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PUBLIC ADVOCATES OFFICE
CALIFORNIA PUBLIC UTILITIES COMMISSION

PREPARED TESTIMONY
ON
RESIDENTIAL RATES
IN
SOUTHERN CALIFORNIA EDISON'S
2025 GENERAL RATE CASE PHASE 2

San Francisco, California
November 22, 2024

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CHAPTER 6 – RESIDENTIAL RATES

(Witness: Christopher Hogan)

I. SUMMARY AND RECOMMENDATIONS

This chapter provides the Public Advocates Office at the California Public Utilities Commission's (Cal Advocates) analysis and proposals regarding residential rates in Southern California Edison Company's (SCE) 2025 General Rate Case Phase 2 (GRC Phase 2) Application (A.) 24-03-019. Electric rates are generally intended to align customer's consumption behavior with the costs they impose on the grid. Customers are provided lower electricity rates for consumption below the baseline allowance quantity and/or during lower-cost periods. However, not all customers are able to conserve or shift their usage to lower-cost periods of the day. Thus, the goal of aligning consumption behavior with costs should be balanced with providing residential customers with rate stability to better allow them to meet their basic needs served by electricity consumption.

As discussed in this chapter the California Public Utilities Commission (Commission) should:

- Adopt SCE's proposal to maintain the statutory maximum baseline allowance for basic customers;
- Adopt SCE's proposal to maintain the current 1.29:1 tier ratio for customers on tiered rates;
- Adopt SCE's proposal to maintain the current time-of-use differentials for SCE's default residential rates TOU-D-4-9pm and TOU-D-5-8pm;
- Adopt SCE's proposal to maintain the current incremental baseline allowance increase for customers with heat pump water heaters;
- Reject SCE's proposal to increase the seasonal rate differential from 1 cent per kWh to 4 cents per kWh; and
- Reject SCE's proposal to reduce the electric California Alternate Rates for Energy (CARE)¹ discount from 32.5% to 31.25%.

¹ CARE provides income qualified customers, making less than 200% of the federal poverty limit, with a discount on both their electric and natural gas bills. SCE's CARE enrolled customers receive an average effective discount of 32.5% on their electric bills.

SCE's proposal to increase the seasonal differential for residential customers on time of use (TOU) rate schedules TOU-D-4-9pm and TOU-D-5-8pm would lead to summer bill increases. Thus, rejecting it would allow customers to more affordably meet their summer cooling needs. In addition, the Commission should reject SCE's proposal to reduce the CARE discount, because SCE fails to sufficiently support its reasoning for providing less financial support for income qualified customers.

Table 6-1 compares Cal Advocates' default residential rate proposal and SCE's proposed default residential rate² with respective marginal cost, revenue allocation, and rate design proposals.³

Table 6-1: Cal Advocates' Residential Rate Schedule TOU-D-4-9pm Proposal Compared to SCE's Proposal

		Cal Advocates' Proposal	SCE's Proposal	Difference
Fixed Charge (\$/Customer Month)	Tier 3 (Non-Care/FERA)	\$24.15	\$24.15	\$0
	Tier 2 (FERA & deed-restricted affordable housing)	\$12.08	\$12.08	\$0
	Tier 1 (CARE)	\$6.00	\$6.00	\$0
Summer	On-Peak (\$/kWh)	\$.555	\$.607	- \$.053
	Mid-Peak (\$/kWh)	\$.437	\$.481	- \$.044
	Off-Peak (\$/kWh)	\$.329	\$.363	- \$.034
Winter	Mid-Peak (\$/kWh)	\$.481	\$.489	- \$.009
	Off-Peak (\$/kWh)	\$.356	\$.365	- \$.009
	Super Off-Peak (\$/kWh)	\$.320	\$.329	- \$.009
	CARE Discount	32.5%	31.25%	1.25%

² SCE-06, Table IV-9: Status Quo 4-9pm Rates vs. Updated Proposed Rates at 18.

³ A portion of the rate difference is a result of the respective marginal cost and revenue allocation proposals, and thus the comparative rates are not revenue neutral.

Table 6-2 compares the average residential bill savings resulting from Cal Advocates' proposals⁴ for residential customers on default rate TOU-D-4-9pm to SCE's proposed default residential rate proposal presented above in Table 6-1.⁵

Table 6-2: Estimated Bill Savings Resulting from Cal Advocates' Residential Rate Schedule TOU-D-4-9pm Proposal Compared to SCE's Proposal⁶

		Average Monthly Bill by Bill Impact % Category		Average Monthly Bill Difference by Bill Impact % Category	
Bill Savings % Category	Estimated % of Residential Population	Cal Advocates' Proposal	SCE's Proposal	Difference (\$)	Difference (%)
Column	A	B	C	D = B - C	E = D / C
< -10%	0.18%	\$128.82	\$144.18	-\$15.36	-10.65%
-10% to -5%	45.43%	\$186.04	\$198.14	-\$12.10	-6.11%
-5% to -2%	40.78%	\$141.85	\$148.02	-\$6.17	-4.17%
-2% to 0%	13.62%	\$87.22	\$88.39	-\$1.18	-1.33%
Total	100.00%	\$162.58	\$171.63	-\$9.05	-5.27%

II. DISCUSSION OF RECOMMENDATIONS

A. SCE's Proposal to Maintain the Statutory Maximum Baseline Allowance for Residential Customers Should be Adopted.⁷

The baseline allowance is a statutorily prescribed mechanism⁸ that provides residential customers on tiered rates⁹ with a specified quantity of discounted electricity to

⁴ Cal Advocates' marginal cost proposals are provided in Chapter 1: Marginal Energy Costs, Chapter 2: Marginal Generation Capacity Costs, Chapter 3: Distribution Demand Marginal Costs, and Chapter 4: Marginal Customer Access Costs. Cal Advocates' revenue allocation proposals are detailed in Chapter 5: Revenue Allocation.

⁵ The estimated monthly bill impact results (Table 6-2) are extrapolations based on historic usage patterns from a random sample of SCE residential customers. Each bill savings category is based on a minimum of 293 customers and a maximum of 80,037 customers across SCE's service territory.

⁶ [Attachment 6-1 at B-1 to B-5] SCE's November 21, 2024 response to data request Cal Advocates-SCE-031, question 1.a-1.b.

⁷ SCE-04A, at 59-60.

⁸ PU Code 739(a) -739(g).

⁹ Tiered rates include TOU rate schedules TOU-D-4-9pm and TOU-D-5-8pm, and non-TOU rate schedule D.

1 meet their essential needs at an affordable cost.¹⁰ Statute requires the baseline allowance
2 quantity for basic customers to be based on 50% to 60% of average residential usage.¹¹
3 Additionally, all-electric customers must be afforded a separate baseline quantity where
4 the winter allowance is set at 60% to 70% of average usage to meet electric heating
5 needs.¹² The baseline quantities account for differentials in customer usage by climate
6 zone and season.

