PG&E's Inclining Block Electric Rates for Residential Customers: Toward a More Equitable Rate Design

by

Dennis M. Keane
Pacific Gas and Electric Company

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1. Introduction

Since the 1970s, California investor-owned utilities (IOUs) have had inclining block rate (IBR) structures for electricity where higher rates are charged for consumption in higher tiers. For decades, though, there were generally just two tiers.[1] During the energy crisis, however, this changed dramatically. At the height of the crisis in 2001, state legislators enacted Assembly Bill (AB) 1X, which mandated three additional higher tiers of electric rates -- five tiers in all -- with the rates frozen for the two lowest tiers at then-current levels. At about the same time, state regulators froze rates for PG&E's low-income customers. The combination of these two actions has led, over the last decade, to soaring upper-tier rates reflecting prices far in excess of cost of service.

For Pacific Gas and Electric Company (PG&E), for example, Tier 5 rates reached a level of 44 cents per kWh during the Summer of 2009, leading to very high bill increases for a segment of customers during extreme weather months. Subsequently, they reached a level of nearly 50 cents per kWh in early 2010, before PG&E's Summer Rate Relief Application dropped the highest-tier rate to 40 cents per kWh in June 2010.

This paper describes how upper-tier rates came to reach these extremely high levels, and the efforts PG&E has made to address this serious problem and bring upper-tier rates down to more reasonable levels within the confines of legislative restrictions constraining residential rate design. In particular, the paper describes in detail the proposals PG&E made in Phase 2 of its 2011 General Rate Case (GRC) to alleviate the high upper-tier rate problem, the opposition thereto, and the ultimate rates adopted by the California Public Utilities Commission (CPUC).

2. Historical Background

Since 1975, with the enactment of legislation creating "lifeline" rates, California IOUs have had inclining block rates for residential customers. Inclining block rates, which charge households increasingly higher rates as their electricity consumption moves into progressively higher usage tiers, were originally motivated by a desire to help lower-income customers have certain amounts of affordable electricity (in Tier 1, where the rate

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1 At various times between 1975 and 2001, PG&E's rate structures have also included a third tier, though this was not the norm.

was kept below the average cost of electricity), and to encourage conservation. The first tier, or lifeline amount of usage, later evolved to become "baseline" quantities (BQs), which varied by season and the household's climate zone. For the most part, the utilities offered two tiers, with the upper-tier rate set just moderately above the lower-tier rate.

In the late 1980s, Senate Bill (SB) 987 created the Low-Income Rate Assistance (LIRA) program, later renamed the California Alternate Rates for Energy (CARE) program, a separate and distinct rate schedule for qualifying low-income households. CARE rates were similarly tiered – but with each tier's rates discounted below those of the corresponding non-CARE rates. Initially, in 1989, the CARE rate discounts were set at 15 percent, but later rose to 20 percent in 2001 in response to the energy crisis.

From around 1990 up until the California energy crisis hit in early 2001, PG&E's increasing block rate structures for both non-CARE and CARE electric rates had relatively modest levels of steepness (i.e., ratios of Tier 2 to Tier 1 rates), ranging from 1.75 in the late 1980s to 1.15 in 2001. They also had relatively modest levels of CARE discounts, 20 percent or less. For example, as Figure 1 shows, at the beginning of 2001 the non-CARE Tier 1 and 2 rates were about 10 and 12 cents per kWh, respectively, and the corresponding CARE Tier 1 and 2 rates were about 9 and 10 cents per kWh.

But the energy crisis dramatically changed this situation. Due to rapidly rising costs and the inability of the California IOUs to cover those costs, the legislature enacted emergency legislation, Assembly Bill 1X (AB 1X), which permitted previously frozen rate levels to increase. As a result of this legislation, the CPUC replaced the existing two-tier rate structure for non-CARE customers with a five-tier design.[2] In addition, the rates for the first two tiers were frozen at their levels as of February 1, 2001. PG&E's CARE customers continued to have a two-tier rate structure, but CARE Tier 1 and 2 rates were also frozen at their July 1, 2001 levels, after increasing the CARE discount from 15 to 20 percent. These frozen rates, for all CARE customers and for non-CARE customers with consumption in Tiers 1 and 2, remained in place for nearly a decade, through 2009.

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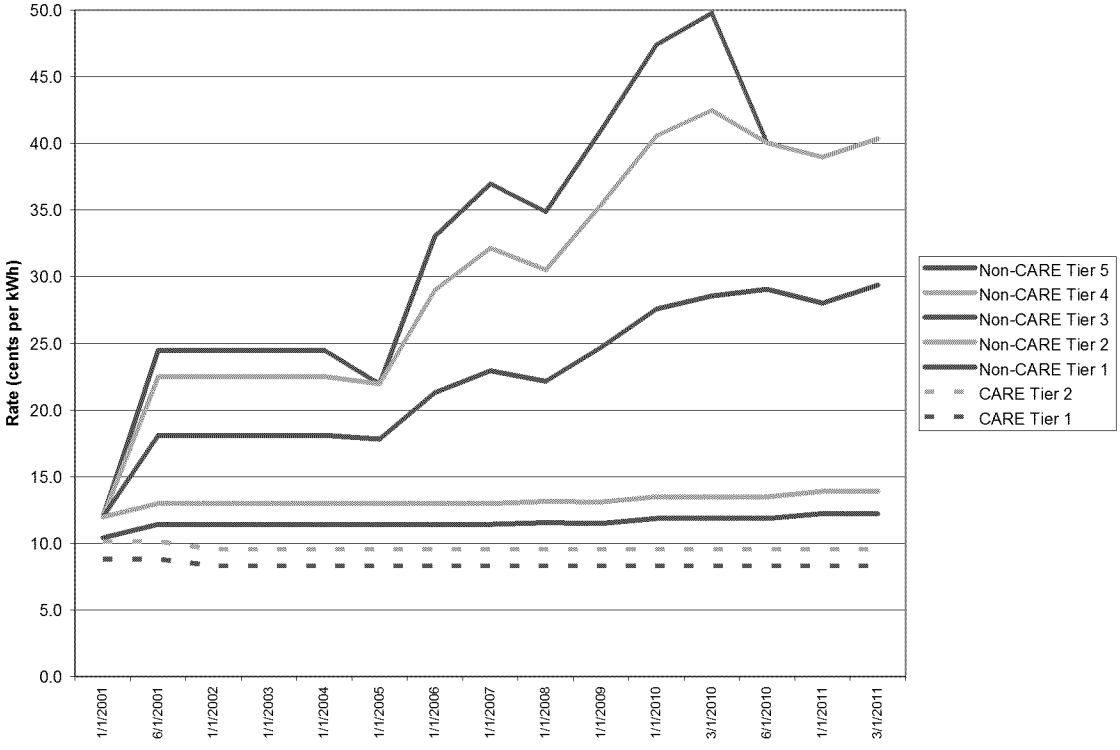
2 A household's usage is divided into tiers based upon its monthly BQ. The Tier 1 rate applies to a household's usage between zero and 100 percent of its BQ, the Tier 2 rate applies to usage between 100 and 130 percent of BQ, the Tier 3 rate applies to usage between 130 and 200 percent of BQ, the Tier 4 rate applies to usage between 200 and 300 percent of BQ, and the Tier 5 rate applies to all usage above 300 percent of BQ.

