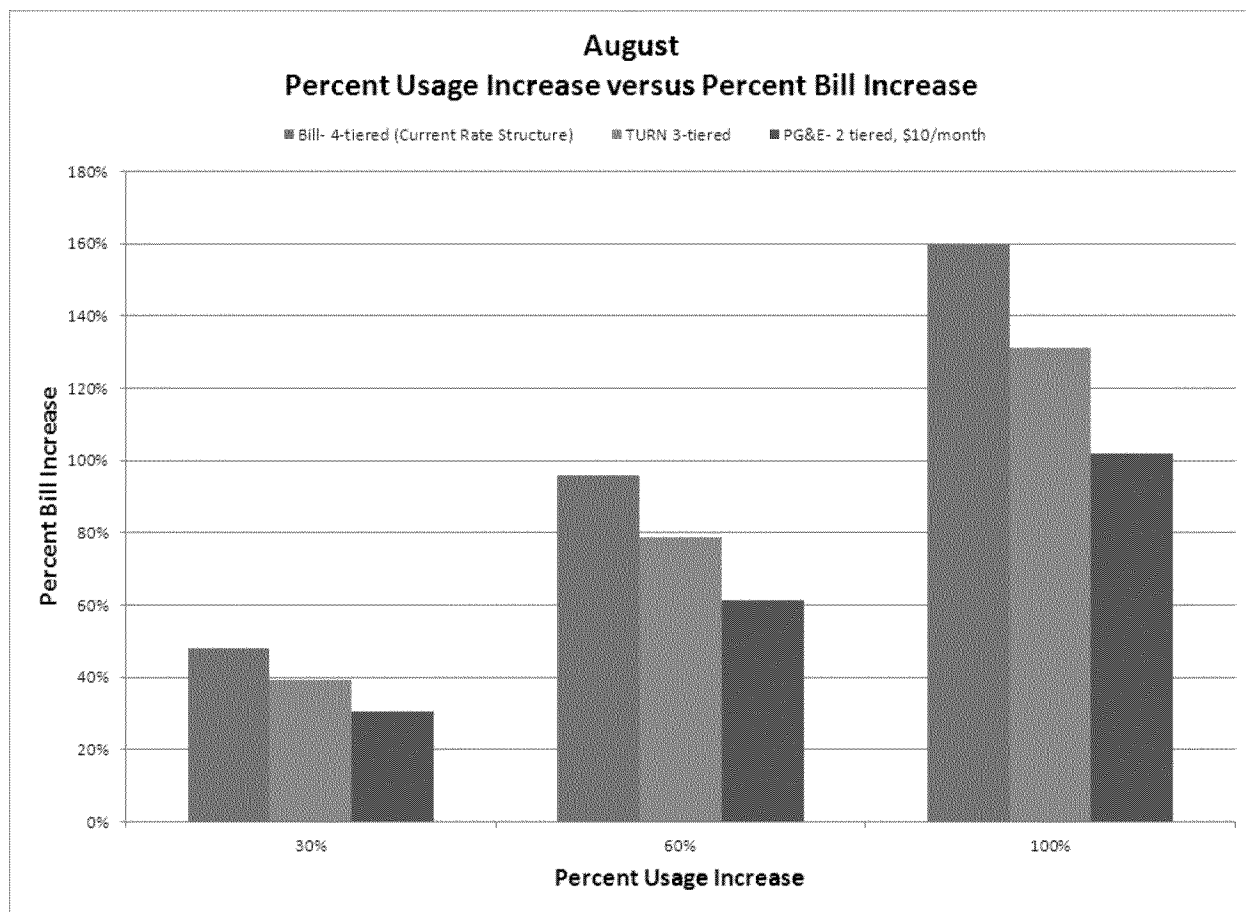
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^{43/} With respect to TOU rates, TURN claims that PG&E's proposed TOU rates would slightly increase bill volatility relative to existing tiered rates. But since PG&E's proposal is for *opt-in* TOU rates, any customer concerned with summer bill volatility can simply remain on tiered rates. Moreover, if annual savings are possible on TOU rates, that consideration may offset any concern about summer bill volatility. In any event, it is the customer's decision to make, and under PG&E's proposal the customer would be making an affirmative choice to take TOU rates.

Figure 1

Bill Volatility Comparison of TURN's Non-TOU Rate Structure with PG&E's Non-TOU Rate Structure



VIII. CONCLUSION

PG&E appreciates the thoughtful and extensive comments by the parties to this proceeding. Although parties disagree on the specific details and right balance to strike for residential electric rate design reform, all parties generally agree on the need for reform and the need for the Commission to have authority to consider proposals for reform consistent with the broad rate design principles adopted in this proceeding.

To that end, PG&E recommends that the Commission move forward to conclude this rulemaking proceeding by adopting a policy decision that endorses the overall rate design principles identified in this proceeding. The Commission's decision should authorize the utilities

to file individual rate-setting applications to implement proposed rate design reforms consistent with changes in the Commission's legislative authority that may be adopted this year.

The Commission should not prejudge how to apply the rate design principles to specific utility rate-setting proposals, but should recognize that the utilities bear the burden of demonstrating, with record evidence, that specific changes in rate design are just, reasonable and in the public interest. Factual issues, such as what utility costs are fixed costs and what level of residential fixed charges, if any, are reasonable, should be the subject of the individual rate-setting proceedings. Similarly, factual issues regarding how rates should be made more flat in order to more accurately reflect cost – while maintaining reasonable incentives for conservation and distributed generation – should be the subject of the rate-setting proceedings. Finally, issues regarding how to improve and reform the CARE program in order to reduce the excessive costs of the program while maintaining and improving the targeting of assistance to needy customers, should be considered in the utilities' next CARE applications, consistent with the goals for more equitable, cost-based rates in this proceeding.

Respectfully Submitted,

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