7 SCE's baseline quantities are currently determined at the statutory maximum: 60%
8 year round for basic customers, 60% for all-electric customers during summer months,
9 and 70% for all-electric customers during winter months.¹³ In practice, the specific
10 baseline quantity is determined as the percentile of usage by season, baseline territory,
11 and service type.¹⁴ Based on the current tier ratio of 1.29:1¹⁵ and baseline quantities,
12 non-CARE residential customers on tiered rates receive a discount of approximately 9
13 cents per kilowatt hour (kWh),¹⁶ while CARE customers receive a discount of
14 approximately 6 cents per kWh,¹⁷ for usage up to their baseline allowance limit. The cost
15 of the discount is recovered from usage above the baseline quantity.

¹⁰ PU Code 739(d)(2); D. 23-04-040, Ordering Paragraph 1(a) at 36. (The Commission recently adopted updated rate design principles for evaluating residential electric rate design changes, which further solidifies the need for a sufficient baseline allowance to meet essential needs with electricity, "All residential customers (including low-income customers and those who receive a medical baseline or discount) should have access to enough electricity to ensure that their essential needs are met at an affordable cost.")

¹¹ PU Code 739(a)(1).

¹² PU Code 739(a)(1).

¹³ SCE-04A at 59.

¹⁴ [Attachment 6-1 at B-6] SCE's May 16, 2024 response to data request Cal Advocates-SCE-005, question 5.a.

¹⁵ SCE-04A at 60.

¹⁶ SCE-04A, Appendix B: *Present And Proposed Rates* at B-1. (As of October 1, 2023, the difference between tier 2 and tier 1 rates for SCE's non-CARE residential rate schedule D is 9.444 cents per kWh = .42514-.33070.)

¹⁷ SCE-04A, Appendix B: *Present And Proposed Rates* at B-1. (As of October 1, 2023, the difference between tier 2 and tier 1 rates for SCE's CARE residential rate schedule D-CARE is 6.145 cents per kWh = .28558-.22413.)

1 Cal Advocates supports SCE’s proposal to continue using the statutory maximum
2 percentages for determining baseline quantities to prevent significant, additional declines
3 in baseline quantities. In testimony, SCE provided data showing that residential
4 electricity usage generally declined for residential customers both participating in and not
5 participating in the CARE program customers since 2014.¹⁸ SCE also provided more
6 granular data showing that average residential electricity usage has declined up to 25%
7 since 2020 within all of SCE’s baseline regions (See Table 6-3).¹⁹

8 This declining trend in residential usage may result in future reductions to baseline
9 allowance quantities, even when applying the statutory maximum percentages. The
10 potential future reductions in baseline allowance quantities may lead to insufficient
11 baseline allowances for customers to meet their essential needs at discounted electricity
12 rates. In order to prevent additional erosion to baseline quantities and prevent further bill
13 increases for customers conserving electricity to meet their basic needs with electricity,
14 the Commission should adopt SCE’s proposal to maintain current baseline quantity
15 percentages.

¹⁸ It should be noted that there was an increase in usage for non-CARE and CARE customers from 2020 through 2022 that coincided with the Covid-19 pandemic, when customers were likely at home more than in prior years. SCE-04A, Figure III-8: CARE and Non-CARE Usage Levels Over Time at 60.

¹⁹ [Attachment 6-1 at B-7 to B-8] SCE’s May 16, 2024 response to data request Cal Advocates-SCE-005, question 6.a.

1
2

**Table 6-3: Average Monthly Electricity Usage
for SCE Residential Customers (kWh)²⁰**

Column		A	B	C	D	E = (D/A)-1
SCE Baseline Territory	Season	2020	2021	2022	2023	Percentage Decline in Average Monthly Usage
5	Summer	615	529	544	533	-13%
5	Winter	615	580	630	616	0%
6	Summer	473	427	445	409	-14%
6	Winter	446	422	419	404	-9%
8	Summer	570	519	553	474	-17%
8	Winter	449	414	410	393	-12%
9	Summer	722	692	726	595	-18%
9	Winter	529	493	484	456	-14%
10	Summer	858	828	869	679	-21%
10	Winter	546	482	477	432	-21%
13	Summer	970	1,020	947	792	-18%
13	Winter	522	484	468	411	-21%
14	Summer	835	936	861	657	-21%
14	Winter	544	508	479	439	-19%
15	Summer	1,182	1,249	1,204	1,008	-15%
15	Winter	611	545	526	460	-25%
16	Summer	530	548	524	453	-15%
16	Winter	502	495	499	491	-2%

²⁰ [Attachment 6-1 at B-7 to B-8] SCE's May 16, 2024 response to data request Cal Advocates-SCE-005, question 6.a.

1 **B. The Commission Should Adopt SCE’s Proposal to**
2 **Maintain the Current Residential Tier Ratio of 1.29:1.²¹**

3 SCE’s tiered residential rates have gradually consolidated from five tiers²² to two
4 tiers²³ with the goal of mitigating potential rate and bill increases.²⁴ Under the current
5 two-tier rate structure, SCE’s residential customers are charged discounted tier 1 rates up
6 to the baseline allowance quantity of electricity and charged approximately 29% higher
7 tier 2 rates for usage above the baseline allowance quantity. The tier ratio provides two
8 benefits. First, it sends a signal to conserve electricity usage to customers through
9 increased tier 2 rates. Second, it provides customers with discounted tier 1 rates to meet
10 their essential needs, thus lowering the bills for financially constrained customers.

11 The Commission should adopt SCE’s proposal to maintain the current ratio of
12 1.29:1 for residential rates, because the current tier ratio sends a sufficient conservation
13 signal. In considering a tier differential of 1.25:1 during the Residential Rate Reform
14 Order Instituting Rulemaking (ROIR), the Commission found that a mild tier differential
15 is sufficient to send a conservation signal to customers.²⁵ The finding that a mild tier
16 differential, such as SCE’s current ratio of 1.29:1, is sufficient to incentivize conservation
17 is supported in this proceeding by the consistently declining average residential usage
18 across seasons and baseline zones.²⁶

19 In addition, the Commission identified in two separate decisions that increasing
20 tier differentials does not equate to increased conservation. In the ROIR, there was a lack

²¹ SCE-04A at 60-61.

²² SCE Advice Letter 2872-E: Implementation of Phase 2 of Southern California Edison Company’s 2012 General Rate Case as Authorized in Decision 13-03-031, March 29, 2013 at 9. (SCE’s residential tiered rates collapsed from five tiers to four tiers effective April 1, 2013).

²³ SCE Advice Letter 5041-E: Implementation of Southern California Edison Company's Consolidated Revenue Requirement and Rate Change on June 1, 2023, May 30, 2023 at 11. (SCE’s residential tiered rates collapsed from two tiers plus a high usage charge tier to two tiers only effective June 1, 2023.)