Figure 1
PG&E Residential Rate Trends Since 2001



This combination of legislative and regulatory directives or results essentially created a set of "protected" sales -- all CARE sales plus non-CARE Tier 1 and 2 sales – which were immune from virtually all rate increases for nearly a decade.[3] For PG&E, these protected sales represented a very large share of its total residential sales during this period, about 75 percent. Consequently, just one-quarter of the residential sales bore the brunt of virtually every rate increase during this nine-year period. So a revenue requirement increase that might have raised residential rates on average by 1 cent per kWh instead had no effect at all on CARE rates or non-CARE Tier 1 and 2 rates, but raised upper-tier (i.e., Tier 3 4 and 5) non-CARE rates by an average of 4 cents per kWh.

Over time, as costs rose between 2001 and 2009, the restrictions on raising rates to three-quarters of the residential sales not surprisingly led to rapidly rising rates for the

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3 There was one exception to this rate freeze on non-CARE Tier 1 and 2 rates. In August 2006, Senate Bill 1 was enacted, which permitted increases to Tier 1 and 2 rates to help fund the California Solar Initiative (CSI). However, because the amounts of CSI funding are small relative to the revenue requirement, the CSI-related increase to Tier 1 and 2 rates was very small (less than 1 percent), and first took effect for PG&E on January 1, 2008.

unprotected one-quarter of sales in the upper tiers. Figure 1 shows the dramatic increases in the Tier 3, 4, and 5 rates. During that 9-year period, the Tier 5 rate nearly doubled, increasing from 24.5 cents per kWh at the height of the energy crisis to 44.3 cents per kWh at the end of 2009. What in 2001 was a comparatively small rate differential between the highest and lowest tier rates, grew into an enormous rate differential by 2009 when the top tier rate hit 44.1 cents per kWh.

These skyrocketing upper-tier rates can cause very high bills when combined with high usage during months with extreme temperatures. In July and August of 2009, a period of sustained high temperatures in California's Central Valley that drove usage into the upper tiers, a "rate revolt" occurred. Hundreds of angry customers in the Fresno and Bakersfield areas appeared at public meetings protesting soaring electric bills[4] and writing complaint letters to PG&E and the CPUC.[5]

Because of the non-linearity of the rate structure, with extremely high upper-tier rates, bills were also very volatile from month to month. As customers move from lower to higher tiers, their bills increase by a much greater proportion than their kWh consumption increases, particularly when there are large differentials between the rates in the various tiers. Table 1, which shows bill calculations for an illustrative Kern County (Bakersfield area) household, demonstrates the problem. In June 2009, a month with reasonably mild summer temperatures, the average Kern County household consumed 842 kWh. In July, though, there was extensive hot weather, and the average household consumption increased by 38 percent, to 1,165 kWh.[6] Table 1 calculates bills at the Summer 2009 rates for a household consuming twice those average amounts, or 1,683 kWh in June and 2,331 kWh in July (also a 38 percent increase).

The table shows the June and July 2009 bills based upon the rates in effect at the time. While household consumption increased by 38 percent, due to the inclining block

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4 Some customers complained that their electric bills for these two months were of comparable magnitude to their mortgage payments.

5 These high bills happened to coincide in many cases with the installation of Smart Meters, leading many to mistakenly conclude the problem was due to Smart Meters rather than a steeply inclining rate structure with very high upper-tier rates.

6 This is not atypical. A similar very large increase in average residential household usage occurred in Kern County between June and July in 2008.

rate structure (and, in particular, the very high upper-tier rates), the household's bill increased by nearly twice that percentage, 72 percent, going from $387.11 in June to $666.14 in July. This is a result of the extended hot weather necessitating increased air conditioner operation, pushing the average usage from Tier 4 to Tier 5, with 546 kWh being charged a very high rate of 44.1 cents per kWh. Such a steeply inclining block rate, with very high upper-tier rates, makes it very difficult for households to manage their bills under these circumstances.

Table 1
Illustrative Bill of Kern County Household in Summer 2009

	June 2009			July 2009				
	Sales (kWh)	Rates ($/kWh)	Bill ($)	Sales (kWh)	Rates ($/kWh)	Bill ($)	% Change kWh	% Change Bill
Customer Charge								
Energy Charges								
Tier 1	595	$0.11531	$68.61	595	$0.11531	$68.61		
Tier 2	178	$0.13109	$23.33	178	$0.13109	$23.33		
Tier 3	417	$0.25974	$108.31	417	$0.25974	$108.31		
Tier 4	493	$0.37866	$186.85	595	$0.37866	$225.23		
Tier 5	0	$0.44098	$0.00	546	$0.44098	$240.65		
Total	**1,683**		**$387.11**	**2,331**		**$666.14**	**38%**	**72%**

But not only did upper-tier non-CARE rates soar, so did the CARE discounts. As noted earlier, prior to the energy crisis in 2001 CARE households paid rates for Tier 1 and 2 electricity consumption that were 20 percent below the comparable non-CARE rates. As shown in Table 2, by Summer 2009 the discounts ranged from 27 percent to 78 percent in the top tier.

Table 2
CARE Discounts in Summer 2009

Tier	Non-CARE Rates ($/kWh)	CARE Rates ($/kWh)	CARE Discount (%)
1	$0.11531	$0.08316	27.9%
2	$0.13109	$0.09563	27.1%
3	$0.25974	$0.09563	63.2%
4	$0.37866	$0.09563	74.7%
5	$0.44098	$0.09563	78.3%

In addition, CARE participation increased dramatically. The combination of increased CARE participation, and higher CARE discounts by tier, caused the total CARE subsidy to increase from $30 million per year in 2000 to approximately $700

million in 2010. This significantly increased the CARE subsidy burden imposed on all customer classes, and included a feedback effect adding to the increases on the upper tier non-CARE residential rates.

