

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

Application of Pacific Gas and Electric Company to
Revise its Electric Marginal Costs, Revenue
Allocation and Rate Design. (U39M)

Application 13-04-012
(Filed April 18, 2013)

**OPENING BRIEF OF THE CALIFORNIA SOLAR
ENERGY INDUSTRIES ASSOCIATION**

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November 3, 2014

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Pursuant to Rule 13.11 of the Rules of Practice and Procedure of the California Public Utilities Commission (Commission) and the Assigned Commissioner's Revised Scoping Memo issued on August 19, 2015, the California Solar Energy Industries Association (CALSEIA) submits this Opening Brief.

1. Introduction

Within its 2013 General Rate Case, Pacific Gas and Electric Company (PG&E) proposes to restrict eligibility in Schedule A-6 to customers with maximum demand less than 75 kW, reduced from the current threshold of 500 kW. Customers with maximum demands between 75 kW and 499 kW would be forced to switch to Schedule A-10 or Schedule E-19, with the majority of them likely to choose A-10 because E-19 is designed for larger customers. Medium-sized commercial customers that would otherwise have an economic opportunity to install solar energy systems under Schedule A-6 would not have that option.

In the application and subsequent testimony, PG&E failed to demonstrate that Schedule A-10 is more cost-based than Schedule A-6 for these customers. PG&E repeatedly reinforces in its testimony that its costs are driven by the customers' collective peak usage rather than the non-coincident peak usage of individual customers, and Schedule A-6 is more dependent on time of

use than Schedule A-10. The distribution system is not built to serve the sum of customers' non-coincident peaks; it is built for system and local peaks. The cost of distribution system equipment that is already in operation is not independent of usage; it was driven by peak usage. PG&E plainly states that Schedule A-6 accurately recovers capacity costs.

PG&E's proposal has little to do with proper cost allocation. It is more about stunting solar growth and retroactively punishing early adopters. Considering the negative impact this change would have on the solar market and PG&E's failure to justify the change, the Commission should reject this proposal.

2. Generation and Distribution System Costs Are Driven by Usage During Peak Periods

A. PG&E Fails to Demonstrate that Schedule A-6 Is Less Reflective of Cost Causation than Schedule A-10

In its testimony, PG&E repeatedly states that they size their generation capacity and distribution system according to peak electricity usage. PG&E testimony states, “[B]oth distribution and generation capacity are built to meet peak demand, not average demand, to avoid system failures associated with brown-outs and black-outs.”¹ This statement was clarified during cross-examination of PG&E witness Philip Quadrini: “For generation, it would be system peak. For distribution, it would be the local peak.”² The utility's transmission costs, upstream distribution system costs, and most downstream distribution system costs are driven by customers' collective peak usage.

Aside from relatively small customer and meter charges, all rates in Schedule A-6 vary with the time of day that electricity is consumed. Customers pay more for electricity consumed at peak times. In Schedule A-10, with its non-time-differentiated demand charge, much of a

¹ PG&E, “2014 General Rate Case Phase II, 2014 Test Year, Rebuttal Testimony” (PG&E Rebuttal Testimony) at 1-15.

² A.13-04-012 Evidentiary Hearing, October 9, 2014, Reporter's Transcript (Hearing Transcript) at 22.

customer's bill is determined by electricity consumption not linked to the time of day when it was consumed. Mr. Quadrini characterized A-10 as "a mild time of use rate design," that is "milder than A-6."³ Forcing customers off of the highly time-dependent A-6 rate and onto the less time-dependent A-10 rate runs counter to the ratemaking principal of cost causation. Even Schedule E-19, which PG&E characterizes as more precise than A-10,⁴ includes a non-time-dependent maximum demand charge of \$12.99, nearly as high as E-10's maximum demand charge of \$14.28.

The burden of proof is on PG&E to demonstrate that their costs are just as high for customers that use more power during off-peak time periods. Instead, PG&E does just the opposite by reinforcing that their costs are driven by customers' collective peak usage, not by individual customers with high non-coincident peak demand. In rebuttal testimony, PG&E states, "The utility must build its generation and distribution systems to handle customers' peak demands."⁵ For the service drop for an individual customer, the peak demand that determines the size of equipment is the load of that individual customer, no matter when the customer's maximum demand occurs, but for all other parts of the distribution system the peak demand that determines the size of equipment is the collective peak demand of all of the customers using that portion of the distribution system. The cost of a service drop is minor in comparison to the cost of a substation or the cost of a switching station at the front end of the distribution system, so a customer with maximum demand outside of peak hours has negligible impact on distribution system costs.

