REPORT

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Default Time-of-Use Pricing Pilot Final Evaluation

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Glossary of Acronyms

CARE	California Alternate Rates for Energy
CCA	Community Choice Aggregator
CPUC	California Public Utilities Commission
DiD	Difference-in-differences
E&O	Education and outreach
FERA	Family Electric Rate Assistance
IOU	Investor owned utility
ITT	Intention-to-treat
LPP	Level payment plan
ME&O	Marketing, education and outreach
OAT	Otherwise applicable tariff
RED	Randomized encouragement design
TOU	Time of use
WG	Working Group

1 Executive Summary

This document constitutes the final evaluation report for Southern California Edison's, residential default time-of-use (TOU) pricing pilot. This pilot was implemented in response to California Public Utilities Commission (CPUC) Decision 15-07-001. A key objective of the pilot is to develop insights that will help guide SCE's approach to implementation of default TOU pricing for the majority of residential electricity customers and the CPUC's policy decisions regarding default pricing.

Findings from the first summer—June through September 2018—are documented in the "Default Time-Of-Use Pricing Pilot Interim Evaluation" dated April 1, 2019 (hereafter referred to as the Interim Report). The Interim Report contains detailed background information on the pilot, describes the pilot design and the load impact evaluation methodology, discusses SCE's pilot implementation and treatments, and presents load impacts for the first summer period. It also presents structural bill impacts and summarizes pre-enrollment opt-out rates. This Final Report contains a brief summary of findings documented in more detail in the prior report, but focuses primarily on load impacts from the winter period in 2018 and 2019 as well as bill impacts for the first year of the pilot.

The winter results provide load impacts for the entire winter rate period of September 2018 through May 2019. Behavioral bill impacts and total bill impacts are provided for the full first year of the pilot, from June 2018 through May 2019. Customer attrition throughout the year is also included in this report.

The pilot tested two different TOU rate options. Approximately 400,000 households were assigned to one of the TOU rates (200,000 to each rate), and an additional 200,000 were retained in the study on the standard tiered rate to act as a control group for those who were placed on the new tariffs. After receiving multiple notifications regarding the fact that their rate will change if they did not take action by a certain date, customers had the option of opting out prior to the rate change and staying either on their otherwise applicable tariff or choosing an alternative rate plan other than the one they were to be defaulted on. If a customer took no action, they were placed on the default rate associated with their assigned group. The initial default notifications are described in detail in Section 2.2. These notifications included a rate analysis comparing each customer's bill based on the new TOU rate with their bill under the otherwise applicable tariff using historical customer data along with additional education and outreach (E&O) material.

Figure 1-1 and Figure 1-2 summarize the rate periods and prices for Rates 4 and 5. Importantly, the prices shown in the figures and discussed below do not reflect the baseline credit of 7¢/kWh that applies to each rate.

Figure 1-1 Default Pilot Rate 4[1]

Day Type	Season	Hour Ending 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Weekday	Summer	Off-Peak (22¢)																Peak (41¢)							
	Winter	Off-Peak (28¢)								Super Off-Peak (17¢)								Mid-Peak (29¢)							
Weekend	Summer	Off-Peak (22¢)																Mid-Peak (26¢)							
	Winter	Off-Peak (28¢)								Super Off-Peak (17¢)								Mid-Peak (29¢)							

Figure 1-2: Default Pilot Rate 5

Day Type	Season	Hour Ending 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Weekday	Summer	Off-Peak (23¢)																	Peak (48¢)						
	Winter	Off-Peak (28¢)								Super Off-Peak (17¢)									Mid-Peak (30¢)						
Weekend	Summer	Off-Peak (23¢)																	Mid-Peak (28¢)						
	Winter	Off-Peak (28¢)								Super Off-Peak (17¢)									Mid-Peak (30¢)						

Rate 4 has two rate periods on summer weekdays and three on winter weekdays. The peak and mid-peak period on Rate 4 is the same all year long and runs from 4 PM to 9 PM. The peak to off-peak price ratio (ignoring the baseline credit) is 1.9 to 1 in summer and mid-peak to super off-peak ratio is 1.7 to 1 in winter. Customers on SCE's Rate 4 pay super off-peak prices on weekends in the winter. In summer, off-peak prices are in effect on weekends from 9 PM to 4 PM, which is the time-period covered by the combination of off-peak and super off-peak prices during winter.

SCE's Rate 5 has two rate periods on summer weekdays and three on winter weekdays, the same structure as Rate 4. Compared with Rate 4, Rate 5 has a much shorter peak period but a slightly higher peak price in summer months (48¢/kWh for Rate 5 versus 41¢/kWh for Rate 4) and slightly high mid-peak price in winter months (30¢/kWh for Rate 5 versus 29¢/kWh for Rate 4). The peak period runs from 5 PM to 8 PM. Rate 5 also features a super off-peak price of roughly 17¢/kWh between 8 AM and 5 PM on weekends during winter. The ratio of peak to off-peak prices in the summer is roughly 2.1 to 1. In winter, the mid-peak to super off-peak price ratio is roughly 1.8 to 1. On weekends, customers pay the off-peak price between 8 PM and 8 AM and the super off-peak price during the same overnight hours as on weekdays, from 8 AM to 5 PM. For the two rates, the summer season covers the months of June through September. The winter season is October through May.

1.1 Pilot Design & Evaluation

Evaluation of the default pilot focused on a number of important research objectives, including:

- Assessing SCE's **operational readiness** to default large numbers of customers onto TOU rates over a short time. Relevant metrics include call volume, billing exception processing, database capabilities, tracking systems, rate change and bill processing, system enhancements, and bill protection processing.

- Determining the **impact of different marketing, education and outreach (ME&O) strategies** on awareness of rate options, opt-out rates, engagement with the TOU rate and customer perceptions while on a TOU rate. Specific ME&O options examined included variation in the type of structural bill information provided in conjunction with the

[1] Rates effective March 1, 2019

default notifications, two messaging strategies, and different format and content for welcome package materials.

- Estimating the **average peak and off-peak change in energy usage** by customers enrolled on each default rate (referred to as rates 4 and 5 to reflect differences in the start time for the peak period, 4 PM versus 5 PM).
- Estimating the **bill impacts** for customers enrolled onto each rate.
- Determining the **opt-out rate** for customers defaulted onto each rate under each notification treatment.
- Determining the impact of options such as Level Payment Plans (LPP) on **customer retention** on each rate as well as on load and bill impacts and customer perceptions while on their default TOU rate.

An assessment of operational readiness is not included in this report. Survey-related metrics such as awareness, customer satisfaction, and others have been obtained through two surveys and are reported elsewhere.

The pilot was structured as a randomized encouragement design (RED) experiment. With a RED, different randomly selected samples of customers are offered different experimental treatments (in this case, a TOU rate or different content or messaging in the recruitment materials) and another random group of customers is not offered anything (e.g., the control group). Some who are offered the treatment take it and some do not. Because each sample is a statistical clone of the other due to the random selection (especially in this case where sample sizes are quite large), comparing the behavior of the encouraged group with that of the control group allows for an unbiased assessment of the impact of the treatment. This analysis requires a two-step process in order to isolate the impact of the encouragement (e.g., the offer of a treatment) from the treatment itself, as explained more fully in Section 3 of the Interim Report.

Load and bill impacts were estimated for four different climate regions in SCE's service territory (hot, moderate, cool, and Climate Zone 10). For the moderate and cool climate regions, estimates were also made for two customer segments, CARE/FERA customers and non-CARE/FERA customers. CARE/FERA customers in the hot climate region and Climate Zone 10 were not allowed to be enrolled on TOU tariffs using default recruitment. As such, comparisons across the two hot and two more moderate regions not only reflect differences in climate but also differences in the mix of customers. Also, differences in load impacts across customer segments at the service territory level reflect not just differences across segments, but also differences in the mix of customers across climate regions for each segment. These differences must be kept in mind when making comparisons across segments and climate regions.

The difference in bills on the TOU rates compared with bills under the otherwise applicable tariff (OAT) are comprised of two components – differences due simply to the rates, holding behavior constant, and differences due to changes in behavior as a result of the difference in price signals. The first type of difference is known as a structural bill impact and can be computed based on usage data prior to customers enrolling on the new rate. Structural Bill Impacts were presented in Section 5 of the Interim Report. Customers have now been on the new tariffs for a

full year, and so this report presents information on behavioral and total bill impacts for summer, winter and an entire year based on pretreatment and post-treatment data.

In addition to load and bill impacts, another important metric is customer opt-out rates. Comparisons of pre-enrollment opt-out rates across rate options are indicators of the relative preferences of customers for each rate option. Comparisons of enrollment rates across notification content and messaging treatments within a rate option were documented in the Interim Report, as were comparisons across customer segments and climate regions. In this report, post-enrollment opt-out rates are presented by rate, CARE/FERA status, climate region, and post-enrollment treatment.

1.2 Overall Findings

The first year of SCE's default TOU pilot has produced a large amount of information that will help guide SCE's approach to implementation of default TOU pricing. As described above, differences in load and bill impacts and opt-out rates across customer segments at the service territory level reflect not just differences across segments, but also differences in the mix of customers across climate regions. CARE/FERA customers in the hot climate region and Climate Zone 10 were not allowed to be enrolled on TOU tariffs using default recruitment. Comparisons between CARE/FERA and non-CARE/FERA customers are valid for the moderate and cool climate regions and comparisons across all four climate regions are valid for non-CARE/FERA customers. However, comparisons across segments at the service territory level reflect both differences in behavior across segments as well as differences in the participation of segments across climate regions.