3. Rate Equity

By the Summer of 2009, PG&E's Tier 4 and 5 rates were 37.9 and 44.1 cents per kWh, respectively, compared to only 11.5 and 13.1 in Tiers 1 and 2. Such extreme upper-tier rates are indefensible on cost of service or equity grounds. PG&E's per-kWh cost to serve generally does not increase with household consumption. Arguably, the relationship is just the opposite, since spreading fixed costs over more kWh reduces the average cost to serve for higher users compared to lower users. Yet incremental consumption in Tier 5 was priced at 44.1 cents per kWh, 2.5 times the 17.6 cent per kWh average rate for non-CARE customers as a whole. This rate is far in excess of the cost to produce and deliver those kWhs.[7] In contrast, households consuming in Tier 1 paid just 11.5 cents per kWh, just 65 percent of the average rate.

It is important to keep in mind that the disparities between the rate levels had nothing to do with underlying cost of service. Rather, they were the direct result of Tier 1 and 2 rates, for both non-CARE and CARE customers, having been largely frozen for the last decade. Consequently, there was no way to collect rising revenue requirements except by increasing non-CARE Tier 3, 4 and 5 rates.

The Legislature and the Commission put in place the increasing block rate structure for residential rates primarily to achieve public policy objectives like providing customers with a basic amount of electricity at a low price, and encouraging conservation. But a strong price incentive encouraging conservation can be achieved with more moderate upper-tier rates. Charging upper-tier usage at rates that are 2.5 times average cost, and almost 4 times the lowest tier rate, can be characterized as going beyond providing a strong conservation price signal to the point of being punitive.

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7 Nor are the upper-tier consumers necessarily those with large household incomes. While there is no doubt some correlation between income and consumption, many other factors (e.g., household size, weather, the presence or absence of energy efficiency measures) affect monthly kWh consumption levels.

Moreover, charging such extremely high rates, when the cost to provide service is nowhere near that high, is economically inefficient. While it is appropriate to charge very high prices during critical periods on hot summer days when capacity is strained, as with Peak Day Pricing rates, it is not appropriate to charge all upper-tier usage such high rates to discourage consumption in many hours of the month and year when there are no shortages at all and their demand could easily be met at a cost much less than they are being charged. For example, the cost to PG&E of providing electricity in the middle of the night to a household for security lighting is generally very small (on the order of 5 cents per kWh), yet a household consuming in the upper tier and willing to pay up to, say, five times what it costs (i.e., 25 cents per kWh) for the value the security lighting provides, would choose to forego that value given it was being charged 44 cents per kWh on the margin.

4. Senate Bill 695

As upper-tier rates for PG&E and the other California IOUs skyrocketed, the Commission and even consumer parties realized this was not a sustainable situation, and began negotiations on legislation to repeal AB 1X. Finally, in October 2009, an agreement on legislative text was reached and Senate Bill (SB) 695 was enacted as an urgency measure. Among other things, SB 695 provides the opportunity for the IOUs to propose to the CPUC to gradually increase non-CARE Tier 1 and 2 rates from 3 to 5 percent each year based upon a consumer price index. SB 695 permits the IOUs to similarly propose to increase CARE rates once per year by the annual percentage increase in benefits under the California Work Opportunity and Responsibility to Kids (CalWORKs) program, up to a maximum of 3 percent per year.

Wasting no time, PG&E and the other IOUs immediately filed applications seeking such an increase effective January 1, 2010, and these applications were promptly approved by the CPUC. The resulting increases to non-CARE Tier 1 and 2 rates on January 1, 2010, however, were just 3 percent, while the CARE Tier 1 and 2 rates did not increase at all due to the suspension of the cost of living adjustment for benefit amounts provided under the CalWORKs program.

Table 3 shows the changes to PG&E's non-CARE rates that occurred on January 1, 2010. Despite the increase to Tier 1 and 2 rates allowed by SB 695, the Tier 3 through 5 rates continued to increase -- and by a far greater amount than the Tier 1 and 2 rates increased -- leading to continued aggravation of the high upper-tier rate situation. For example, while Tier 1 and 2 rates increased by 0.3 and 0.4 cents per kWh, respectively, the upper-tier rates increased by from 1.5 to 3.0 cents per kWh. The highest tier rate increased by nearly nine times the amount that the lowest tier rate increased, and the differential between the highest and lowest tier rates increased from 32.8 cents per kWh to 35.5 cents per kWh. So the situation worsened. Moreover, the CalWORKs formula resulted in no increase at all to CARE Tier 1 and 2 rates, thus providing no additional revenue to mitigate the high upper-tier non-CARE rate problem.

Table 3
PG&E Rate Change on January 1, 2010

Tier	10/1/09 Rates ($/kWh)	1/1/2010 Rates ($/kWh)	Change ($/kWh)	Pct Change (%)
1	$0.11531	0.11877	$0.00346	3.0%
2	$0.13109	0.13502	$0.00393	3.0%
3	$0.26078	0.27572	$0.01494	5.7%
4	$0.38066	0.40577	$0.02511	6.6%
5	$0.44348	0.47393	$0.03045	6.9%

With these rate changes, it became clear that SB 695, while providing a modicum of mitigation, was unlikely to solve the high upper-tier rate problem. Rather, SB 695 would only be a "band aid" on the problem.[8]

Some parties might (and do) argue that SB 695 will, over time, bring upper tier rates down, if only the PG&E controls its costs. Leaving aside the issue of how many years would be required to have a significant impact on reducing the differential between the bottom and top tier rates (when three percent increases applied to very low Tier 1 and 2 rates produce quite small increases in absolute terms),[9] this argument ignores the reality that significant portions of PG&E's revenue requirement are not within its control. For

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8 The subsequent year's rate change on January 1, 2011 was similar, with non-CARE Tier 1 and 2 rates again increasing just 3 percent and CARE Tier 1 and 2 rates again not changing.

9 The three percent increases to non-CARE Tier 1 and 2 rates in January of 2010 and again in January 2011 are so small as to be almost imperceptible on the rate trend graph shown in Figure 1.

example, gas prices are currently quite low. But if they were to increase back to levels seen in 2008 (or higher), there would be unavoidable increases in PG&E's revenue requirement. Similarly, there are going to be significant increases in all the utilities' revenue requirements in the coming years due to the costs of complying with environmental requirements (e.g., renewable portfolio standards, greenhouse gas restrictions, costs of transmission lines to reach wind power generators, etc.). Additional measures were clearly going to be needed to keep upper-tier rate levels under control.