If it were the case that as many distribution circuits have maximum demands at times outside of system peak hours as circuits with maximum demand during system peak hours, it

³ Hearing Transcript at 20.

⁴ PG&E Rebuttal Testimony at 1-18.

⁵ PG&E Rebuttal Testimony at 1-11.

could be reasonable to recover the costs of feeder lines through non-coincident peak demand. PG&E has not claimed this to be the case. During cross examination, Mr. Quadrini admitted that the utility has not even studied how many of its circuits have maximum demands outside of system peak hours.⁶ Because system peak drives generation costs and the *collective* peak usage of customers served by a substation drive distribution system costs, the non-coincident demand charge of Schedule A-10 is an unfair mechanism for collecting utility revenue.

B. PG&E Confirms that Schedule A-6 Accurately Recovers Capacity Costs

Mr. Quadrini reinforces that Schedule A-6 accurately recovers capacity costs. When asked if customers on A-6 will be charged properly for capacity, he states, “If they are the -- fit the typical load profile for an A-6 customer, on average they’ll pay the capacity costs. But it’s -- using a volumetric rate to charge for capacity.”⁷ He attempted to clarify by saying, “Using a time of use, all-volumetric rate to pay for capacity is better than having a flat rate, but it doesn’t do a very good job of -- of accurately collecting the capacity costs on an individual basis. It’s just an average.”⁸

Rates are designed for class averages. It is not possible to design rates such that every customer pays exactly the cost of service. The goal in ratemaking is that the class as a whole and on average pays its cost of service. Mr. Quadrini himself defines revenue neutral rates as “designed so that an average customer in the class would pay the same or close to the same bill on the various rate schedules being offered.”⁹ PG&E’s statement that Schedule A-6 charges properly for capacity reinforces the justification for rejecting the proposal to limit eligibility in the tariff.

⁶ Hearing Transcript at 51.

⁷ Hearing Transcript at 21.

⁸ *Id.*

⁹ Hearing Transcript at 25-26.

C. The Costs of Installed Equipment Should be Recovered According to Time of Use

PG&E tries to make the argument that the cost of distribution system equipment does not vary once it has been installed, and therefore the amortized cost of paying for that equipment should be spread among customers without regard to how much each customer contributes to the collective peak usage that is served by that equipment. PG&E states: “When a city block, mall, subdivision, etc., is built, the utility installs primary and secondary distribution infrastructure, and possibly additional transmission capacity, to serve this new load. Once installed, the cost of this infrastructure is sunk and is completely unaffected by future volumetric usage.”¹⁰ This ignores that the equipment was sized to meet the collective peak usage of customers it serves. Additionally, when that equipment needs to be repaired or replaced, it is once again sized to meet the collective peak of the customers it serves. If it is peak-coincident usage that determines the cost, it is peak-coincident usage that should pay for the cost. The Commission should reject PG&E’s claim that the highly time-dependent Schedule A-6 is less cost based than Schedules A-10 and E-19.

3. Limiting Eligibility in Schedule A-6 Would Shrink the Solar Market and Harm Existing Solar Investments

PG&E’s bill impact analysis demonstrates that the consequence of forcing customers to leave Schedule A-6 are shockingly severe. They found that 27% of customers making the switch “would see bill increases averaging 100 times their current bill,”¹¹ a 10,000% increase. Another 59% “would see bill increases averaging close to 50 percent.” They then attempt to make the case that even though the percentage increase is high, the actual increase is tolerable because the starting point for some of them is low. However, a 10,000% increase in a customer’s monthly

¹⁰ PG&E Rebuttal Testimony at 1-14.

¹¹ PG&E Rebuttal Testimony at 1-22.

bill is extreme even for customers that are currently paying only minimum charges. If a customer is paying \$240 per year on one tariff and is forced to switch tariffs and pay \$24,000 per year at the same time they are paying off a solar investment, it is likely to make the investment severely uneconomic.

It is also significant that the 10,000% increase is not the maximum increase in PG&E's bill impact analysis. It is the average increase among customers in the very high rate increase category, which includes 27% of affected A-6 solar customers. Half of those customers would see bill increases larger than 10,000%.

In addition, CALSEIA's analysis demonstrating significant extensions in capital recovery periods indicates that closing Schedule A-6 to new customers would greatly reduce the rate of solar installations. We found that typical projects would have capital recovery periods that are an average of 39% longer under Schedule A-10 compared with Schedule A-6.¹² Because many customers that put a premium on environmental considerations have already made solar investments and because customers perceive added risk in the current environment of high regulatory uncertainty, capital recovery periods under Schedule A-10 are simply insufficient to convince a sufficient number of businesses to invest in solar. The proposed changes to the A-6 rate imperil the market momentum that has been built at great public expense. The Commission should not allow the market transformation successfully achieved by the California Solar Initiative to be followed by market contraction where efficiencies are lost. It should reject PG&E's proposal to reduce eligibility in Schedule A-6.