If comparisons are made between SCE's default rates and the prior opt-in pilot, it is important to note that the months included in the evaluation, peak period hours, prices, and inclusion of CARE/FERA customers all changed between the opt-in and default pilots. Therefore, the differences observed between the pilots are not solely a difference in customer response to opt-in versus default enrollment strategies. With these cautions in mind, the remainder of this section provides a high level summary of key findings.

1.2.1 Load Impacts

Table 1-1 presents the average weekday peak period load reduction for each pilot rate. Key findings for load impacts are summarized in following the table.

Table 1-1: Peak Period Load Reductions on Average Weekday

Utility	Metric	Rate 4		Rate 5	
		Summer	Winter	Summer	Winter
SCE	Peak Period Hours	4-9 PM		5-8 PM	
	% Impact	1.50%	0.90%	2.00%	1.20%
	Absolute Impact (kW)	0.02 kW	0.01 kW	0.03 kW	0.01 kW

- On average, default customers on both Rates 4 and 5 produced small but statistically significant, peak-period load reductions in the summer months. In these months, peak period load reductions averaged roughly 1.5% for Rate 4 and 2.0% for Rate 5. In the winter months, peak period load reductions were 0.9% for Rate 4 and 1.2% for Rate 5.[2]
- Load reductions for the common hours shared by the two rates (5 to 8 PM) were greater for Rate 5 than for Rate 4 in both the winter and the summer, likely because of the higher peak period price per kWh. It's also possible the shorter peak period of Rate 5 allowed for greater flexibility in customer response to the price signal. The difference was statistically significant for the territory as a whole and in the moderate climate region for both seasons. The difference was statistically significant in the summer months for Climate Zone 10.[2]
- Statistically significant but small reductions in daily electricity use were found for both rates and in all climate regions in the summer months. It appears that the average customer in SCE's service territory was more likely to reduce overall usage during the peak period rather than shift usage to off-peak hours.[2]
- In the winter months, daily electricity usage impacts were mixed. They were small but statistically significant at the full pilot level for both rates, and for all climate regions on Rate 5. Customers in the hot climate region did not have statistically significant daily kWh impacts in the winter, and customers in Climate Zone 10 on Rate 4 actually increased their average weekday consumption by 0.4%.
- In the summer months, the pattern of load reductions across climate regions in absolute terms was consistent between the two rates but was slightly different in percentage terms. Absolute peak period load reductions were largest in Climate Zone 10 and the hot climate region regions, but these segments did not include CARE/FERA customers. Absolute impacts were smallest in the cool climate region, which included CARE/FERA and non-CARE/FERA customers. [2]
- In the winter period, the pattern of peak load reductions across climate regions was consistent between the two rates in both percentage and absolute terms. Customers in the hot climate region had the largest impacts (1.1% for Rate 4 and 1.6% for Rate 5),

[2] This key finding is based on information presented in the interim report. Please see the interim report for more detailed findings.

and customers in the cool climate region had the smallest impacts (0.9% for Rate 4 and 1.1% for Rate 5).

- In the moderate and cool climate regions, non-CARE/FERA customers typically had statistically significantly greater peak period impacts compared to CARE/FERA customers. This was true in both seasons. One exception was households in the moderate climate region on Rate 4 in the summer, where the difference was not statistically significant. This finding is consistent with the opt-in TOU pilot. [2]
- With one exception, the incremental summer peak period impact among households who received the Enhanced E&O treatment compared to households that did not was not statistically significant. In other words, the additional messaging did not increase peak period impacts. The exception was CARE/FERA customers in the moderate climate region who had an incremental increase in load impacts equal to about 0.6%.[2]
- In the winter months, incremental impacts from the Enhanced E&O treatment were mixed. Customers on both rates in the hot climate region who received the enhanced treatment had load impacts that were statistically significantly greater than those who did not. Customers in the moderate climate region on Rate 4 also had statistically significant incremental peak impact impacts. There were not any statistically significant differences attributable to enhanced E&O for customers in the cool climate region on either rate.
- The offer to high bill volatility, low income customers to enroll on the Level Pay Plan as a way of managing volatility in bills across months and seasons was only taken up by a very small number of customers.

Overall, the load impacts were generally in the expected range established during the default pilot design planning stages. The opt-in pilot was designed in a way to be more reflective of opt-out enrollment conditions by using the “pay-to-play” recruitment strategy. However, it was still expected that load impacts would be lower under default conditions due to potentially lower customer awareness levels, and the unavoidable customer self-selection bias of an opt-in recruitment strategy where engaged customers are more likely to enroll.

1.2.2 Bill Impacts

Structural bill impacts were estimated for summer, winter and the year as a whole. Key findings include the following:

- Rate 4 and Rate 5 have very similar distributions of structural benefiters, non-benefiters, and customers in the neutral bill impact category of ±$3/month.[2]
- Over 30% of non-CARE/FERA customers are structural non-benefiters while fewer than 20% of CARE/FERA customers fall into the same category. However, the CARE/FERA group does not include customers in the hot climate region where bill increases under the TOU rates are more likely to occur.[2]
- A majority of customers on both groups are neither structural benefiters nor non-benefiters on an annual basis. Roughly 40% and 60% of CARE/FERA customers in the moderate and cool climate regions, respectively, are neither structural benefiters nor non-benefiters in the summer months.[2]

- Over 50% of customers in the hot climate region and Climate Zone 10 are structural non-benefiters on an annual basis. In the summer months, about 80% of customers in these regions are structural non benefiters while about 15% fall into the neutral category.[2]
- In the winter months, between 25% and 30% of non-CARE/FERA customers in all climate regions would save money on TOU rates. This outcome is expected because SCE's OAT is not seasonally differentiated. The TOU rates are seasonally differentiated with higher prices during the summer and lower prices during the winter.[2]
- Annual total bill impacts (bill impacts that reflect structural differences in the rate and changes in behavior) were generally very small ($0.75 and $0.67 per month, on average, for Rate 4 and Rate 5, respectively). On an annual basis, customers in Climate Zone 10 had the greatest total bill impacts, while those in the cool climate zone actually saved a small amount of money, on average. Total bill impacts were statistically significant for the pilot populations as a whole and for each climate region, with the exception of customers on Rate 5 in the moderate climate region. Non-CARE/FERA customers typically had smaller bill impacts compared to CARE/FERA customers on an annual basis.
- Total bill impacts in the summer months were statistically significant and positive for the Rate 4 and Rate 5 populations as a whole and in every climate regions on both rates. In other words, customers experienced bill increases on the TOU rate versus the OAT in the summer months.
- Total bill impacts in the winter months were statistically significant and negative for the Rate 4 and Rate 5 populations as a whole and in the moderate and cool climate regions on both rates. In other words, customers saved money on the TOU rate versus the OAT in the winter months.
- Annually, customers enrolled on Rate 4 had statistically significant bill increases after behavioral changes, as did Rate 4 customers in the moderate climate region and Climate Zone 10. On an annual basis, behavioral bill impacts were generally not statistically significant for any climate region or for Rate 5 populations as a whole.
- In the summer months, customers reduced their bills through changes in behavior. Behavioral bill reductions were statistically significant for the Rate 4 and Rate 5 populations as a whole and in most climate regions. The opposite was true in the winter months, where customers increased their bills through changes in behavior. These increases were not statistically significant for customers in the hot and moderate climate region on Rate 5.

The structural bill impacts were generally as expected for customers transitioning from a non-seasonally differentiated OAT to a seasonally differentiated TOU rate with higher peak period prices in the summer and lower peak period prices in the winter. On average, a large portion of customers are structural non-benefiters in the summer, but many are able to offset the higher priced summer months with lower bills in the winter to reach the neutral category on an annual basis. Total bill impacts were generally very small.

1.2.3 Customer Attrition

Customer participation rates were tracked separately for the pre-enrollment period and the post enrollment period. During the pre-enrollment period, customers selected to participate in the pilot could opt-out of the pilot and stay on their current rate, select an alternative TOU rate, or take no action and be enrolled on the assigned TOU pilot rate.

During the post enrollment period customer attrition is driven by three very different factors. One is customers who move, referred to as customer churn. Another is customers who become ineligible as a result of factors such as installing solar, going onto medical baseline, or switching to service from a Community Choice Aggregator (CCA). The final factor is customers who consciously opt out of the rate because they are unhappy being on a TOU rate.