5. PG&E's Summer 2010 Rate Relief Proposal

As Table 3 shows, SB 695 failed to stem the rise of the top tier rate, which increased to 47.4 cents per kWh on January 1, 2010.[10] In February 2010, in an effort to get the top tier reduced quickly and avoid another rate revolt in the Summer of 2010, PG&E filed an emergency application at the CPUC, called the Summer 2010 Rate Relief Proposal. PG&E proposed to decrease its revenue requirements by moving some customer refunds and a transmission rate settlement forward to June 1, 2010 (rather than have the decrease occur on January 1, 2011). PG&E also proposed rate design changes which would reduce the rate differentials between its Tier 3, 4 and 5 rates, and spread the revenue responsibility more evenly among households consuming in Tier 3 or above. Specifically, as shown in Table 4 below, PG&E proposed to reduce the Tier 3 vs. Tier 4 rate differential from 13 cents to 5 cents, and reduce the Tier 4 vs. Tier 5 rate differentials from 7 cents to 5 cents. The upper tier rate would be reduced to below its Summer 2009 level and the differential between the Tier 3 and 5 rates would be halved. PG&E requested expedited consideration by the CPUC, so as to have the rate change occur prior to the coming summer.

Table 4
PG&E's Summer 2010 Rate Relief Proposal

10 It would further increase on March 1, 2010 to a level of 49.8 cents per kWh, about five cents higher than the level that triggered a rate revolt the previous summer.

Tier	2010 Rates 1/1/10 ($/kWh)	Proposed Rates ($/kWh)	Change ($/kWh)
1	$0.11877	$0.11877	$0.00000
2	$0.13502	$0.13502	$0.00000
3	$0.27572	$0.31846	$0.04274
4	$0.40577	$0.36846	-$0.03731
5	$0.47393	$0.41846	-$0.05547

The CPUC, which was well aware of the concern regarding high upper-tier rates (having been in attendance at the public protest meetings in the Central Valley organized by a legislator, and having fielded many complaints about the rates), promised an expedited schedule for PG&E's application. Two parties representing residential customers, the CPUC's Division of Ratepayer Advocates (DRA) and The Utility Reform Network (TURN), protested PG&E's application. DRA and TURN specifically objected to increasing Tier 3 rates and, instead, suggested keeping the Tier 3 rate at its current level while collapsing the Tier 4 and 5 rates into a single Tier 4 rate.

After some negotiations, PG&E, DRA and TURN reached a compromise settlement which was submitted to the CPUC and promptly approved. This settlement resulted in a small increase (0.5 cents per kWh) to the Tier 3 rate along with the collapsing of the Tier 4 and 5 rates. Significantly, it reduced the top-tier rate paid by non-CARE customers from 49.8 cents (the level to which it had risen on March 1, 2010) to 40.0 cents, and reduced the differential between the Tier 3 and the top tier rate from 20 to 11 cents. Going forward, the approved settlement also fixed this differential at 11 cents for all subsequent rate changes that took place prior to PG&E's next major rate change in Phase 2 of its 2011 General Rate Case (GRC).

Even with these changes, the top tier rate remained very high, above 40 cents per kWh, and PG&E remained concerned about high customer bills – particularly in the Central Valley where sustained periods of high temperatures are quite common in July and August.[11] Fortunately, though, the Summer of 2010 was relatively mild and there was no recurrence of the problem. Nevertheless, in early 2010 PG&E had also prepared

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11 High upper-tier rates are a problem throughout PG&E's service territory, not just in the Central Valley. Because of the way baseline quantities (and thus tier boundaries) are set, even milder climates have significant percentages of usage in the higher tiers. While this leads to high average rates among upper-tier users regardless of location, those high average rates have larger bill impacts in the hotter climate zones with higher overall usage.

a more ambitious set of rate proposals to address the upper-tier rate problem, for filing in Phase 2 of its GRC.

6. PG&E's 2011 General Rate Case (GRC) Phase 2 Proposal

California IOUs generally have one rate case every three years – Phase 2 of their GRC – where they have the ability to propose major changes to rate structures. For PG&E, Phase 2 of its 2011 GRC provided another opportunity to address and try to solve its problem of very high upper-tier rates for non-CARE households. In March 2010, while its Summer 2010 Rate Relief proposal was still pending, PG&E proposed major changes to its residential rate design to take effect by the Summer of 2011.

Despite the statutory restrictions limiting PG&E's ability to raise Tier 1 and 2 rates for CARE and non-CARE households, there are a number of "levers" that can be used to reduce upper-tier rates. PG&E used them all, proposing four changes to residential rates with the potential to significantly mitigate the problem of high upper-tier rates:[12]

- Reduce BQs from the top to the mid-point of the range permitted by statute;
- Introduce a Tier 3 rate for CARE customers;
- Introduce modest customer charges for all customers; and
- Further reduce the number of tiers by collapsing Tiers 3 and 4 into a single Tier 3.

These proposals, and how they provide additional revenue which can be used to lower PG&E's high upper-tier rates, are discussed in the following sections.[13]

6.1 Reducing Baseline Quantities

As described in footnote 2, the tier boundaries for the inclining block rate structures are defined in terms of multiples of a customer's BQ. The BQs, in turn are based upon average usage levels by season (summer and winter) in each climate zone

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12 PG&E also proposed to flatten the generation and distribution components of its residential rates, so that the tiering would appear in a new Conservation Incentive Adjustment rate component, similar to methods already approved by the Commission for SDG&E and SCE. This proposal, which was designed to provide a more accurate price signal to customers contemplating choosing an alternative provider of generation services, is not discussed in this paper since it was independent of PG&E's efforts to reduce upper-tier rate levels.

13 The Commission had already approved many of these rate design proposals for the other two major IOUs, Southern California Edison (SCE) and San Diego Gas and Electric (SDG&E).

over a four-year historical period.[14] By statute, the Commission must set BQs between 50 and 60 percent of historical usage.[15] Historically, PG&E has proposed, and the Commission has approved, BQs at the top end of the statutory range, i.e. at 60 percent of average historic usage. In its Phase 2 rate proposal, PG&E proposed to set the BQs mid-way within the statutory range, at 55 percent, which was consistent with how both SCE and SDG&E were setting theirs.

The effect of this proposed reduction in BQs would be to increase revenue even absent changes to any of the tiered rates. By reducing the BQs, the tier boundaries are all reduced. For example, some Tier 1 kWh near the top of the current Tier 1/Tier 2 boundary will cascade over into Tier 2 once that border is reduced. Similarly, some Tier 2 kWh near the top of the current Tier 2/Tier 3 boundary will cascade into Tier 3, and so on. The result will be greater revenue collections even absent any rate changes. Since total revenue must remain the same (because rate design is a zero sum game), these additional revenues, plus having more Tier 3 and 4 sales, permit reductions in the non-CARE Tier 3 and 4 rates.

6.2 Introducing a Tier 3 Rate for CARE Households

In February 2010 when its Phase 2 application was filed, PG&E's CARE rates had just two tiers. Thus all usage above 100 percent of BQ was charged the very low CARE Tier 2 rate of 9.6 cents per kWh. In contrast, SCE and SDG&E had CARE Tier 3 rates that ranged from 16.4 to 18.5 cents per kWh, and brought in additional revenue that helped mitigate increases to non-CARE upper-tier rates. In Phase 2, PG&E proposed a similar CARE Tier 3 rate.