²⁴ D.15-07-001, Findings of Fact 78 at 315.

²⁵ D.15-07-001, Finding of Fact 62 at 314.

²⁶ See Table 6-3.

1 of evidence to indicate that steep tier differentials lead to proportionately more
2 conservation.²⁷ Specifically, Decision (D.) 15-07-001 states,

3 In other words, the evidence demonstrates that a differential provides a
4 price signal to conserve, but the evidence does not demonstrate that a large
5 rate increase would have a correspondingly large impact on conservation.²⁸

6 The lack of a relationship between steep tier differentials and increased conservation also
7 supported the Commission's decision to eliminate SCE's high usage charge, which was
8 the rate for SCE's highest tier (i.e. tier 3). The high usage charge had a steep differential
9 of 2.19 times greater than the tier 1 rate.²⁹ Despite being significantly steeper than SCE's
10 current tier differential, the Commission found the high usage charge did not have a
11 substantial impact on conservation.³⁰ Therefore, due to the lack of evidence showing a
12 relationship between steeper differentials and increased conservation, the Commission
13 should adopt SCE's proposal to maintain SCE's current tier differential of 1.29:1.

14 **C. The Commission Should Adopt SCE's Proposal to**
15 **Maintain the Current Incremental Baseline Allowance for**
16 **Residential Customers with a Heat Pump Water Heater.**³¹

17 SCE's proposal to maintain the incremental baseline allowance for residential
18 customers with a heat pump water heater (HPWH) should be adopted because it is
19 premature to evaluate the current baseline adjustment or alternative proposals given a
20 lack of customer participation. SCE's incremental HPWH allowance was adopted in
21 SCE's 2021 GRC 2 (A.20-10-012) through settlement³² and provides residential
22 customers with HPWHs on tiered, TOU rate schedules TOU-D-4-9pm and TOU-D-5-
23 8pm with an incremental baseline allowance.³³ This incremental baseline allowance

²⁷ D.15-07-001, Finding of Fact 52 at 313.

²⁸ D.15-07-001 at 103.

²⁹ D.15-07-001 at 125. (The high usage charge is also known as the super user electric (SUE) surcharge).

³⁰ D.21-03-003, Findings of Fact 8 and 9 at 35.

³¹ SCE-04A at 70-72.

³² D.22-08-001, Ordering Paragraph 2 at 45.

³³ SCE Advice Letter 4864-E: Implementation of Southern California Edison Company's 2021 General

1 results in a financial incentive for customers on these rates to adopt HPWHs by
2 increasing the baseline quantity charged at discounted tier 1 rates. The incremental daily
3 baseline allowances are provided in Table 6-4.

4 **Table 6-4: Residential HPWH Incremental Baseline Allowance Quantity**

Service Type	Summer (kWh per Day)	Winter (kWh per Day)
Basic	1.9	2.6
All-Electric	1.9	3

5
6 As part of the adopted settlement that implemented this incremental baseline
7 allowance, SCE agreed to evaluate, in this 2025 GRC Phase 2 proceeding, the
8 appropriateness of the incremental baseline allowance quantity, including enrollment and
9 participant electricity usage changes. However, despite offering this incremental baseline
10 allowance to customers since October 1, 2022,³⁴ SCE states there is insufficient
11 participation to meaningfully evaluate the HPWH baseline allowance.³⁵

12 In a data request response to Cal Advocates, SCE added that in four of SCE's
13 baseline territories (out of nine total), that there were fewer than 16 customers enrolled
14 that were not on a net energy metering rate, which SCE asserts is too few to provide a
15 meaningful evaluation.³⁶ SCE further clarifies that customers enrolled in the HPWH
16 incremental baseline option would need at least 12 months of usage data to provide
17 meaningful results.³⁷ Cal Advocates concurs with SCE's assertions that participation in

Rate Case Phase 2 Application and Consolidated Revenue Requirement and Rate Change on October 1, 2022, September 15, 2022, Attachment A, SCE Preliminary Statement H: Baseline Service, Sheet 2.

³⁴ SCE Advice Letter 4864-E: Implementation of Southern California Edison Company's 2021 General Rate Case Phase 2 Application and Consolidated Revenue Requirement and Rate Change on October 1, 2022, September 15, 2022, at 18.

³⁵ SCE-04A at 70 - 71.

³⁶ [Attachment 6-1 at B-9 to B-10] SCE's May 16, 2024 response to data request Cal Advocates-SCE-005, questions 3.a-3.b.

³⁷ [Attachment 6-1 at B-9 to B-10] SCE's May 16, 2024 response to data request Cal Advocates-SCE-005, questions 3.a-3.b.

1 the HPWH incremental baseline option was insufficient when SCE filed this application
2 to reasonably evaluate effectiveness.

3 Cal Advocates also concurs with SCE's proposal to evaluate this HPWH baseline
4 allowance in the next GRC Phase 2 which will provide additional opportunity for
5 increased enrollment and additional data to analyze. During the period when SCE was
6 finalizing its application, there has been a significant increase in residential HPWH
7 adoption that may not yet have 12 months of billing data available to analyze.³⁸
8 Assuming participation persists or increases, analysis of the HPWH incremental baseline
9 allowance in SCE's GRC Phase 2 would likely provide more meaningful results.

10 The Commission should also adopt SCE's proposal to maintain the current
11 incremental HPWH baseline quantities. The Commission previously found these
12 quantities to be sufficient to provide energy bill savings for 97.8% of residential
13 customers switching from a natural gas to an electric HPWH.³⁹ In Resolution E-5233,
14 the Commission reviewed analysis comparing the simulated, combined energy bills for
15 residential customers with: 1) a natural gas water heater and taking service on default
16 electric rate schedule TOU-D-4-9pm; and 2) a HPWH and taking electric service on
17 either TOU-D-4-9pm or TOU-D-5-8pm with the incremental HPWH baseline
18 allowance.⁴⁰ Residential customers with HPWHs served on either electric rate schedule
19 with the additional baseline allowance were estimated to save on their annual energy bills
20 in all of SCE's baseline territories except baseline territory 16, which only accounted for

³⁸ [Attachment 6-1 at B-11] SCE's May 16, 2024 response to data request Cal Advocates-SCE-005, questions 2.a. (SCE reported that there are 2,884 residential customers known to SCE to have HPWH, with 2,050 also enrolled in eligible rate schedules for the incremental HPWH baseline allowance as of May 1, 2024.)

³⁹ Resolution E-5233, December 1, 2022 at 25. Retrieved from <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M499/K779/499779180.PDF>, accessed August 19, 2024.