Key findings concerning customer attrition include the following:

- When the pre-enrollment opt-out decision is defined as selecting the OAT rather than the offered default rate, the difference in opt-out rates between Rates 4 and 5 were very small and not statistically significant. However, when the opt-out decision is defined as choosing either the OAT or the alternative TOU rate, the opt-out rate was about 5% higher (one percentage point) for Rate 4 than for Rate 5. This finding, along with the fact that more customers offered Rate 4 chose Rate 5 than vice versa, indicates that the average customer has a small but statistically significant preference for Rate 5 over Rate 4.[2]
- Customers presented with loss aversion messaging were slightly more likely to opt out before enrollment compared to those who received messaging focused on an opportunity to save money on TOU. This difference was statistically significant.[2]
- There was no difference in pre-enrollment opt-out rates between customers who received a monthly rate comparison and those who received a seasonal rate comparison. Though, it should be noted that a total annual bill comparison was also presented to both informational treatment groups.[2]
- Post-enrollment opt-out rates were very small –1.8% and 3.1% for CARE/FERA and non-CARE/FERA customers in all climate regions. This indicates the vast majority of customers stay on the rate once they are enrolled on a TOU rate.
- Customers on Rate 4 were statistically significantly more likely to opt out post-enrollment. Again, it is possible the longer peak period was less desirable for some customers. However, the difference was very small (2.3% vs. 2.1%).

The analysis of opt-out rates shows a small but statistically significant preference for Rate 5, with its shorter peak period but higher peak price, over Rate 4. There was also a slight advantage for the “Opportunity to Save” messaging over the “Loss Aversion” message. There were no observed differences in opt-out rates between customers receiving seasonal versus monthly structural bill information. In most instances, the pre-enrollment opt-out rate was roughly 20%, but once customers enrolled on the rate, very few left.

2 Introduction

In Decision 15-07-001, the California Public Utilities Commission (CPUC or the Commission) ordered California's three investor owned utilities (IOUs) to conduct certain "pilot" programs and studies of residential Time-of-Use (TOU) electric rate designs (TOU Pilots and Studies) beginning in 2016, and to file applications no later than January 1, 2018 proposing default TOU rates for residential electric customers. The IOUs were also directed to form a working group (TOU Working Group) to address issues regarding the TOU pilots and to hire one or more qualified independent consultants to assist with the design and implementation of the TOU Pilots and Studies. The TOU Working Group (WG) was comprised of 37 entities and included almost 100 people. Nexant, Inc. was engaged as the independent consultant.

Although the primary focus of the TOU pilots was to provide insights that would guide default implementation, customers were not allowed to be defaulted onto TOU rates prior to January 2018. As such, in 2016, the IOUs implemented pilots based on opt-in enrollment. The pilots, based on a "pay-to-play" randomized control trial, were designed in a way intended to be more reflective of opt-out enrollment conditions. The pilot design and results from these pilots are documented in a number of reports and insights from these pilots were used to guide the design of the default pilots that are the focus of this evaluation.[3]

In late 2016, Nexant worked with the TOU Working Group to develop designs for the default pilots. The design report[4] was used as input to Advice Letter filings by SCE and the two other IOUs. On December 16, 2016 SCE submitted Advice Letter 3531-E[5] detailing the proposal for the default TOU pilot. At the request of the CPUC, and in response to the Office of Ratepayer Advocates protest, SCE submitted Advice Letter 3531-E-A[6] on February 24, 2017 as a supplemental filing to provide additional information on the original Proposed Default Time-of-Use (TOU) Pilot plan. The CPUC issued Resolution E-4847[7] on May 12, 2017 approving the

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[3] George, S., Sullivan, M., Potter, J., & Savage, A. (2015). Time-of-Use Pricing Opt-in Pilot Plan. *Nexant, Inc.* (hereafter referred to as the TOU Pilot Design Report).

SCE: Advice Letter 3335-E; PG&E: Advice Letter 4764-E; and SDG&E: Advice Letter 2835-E.

SCE: Resolution E-4761; PG&E: Resolution E-4762; and SDG&E: Resolution E-4769.

The First Interim Report can be found here: http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442453144 Additional related documents on the CPUC website can be found here: http://www.cpuc.ca.gov/General.aspx?id=12154

The Second Interim Report is contained in two volumes, one authored by Nexant covering the load and bill impact analysis and the second, authored by Research Into Action covering the second survey.
The Nexant report can be found at the following link: http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442455573
The RIA report can be found at: http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442455572

The Final Report can be found here: http://www.cpuc.ca.gov/WorkArea/DownloadAsset.aspx?id=6442457172 Additional related documents on the CPUC website can be found here: http://www.cpuc.ca.gov/General.aspx?id=12154

[4] https://www1.sce.com/NR/sc3/tm2/pdf/3531-E.pdf (See Appendix A, starting on Page 86 of the document)

[5] https://www1.sce.com/NR/sc3/tm2/pdf/3531-E.pdf

[6] https://www1.sce.com/NR/sc3/tm2/pdf/3531-E-A.pdf

[7] http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M183/K366/183366304.PDF

pilot plans contained in Advice Letters 3531-E and 3531-E-A and established that SCE's default pilot will gather information on the following objectives:

1. Assessing SCE's operational readiness to default large numbers of customers onto TOU rates over a short time. Relevant metrics include call volume, billing exception processing, database capabilities, tracking systems, rate change and bill processing, system enhancements, and bill protection processing.

2. Determining the impact of different marketing, education and outreach (ME&O) strategies on awareness of rate options, opt-out rates, engagement with the TOU rate and customer perceptions while on a TOU rate. Specific ME&O options examined included variation in the type of structural bill information provided in conjunction with the default notifications, two messaging strategies, and different format and content for welcome package materials.

3. Estimating the average peak and off-peak change in energy usage by customers enrolled on each default rate (referred to as Rates 4 and 5 to reflect differences in the start time for the peak period, 4 PM versus 5 PM).

4. Estimating the bill impacts for customers enrolled onto each rate.

5. Determining the opt-out rate for customers defaulted onto each rate under each notification treatment.

6. Determining the impact of options such as the Level Payment Plan (LPP) on customer retention on each rate as well as on load and bill impacts and customer perceptions while on their default TOU rate.

An assessment of operational readiness— objective 1— is not included in this evaluation. Survey-related metrics such as awareness, customer satisfaction, and others—objective 2— are largely being addressed through a separate contract with a survey firm. However, key findings from the surveys are included here to the extent that they help explain observed differences in load impacts, bill impacts or opt-out rates across treatments. This evaluation report focuses primarily on estimating load and bill impacts and opt-out rates for various treatments – objectives 3 through 6.

Findings from the first summer-June through September 2018-are documented in the "Default Time-Of-Use Pricing Pilot Interim Evaluation" dated April 1, 2019 (hereafter referred to as the Interim Report). The Interim Report contains detailed background information on the pilot, describes the pilot design and the load impact evaluation methodology, discusses SCE's pilot implementation and treatments, and presents load impacts for the first summer period. It also presents structural bill impacts and summarizes pre-enrollment opt-out rates. This Final Report contains a brief summary of findings documented in more detail in the prior report, but focuses primarily on load impacts from the winter period in 2018 and 2019 as well as bill impacts for the first full-year of the pilot.

A brief summary of the pilot design and evaluation approach is contained in the Executive Summary (Section 1.1). The remainder of this report is organized as follows. Section 3 provides an overview of the analysis methods that were used to estimate bill impacts. Sections 4, 5 and 6

present the analysis results for load impacts, bill impacts and opt-out rates, respectively. Finally, key findings for objectives 3 through 6 above are presented in Section 7.

The Interim Report contained detailed background information on the pilot, a detailed load impact methodology section, and a detailed description of SCE's pilot implementation and treatments. Readers interested in this background information are encouraged to review the Interim Report as this information is not repeated here. The IOU advice letters and the CPUC resolutions may also contain information of interest.

3 Methodology

This report provides load impacts for the winter period of the first year of the pilot (October 1, 2018 through May 31, 2019), and bill impacts for each of the two rate treatments tested at SCE for various customer segments and climate regions. The incremental load impacts for the post-enrollment treatments were also estimated. Post-enrollment opt-out rates for each climate region and customer segment are also reported in Section 6. This section summarizes the methodological approaches used to estimate the behavioral and total bill impacts for each pilot treatment. The discussion is organized into two sections summarizing the approach for estimating behavioral bill impacts and total bill impacts. The methodological approach for estimating load impacts and customer attrition can be found in the Interim Report.

3.1 Bill Impacts

The impact of TOU rates on customers' bills is an important metric of interest to multiple stakeholders. From a policy standpoint, what is of primary interest is how much individual customers' bills change as a result of being placed on a TOU rate after they adjust their behavior (or choose not to) in response to the time-varying price signals associated with the rate. However, it is not valid to compare an individual's bill before and after they are placed on a TOU rate because there are a myriad of reasons why such bills might change that have nothing to do with the new rate. A specific household might have gained or lost a household member, had a teenager go away to (or return from) college, made an addition to the house, purchased an electric vehicle, changed one or more appliances, or made any of a number of other changes that could cause very significant changes to usage and bills that have nothing to do with the rate change. As such, a key challenge is determining how best to answer the key policy questions associated with bill impacts without relying on "before-and-after" comparisons of bills for individual customers.