¹² Prepared Rebuttal Testimony of Rick Brown on Behalf of the California Solar Energy Industries Association, September 19, 2014, Table 2 at 6. This is the average increase of four scenarios in the table.

4. Solar Systems Are Productive When They Are Needed Most

PG&E attempts to use the intermittency of solar to argue that solar customers should be charged according to non-coincident peak usage. The utility states in its testimony, “If the customer’s on-site generator goes out of service (or produces at low levels) during the relevant period or the sun is obscured by clouds and the customer either chooses not to (or is unable to) reduce its load while the generation is out of service (or producing at low levels), it is continuing to impose a demand on the system, for which PG&E must keep capacity available.”¹³ Solar intermittency is caused by clouds, and peak consumption for most circuits is driven by air conditioning load. When clouds reduce production from solar generators they also tend to reduce the need for air conditioning in the same area as the solar generators. The area served by a substation is likely to experience similar weather on any day. On clear, hot days, solar production is high. The penetration of solar therefore reduces system needs and costs.

Since PG&E generation costs are generally highest “During the summer peak period,”¹⁴ it is also generally true that there is correlation between solar output and generation costs. This may not be true for some solar systems on some days when they experience more cloud cover than the majority of PG&E territory, but because solar systems are distributed throughout utility service territories it is more true than not that the majority of solar systems located throughout the territory will be highly productive when they are needed the most.

5. Solar Customers Pay for their Use of the Distribution System

It is a common misconception that solar customers that export power to the grid use the distribution system without paying for it. Mr. Quadrini uses the Napa earthquake to air this misinformation. “Solar customers in the Napa area who manage to ‘zero out’ their bills on an

¹³ PG&E Rebuttal Testimony at 1-19.

¹⁴ Hearing Transcript at 18.

annual basis, which means they pay only the minimum charges or customer charges, will pay nothing to restore or repair the infrastructure that serves them along with everyone else.¹⁵ This ignores two key facts. First, the customer is charged full retail rates for all electricity it draws from the grid. Second, it is PG&E's responsibility to transmit exported power to another customer. Since the utility takes title to the power at the customer meter and sells that power to other customers at full retail rates, it is not the customer's responsibility to transmit the power to another customer for the utility to sell. In nearly every case, the transmission of power from one customer to another on a distribution circuit is easier and cheaper than the transmission of power from a faraway generator tied to the transmission system. Since local circuits are sized to push through all the power that is needed by customers within each substation and each circuit, there will be enough built capacity to transmit power from one customer to others on a circuit until such time as the generation on the circuit exceeds demand. It is generally understood that such conditions are rare, and PG&E has presented no information in this proceeding to suggest that such conditions may become common in the near future.

6. Reducing the Amount of Utility Lost Revenue from Solar Is Not a Reason to Limit A-6 Eligibility

PG&E incorrectly identifies net metering as a subsidy and submits that it is a reason to reduce eligibility for Schedule A-6. Mr. Quadrini refers to the 2013 net metering cost benefit study produced by E3 and cites a finding that utilities could lose more than \$1 billion in revenue by 2020 from customers installing solar if rate structures and net metering rules are unchanged from 2012.¹⁶ Most of that projected lost revenue, however, results from residential customers.

Non-residential customers who overpay for electricity can install solar to reduce their energy costs, but on average they still pay more than their cost of service after becoming net

¹⁵ PG&E Rebuttal Testimony at 1-20.

¹⁶ PG&E Rebuttal Testimony at 1-28.

metered customers. Table 5 in Exhibit 30 shows that PG&E non-residential net metered customers paid 128% of their cost of service prior to becoming net metered customers and 106% of their cost of service after becoming net metered customers. They are still subsidizing other customers after installing solar, but less than they had previously. They are subsidizers, not subsidized.

It is noteworthy that PG&E has not suggested that departing load is a justification for its proposed rate changes. The utility has not stated that customer reduction in electricity purchases has shrunk the pool of kWh sales so much that they do not have enough sales to support their costs. Rather, they are arguing a fairness issue, and that fairness issue is false because non-residential net metered customers remain utility customers and, on average, pay their fair share.

7. Conclusion

For the reasons stated above, the Commission should reject PG&E's proposal to reduce eligibility in Schedule A-6.

Respectfully submitted this November 3, 2014 at Santa Rosa, California,

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