SB 695 contains a provision that specifically authorizes PG&E to propose such a rate, although it limits the magnitude of the rate initially to no more than 50 percent above its CARE Tier 1 rate. Consequently, PG&E proposed to introduce a new CARE

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14 BQs also vary by whether the customer takes "basic" or "all-electric" service. Most PG&E customers use natural gas for space and water heating and receive basic electric BQ amounts. The relatively small number of customers (generally those located in areas without PG&E natural gas service) who also use electricity for space and water heating receive higher all-electric BQ amounts.

15 Except for all-electric BQs in the winter season, which must be set between 60 and 70 percent of historical usage.

Tier 3 at 12.5 cents per kWh for 2011, exactly 50 percent above its CARE Tier 1 rate of 8.3 cents per kWh. In addition, since SB 695's limitation pertains only to the "initial" implementation of the rate, PG&E proposed additional 1.5 cent increases to the CARE Tier 3 rate in 2012 and again in 2013. Those proposed increases would have brought the rate to 15.5 cents per kWh by 2013, still significantly below the other IOUs' then-current rates. The additional revenues brought in by this rate (compared to the 9.6 cent Tier 2 rate) would contribute to lowering upper-tier non-CARE rates.

6.3 Introducing Customer Charges for Non-CARE and CARE Households

In order to move towards more cost-based rates by collecting a portion of its fixed costs to serve residential customers via a fixed charge, PG&E proposed to introduce modest customer charges -- $3.00 per month for non-CARE households and $2.40 per month for CARE households. The revenue from these charges would also help decrease the high levels of the upper-tier non-CARE rates.

The proposed customer charge was designed to partially cover costs of service that do not vary with usage: the costs of connecting a customer to the grid, maintaining that connection and servicing the account (e.g., metering, preparing and sending bills, processing payments and providing service center representatives). These costs exist regardless of the customer's usage level (even if that usage is zero in a month), so setting a rate to recover costs on a fixed basis appropriately reflects cost causation. In the absence of a customer charge, these fixed costs are collected through volumetric rates, so households with greater usage subsidize those with lower usage.

6.4 Collapsing Tiers 3 and 4 Into a Single Tier 3

As noted in Section 5, in its decision approving PG&E's Summer 2010 Rate Relief application the CPUC collapsed the Tier 4 and 5 rates into a single Tier 4 rate. In its Phase 2 proposal, PG&E requested a further collapsing of the Tier 3 and 4 rates into a single Tier 3 rate. This, of course, would result in a Tier 3 rate in between the Tier 3 and 4 rates that would obtain under a four-tiered rate structure. There is no cost justification for having the additional fourth tier, and a collapsed rate would more equitably spread the

burden of collecting the required revenue over more sales. Moreover, a more than ample incentive to conserve would remain under a three-tier rate structure.

7. Reactions to PG&E's 2011 GRC Phase 2 Proposal

7.1 Intervenors in the Proceeding

PG&E's residential proposals attracted a record number of intervening parties, fourteen, for a Phase 2 application. Most of these intervenors opposed some or all aspects of PG&E's proposals, although the proposals did have some supporters. In opposition, the parties fell into a number of categories.[16] The traditional residential intervenors, the CPUC's Division of Ratepayer Advocates (DRA) and The Utility Reform Network (TURN), while supporting the reduction in BQs and the initial CARE Tier 3 rate, opposed the rest of the proposals. Two groups representing low-income households and households with disabilities, Greenlining and Disability Rights Advocates (DisabRA), opposed every single one of PG&E's rate proposals. One environmental group, the Sierra Club, opposed every proposal except for the reduction in BQs (on which it was neutral).[17] Finally, two groups representing the solar industry, the Solar Alliance and Vote Solar, either opposed or were neutral on the various proposals.

Somewhat unusually for a Phase 2 case, PG&E did have some supporters for its proposals. SCE intervened in general support, focusing primarily on urging approval of the customer charge. SCE was concerned about a possible adverse CPUC precedent that would keep it from increasing its customer charge in the future. Two entities from Kern County, the epicenter of the Summer 2009 rate revolt, also intervened in support of the proposals, the County itself and the Kern County Taxpayers Association (KernTax). Although Kern County has an above-average percentage of households participating in

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16 As noted earlier in footnote 12, this paper is focusing on the elements of PG&E's proposal that affect the total residential rate, and not just particular components like the generation rate. Two other parties, the Marin Energy Authority and the City and County of San Francisco, intervened solely in opposition to PG&E's proposal to flatten the generation rate and place the tiering into a separate non-bypassable rate component. The discussion in this section does not address that proposal.

17 Two other environmental groups, the Natural Resources Defense Council and the Union of Concerned Scientists, while not actively participating in the proceeding, did co-sign a letter to the Commissioners urging them to reject PG&E's proposed customer charges.

the CARE program who would generally pay higher bills under PG&E's proposal, both entities supported the proposals due to their beneficial effects on upper-tier non-CARE households offsetting the modest adverse impacts on CARE households. Finally, two parties representing industrial customers, the California Large Energy Consumers Association (CLECA) and the Energy Producers and Users Coalition (EPUC) intervened to argue for increasing CARE rates. These industrial intervenor groups typically do not get involved with residential rate issues, but did so here because industrial customers were bearing a significant portion of the large and growing CARE discounts.

7.2 Arguments Opposing the Proposals

The arguments by the opposing parties urging rejection of all or portions of PG&E's proposals were many and varied, including:

- The proposals are anti-conservation and reward "energy hogs" at the expense of households who conserve;
- The proposed rates would stifle the solar industry and run counter to the CPUC's policy of encouraging solar;
- The proposals "rob Peter [who has high income] to pay Paul [who has low income]";
- The rates are harmful to low-income households, particularly in this bad economy;
- The customer charge should be rejected on both legal and policy grounds; and
- The proposals result in unacceptable bill increases to some customers.

7.3 PG&E's Rebuttal Arguments in Support of the Proposals

PG&E's rebuttal to these arguments focused primarily on the fact that the current rate design, with its 40 cent upper-tier rate far exceeding cost of service, is seriously broken and grossly inequitable to the point of being punitive.[18]

Rate design involves a number of often-competing objectives, including:

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18 Some of the arguments made by PG&E were also made by the three parties supporting the proposals, echoing or elaborating upon PG&E's points. For ease of exposition, the paper focuses on PG&E's rebuttal arguments.