The basic approach used to examine bill impacts is similar to the difference-in-differences approach used in the load impact analysis outlined in Section 3 of the Interim Report, but rather than estimating changes in electricity demand, this analysis focuses on changes in customer bills. The bill impacts experienced by customers on a TOU rate can be broken into three components:

- **Structural Bill Impacts:** This represents the change in customer bills based solely on the change in the underlying structure of the rate - structural bill impacts were presented in the Interim Report
- **Behavioral Bill Impacts:** This represents how customers change their energy usage in response to the new pricing structure of the rate, which includes higher prices in the afternoon and evening and lower prices at other times of day
- **Total Bill Impacts:** This is the combination of structural and behavioral bill impacts - in other words, it is equal to the structural bill impact mitigated by a change in behavior (or lack thereof)

Structural bill impacts can be estimated using pretreatment data and were presented in Section 5 of the Interim Report. Now that treatment customers have been enrolled in TOU rates for a full year, this report focuses on behavioral and total bill impacts in the post-treatment period. Separate analysis databases were developed to estimate each type of bill impact. Each contains monthly bills in the pretreatment and post-treatment periods for control and treatment customers, but the tariffs used to estimate the bills in each database differs by the type of bill impact being estimated.

The main output from these analyses are average monthly bill estimates across the first year of the pilot (June 2018 through May 2019) and average monthly bill estimates for winter and spring. Three different bills were calculated for each customer segment and season:

- **[1] No Change in Behavior or Tariff:** This represents what the treatment group bills would have been in the post-treatment period if they were on the OAT and had not changed their behavior
- **[2] No Change in Behavior, Change in Tariff:** This represents what the treatment group bills would have been in the post-treatment period if they were on the TOU rate and had not changed their behavior
- **[3] Change in behavior and in Tariff:** This represents what the treatment group bills were in the post-treatment period on the TOU rate with a change in behavior

The difference between [1] and [2] is the structural bill impact (based on post-treatment usage after adjusting for any pretreatment differences between control and treatment customers). The difference between [2] and [3] is the amount customers were able to reduce their bills by changing their behavior. Finally, the difference between [1] and [3] is the bill impact due to structural differences in the rates, but mitigated by changes in behavior. This is the total bill impact.

Due to the complexity of estimating two reference bills (those without both a change in behavior and tariff), the bill impact analysis does not rely on the RED design of the pilots. Instead, customers who opted out in the pre-enrollment period were removed from the analysis databases completely, along with a group of similar control customers selected using propensity score matching. Each treatment customer who opted out of the pilot was matched to one control customer based on pretreatment average daily load profiles. This process was done separately for summer and winter, and control customers could only be matched to one treatment customer for each season.

The following subsections provide detailed descriptions of the analysis databases and methods used to estimate bill impacts due to behavior change and total bill impacts.

3.1.1 Bill Impacts due to Behavior Change

Table 3-1 shows which rates were used to develop the behavioral bill impact analysis database for each period (pretreatment or post-treatment) and customer group. The average bill impact attributable to customers changing their behavior in response to the TOU rates is estimated by first calculating bills for both the treatment and control group under the TOU rate during the pre- and post-treatment periods. The control group bill calculated on the TOU rate represents the bill that would be expected if a customer was billed on the TOU rate, but didn't change their energy use behavior. The bill for the treatment group customers on the TOU rate reflects any

behavioral changes in response to being on the TOU rate. By subtracting the treatment group's average bill from the control group's average bill—and removing any pre-existing differences—we are able estimate the average bill impact attributable to the treatment group's change in behavior resulting from exposure to the pilot rate, after controlling for exogenous factors.

Table 3-1: Rates Used to Estimate Customer Bills for Behavioral Bill Impact Analysis Database

Time Period	Group	Rate Used
Pretreatment	Control	TOU
	Treatment	TOU
Post-treatment	Control	TOU
	Treatment	TOU

A difference-in-differences (DiD) fixed effects model, similar to that used for estimating load impacts, is then used to estimate the average bill impact for the rate and segment of interest. The regression specification for estimating bill impacts is shown below:

$$bill_{i,t} = \alpha_i + \delta \text{treat}_i + \gamma \text{post}_t + \beta(\text{treatpost})_{i,t} + v_i + \varepsilon_{i,t}$$

In simplified terms, the estimated impact (β) equals the difference between the control group and the treatment group bills calculated on the TOU rate using post-treatment usage minus any pre-existing differences between the control and treatment group bills based on pretreatment usage. It should be noted that small bill impacts do not necessarily indicate that customers did not change their behavior. Bill impacts depend on the combination of changes in usage in each rate period. Customers may reduce use during the peak period but increase it in the off-peak period not just due to load shifting but also due to increased end-use activity. Depending on the relative magnitude of these changes and the rate differentials, significant behavior changes could lead to minimal changes in the total bill.

3.1.2 Total Bill Impacts

The total bill impact experienced by customers is the impact a customer faces with a change in tariff and after change in energy usage behavior (or lack thereof). For example, during the summer period, some customers experienced a structural increase in their bills due to transitioning to the TOU rate. However, customers also had an opportunity to offset that increase by changing their energy use behavior in response to the new price signals. It is the combination of the structural and behavioral impacts that produces the total bill impact experienced by the average study participant. Table 3-2 summarizes the tariffs used to develop the total bill impact analysis database. In this case, the post-treatment control customer bills are estimated using the OAT. This represents what a customer's bill would be in the absence of the pilot (with no change in tariff or behavior). The post-treatment TOU bill for treatment customers represents the bills experienced by customers enrolled in the pilot. The pre-treatment bills estimated under the OAT are meant to control for pre-existing differences between the two groups.

Table 3-2: Rates Used to Estimate Customer Bills for Total Bill Impact Analysis Database

Time Period	Group	Rate Used
Pretreatment	Control	OAT
	Treatment	OAT
Post-treatment	Control	OAT
	Treatment	TOU

The same model used to estimate behavioral bill impacts was used to estimate total bill impacts. The only difference is the underlying analysis database. The final output of this analysis is a series of bar graphs. Each bar represents the average customer's monthly bill under different conditions: no change in tariff or behavior, a change in tariff but no change in behavior, or a change in tariff and in behavior. The differences between each bill represent the structural bill impact, the behavior bill impact, and the total bill impact.

4 Load Impacts

This report section summarizes the load impacts for the two rate treatments tested by SCE. Load impacts were estimated for the peak and off-peak periods and for average hourly and daily energy use for the following rates, customer segments, and climate regions:

- For all customers on each rate for the pilot as a whole and for all customers in each climate region (hot, moderate, cool, and Climate Zone 10)
- Non-CARE/FERA customers on each rate for the pilot as a whole and across climate regions (hot, moderate, cool, and Climate Zone 10) and CARE/FERA customers in the moderate and cool climate regions.

As discussed above, it's imperative that comparisons across regions and climate zones are cognizant of the differences in the mix of customers across regions. That is, because CARE/FERA customers are not included in the two hot climate regions, comparisons of load impacts across the two hot and two cooler regions reflect not only differences due to climate but also differences in the mix of customers, with both CARE/FERA and non-CARE/FERA customers in the moderate and cool regions and only non-CARE/FERA customers in the two hot regions. Similarly, comparisons across customer segments for the service territory as a whole do not just reflect differences in behavior between CARE/FERA and non-CARE/FERA customers but also differences in the mix of customers across climate regions. The all-utility impacts are representative of what SCE could expect at the service territory level for full roll out of the rates, because CARE/FERA customers will not be defaulted in the hot climate regions for full roll out. But it is not appropriate to claim that a difference of, say, 50% between CARE/FERA and non-CARE/FERA customers at the service territory level accurately reflects a difference in behavior between the two groups of customers, all other factors held constant. In addition to the above, Nexant estimated incremental load impacts for customers that received the Enhanced (high-touch) ME&O treatment for each rate and for each climate region.

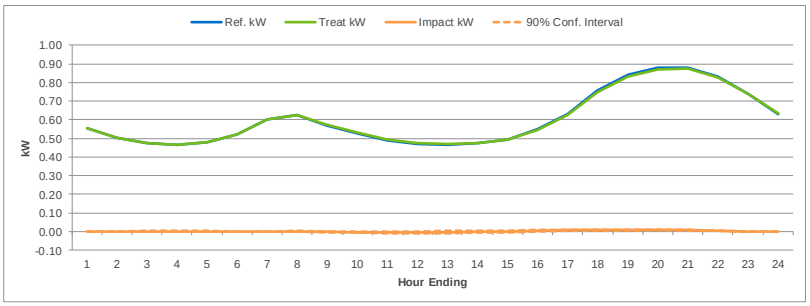
Load impacts are reported here for each rate period for the average weekday, average weekend, and average monthly peak day for the winter months of October 2018 through May 2019. Impacts are reported for each rate, climate region and customer segment summarized above. Summer impacts from June through September 2018 can be found in the Interim Report.

Underlying the values presented in the report are electronic tables that contain estimates for each hour of the day for each day type, segment, and climate region for the winter; and for each month separately. These values are contained in Excel spreadsheets that are available upon request through the CPUC. Figure 4-1 shows an example of the content of these electronic tables for SCE Rate 4 for all eligible customers in the service territory. Pull down menus in the upper left hand corner allow users to select different customer segments, climate regions, day types (e.g., weekdays, weekends, monthly peak day) and time periods (individual months or seasons).