⁴⁰ Resolution E-5233, Table 6 (Climate Zones 5-9) and Table 7 (Climate Zones 10-16): SCE Bill Analysis of Customers on Rate TOU-D-4to9/5to8 with the new baseline allowance adjustment, switching from a 0.56 UEF gas water heater to a 3.3 UEF electric heat pump water heater operated at 125oF tank temperature, December 1, 2022 at 23 - 24. Retrieved from <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M499/K779/499779180.PDF>, accessed August 19, 2024.

1 2.2% of SCE’s residential customers. Given the recent findings in Resolution E-5233
2 that the current incremental baseline values are sufficient to produce simulated energy
3 bill savings to nearly all residential customers, and the current lack of enrollment to
4 meaningfully analyze actual customer bill savings, the Commission should retain the
5 current incremental HPWH baseline values until SCE’s next GRC Phase 2.

6 **D. The Commission Should Adopt SCE’s Proposal to**
7 **Maintain the Current TOU Period Differentials for**
8 **Residential Rate Schedules TOU-D-4-9pm and**
9 **TOU-D-5-8pm.⁴¹**

10 Cal Advocates supports SCE’s proposal to maintain the current TOU differentials
11 for residential rates TOU-D-4-9pm and TOU-D-5-8pm. TOU differentials dictate the
12 percentage difference between the higher and lower-cost TOU periods. Given that these
13 were both adopted as default rates during the initial transition to residential TOU rates,⁴²
14 milder differentials provide customers with an “introduction” to TOU rates. These
15 default TOU rates provide customers with opportunities to save on their bills through
16 conserving usage or shifting usage to off-peak periods, while not overly penalizing these
17 customers with higher rates and bills for usage they are unable to shift to lower-cost
18 periods.

19 Modifying the TOU differentials for these rates is unnecessary, because SCE has a
20 wide variety of rate schedule options with larger TOU differentials to provide more
21 flexible customers with additional opportunities to save on their bills by shifting usage.
22 For example, TOU-D-4-9pm customers that are unsatisfied with the milder TOU
23 differentials can switch to TOU-D-5-8pm which provides a rate during the most
24 expensive summer TOU period that is 2 times the rate in the cheapest summer TOU

⁴¹ SCE-04A at 63-65.

⁴² D.19-07-004, Ordering Paragraph 2 at 213. (D.19-07-004 adopted both TOU-D-4-9pm and TOU-D-5-8pm as default rates during for the residential default TOU rate transition.)

1 period.⁴³ Further, the most expensive winter rate that TOU-D-5-8pm offers is 1.8 times
2 the cheapest winter TOU period rate.⁴⁴

3 Experienced TOU customers that are able to avoid usage during the peak period
4 can further benefit already by choosing to enroll in the Critical Peak Pricing (CPP)
5 options of either TOU-D-4-9pm or TOU-D-5-8pm. CPP enrollment provides customers
6 with bill credits toward their summer on-peak use in exchange for avoiding usage during
7 the peak period on CPP event days. If a customer is unable to reduce or shift load during
8 the peak period on CPP event days, the customer's rates increase by 80 cents per kWh
9 (essentially double the rate). Lastly, customers with a qualifying electrification
10 technology can enroll in TOU-D-PRIME which is a rate option that provides significantly
11 steeper differentials than the default rates.⁴⁵

12 The Commission should adopt SCE's proposal to maintain current TOU periods
13 for its default rate, because 1) customers on default TOU should not be penalized for
14 being unable to conserve or shift load during the peak period, and 2) SCE already has rate
15 choice options available for customers that are able to conserve peak period use or shift
16 usage.

17 **E. The Commission Should Reject SCE's Proposal to**
18 **Increase the Seasonal Differential from 1 Cent/kWh to 4**
19 **Cents/kWh for Residential Rate Schedules TOU-D-4-9pm**
20 **and TOU-D-5-8pm.**

21 The Commission should reject SCE's proposal to increase the seasonal differential
22 from 1 cent per kWh to 4 cents per kWh because SCE's proposal would increase bill
23 volatility and send inefficient price signals to customers. The seasonal differential is the

⁴³ SCE-06, Table IV-10: Status Quo 5-8pm Rates vs. Updated Proposed Rates at 19.

⁴⁴ SCE-06, Table IV-10: Status Quo 5-8pm Rates vs. Updated Proposed Rates at 19.

⁴⁵ SCE-06, Table IV-12: Status Quo PRIME w/ Fixed Charge and Proposed PRIME w/ Fixed Charge at 21. (TOU-PRIME provides customers with rates during the highest cost period that are 2.6 times the rate during the least expensive period all year.)

1 rate difference between average summer⁴⁶ and winter⁴⁷ rates, with average summer rates
2 currently being 1 cent per kWh higher than average winter rates. SCE's proposal to
3 increase the seasonal differential would provide slightly lower rates for the eight winter
4 months⁴⁸ at the expense of increased rates and bills during the four summer months.⁴⁹

5 **1. SCE's Proposal Would Increase Summer Rates and**
6 **Bills.**

7 SCE's proposal would increase summer bills for a significant portion of residential
8 customers.⁵⁰ Assuming no change in current usage, SCE estimates that its proposal
9 would result in 44% of residential customers on the default rate⁵¹ experiencing annual bill
10 increases.⁵² The annual bill increases are a result of the eight months of slightly
11 decreased winter bills not providing sufficient savings to negate the four months of more
12 highly increased summer bills. Also, SCE's proposal would disproportionately increase
13 summer rates on both a percentage and cents per kWh basis during the peak period⁵³
14 which would harm residential customers on default rates unable to conserve usage or
15 shift load to lower-cost periods with higher bills. For example, SCE's proposal would
16 increase the summer, on-peak rate by 7% (4.1 cents per kWh) for customers on TOU-D-

⁴⁶ SCE's four summer billing months are June through September. SCE-04A at 131.

⁴⁷ SCE's eight winter billing months are October through May. SCE-04A at 131.

⁴⁸ SCE-06, Table IV-9: Status Quo 4-9pm Rates vs. Updated Proposed Rates) and Table IV-10: Status Quo 5-8pm Rates vs. Updated Proposed Rates at 18-19. (SCE estimates its proposal with the new residential fixed charge would decrease winter average rates by 3% for schedules TOU-D-4-9pm and TOU-D-5-8pm.)

⁴⁹ SCE-06, Table IV-9: Status Quo 4-9pm Rates vs. Updated Proposed Rates and Table IV-10: Status Quo 5-8pm Rates vs. Updated Proposed Rates at 18 - 19. (SCE estimates its proposal with the new residential fixed charge would increase summer average rates by 4% for customers on both TOU-D-4-9pm and TOU-D-5-8pm.)

⁵⁰ SCE-04A at 61.

⁵¹ TOU-D-4-9pm with SCE's proposed residential fixed charge.

⁵² SCE-06, Table IV-11: Bill Impact Analysis: Status Quo 4-9 w/Fixed Charge to Proposed TOU-D-4-9 w/ Fixed Charge (Non-CARE Customers) at 20.

