

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

Order Instituting Rulemaking  
to Advance Demand Flexibility Through  
Electric Rates

Rulemaking 22-07-005  
(Filed July 14, 2022)

Errata to the  
Prepared Rebuttal Testimony of  
R. Thomas Beach  
on behalf of the  
Solar Energy Industries Association

June 13, 2023

comparison also shows clearly the need to reduce the relatively high off-peak rates in default residential rates.

- **Rate Design Principle 3: Rates should be based on cost causation.** This rebuttal analyzes the rate components that other parties propose to include in their IGFCs. These proposals would include in their fixed charges several types of costs that are not fixed, and that are caused by customers’ usage of kWh of energy and kW of demand. This includes (1) certain generation-related costs caused by customer usage, (2) energy efficiency and demand response programs that are substitutes for generation, and (3) transportation electrification programs designed to serve higher demand for EV charging, ~~and (4) non-bypassable charges such as Public Purpose Program costs that, by law, must be recovered in volumetric, usage-based rates.~~
- **Rate Design Principle 10: Transitions to new rate structures should (i) include customer education and outreach that enhances customer understanding and acceptance of new rates....** The Commission recently noted that “[t]he risk of a negative customer reaction to residential fixed charges is demonstrated by history, granted by the IOUs, and of great concern to the Commission.”<sup>1</sup> The potential for customer backlash is particularly great from the proposals for high IGFCs, which are five to ten times higher than the fixed charge proposals that have caused customer acceptance issues in the past. These proposals also would require – in the Joint IOU proposal – a new state bureaucracy to verify the incomes of 10.8 million residential customers, and would adversely impact the solar investments of 1.5 million California families. The results of focus groups asked about the IOUs’ proposals, which the Joint IOUs candidly report in their testimony, indicate the very negative initial reaction that customers will have to a high IGFC. The IOUs’ marketing, education, and outreach (ME&O) plans outlined in their testimony show that the messages that the IOUs plan to convey are likely to cause further customer confusion and opposition to what customers are likely to perceive as a new tax on income that falls the heaviest on middle-income customers.

Finally, implementing high IGFCs would be expensive and time-consuming. The IOUs estimate that the costs for income verification and implementation of their proposal would be at least \$200 million, with further significant ongoing costs. Based on the timeline in their testimony, the Joint IOU proposal would not be implemented until 2028, five years from now, and would require further legislation to allow a new state bureaucracy to access customers’ tax returns. SEIA’s proposal would be far less expensive and much quicker to implement, because it would not go beyond the existing CARE/FERA program structure, would represent more gradual

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<sup>1</sup> See D. 20-03-003, at pp. 20-21.

1           **B.     Interpreting AB 205**

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3           **Q:     Has your review of parties’ IGFC proposals identified any possible issues with**  
4           **compliance with AB 205?**

5           A:     Possibly, depending on how the Commission interprets AB 205. AB 205 provides as  
6           follows: “[t]he fixed charge shall be established on an income-graduated basis with no  
7           fewer than three income thresholds so that a low-income ratepayer in each baseline  
8           territory would realize a lower average monthly bill without making any changes in  
9           usage.”<sup>3</sup> This sentence is ambiguous in terms of the “lower average monthly bill”  
10          standard, because it does not state exactly what the average bill has to be lower than.  
11          This language can be interpreted simply as specifying what is meant by “income-  
12          graduated” – in other words, defining “income-graduated” as meaning that, in every  
13          baseline territory, a customer whose income falls in a lower level will see a lower electric  
14          bill than if the customer were in a higher income level, assuming no change in usage.<sup>4</sup>  
15          However, another reasonable interpretation of this section of AB 205 is that “a lower  
16          average monthly bill” means that, in each baseline territory, a low-income customer’s bill  
17          after implementation of the IGFC must be lower than their bill before the fixed charge  
18          was implemented, again assuming the same usage.

19  
20          **Q:     If the Commission adopts this second interpretation, are there potential issues with**  
21          **parties’ proposals?**

22          A:     Yes. I believe this issue impacts the following IGFC proposals of other parties:

- 23                   • Cal Advocates for CARE customers in SCE’s Baseline Territory 6; and  
24                   • TURN/NRDC for FERA customers in coastal baseline territories.

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<sup>3</sup> P.U. Code Section 739.1(c)(1).

<sup>4</sup> This is the interpretation used in SEIA’s direct testimony, at p. 22, where I note: “The first-tier (CARE) and second-tier (FERA+) discounts to the fixed charge will ensure that low-income customers in these tiers will realize a lower average monthly bill compared to a third-tier (non-low-income) residential customer with the same usage.”