Figure 4-1: Example of Content of Electronic Tables Underlying Load Impacts Summarized in this Report (SCE Rate 4, Average Winter 2018 Weekday, All Customers)

Select Options Below	
Rate:	Rate 4
Segment:	All
Time Period:	Winter
Day Type:	Average Weekday

Period	Control Customers	Treatment Customers	Ref. kW	Treat kW	Impact kW	90% Conf. Interval		% Impact
Peak	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mid-Peak	176,128	141,710	0.80	0.79	0.01	0.01	0.01	0.9%
Off-Peak	176,128	141,710	0.58	0.58	0.00	0.00	0.00	0.0%
Super Off-Peak	176,128	141,710	0.51	0.51	0.00	0.00	0.00	-0.4%
Day (kWh)	**176,128**	**141,710**	**14.45**	**14.43**	**0.02**	**0.01**	**0.03**	**0.1%**



Hour	Period	Ref. kW	Treat kW	Impact kW	90% Conf. Interval		% Impact
1	Off-Peak	0.55	0.55	0.00	0.00	0.00	-0.2%
2	Off-Peak	0.50	0.50	0.00	0.00	0.00	-0.2%
3	Off-Peak	0.48	0.48	0.00	0.00	0.00	0.0%
4	Off-Peak	0.47	0.47	0.00	0.00	0.00	0.0%
5	Off-Peak	0.48	0.48	0.00	0.00	0.00	0.0%
6	Off-Peak	0.52	0.52	0.00	0.00	0.00	-0.1%
7	Off-Peak	0.60	0.60	0.00	0.00	0.00	-0.3%
8	Off-Peak	0.62	0.62	0.00	0.00	0.00	0.0%
9	uper Off-Pea	0.57	0.57	0.00	-0.01	0.00	-0.5%
10	uper Off-Pea	0.52	0.53	0.00	-0.01	0.00	-0.8%
11	uper Off-Pea	0.49	0.49	0.00	-0.01	0.00	-0.8%
12	uper Off-Pea	0.47	0.48	0.00	-0.01	0.00	-0.8%
13	uper Off-Pea	0.47	0.47	0.00	-0.01	0.00	-0.7%
14	uper Off-Pea	0.47	0.48	0.00	-0.01	0.00	-0.4%
15	uper Off-Pea	0.50	0.49	0.00	0.00	0.00	0.2%
16	uper Off-Pea	0.55	0.55	0.00	0.00	0.01	0.7%
17	Mid-Peak	0.63	0.63	0.01	0.00	0.01	1.0%
18	Mid-Peak	0.76	0.75	0.01	0.01	0.01	1.0%
19	Mid-Peak	0.84	0.83	0.01	0.01	0.01	0.9%
20	Mid-Peak	0.88	0.87	0.01	0.01	0.01	1.0%
21	Mid-Peak	0.88	0.87	0.01	0.01	0.01	0.8%
22	Off-Peak	0.83	0.83	0.00	0.00	0.01	0.4%
23	Off-Peak	0.74	0.74	0.00	0.00	0.00	-0.1%
24	Off-Peak	0.63	0.63	0.00	0.00	0.00	-0.1%

The remainder of this section is organized by rate treatment—load impacts are presented for each relevant customer segment and climate region for each of the two rates. Following this discussion, incremental impacts of enhanced E&O over the standard E&O communication are presented. Finally, comparisons of load impacts across the two TOU rates are made for the common hours (5 PM to 8 PM) that are shared across rates.

4.1 Summary of Pilot Rates

Figure 4-2 and Figure 4-3 summarize the rate periods and prices for Rates 4 and 5. Importantly, the prices shown in the figures and discussed below do not reflect the baseline credit of 7¢/kWh that applies to each rate.

Figure 4-2: Default Pilot Rate 4[8]

Day Type	Season	Hour Ending 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Weekday	Summer	Off-Peak (22¢)																Peak (41¢)							
	Winter	Off-Peak (28¢)								Super Off-Peak (17¢)								Mid-Peak (29¢)							
Weekend	Summer	Off-Peak (22¢)																Mid-Peak (26¢)							
	Winter	Off-Peak (28¢)								Super Off-Peak (17¢)								Mid-Peak (29¢)							

Figure 4-3: Default Pilot Rate 5

Day Type	Season	Hour Ending 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Weekday	Summer	Off-Peak (23¢)																	Peak (48¢)						
	Winter	Off-Peak (28¢)								Super Off-Peak (17¢)									Mid-Peak (30¢)						
Weekend	Summer	Off-Peak (23¢)																	Mid-Peak (28¢)						
	Winter	Off-Peak (28¢)								Super Off-Peak (17¢)									Mid-Peak (30¢)						

Rate 4 has two rate periods on summer weekdays and three on winter weekdays. The peak and mid-peak period on Rate 4 is the same all year long and runs from 4 PM to 9 PM. The peak to off-peak price ratio (ignoring the baseline credit) is 1.9 to 1 in summer and mid-peak to super off-peak ratio is 1.7 to 1 in winter. Customers on SCE's Rate 4 pay super off-peak prices on weekends in the winter. In summer, off-peak prices are in effect on weekends from 9 PM to 4

[8] Rates effective March 1, 2019

PM, which is the time-period covered by the combination of off-peak and super off-peak prices during winter.

SCE's Rate 5 has two rate periods on summer weekdays and three on winter weekdays, the same structure as Rate 4. Compared with Rate 4, Rate 5 has a much shorter peak period but a slightly higher peak price in summer months (48¢/kWh for Rate 5 versus 41¢/kWh for Rate 4) and slightly high mid-peak price in winter months (30¢/kWh for Rate 5 versus 29¢/kWh for Rate 4). The peak period runs from 5 PM to 8 PM. Rate 5 also features a super off-peak price of roughly 17¢/kWh between 8 AM and 5 PM on weekends during winter. The ratio of peak to off-peak prices in the summer is roughly 2.1 to 1. In winter, the mid-peak to super off-peak price ratio is roughly 1.8 to 1. On weekends, customers pay the off-peak price between 8 PM and 8 AM and the super off-peak price during the same overnight hours as on weekdays, from 8 AM to 5 PM. For the two rates, the summer season covers the months of June through September. The winter season is October through May.

4.2 Rate 4

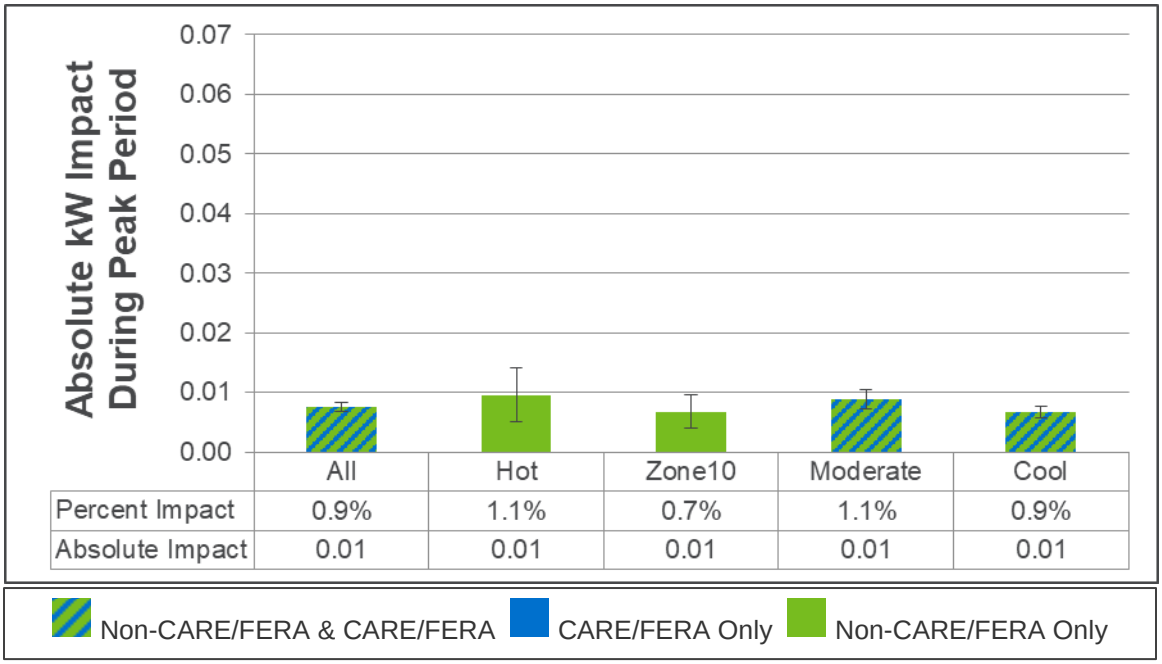
Winter Load Impacts

Figure 4-4 shows the average peak period load reduction in absolute terms for Rate 4 for SCE's service territory as a whole and for each climate region. The lines bisecting the top of each bar in the figure show the 90% confidence band for each estimate. If the confidence band includes 0, it means that the estimated load impact is not statistically different from 0 at the 90% level of confidence. If the confidence bands for two bars do not overlap, it means that the observed difference in the load impacts is statistically significant. If they do overlap, it does not necessarily mean that the difference is not statistically significant.[9] In these cases, t-tests were calculated to determine whether the difference is statistically significant.[10] Bars with blue and green stripes indicate that the segment includes a combination of CARE/FERA customers and non-CARE/FERA customers, while solid green bars represent segments that are non-CARE/FERA only. Solid blue bars represent segments that are CARE/FERA customers only. However, it is important to note that the "All" category includes non-CARE/FERA customers from all climate regions but CARE/FERA customers only from the moderate and cool climate regions. As a result, the "All" estimates cannot be directly compared to the "Moderate" and "Cool" estimates.