- Rates should be equitable by reflecting cost of service;
- Rates should send appropriate price signals to customers;
- Rates should be easy for the utility to bill and for customers to understand;
- Rates should be implemented in a way to avoid undue rate shocks to certain customer groups; and
- Rates should further public policy goals.

In any rate-setting proceeding, the Commission needs to consider all of these principles in determining a final rate structure. In this particular proceeding, PG&E argued, a single-minded focus on which rate design best encourages conservation and/or the growth of the solar industry is misplaced.[19] Rather, given the extremely high upper-tier rates, it is particularly important that the Commission give a heavy weight to the first two objectives, equity and sending accurate price signals. PG&E argued that it is simply not fair, or sustainable in the long run, to have just one-quarter of the sales or less pay exorbitant rates so others can pay much less, when there is no cost basis for doing so. The following sub-sections describe PG&E's rebuttal arguments in greater detail.

7.3.1 Proposed Rates Are Not Anti-Conservation

A number of parties, focusing on the reduced upper-tier non-CARE rates, argued that PG&E's rates would cause a reduction in conservation behavior. As just noted, PG&E's primary argument was that incenting conservation behavior should be a secondary objective to fixing the rate structure so that rates would be more equitable and cost based. However, even if you assumed that conservation *was* the foremost objective of rate design, it was not readily apparent that PG&E's proposals would be inconsistent with that objective. That's because, while the top-tier non-CARE rates would decrease under PG&E's proposal, the Tier 3 rate would increase relative to its level if a four-tier structure was retained. Thus PG&E's proposal for a single Tier 3 rate results in an increased incentive to conserve for 2.4 million non-CARE households who consume in

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19 Some parties, particularly the solar groups, seemed to be arguing that the most important objective was to maximize the rate in the top non-CARE tier, in order to maximize the incentive for households consuming in that tier to purchase a solar system. If that's the objective, then why not charge $1.00 per kWh, or add more tiers with even higher rates?

Tier 3, while decreasing the incentive for conservation for a smaller number of Tier 4 consuming households. Moreover, the addition of the CARE Tier 3 rate would provide an incentive for CARE households consuming above 130 percent of BQ to conserve that they did not have under the two-tier rate structure, and the reduction in BQs provides a similar new conservation incentive for households consuming in the lower tiers.**20**

In order to estimate the effect on household consumption in the aggregate from these offsetting effects, PG&E hired a consulting firm, Brattle, to perform an analysis and sponsor the results in testimony. Dr. Ahmad Faruqui's testimony showed that PG&E's proposals, taken as a whole, would have a small *pro-conservation* effect.

7.3.2 Proposed Rates Will Not Stifle the Solar Industry

Solar groups attacked PG&E's proposed rates by claiming that they will discourage residential customers from investing in on-site solar systems. Of course, by raising the effective rates for Tier 1 and 2 consuming households (due to the reductions in BQs) and raising the actual rates for Tier 3 consuming households (by collapsing the rate in with Tier 4), there would be an *additional* incentive for some households to purchase solar units. But the proposed rates would certainly reduce the incentives for households consuming in the top tier to do so.

Again, PG&E's primary rebuttal argument was that incenting solar was a lower priority than fixing the grossly inequitable rates.**21** However, PG&E also noted that even if all of its proposals were adopted, the top-tier rate would still be near 30 cents per kWh, at levels comparable to the two Southern California utilities. Those utilities have had top-tier rates near 30 cents per kWh for some time now, and sales of solar units in those territories have done just fine.**22**

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20 To the extent households respond to average rates rather than marginal rates, the addition of a customer charge would also be expected to reduce consumption of households consuming within 130 percent of BQ even though the Tier 1 and 2 rates remain unchanged.

21 KernTax argued even more forcefully that working class households consuming in the upper tiers, who cannot afford solar investments, should not have to pay more just to create a more profitable market for solar vendors.

22 Customers who install rooftop solar systems are already afforded a myriad of other incentives unrelated to artificially high upper-tier rates. These include buy-down rebates on the cost of their systems, eligibility for very favorable and non-cost-based net metering arrangements, waivers of standby charges, and exemptions from having to pay non-bypassable charges (like the public

Vote Solar also argued that the CPUC should retain high upper-tier rates because customers who had previously purchased solar units were doing so in reliance on future bill savings based upon those high rates. But nobody (except perhaps solar vendors) promised that upper-tier rates would remain forever at particular levels, or never decline. Moreover, the CPUC's primary obligation is to set rates as equitably as possible for its 4.6 million residential electric customers, as well as for the 1.5 million households with usage in Tier 4 – and not the much smaller population with the financial ability to install solar systems. Not all upper-tier consuming households can afford solar, and many such households do not own their home.[23] Even some who can afford solar units may not have a rooftop that is appropriately located for solar (due to shading, orientation, etc.). PG&E thus argued that the CPUC should begin to remedy a rate design that rewards the comparatively small number of households who have installed solar (now about 52,000) at the expense of the 1.5 million households with Tier 4 usage.

7.3.3 Proposed Rates Will Not Just Reward Rich People

A number of parties, equating upper-tier consumption with high incomes, argued that PG&E's proposals would reward the rich at the expense of low-income households. They argued for retaining the current rate design as a form of progressive taxation. But while household usage and income may be correlated to some degree, it is not a perfect correlation. So PG&E's proposals would benefit many households that do not have high incomes.

But even if income and usage were perfectly correlated, it does not follow logically that upper-tier rates should be continually increased, with one-quarter of the sales shouldering a larger and larger burden of the revenue responsibility. Rates should be cost-based and fair, not used as a form of crude income redistribution. Truly low-income customers can take service on CARE schedules and obtain lower rates in that fashion.

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purpose program charge) which otherwise would be assessed on the difference between a customer's consumption and its on-site generation.

23 For these working class households with moderate incomes, maintaining high upper-tier rates and forcing them to subsidize the solar investments of wealthier households represents a "reverse Robin Hood" effect.

7.3.4 Proposed Rates Are Not Unduly Harmful to Low-Income Households

Led by Greenlining and DisabRA, many parties criticized PG&E's proposed rates due to the harm they would cause for low-income households. Except for a very small number of households, PG&E's proposed rates would indeed result in bill increases for CARE households. However, PG&E argued, these bill increases are relatively modest and need to be put in historical context. CARE rates at the time of the Phase 2 filing in early 2010 were lower in nominal terms than their levels in 1991. Figure 2 shows how the average CARE rate (calculated as a sales-weighted average of the tiered rates) has changed over time in the last two decades. In 1991, the average CARE rate was slightly below 10 cents per kWh. By 2010, the average CARE rate had dropped to below 9 cents, and even assuming PG&E's proposals were adopted it would only increase to about 10 cents in 2011. If CARE rates had instead simply risen at the rate of inflation, by 2010 they would have been 16 cents per kWh – far in excess of what PG&E was proposing.