1 SEIA’s proposal is also impacted slightly by this second interpretation. In SEIA’s  
2 proposal, there are a few coastal climate zones where CARE and FERA bills would  
3 increase very slightly (typically by 1% or less), compared to bills before the fixed charge  
4 is implemented.<sup>5</sup>

5  
6 **C. Possible Modification to SEIA’s Proposal**

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8 **Q: If the Commission adopts the interpretation that AB 205 requires that a typical low-**  
9 **income customer’s bill after implementation of the IGFC ~~must~~ be lower than their**  
10 **bill before the fixed charge was implemented, in each baseline territory, is there a**  
11 **simple modification to SEIA’s proposal to resolve this issue?**

12 **A:** Yes. If this interpretation of AB 205 is adopted, then SEIA proposes to reduce our  
13 proposed CARE fixed charges as necessary to produce lower bills for the average low-  
14 income (CARE and FERA) customer in all baseline territories for each IOU. The Tier 3  
15 fixed charge for non-low-income customers would be increased as necessary to recover  
16 the additional fixed charge discounts. **Table 2** shows SEIA’s proposed fixed charges,  
17 both the unmodified fixed charges from my direct testimony and, in the shaded middle  
18 lines of the table, the modified fixed charges necessary to resolve this issue using the  
19 second interpretation of AB 205. **Attachment RTB-3** to this rebuttal is the requested  
20 output from the E3 Fixed Charge Tool for the Modified SEIA proposal shown in the  
21 middle section of Table 2.

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<sup>5</sup> SEIA’s direct testimony acknowledged these very small bill increases in coastal baseline territories, on page 23, lines 22-24.

1 This suggests that the Joint IOUs’ proposal to reduce residential rates by an average of  
2 \$0.146 per kWh (see Table 1) will increase uptake of light-duty EVs by 29%. In  
3 discovery, the IOUs provided their current forecasts of the demand for light-duty EV  
4 charging as well as the hourly profile of EV charging loads. A 29% increase in these  
5 forecasts will raise net peak demand by an additional 270 MW over the next 10 years,  
6 assuming the current load profiles for EV charging. An acceleration of the trajectory of  
7 EV adoption would be welcome for achieving the state’s carbon reduction and clean air  
8 goals, but only if it does not come at the expense of electric reliability. As discussed  
9 fully in Section IV, the same acceleration of EV adoption can be achieved without  
10 endangering reliability, by encouraging customers to move to TOU rates with lower off-  
11 peak rates and to charge their EVs only in off-peak hours.  
12

13 **Q: What are current projections for increases in peak demand, and the associated need**  
14 **for additional transmission and distribution infrastructure, to meet California’s**  
15 **existing electrification goals?**

16 A: The Commission contracted with the consultancy Kevala to perform a bottom-up load  
17 forecast of the impact of ~~fra~~ electrification on the IOUs’ distribution systems. The Kevala  
18 report was issued on May 9, 2023.<sup>8</sup> Here are some highlights, with references to the  
19 report:

- 20 • Needed distribution upgrades could total \$50 billion by 2035 if not mitigated  
21 (Figure ES-1).
- 22 • Both of the High Transportation Electrification scenarios that Kevala examined  
23 would result in almost doubling the current rate of spend reported by the IOUs in  
24 their Grid Needs Assessment reports for capacity requirements related to feeders,  
25 transformer banks, and substations (page ES-6).
- 26 • The system-level peak load increase from 2025 to 2035 is 56%, or 4.5% per year,  
27 on average across the three IOUs and the High Transportation Electrification

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<sup>8</sup> The Kevala report is available at  
<https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M508/K423/508423247.PDF>.

- 1 • From the solar, local renewable energy equal to more than half of the customer's  
2 usage. This new renewable generation is sited on the customer's own premises,  
3 without requiring the use of other lands or new transmission or distribution  
4 capacity.

5 Notably, at the end of this process, the customer has reduced their on-peak demand by  
6 80%. The customer's annual usage of delivered energy from the PG&E system actually  
7 has increased to 8,450 kWh, compared to their pre-DER usage of 7,500 kWh per year,  
8 but this is significantly less than their total electric end use of 11,000 kWh per year.  
9 Finally, the customer exports 2,500 kWh per year of excess solar output, which is used by  
10 neighboring customers.