[9] For further discussion of this topic, see https://www.cscu.cornell.edu/news/statnews/stnews73.pdf.

[10] The test was applied at the 90% confidence level which means that a t-value exceeding 1.65 indicates statistical significance.

Figure 4-4: Average Peak Period Load Impacts for SCE Rate 4 by Climate Region (Positive values represent load reductions)



As seen in Figure 4-4, the average peak-period load impact for the service territory as a whole and for each climate region is statistically significant at the 90% level of confidence. On average, default pilot participants across SCE's service territory on Rate 4 reduced peak-period electricity use by 0.9%, or 0.01 kW, across the five-hour peak period from 4 PM to 9 PM. Keeping in mind that differences across regions reflect both differences in climate and the presence or absence of CARE/FERA customers, the average peak-period load reduction ranges from a high of 1.1% and 0.01 kW in the hot and moderate climates region to a low of about 0.7% and 0.01 kW in Climate Zone 10. The difference in load impacts between the moderate and cool climate regions is small but statistically significant while the difference in impacts in Climate Zone 10 and the hot region are not statistically significant.

Table 4-1 shows the average percent and absolute hourly load impacts for each period for weekdays, weekends, and for the average monthly system peak day for the SCE service territory as a whole and for the participant population in each climate region. The percent reduction equals the load impact in absolute terms (kW) divided by the reference load. Shaded cells in the table contain load impact estimates that are not statistically significant at the 90% confidence level. The percentage and absolute values in the first row of Table 4-1, which represent the load impacts in the peak period on the average weekday, equal the values shown in Figure 4-4, discussed above.

The reference loads shown in Table 4-1 represent estimates of what customers on the TOU rate would have used if they had not responded to the price signals contained in the TOU tariff. As seen in the table, average hourly usage during the peak period is roughly 0.80 kW for the service territory as a whole, and around 0.60 kW over the 24 hour average weekday. In the hot climate region and Climate Zone 10, average usage in the peak period is greater at 0.89 kW

and 0.90 kW, respectively. Average usage in the moderate climate region is 0.82 kW and in the cool region it is 0.75 kW.

The monthly system peak day estimates represent the average across the eight weekdays, one in each winter month, when SCE's system peaked in 2018 and 2019. Peak period reference loads are higher on these days than on the average weekday. For the service territory as a whole, the percent reduction in monthly system peak day peak period loads (1.0%) is similar to the load reduction on the average weekday (0.9%); as is the absolute load reduction (0.01 kW on both day types). Customers had small but statistically significant daily usage decreases on the average weekday and monthly system peak day.

Table 4-1: Average Hourly Load Impacts by Climate Region, Rate Period and Day Type for SCE Rate 4 (Positive values represent load reductions, negative values represent load increases)

Rate 4																	
Day Type	Period	Hours	All			Hot			Zone10			Moderate			Cool		
			Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact
Average Weekday	Mid-Peak	4 PM to 9 PM	0.80	0.01	0.9%	0.89	0.01	1.1%	0.90	0.01	0.7%	0.82	0.01	1.1%	0.75	0.01	0.9%
	Off-Peak	9 PM to 8 AM	0.58	0.00	0.0%	0.71	0.00	0.2%	0.67	-0.01	-0.9%	0.60	0.00	0.3%	0.54	0.00	0.0%
	Super Off-Peak	8 AM to 4 PM	0.51	0.00	-0.4%	0.43	-0.02	-4.4%	0.49	0.00	-0.8%	0.55	0.00	0.0%	0.49	0.00	-0.4%
	Day	All Hours	0.60	0.00	0.1%	0.65	0.00	-0.6%	0.66	0.00	-0.4%	0.63	0.00	0.4%	0.57	0.00	0.1%
Average Weekend	Mid-Peak	4 PM to 9 PM	0.81	0.01	0.8%	0.91	0.01	1.0%	0.92	0.00	0.5%	0.84	0.01	1.0%	0.76	0.01	0.7%
	Off-Peak	9 PM to 8 AM	0.57	0.00	-0.1%	0.70	0.00	0.3%	0.66	-0.01	-1.1%	0.59	0.00	0.2%	0.53	0.00	0.0%
	Super Off-Peak	8 AM to 4 PM	0.59	0.00	-0.4%	0.52	-0.02	-3.9%	0.58	-0.01	-0.9%	0.63	0.00	-0.1%	0.57	0.00	-0.3%
	Day	All Hours	0.63	0.00	0.1%	0.68	0.00	-0.6%	0.69	0.00	-0.6%	0.65	0.00	0.3%	0.60	0.00	0.1%
Monthly System Peak	Mid-Peak	4 PM to 9 PM	0.95	0.01	1.0%	1.08	0.02	2.1%	1.16	0.02	1.4%	1.01	0.01	1.1%	0.85	0.01	0.7%
	Off-Peak	9 PM to 8 AM	0.62	0.00	-0.1%	0.76	0.00	0.2%	0.74	0.00	-0.6%	0.64	0.00	0.2%	0.57	0.00	-0.1%
	Super Off-Peak	8 AM to 4 PM	0.61	0.00	-0.2%	0.56	-0.01	-1.8%	0.68	0.00	-0.1%	0.66	0.00	0.1%	0.57	0.00	-0.5%
	Day	All Hours	0.69	0.00	0.2%	0.76	0.00	0.3%	0.81	0.00	0.1%	0.73	0.00	0.4%	0.63	0.00	0.0%

* A shaded cell indicates estimate is not statistically significant

Figure 4-5 shows the absolute peak period load impacts for Rate 4 for CARE/FERA and non-CARE/FERA customers for the service territory as a whole and for each climate region. Non-CARE/FERA segments are shaded with green while CARE/FERA segments are shaded in blue. In the moderate and cool climate regions, the absolute load impacts in the peak period differ by a statistically significant amount and impacts are smaller for CARE/FERA customers than for non-CARE/FERA customers. There is a statistically significant difference in load impacts between CARE/FERA and non-CARE/FERA customers at the service territory level but this comparison reflects both potential differences in behavior across the two segments as well as the fact that the non-CARE/FERA estimate includes customers in the hotter climate regions where absolute load impacts are typically larger. As such, this is not a valid comparison if the objective is to reflect only behavioral differences between the two customer segments.

Figure 4-5: Average Peak Period Impacts for SCE Rate 4 by Climate Region & CARE/FERA Status (Positive values represent load reductions)

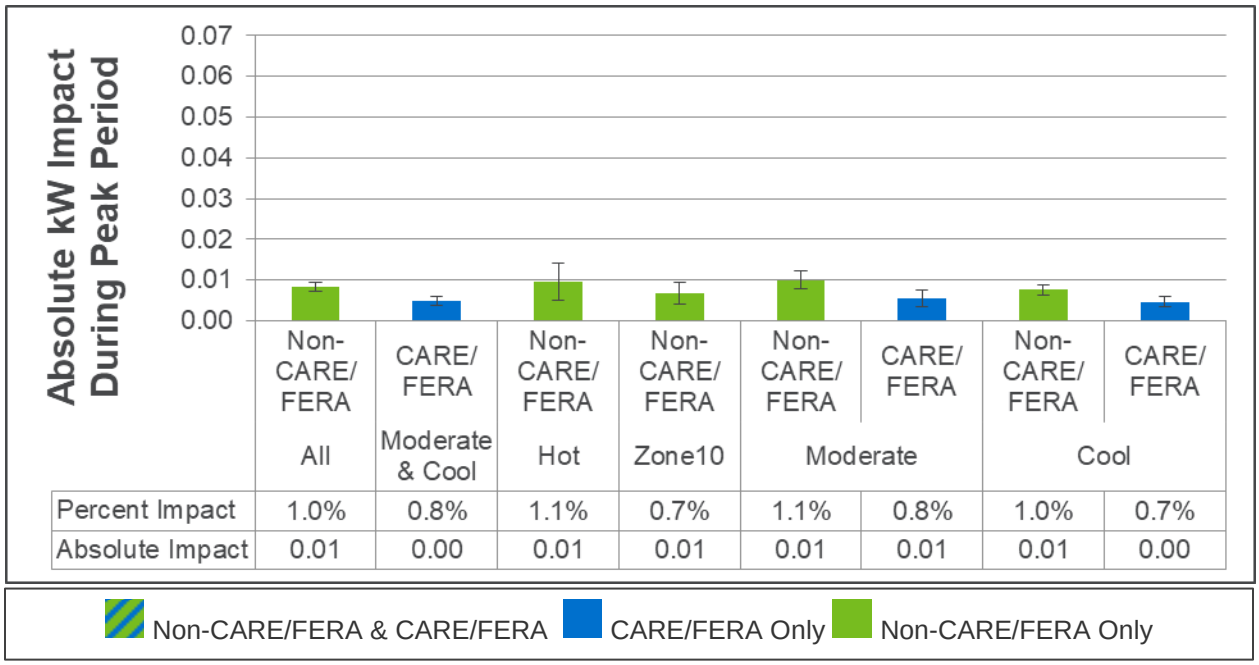


Table 4-2 shows the estimated load impacts for each day type for the different rate period for the service territory as a whole and by climate region for non-CARE/FERA customers, and Table 4-3 shows the same segment values for CARE/FERA customers. For the service territory as a whole, non-CARE/FERA customers have average peak-period reference loads that are larger than CARE/FERA customers (0.84 kW for non-CARE/FERA and 0.64 kW for CARE/FERA), however the CARE/FERA segment only includes customers in the moderate and cool climate regions. Non-CARE/FERA customers have larger average usage rates across all climate regions and for daily electricity usage on average winter weekdays, weekends, and on monthly system peak days.