⁵³ SCE-06, Table IV-9 at 18 (Status Quo 4-9pm Rates vs. Updated Proposed Rates) and Table IV-10 at 19 (Status Quo 5-8pm Rates vs. Updated Proposed Rates).

1 4-9pm,⁵⁴ and 10% (6.8 cents per kWh) for customers on TOU-D-5-8pm.⁵⁵ Further
2 summer rate and bill increases resulting from SCE's proposal would compound as a
3 result of revenue increases approved during this GRC Phase 2 cycle. In addition,
4 potential revenue increases adopted in SCE's currently active 2025 GRC Phase 1
5 application, A.23-05-010, would increase summer on-peak rates even higher, thus further
6 magnifying the burden on residential customers unable to conserve usage or shift load to
7 lower-cost periods.

8 Given that residential customers would experience summer bill increases, and
9 nearly half would experience annual bill increases, the Commission should find SCE's
10 proposal to increase the seasonal differential is not in the public interest.

11 **2. Current Rate Design Provides More Efficient Price**
12 **Signals than SCE's Proposed Seasonal Differential**
13 **Increase.**

14 SCE's proposal to increase the seasonal differential sends an inefficient price
15 signal to customers at the expense of increased summer rates and bills. Current TOU
16 rates provide customers with varied electricity rates throughout the day. These varied
17 rates provide customers with intraday opportunities to reduce their bill by shifting their
18 usage from the higher cost periods to off-peak periods with lower rates. Rate schedules
19 TOU-D-4-9pm and TOU-D-5-8pm already provide price signals for customers to reduce
20 their usage through a 9 cent per kWh rate increase for usage above the baseline quantity.

21 Conversely, SCE's proposal to increase the seasonal differential would provide an
22 annual price signal that customers would have difficulty responding too. SCE's proposal
23 would send customers the inexplicable price signal to shift load from the more costly
24 summer months to the less costly winter months. This price signal is not only
25 impractical, but it is also unreasonable to assume that the majority of residential
26 customers on **default** rates would have sufficient electric rate knowledge or ability to

⁵⁴ SCE-06, Table IV-9: Status Quo 4-9pm Rates vs. Updated Proposed Rates at 18.

⁵⁵ SCE-06, Table IV-10: Status Quo 5-8pm Rates vs. Updated Proposed Rates at 19

1 respond to this price signal that requires shifting load from summer to winter. As
2 practical examples, customers are unable to shift electricity consumption for laundry,
3 cooking, air conditioner use, or charging their electric vehicle during the summer, and
4 instead perform these activities in winter.

5 The only feasible way customers could respond to this price signal would be to
6 conserve more during the summer months. Customers whose usage already falls below
7 the baseline allowance and are charged discounted tier 1 rates for their total monthly
8 usage are unlikely to have additional capacity to conserve further during the summer
9 months while also meeting their essential cooling needs. Customers whose monthly
10 usage exceeds the baseline allowance are already sent a conservation signal through a 9
11 cent increase for additional usage above the baseline quantity. SCE's testimony does not
12 provide sufficient supporting evidence that a four-cent average summer rate increase,
13 combined with the current 9 cent differential for usage above the baseline quantity, would
14 further incentivize customers to conserve.

15 **3. SCE's Proposal to Increase Summer Rates and**
16 **Bills is Ill-Timed Given the Persistent Trend of**
17 **Hotter Summers.**

18 SCE's proposal to increase the summer rates is ill-timed given the current trend of
19 increasing summer temperatures and the increased need for customers to use electric
20 powered cooling such as air conditioning. The California Office of Environmental
21 Health Hazard Assessment (OEHHA) reports that average annual temperature increases
22 across California have accelerated and "seven of the past eight years have been the
23 warmest on record."⁵⁶ In addition, SCE's service territory covers some of the hottest
24 locations in the United States such as Palm Springs.⁵⁷ It is therefore imperative for the

⁵⁶ The California Office of Environmental Health Hazard Assessment, 2022 Report: Indicators of Climate Change in California, Air Temperatures, July 1, 2024 update. Retrieved from <https://oehha.ca.gov/climate-change/epic-2022/changes-climate/air-temperatures>, accessed August 14, 2024.

⁵⁷ Temperatures in Palm Springs exceeded 120 degrees Fahrenheit on multiple days in July 2024. Retrieved from <https://www.npr.org/2024/07/11/nx-s1-5034292/temperature-records-heatwave-climate-change>, accessed September 19, 2024.

Commission to balance moving toward more cost-based rate design with ensuring residential customers can afford essential cooling needs. Given the current trend of hotter summers in SCE's territory and the resulting increased reliance on electricity to meet essential cooling needs, the Commission should reject SCE's proposal which would increase summer rates and bills for residential customers on default TOU rates.

F. The Commission Should Reject SCE's Proposal to Reduce the CARE Discount from 32.5% to 31.25%.⁵⁸

The CARE program is a statutorily prescribed program which provides income qualified residential and non-residential customers financial relief through a 30% to 35% discount on their energy bills.⁵⁹ The CARE program provides a public benefit to help lower income customers meet their essential energy needs, and thus the majority of the program's participants are residential customers. Although most CARE participants are residential customers, PU Code 739.1(a) infers the programs costs should be shared amongst customer classes by stating "the cost of which shall not be borne solely by any single class of customer."

Currently, SCE's method of calculating the CARE discount percentage of 32.5% includes the benefits CARE customers should see from exemption from paying certain charges. For example, if the exemptions hypothetically equate to a 5% rate discount for CARE customers compared to non-CARE customers, SCE's CARE discount of 32.5% equals the sum of 5% (exemption discount value) and 27.5% (additional CARE discount to reach 32.5%). However, the passage of AB 205 recently amended how the utilities should set the CARE discount percentage, by excluding the value of CARE-exempt charges.⁶⁰ Using the previous hypothetical example, SCE's CARE discount of 32.5% plus the 5% rate reduction benefits CARE customers receive for being exempt from certain charges would result in an overall 37.5% discount for CARE customers. D.24-05-

⁵⁸ SCE-06 at 8.

⁵⁹ PU Code 739.1.

⁶⁰ PU Code 739(c)(1).

028 adopted a new CARE discount calculation method which complied with AB 205.⁶¹
In addition to implementing the newly adopted CARE discount calculation method
pursuant to D.24-05-028 that increases the CARE benefit by the additional exemption
discount value, SCE proposes to partially offset the increased CARE benefit by reducing
its effective CARE discount by 1.25% percentage points in its supplemental testimony.⁶²
The Commission should reject SCE's proposed CARE discount decrease because it is
based on a skewed analysis that is biased toward customer classes with fewer CARE
participants.