Figure 2
Average CARE Rates vs. Consumer Price Index (CPI) Since 1991

Prior to the energy crisis, CARE rates were set to provide a 15 percent discount below non-CARE rates. The CARE discount was increased to 20 percent during the energy crisis. But in the years since, CARE rates remained constant while upper-tier non-CARE rates skyrocketed. As a result, PG&E argued, the discount percentages grew to levels far exceeding the intended 20 percent level, with an overall sales-weighted average discount of 51 percent and an astounding 81 percent discount in the top tier. So parties arguing that PG&E's proposals were robbing Peter to pay Paul ignored the inconvenient fact that, for nearly a decade, Paul was having to bear the burden of all rate increases so that Peter could be protected from any and all rate increases.

PG&E also noted that a consequence of freezing CARE rates for such a long period of time was that the cost of the CARE discounts paid by other customers had increased dramatically to an estimated $700 million in 2010.**24** Under PG&E's proposed rates, this would drop to about $560 million.

PG&E's rebuttal to the claims that the bill impacts are too large for low-income households is covered in Section 7.3.6 below. PG&E did, though, make the point in rebuttal that, even if its proposals were adopted by the CPUC, the resulting CARE Tier rates by 2013 would remain well below those of the *current* CARE Tier 3 rates of the other California IOUs. As noted earlier in Section 6.2, the CPUC had approved Tier 3 rates for CARE households for SCE and SDG&E ranging from 16.4 to 18.5 cents per kWh. PG&E argued that there was no reason to believe low-income households in Northern California could not afford a 12.5 cent Tier 3 rate when similar low-income households in Southern California were paying much higher Tier 3 rates.

7.3.5 Proposed Customer Charge is Not Illegal and is Good Policy

Probably the most controversial element of PG&E's rate proposal was the introduction of the customer charges for non-CARE and CARE households. The opposing parties universally opposed the customer charges, on the grounds that it was not legal under SB 695 and that, even if it was legal, it was bad policy. The legal arguments opposing the customer charge, as well as PG&E's and SCE's rebuttal to those arguments

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24 CLECA and EPUC also forcefully made this point in arguing in favor of PG&E's proposals to introduce a customer charge and a Tier 3 rate for CARE households.

hinge on differing statutory interpretations, and are beyond the scope of this paper. We do describe below the policy-related arguments made by intervenors and PG&E's rebuttal arguments.

On policy grounds, parties generally opposed the customer charge for two reasons. First, parties argued that the customer charge would be unavoidable, and thus give customers less control over their bills. But that, PG&E argued, is precisely its point – to be unavoidable and paid by all customers. As described in Section 6.3, PG&E has certain fixed costs of serving each household that it cannot avoid, even if a household reduces its consumption to zero. Since PG&E incurs these costs independent of the household's consumption level, an economically efficient and fair way to collect these costs is through a fixed customer charge that similarly does not vary with consumption. No party arguing against PG&E's customer charge proposal disputed the existence of these fixed costs. But the opposing parties wanted lower-tier consuming households to continue to avoid these costs and shift them instead to upper-tier consuming households.

Customer charges, PG&E argued, are a widely accepted way to collect fixed costs. For example, the CPUC has previously approved customer charges for every single one of PG&E's non-residential rate schedules, and also previously approved a residential customer charge for SCE. Moreover, the vast majority of the other largest IOUs in the country include a customer charge in their residential rates, as do many of the publicly-owned utilities in California not regulated by the CPUC. Finally, PG&E argued, customer charges are commonplace for other types of utilities (e.g., water, telecommunications, etc.).

The second argument parties raised in opposition to the customer charges was that they would increase bills for lower-consuming and low-income households. PG&E's rebuttal to these arguments is described in the following section.

7.3.6 Proposed Rates Will Not Cause Undue Rate Shocks

PG&E's rate proposals are, in the aggregate, revenue neutral. In other words the aggregate amount of the bill increases for some households are offset by the aggregate bill decreases of other households. Generally speaking, PG&E's rate proposals result in

modestly higher bills for a large number of CARE households and lower-usage non-CARE households, while significantly reducing the bills for a much smaller number of households with upper-tier consumption.[25] Opponents, of course, focused their criticism on the former group who will see higher bills. In addition, they focused on the percentage increases in bills rather than the increases in dollar terms – in order to portray the increases in the worst light. But, PG&E argued, what really matters to customers are the absolute dollar impacts on their bills, not the percentage change.

For example, for a non-CARE household that never exceeds Tier 2, even a $3.00 increase in bill due to the customer charge can represent a significant-sounding increase when expressed as a percentage increase on a small bill to begin with. But it's still just a $3.00 per month increase -- for a household who has hardly seen any bill increases for a decade. PG&E's complete package of rate proposals would increase the bills of about three-quarters of the non-CARE households and decrease the bills of the other one-quarter.[26] However, the average monthly increases would range from just $1.20 per month to $4.60 per month. These modest increases, PG&E argued, were a reasonable price to pay for remedying the inequities of the steeply inclining block rate structure that was unfairly penalizing upper-tier consuming households.

In contrast to non-CARE bills, where some households fare better and some worse under PG&E's rate proposal, nearly all CARE households would have higher bills. But, as noted earlier, the increases would generally be modest when viewed in terms of dollars per month. Figure 3 shows the distribution of CARE impacts. A total of 40 percent of customers would see average bill increases of $2.93 or less, 60 percent would see increases of $5.18 or less, and 80 percent would see increases of $10.18 or less. Of the remaining 20 percent of CARE households with the highest dollar impacts (i.e., those with the highest monthly consumption), 8 percent would see increases between $10.18 and $13.93, and another 8 percent would see increases between $13.93 and $22.65.