For CARE/FERA customers, there was a small but statistically significant reduction in daily electricity consumption on the average weekdays and average weekends. Put differently, the observed reduction in peak-period energy use was not completely offset by load shifting to non-peak time periods. This was also the case for non-CARE/FERA customers in Climate Zone 10 and in the moderate climate region on the average weekday and for non-CARE/FERA customers in Climate Zone 10 and the hot climate region on average weekends. CARE/FERA customers in the moderate region decreased average daily usage on weekdays by 0.7%, whereas non-CARE/FERA customers in the same region decreased their usage by 0.3%.

Table 4-2: Average Hourly Load Impacts by Rate Period and Day Type for SCE Rate 4 by Climate Region -- Non-CARE/FERA Customers (Positive values represent load reductions, negative values represent load increases)

Rate 4																
Day Type	Period	Hours	All - Non-CARE/FERA			Hot - Non-CARE/FERA			Zone10 - Non-CARE/FERA			Moderate - Non-CARE/FERA			Cool - Non-CARE/FERA		
			Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact
Average Weekday	Mid-Peak	4 PM to 9 PM	0.84	0.01	1.0%	0.89	0.01	1.1%	0.90	0.01	0.7%	0.88	0.01	1.1%	0.79	0.01	1.0%
	Off-Peak	9 PM to 8 AM	0.61	0.00	-0.1%	0.71	0.00	0.2%	0.67	-0.01	-0.9%	0.64	0.00	0.2%	0.57	0.00	-0.1%
	Super Off-Peak	8 AM to 4 PM	0.52	0.00	-0.5%	0.43	-0.02	-4.4%	0.49	0.00	-0.8%	0.58	0.00	-0.2%	0.52	0.00	-0.5%
	Day	All Hours	0.63	0.00	0.1%	0.65	0.00	-0.6%	0.66	0.00	-0.4%	0.67	0.00	0.3%	0.60	0.00	0.1%
Average Weekend	Mid-Peak	4 PM to 9 PM	0.86	0.01	0.8%	0.91	0.01	1.0%	0.92	0.00	0.5%	0.90	0.01	1.0%	0.81	0.01	0.8%
	Off-Peak	9 PM to 8 AM	0.60	0.00	-0.2%	0.70	0.00	0.3%	0.66	-0.01	-1.1%	0.63	0.00	-0.1%	0.56	0.00	-0.1%
	Super Off-Peak	8 AM to 4 PM	0.61	0.00	-0.5%	0.52	-0.02	-3.9%	0.58	-0.01	-0.9%	0.66	0.00	-0.2%	0.60	0.00	-0.4%
	Day	All Hours	0.66	0.00	0.0%	0.68	0.00	-0.6%	0.69	0.00	-0.6%	0.70	0.00	0.2%	0.63	0.00	0.0%
Monthly System Peak	Mid-Peak	4 PM to 9 PM	1.00	0.01	1.1%	1.08	0.02	2.1%	1.16	0.02	1.4%	1.08	0.01	1.4%	0.90	0.01	0.8%
	Off-Peak	9 PM to 8 AM	0.65	0.00	-0.1%	0.76	0.00	0.2%	0.74	0.00	-0.6%	0.69	0.00	0.1%	0.60	0.00	-0.1%
	Super Off-Peak	8 AM to 4 PM	0.64	0.00	-0.3%	0.56	-0.01	-1.8%	0.68	0.00	-0.1%	0.71	0.00	0.1%	0.60	0.00	-0.5%
	Day	All Hours	0.72	0.00	0.2%	0.76	0.00	0.3%	0.81	0.00	0.1%	0.78	0.00	0.5%	0.66	0.00	0.0%

* A shaded cell indicates estimate is not statistically significant

Table 4-3: Average Hourly Load Impacts by Rate Period and Day Type for SCE Rate 4 by Climate Region -- CARE/FERA Customers (Positive values represent load reductions, negative values represent load increases)

Rate 4																
Day Type	Period	Hours	Moderate & Cool - CARE/FERA			Hot - CARE/FERA			Zone10 - CARE/FERA			Moderate - CARE/FERA			Cool - CARE/FERA		
			Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact
Average Weekday	Mid-Peak	4 PM to 9 PM	0.64	0.00	0.8%	N/A	N/A	N/A	N/A	N/A	N/A	0.67	0.01	0.8%	0.63	0.00	0.7%
	Off-Peak	9 PM to 8 AM	0.47	0.00	0.5%	N/A	N/A	N/A	N/A	N/A	N/A	0.49	0.00	0.6%	0.46	0.00	0.4%
	Super Off-Peak	8 AM to 4 PM	0.44	0.00	0.3%	N/A	N/A	N/A	N/A	N/A	N/A	0.46	0.00	0.6%	0.43	0.00	0.2%
	Day	All Hours	0.50	0.00	0.5%	N/A	N/A	N/A	N/A	N/A	N/A	0.52	0.00	0.7%	0.48	0.00	0.4%
Average Weekend	Mid-Peak	4 PM to 9 PM	0.64	0.00	0.7%	N/A	N/A	N/A	N/A	N/A	N/A	0.67	0.01	1.0%	0.63	0.00	0.6%
	Off-Peak	9 PM to 8 AM	0.46	0.00	0.6%	N/A	N/A	N/A	N/A	N/A	N/A	0.48	0.00	0.8%	0.45	0.00	0.5%
	Super Off-Peak	8 AM to 4 PM	0.51	0.00	0.3%	N/A	N/A	N/A	N/A	N/A	N/A	0.52	0.00	0.3%	0.50	0.00	0.3%
	Day	All Hours	0.51	0.00	0.6%	N/A	N/A	N/A	N/A	N/A	N/A	0.54	0.00	0.7%	0.50	0.00	0.5%
Monthly System Peak	Mid-Peak	4 PM to 9 PM	0.75	0.00	0.3%	N/A	N/A	N/A	N/A	N/A	N/A	0.82	0.00	0.1%	0.72	0.00	0.5%
	Off-Peak	9 PM to 8 AM	0.50	0.00	0.1%	N/A	N/A	N/A	N/A	N/A	N/A	0.53	0.00	0.4%	0.49	0.00	0.0%
	Super Off-Peak	8 AM to 4 PM	0.50	0.00	0.0%	N/A	N/A	N/A	N/A	N/A	N/A	0.54	0.00	0.0%	0.48	0.00	0.0%
	Day	All Hours	0.55	0.00	0.1%	N/A	N/A	N/A	N/A	N/A	N/A	0.59	0.00	0.2%	0.53	0.00	0.1%

* A shaded cell indicates estimate is not statistically significant

Annual Conservation Effect

Figure 4-6 shows the annual conservation effect for customers in each climate region on Rate 4. The pilot population as a whole and customers in the moderate and cool climate regions showed statistically significant reductions in annual energy use. On average, customers decreased their consumption by 0.3% or 19.2 kWh per customer during the first full year of the pilot. Those in the moderate and cool climate regions showed similar percent reductions of

0.3%. These impacts are in line with what was presented in Table 4-1. During the winter months (8 months out of the year) customers decreased their daily usage on the average weekdays.

Figure 4-6: Average Annual Conservation Effect for SCE Rate 4 by Climate Region (Positive values represent load reductions)