SCE asserts that the expanded CARE discount's benefits and structure approved in
D.24-05-028 results in a disproportional cost shift to non-residential customer classes
based on SCE's analysis of class level revenue changes.⁶³ SCE's high-level analysis
determines a cost shift by netting out the CARE discount benefit provided to each class
from the CARE discount costs recovered from that class. SCE's high-level analysis
explicitly attributes the CARE program's rate reduction benefits to the entire class, both
CARE program participants and non-participants. This high-level analysis results in the
skewed view that customer classes with few or no CARE participants appear to be
burdened with a greater share of the CARE program's costs. Conversely, SCE's analysis
could be misconstrued to argue that the residential class, which has the largest number of
CARE enrolled customers, is paying a lower proportion of the CARE program costs.
Essentially, SCE's analysis method would result in the inaccurate conclusion that a
disproportionate cost shift to non-residential classes for any CARE discount percentage
above the 30% minimum discount, because most of the participants for this income
qualified program are residential customers.

⁶¹ D.24-05-028, Conclusion of Law 11 at 147.

⁶² SCE-06 at 8.

⁶³ SCE-06 at 8. SCE provides its CARE benefit analysis results for the current CARE discount percentage of 32.5% in SCE-06, Table III-3: Comparison of Revenue Allocation with a 32.5 Percent CARE Discount, at 8. SCE provides its comparative analysis results at SCE's proposed CARE discount reduction of 31.25% in SCE-06, Table III-3: Comparison of Revenue Allocation with a 31.25 Percent CARE Discount, at 10.

1 In contrast to SCE's evaluation method, the Commission should exclude the
2 CARE discount benefit provided to each class when evaluating SCE's proposed CARE
3 discount decrease. Instead, the Commission should solely evaluate whether there is a
4 shift in cost responsibility for the CARE program based on the percentage of the
5 program's costs recovered from each customer class. For example, under SCE's current
6 CARE discount calculation method and SCE's current CARE discount percentage of
7 32.5%, SCE estimates the residential class would shoulder 25.54% of the forecasted 2025
8 CARE discount program costs (see Table 6-5 column B).⁶⁴ In comparison, under the
9 more current CARE program calculation method adopted by D.24-05-028, SCE estimates
10 residential customers would actually shoulder a slightly larger share of the CARE
11 program costs at 25.85% (see Table 6-5 column D).⁶⁵ In essence, SCE's proposed CARE
12 discount implementation pursuant to D.24-05-028 would actually result in residential
13 customers supporting a slightly higher percentage of the CARE discount costs at the
14 current CARE discount percentage of 32.5% (~.3% larger cost allocation percentage, see
15 Table 6-5 column E), and not less as SCE's high-level analysis could be misinterpreted to
16 conclude.

17 Given that the legislature recently expanded the CARE discount benefit provided
18 to low-income customers, and the percentage of the CARE discount cost each customer
19 class pays for would remain relatively stable (see Table 6-5 column E), the Commission
20 should reject SCE's proposal to reduce the CARE discount percentage.

⁶⁴ SCE workpapers supporting SCE-06, file "CAREComps Supplemental.xlsx," tab "32.50_PCT," cell I19.

⁶⁵ Residential allocated CARE surcharge revenues of \$221.8 million, divided by system CARE surcharge revenues of \$858.6 million. SCE workpapers supporting SCE-06, file "CAREComps Supplemental.xlsx," tab "32.50_PCT," cells N19 and N39.

Table 6-5: CARE Program Cost Responsibility Comparison

	Current Method - CARE Surcharge Cost Allocation at 32.5% Discount (\$M)⁶⁶	Current Method - CARE Surcharge Cost Allocation at 32.5% Discount (%)	D.24-05-028 Method - CARE Surcharge Cost Allocation at 32.5% Discount (\$M)⁶⁷	D.24-05-028 Method - CARE Surcharge Cost Allocation at 32.5% Discount (%)	CARE Discount Cost Responsibility Comparison at 32.5% Discount
Column	A	B	C	D	E = D-B
Residential	\$195.10	25.5%	\$221.82	25.8%	0.3%
GS-1	\$62.08	8.1%	\$69.53	8.1%	0.0%
TC-1	\$0.56	0.1%	\$0.62	0.1%	0.0%
GS-2	\$139.57	18.3%	\$156.49	18.2%	0.0%
TOU-GS-3	\$85.99	11.3%	\$96.19	11.2%	-0.1%
TOU-8-Sec	\$83.07	10.9%	\$92.92	10.8%	-0.1%
TOU-8-Pri	\$60.86	8.0%	\$68.09	7.9%	0.0%
TOU-8-Sub	\$65.07	8.5%	\$72.80	8.5%	0.0%
AG&P < 200 KW	\$20.76	2.7%	\$23.22	2.7%	0.0%
AG&P >= 200 KW	\$18.80	2.5%	\$21.03	2.4%	0.0%
Total St.Lights	\$0.00	0.0%	\$0.00	0.0%	0.0%
STANDBY/SEC	\$1.51	0.2%	\$1.69	0.2%	0.0%
STANDBY/PRI	\$5.46	0.7%	\$6.11	0.7%	0.0%
STANDBY/SUB	\$25.06	3.3%	\$28.04	3.3%	0.0%
SYSTEM	\$763.90	100.0%	\$858.56	100.0%	0.0%

⁶⁶ SCE workpapers supporting SCE-06, file “CAREComps Supplemental.xlsx,” tab “Summary.”

⁶⁷ SCE workpapers supporting SCE-06, file “CAREComps Supplemental.xlsx,” tab “Summary.”

1 **III. CONCLUSION**

2 The Commission should adopt Cal Advocates' proposed residential rate design
3 recommendations, as they provide residential customers with rate and bill stability.

APPENDIX A

Qualifications of Witnesses

**QUALIFICATIONS AND PREPARED TESTIMONY
OF
CHRISTOPHER HOGAN**

Q.1 Please state your name and address.

A.1 My name is Christopher Hogan and my business address is 505 Van Ness Avenue, San Francisco, CA 94102.

Q.2 By whom are you employed and what is your job title?

A.2 I work in the Electricity Pricing and Customer Programs Branch of Cal Advocates as a Regulatory Analyst.

Q.3 Please describe your educational and professional experience.

A.3 I graduated from California State University East Bay, in Hayward California with a Master of Science degree in Statistics and a Bachelor of Science degree in Statistics and Economics. I have been employed by Cal Advocates for more than seven years. In my experience at Cal Advocates, I have submitted testimony and participated in San Diego Gas & Electric Company's (SDG&E) 2023 General Rate Case (GRC) Phase II Application (A. 23-01-008), SDG&E's 2022 Sales Forecast (A. 21-08-010), Southern California Edison Company's (SCE) 2021 GRC Phase II (A. 20-10-012), Pacific Gas and Electric Company's (PG&E) 2020 GRC Phase II (A.19-11-019), SDG&E's 2019 GRC Phase II (A.19-03-002), Phase 2A of PG&E's and SCE's 2018 Rate Design Window Proceeding (consolidated as A.17-12-011), and SCE's 2018 GRC Phase II (A.17-06-030).