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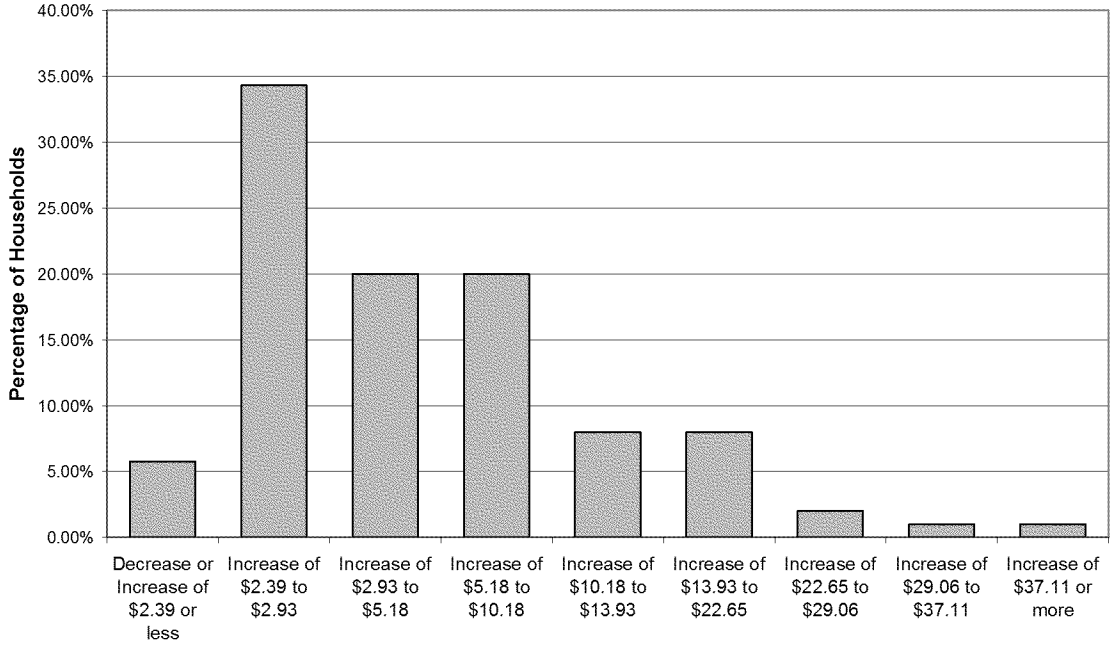
25 For customers well into the upper tier, the monthly bill savings can be in the hundreds of dollars.

26 Because PG&E's proposal to reduce baseline quantities results in a lower Tier 3 rate than would otherwise be the case, there is a break-even consumption level that occurs a small amount into Tier 3, beyond which households would see bill decreases, not increases. Because of the way sales are distributed (more heavily in the lower two tiers), it is possible to significantly decrease the upper tier rate with only modest bill increases for usage in Tiers 1 and 2.

Figure 3
GRC Phase 2 Proposal: Average Monthly Bill Impacts -- CARE



8. CPUC Decision on PG&E's 2011 GRC Phase 2 Proposals

8.1 Proposed Decisions

On April 5, 2011, Administrative Law Judge Pulsifer issued a proposed decision (PD) and CPUC President Peevey issued an alternate proposed decision (APD) on PG&E's residential rate proposals. Both the PD and the APD would adopt PG&E's proposals to reduce BQs and to introduce a Tier 3 rate for CARE customers (and both would adopt a further 1.5 cent per kWh increase in the CARE Tier 3 rate in 2013, but no increase in 2012). Although both proposed decisions would reject PG&E's proposal to collapse non-CARE Tier 3 and 4 rates into a single Tier 3 rate, they nevertheless would significantly reduce the differential between Tier 3 and 4 rates from 11 cents to just 4 cents per kWh. The cumulative effect of all these proposals would substantially reduce PG&E's top tier rate from about 40 cents to 33 cents per kWh.

The APD, but not the PD, would in addition approve PG&E's proposal to introduce $3.00 and $2.40 per month customer charges for non-CARE and CARE customers, respectively. The resulting customer charge revenue would allow a further decrease of about 2 cents per kWh to the top tier rate, reducing it to about 31 cents per kWh. The PD would reject the customer charge proposals on both legal and policy grounds, with the top tier rate remaining at about 33 cents per kWh.

8.2 Final CPUC Decision

The issuance of the PD and the APD touched off a furious round of lobbying by all parties, with numerous individual meetings with Commissioners' advisors and an all-party meeting on May 6, 2011 with Commissioners Sandoval and Simon. In addition, parties issued press releases, wrote op-ed pieces for newspapers, and letters to the commissioners supporting their positions. The week before the CPUC was scheduled to vote, President Peevey issued a revised APD which would still approve the customer charges for non-CARE and CARE customers, but phase them in over a three-year period to mitigate the immediate bill impacts.

On May 26, 2010, citing legal concerns with the customer charge, President Peevey withdrew his APD, and the CPUC voted out the ALJ's PD.[27] Table 5 shows how this decision will affect rates after it fully goes into effect later this year, and how PG&E's newly-approved rates will compare with those of the other California IOUs. In accordance with SB 695, Tier 1 and 2 rates for non-CARE and CARE customers will remain unchanged (since these rates can be changed no more than once per year, and that change already occurred on January 1, 2011). There will be a new CARE Tier 3 rate implemented that will increase rates for usage above 130 percent of baseline by 2.9 cents per kWh (from the 9.6 cent Tier 2 rate such usage currently pays to 12.5 cents). For non-CARE upper-tier usage, there will be a very small decrease of 0.1 cents per kWh (from 29.4 to 29.3 cents), along with a substantial decrease of 7.1 cents per kWh (from 40.4 to 33.3) in the Tier 4 rate.

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27 The vote was 4-0, with Commissioner Florio (who had been a witness in the proceeding for TURN prior to becoming a commissioner) recusing himself.

Table 5
Rate Comparison: PG&E vs. Other California IOUs

Non-CARE Schedule E-1 Tier	PG&E Current (3/1/2011)	PG&E Per CPUC D.11-05-047	SCE Current	SDG&E Current (Summer)	SDG&E Current (Winter)
1	$0.122	$0.122	$0.125	$0.138	$0.138
2	$0.139	$0.139	$0.145	$0.159	$0.159
3	$0.294	$0.293	$0.241	$0.289	$0.272
4	$0.404	$0.333	$0.276	$0.309	$0.292
5	$0.404	$0.333	$0.311	$0.309	$0.292
Customer Charge	NA	$3.00	$0.88	NA	NA
Minimum Bill	$4.50	$0.00	$1.79	$5.17	$5.17

CARE Schedule EL-1 Tier	PG&E Current (3/1/2011)	PG&E Per CPUC D.11-05-047	SCE Current	SDG&E Current (Summer)	SDG&E Current (Winter)
1	$0.083	$0.083	$0.087	$0.100	$0.100
2	$0.096	$0.096	$0.108	$0.116	$0.116
3	NA	$0.125	$0.185	$0.176	$0.164
Customer Charge	NA	$2.40	$0.70	NA	NA
Minimum Bill	$3.60	$0.00	$1.43	$5.17	$5.17

Although the rejection of PG&E's customer charge proposals in the final decision precludes an even further reduction in the top tier rate -- which would have decreased an additional 2.1 cents to 31.2 cents per kWh, had the charges been approved – the new 33.3 cent per kWh level still represents a dramatic drop from its 49.8 cent per kWh level little more than a year ago in May 2010. So, while there is still a way to go, substantial progress has been made in making PG&E's residential rates more equitable for upper-tier consuming non-CARE households by reducing the steepness of the inclining block rate structure.