11 I have calculated the change in this customer's electric bill from the beginning to  
12 the end of this electrification journey, under both the SEIA and Joint IOU proposals. I  
13 assume that the exports from the customer's solar-plus-storage facilities are compensated  
14 at the rates used in the new net billing tariff (NBT) adopted in D. 22-12-056. The  
15 customer saves money on its electric bill, despite the increased usage from the EV (and  
16 also saves additional money from reduced purchases of gasoline). I evaluated the annual  
17 bill savings under three different PG&E residential rates – the default E-TOU-C rate,  
18 and the two PG&E electrification rates – E-ELEC and EV2A. The results are shown in  
19 **Table 4**. The bill savings are significantly greater if the customer elects one of the two  
20 electrification rates, which have larger and more cost-based TOU rate differentials.  
21 SEIA's proposal, despite its modest fixed charge, produces similar bill savings as the  
22 PG&E IGFC under the E-ELEC rate, and superior bill savings under EV2A – by almost  
23 \$300 per year – because EV2A has the largest TOU differentials and the lowest off-peak  
24 rates of any PG&E residential schedule. These results show that cost-based TOU rates,  
25 with low off-peak rates and larger TOU differentials, are more effective than large fixed  
26 charges in promoting beneficial electrification scenarios in which customers adopt  
27 multiple types of DERs that produce a comprehensive set of system benefits. It is  
28 important to design rates that support customer adoption of multiple electrification  
29 measures that produce a range of important system benefits, as I have modeled here.

1 to meet the forecasted demand. Thus, like generation costs, this portion of PPP costs  
2 clearly are driven by customer demand for kWh and kW.<sup>88</sup>

3 With respect to the rate discounts for CARE customers that are collected  
4 through the PPP, this is the CARE discount for costs that are collected volumetrically  
5 because they are caused by consumption of kWh.<sup>89</sup> As a result, it is most consistent  
6 with cost causation to recover these CARE discounts volumetrically. In effect, for  
7 non-CARE customers, each kWh of usage carries with it the responsibility for the  
8 volumetric CARE discount associated with that kWh. It makes no sense to recover  
9 these volumetric CARE discounts through a fixed charge, because that will result in  
10 low-usage non-CARE customers funding a greater portion of the volumetric CARE  
11 discounts than is equitable based on their usage.

12 ~~Finally, the plain language of Public Utilities Code Section 381(a) states~~  
13 ~~clearly that the PPP “shall be a non-bypassable element of the local distribution~~  
14 ~~service and collected on the basis of usage” (emphasis added).~~

15 **Generation NBCs - PCIA.** Several parties propose that the IGFC include  
16 NBCs that recover certain generation-related costs. In general, generation costs are  
17 driven by a customer’s use of energy and capacity. The argument for including  
18 certain generation costs in a fixed charge is that a portion of generation costs were  
19 incurred in the past (i.e. are “sunk” today) and may exceed today’s market prices for  
20 generation energy and capacity. There are significant problems with this argument,  
21 however. Generation market prices will fluctuate from year to year, so costs that are  
22 above-market today may not be above-market next year. In addition, customers have  
23 more than one option for obtaining generation, as well as the ability to switch their

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<sup>88</sup> This was the Commission’s conclusion in D. 17-09-035, at p. 32: “We also find the argument that some of the non-bypassable costs [in the PPP] are incurred to provide alternatives to conventional generation, such as energy efficiency, and therefore should be equivalent to generation costs in their treatment, convincing.”

<sup>89</sup> For the fixed charge discounts for CARE customers, SEIA proposes that these be collected through higher fixed charges on non-CARE customers. This recovery of the CARE fixed charge discounts is included in SEIA’s IGFC proposal.

1 Although these are not the only funds available to support incentives for heat pump  
2 water heaters, it will be a significant source of funds to encourage customer adoption  
3 of this important electrification measure.<sup>112</sup> This program could be extended for  
4 several more years with the savings from not having to administer the Joint IOU or  
5 TURN/NRDC proposals for high IGFCs.  
6

7 XI. CONCLUSION: A BALANCED APPROACH TO ELECTRIFICATION  
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9 **Q: Please summarize your rebuttal.**

10 A: Fixed charges are not the only, and not the best, way to encourage electrification.  
11 High fixed charges will cause significant problems that their proponents have not  
12 adequately considered:

- 13 • Much lower on-peak volumetric rates will increase summer net peak demands  
14 that the state has been barely able to meet.
- 15 • Higher peak summer demands will increase carbon emissions and air  
16 pollution, and will require more infrastructure and higher long-term rates, than  
17 if the increased electrification loads are served with cleaner, more abundant  
18 off-peak energy.
- 19 • High fixed charges will undermine the Commission's recent efforts to adopt a  
20 net billing tariff that balances the interests of participating solar and storage  
21 customers and non-participating ratepayers.
- 22 • Significant rate increases for middle- and high-income customers, combined  
23 with new vehicle-to-home technology, haves the potential to encourage  
24 uneconomic grid defection by the residential customers with the most means  
25 to pursue off-the-grid options. High fixed charges will also encourage  
26 defection to micro-grids or municipal utilities.  
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<sup>112</sup> D. 22-04-036, at pp. 48-50.