Q.4 What is your area of responsibility in this proceeding?

A.4 I am responsible for testimony in Chapter 6, Residential Rates.

Q.5 Does that complete your prepared testimony?

A.5 Yes, it does.

APPENDIX B

SUPPORTING ATTACHMENTS

Attachment 6-1: Selected Data Request Questions and Responses
Bill Impact Comparison Between
Cal Advocates' and SCE's TOU-D-4-9pm Proposals.¹

Southern California Edison
A.24-03-019 – 2025 SCE GRC Phase 2

DATA REQUEST SET P u b A d v - S C E - 0 3 1

To: Public Advocates Office
Prepared by: Andre Ramirez
Job Title: Senior Advisor
Received Date: 11/14/2024

Response Date: 11/21/2024

Question 01.a-b Supplemental:

Please provide bill impact results comparing the following two scenarios for residential rate schedule TOU-D-4-9pm:

a. Scenario 1

Scenario 1: TOU-D-4-9PM			
Non-CARE	Del	Gen	Total
On	0.26663	0.34062	0.60725
Mid	0.26663	0.21392	0.48055
Off	0.22476	0.13823	0.36299
Mid	0.25064	0.23873	0.48937
Off	0.21175	0.15277	0.36452
S-Off	0.19775	0.13127	0.32902
BLC	-0.09065	0	-0.09065
CARE (31.25% Discount)			
	Del	Gen	Total
On	0.07072	0.34062	0.41134
Mid	0.11031	0.21392	0.32423
Off	0.10518	0.13823	0.24341
Mid	0.09157	0.23873	0.33029
Off	0.09169	0.15277	0.24446
S-Off	0.08878	0.13127	0.22005
BLC	-0.06232	0	-0.06232
Tier 1	6.00	-	6.00
Tier 2	12.08	-	12.08
Tier 3	24.15	-	24.15

¹ SCE's November 21, 2024 response to data request Cal Adv-SCE-031, question 1.a - 1.b.

b. Scenario 2

Scenario 2: TOU-D-4-9PM			
Non-CARE	Del	Gen	Total
On	0.23901	0.31563	0.55463
Mid	0.23901	0.19822	0.43723
Off	0.20082	0.12809	0.32892
Mid	0.24015	0.24035	0.48050
Off	0.20175	0.15381	0.35556
S-Off	0.18793	0.13216	0.32009
BLC	-0.08580	0	-0.08580
CARE (32.5% Discount)	Del	Gen	Total
On	0.05272	0.31563	0.36834
Mid	0.09087	0.19822	0.28910
Off	0.08789	0.12809	0.21598
Mid	0.07795	0.24035	0.31830
Off	0.08016	0.15381	0.23397
S-Off	0.07787	0.13216	0.21003
BLC	-0.05791	0	-0.05791
Tier 1	6.00	-	6.00
Tier 2	12.08	-	12.08
Tier 3	24.15	-	24.15

Response to Question 01.a-b Supplemental:

Please see the attached PDF file.

Calculated Field

Solve Order	Field	Formula
1	Monthly Usage	=kwh/ndays*30.4
2	Current Bill	=topta/ndays*30.4
3	Proposed Bill	=billgrc/ndays*30.4
4	Impact	='Proposed Bill'/'Current Bill'-1
5	Current Rate	=topta/kwh*100
6	Proposed Rate	=billgrc/kwh*100
7	summer_bill	=bill_summer/ndays_summer*30.4
8	summer_bill_new	=bill_new_summer/ndays_summer*30.4
9	winter_bill	=bill_winter/ndays_winter*30.4
10	winter_bill_new	=bill_new_winter/ndays_winter*30.4
11	Annual Difference	='Proposed Bill' -'Current Bill'

Calculated Item

Solve Order	Item	Formula
-------------	------	---------

Note: When a cell is updated by more than one formula, the value is set by the formula with the last solve order.

To change the solve order for multiple calculated items or fields, on the Options tab, in the Calculations group, click Fields, Items, & Sets, and then click Solve Order.

Row Labels	Percent Populatio n	Annual										Summer										Winter									
		Monthly		Monthly		Pct Change	Summer		Summer		Summer Difference	Winter		Winter		Winter Difference	Winter Pct Change														
		kwh	Rate 1 Bill	Rate 2 Bill	kwh		Rate 1 Bill	Rate 2 Bill	kwh	Rate 1 Bill		Rate 2 Bill	kwh	Rate 1 Bill	Rate 2 Bill																
1.CARE	25.8%	490	\$118	\$109	-\$8	-7%	671	\$171	\$152	-\$19	-11%	398	\$91	\$88	-\$3	-3%															
2.FERA	0.5%	577	\$177	\$167	-\$9	-5%	804	\$259	\$235	-\$24	-9%	462	\$135	\$133	-\$2	-2%															
3.Non-CARE/Non-FERA	73.7%	487	\$192	\$182	-\$9	-5%	647	\$263	\$240	-\$23	-9%	406	\$155	\$153	-\$2	-1%															
Grand Total	100.0%	488	\$172	\$163	-\$9	-5%	654	\$239	\$216	-\$22	-9%	404	\$138	\$135	-\$2	-2%															

SCE's Baseline Allowance Quantity Calculation Method.²

Southern California Edison
A.24-03-019 – 2025 SCE GRC Phase 2

DATA REQUEST SET P u b A d v - S C E - 0 0 5

To: Public Advocates Office
Prepared by: Steve Verdon
Job Title: Advisor
Received Date: 5/2/2024

Response Date: 5/16/2024

Question 05.a:

Please provide a narrative describing SCE's baseline allowance calculation by service territory and season.

a. Please provide an illustrative calculation to clarify SCE's narrative of its baseline allowance calculation method in an excel format with all formulas intact.

Response to Question 05.a: SCE uses a methodology for determining the baseline allowances known as the bill frequency methodology. This methodology determines a cumulative distribution function (cdf) for each baseline region for the total kWh (by all electric and basic customers). This cdf is constructed by using blocks of customer usage that groups customers by 5 kWh blocks (or bins) and. The "block" that represents the 60th percentile or the two blocks that "bracket" the 60th percentile are used to determine the baseline allowance. In the case of two bracket blocks linear interpolation is used to estimate the baseline allowance, where more weight is given to the block closer to 60% and less to the one "further away". Note, that because of this methodology, the use of average kWh by customer by baseline region is not used to determine the baseline allowance. The average customer usage in the target block(s) is used. In establishing the commission noted that the word average is not meant to imply a mathematical average or mean, but instead to mean "typical", "common" or "ordinary".

The attached spreadsheet provides an illustrative calculation of the baseline allowance for a very simplified case. Note, the assumed target is 60%, but since the numbers to generate a unique block with 60% the linear interpolation is used and the result is an estimate so the resulting validation of the ratio of baseline kWh to cumulative kWh is not exactly 60%, but approximately 58%. Note in this example each block/bin has just one customer, so the average is trivial for the bin is the total usage for the customer in the block/bin.

² SCE's May 16, 2024 response to data request Cal Adv-SCE-005, question 5.a.

Historic Usage for SCE’s Residential Customers.³

Southern California Edison
A.24-03-019 – 2025 SCE GRC Phase 2

DATA REQUEST SET P u b A d v - S C E - 0 0 5

To: Public Advocates Office
Prepared by: Jacob P Narvaez
Job Title: Associate Specialist
Received Date: 5/2/2024

Response Date: 5/16/2024

Question 06.a:

Please provide average, monthly, residential electricity usage by season and baseline territory for years 2020-2023 using the response template in part a of this question:

a.

		Average Monthly Residential Usage Per Season and Year in kilowatt hours			
SCE Baseline Territory	Season	2020	2021	2022	2023
5	Summer				
5	Winter				
6	Summer				
6	Winter				
8	Summer				
8	Winter				
9	Summer				
9	Winter				
10	Summer				
10	Winter				
13	Summer				
13	Winter				
14	Summer				
14	Winter				
15	Summer				
15	Winter				
16	Summer				
16	Winter				

Response to Question 06.a:

In response to question 06.a, please refer to the table below. The average monthly residential usage is calculated using net sales per season, year, and baseline territory.

³ SCE’s May 16, 2024 response to data request Cal Adv-SCE-005, question 6.a.

		Average Monthly Residential Usage Per Season and Year in kilowatt hours			
SCE Baseline Territory	Season	2020	2021	2022	2023
5	Summer	615	529	544	533
5	Winter	615	580	630	616
6	Summer	473	427	445	409
6	Winter	446	422	419	404
8	Summer	570	519	553	474
8	Winter	449	414	410	393
9	Summer	722	692	726	595
9	Winter	529	493	484	456
10	Summer	858	828	869	679
10	Winter	546	482	477	432
13	Summer	970	1,020	947	792
13	Winter	522	484	468	411
14	Summer	835	936	861	657
14	Winter	544	508	479	439
15	Summer	1,182	1,249	1,204	1,008
15	Winter	611	545	526	460
16	Summer	530	548	524	453
16	Winter	502	495	499	491

SCE's Perspective on HPWH Baseline Allowance Quantity Analysis.⁴

Southern California Edison
A.24-03-019 – 2025 SCE GRC Phase 2

DATA REQUEST SET P u b A d v - S C E - 0 0 5

To: Public Advocates Office
Prepared by: Hank Elgin
Job Title: Advisor
Received Date: 5/2/2024

Response Date: 5/16/2024

Question 03.a-b:

SCE proposes to perform an evaluation of the HPWH Rate Modifier if participation reaches a level where meaningful evaluation can be performed.⁴

- a. Please provide the estimated number of participants that would provide a sufficient sample size to evaluate the HPWH Rate Modifier.
- b. Please provide any additional constraints on the sample of the HPWH Rate Modifier enrolled participants that should be satisfied to provide a meaningful evaluation. For example, enrolled participants in the sample should have: 12 months of billing history on the HPWH Rate Modifier, 12 months of billing history prior to enrollment on the HPWH Rate Modifier, etc.

Response to Question 03.a-b:

03.a) Standard baseline allowances are provided by baseline region and fuel type, Basic or All-electric. While the current incremental HPWH allowance is only offered by fuel type, assessment of the incremental allowance should consider climate impacts with the following considerations.

- SCE would not expect to have sufficient customers with HPWHs in baseline region 05 as SCE has so few total customers in this region.
- Four of the remaining eight baseline regions (13, 14, 15, and 16) have fewer than sixteen non-NEM customers, which SCE considers too few to provide a reliable estimate.
- SCE is also concerned that three of these regions are all considered “hot” regions and ambient temperatures are expected to impact the efficiency of heat pump technology thus excluding these baseline regions may not provide accurate overall estimates of HPWH usage.

The estimated number of participants within each climate zone that are needed to produce a reliable estimate of HPWH usage will vary with the variance in customer loads within each baseline region. Additionally, HPWH usage must be estimated from the total building load and the method of estimation (e.g. pre/post, control group, etc) will impact the exact number of customers needed. Additional considerations are described in Q.03.b.

⁴ SCE's May 16, 2024 response to data request Cal Adv-SCE-005, question 3.a – 3.b.

03.b) The primary constraint to estimating HPWH usage is having a sufficient number of customers with twelve months of HPWH usage. Baseline allowances vary seasonally and household load, including HPWHs, vary throughout the year, therefore a year of HPWH usage is necessary to assess the incremental HPWH allowance.

The method of estimation may also impact the number of customers needed to obtain a reliable estimate of HPWH usage. Twelve months of usage before adopting a HPWH is necessary if the method of estimation is comparing HPWH adopter usage prior to adoption and after adoption. With this method, it would also be necessary to have similar weather in the twelve months before adoption to the twelve months after adoption or the analysis would need to otherwise adjust for weather differences in the two periods. Alternatively, a control group could be identified to compare over the twelve months of HPWH ownership. With this approach, identifying a comparable group may require consideration the presence of other load that may not be explicitly identifiable (e.g. EV ownership)

Finally, variance in the adopted HPWH technology and household use will impact how many adopters are necessary to estimate HPWH usage. HPWHs have varying efficiencies and individual household size and use patterns will impact the amount of HPWH usage that is present in the total household metered load.

Count of SCE's Residential Customers with HPWH as of May 1, 2024.⁵

Southern California Edison
A.24-03-019 – 2025 SCE GRC Phase 2

DATA REQUEST SET P u b A d v - S C E - 0 0 5

To: Public Advocates Office
Prepared by: Hank Elgin
Job Title: Advisor
Received Date: 5/2/2024

Response Date: 5/16/2024

Question 02.a:

SCE states that there was an insufficient level of participation to perform a meaningful evaluation of the heat pump water heater baseline allowance adjustment rate modifier (HPWH Rate Modifier) in this proceeding.³

a. Please provide the current number of residential customers enrolled in the HPWH Rate Modifier by residential rate schedule.

Response to Question 02.a:

The following table contains the number of residential customers with HPWHs by rate schedule as of May 1st, 2024.

Rate Schedule	Basic	All-electric	All
Domestic	414	420	834
TOU-D-4to9	647	533	1,180
TOU-D-5to8	606	264	870
All	1,667	1,217	2,884

⁵ SCE's May 16, 2024 response to data request Cal Adv-SCE-005, question 2.a.