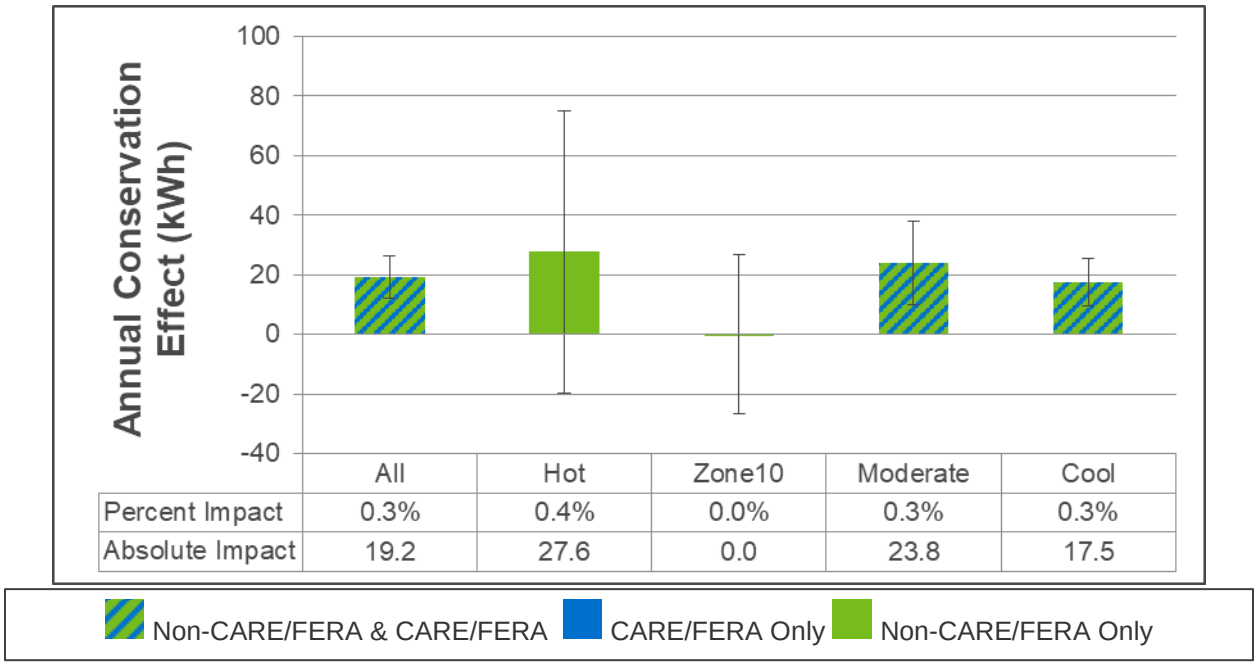
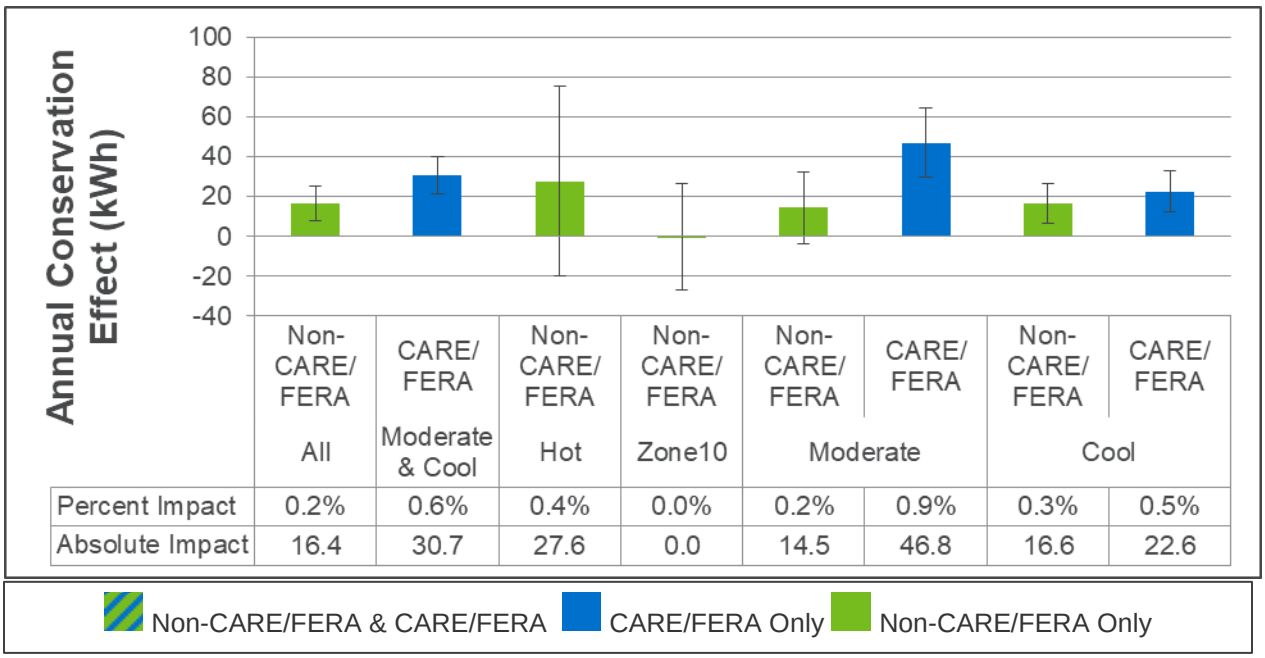


Figure 4-7 shows annual energy impacts for Rate 4 for CARE/FERA and non-CARE/FERA customers for the pilot as a whole and for each climate region. Annual reductions were statistically significant for non-CARE/FERA customers in the pilot as a whole and in the cool climate region. CARE/FERA customers in the moderate and cool climate regions (separately and combined) showed statistically significant conservation effects as well.

Figure 4-7: Average Annual Conservation Effect for SCE Rate 4 by Climate Region & CARE/FERA Status
(Positive values represent load reductions)



	Non-CARE/FERA All	CARE/FERA Moderate & Cool	Non-CARE/FERA Hot	Non-CARE/FERA Zone10	Non-CARE/FERA Moderate	CARE/FERA Moderate	Non-CARE/FERA Cool	CARE/FERA Cool
Percent Impact	0.2%	0.6%	0.4%	0.0%	0.2%	0.9%	0.3%	0.5%
Absolute Impact	16.4	30.7	27.6	0.0	14.5	46.8	16.6	22.6

4.3 Rate 5

Winter Load Impacts

SCE's Rate 5 has three rate periods on winter weekdays, and three rate periods on winter weekends, the same structure as Rate 4. Rate 5 peak period prices are higher than for Rate 4 but the peak period is only three hours, from 5 PM to 8 PM, whereas the Rate 4 peak period is five hours, from 4 PM to 9 PM. The Rate 5 peak price is 30¢/kWh for non-CARE/FERA customers and the super off-peak price of 17¢/kWh on winter weekdays from hours 8 AM to 5 PM, which is the same price as the super off-peak price for Rate 4.

Figure 4-8 shows the peak period load reductions on average weekdays for Rate 5. All load reductions are statistically significant at the 90% confidence level. The load reductions for the SCE territory as a whole (1.2% or 0.01 kW) are larger than those for Rate 4 (0.9% or 0.01 kW). The difference in average hourly peak period load reductions is statistically significant in both absolute and percentage terms. Load impacts were greatest in the hot climate region (1.6% or 0.02 kW) although there is no statistically significant difference in absolute load impacts between the hot climate region and Climate Zone 10. On the other hand, the difference in the absolute load impacts for all customers in the moderate and cool regions is statistically significant.

Figure 4-8: Average Peak Period Load Impacts for SCE Rate 5 by Climate Region (Positive values represent load reductions)

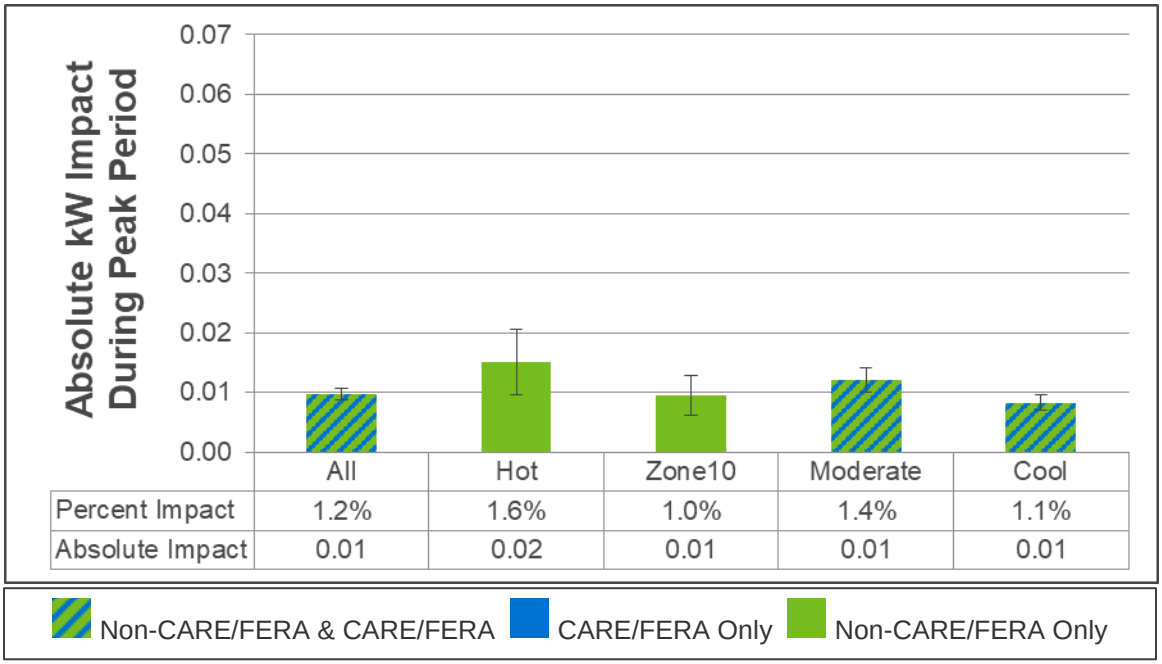


Table 4-4 presents estimates of load impacts for all relevant rate periods and day types for Rate 5 at the aggregate and climate region level. Average reference load usage was 0.83 kW at the full pilot level during the peak time on an average weekday. The highest demand estimates were observed in Climate Zone 10 on monthly system peak days during the peak period with a reference load of 0.94 kW.

The hot and moderate climate regions had largest percentage reductions for average weekday (1.6% and 1.4%) respectively (but the hot climate region segment does not include CARE/FERA customers, and the moderate climate region segment does). Climate Zone 10 had the lowest load impacts during the peak for average weekdays and monthly system peak days. The average reduction in daily electricity use was statistically significant overall and in each climate region for every day type, with the exception of average weekends and monthly system peak days in the cool climate region.

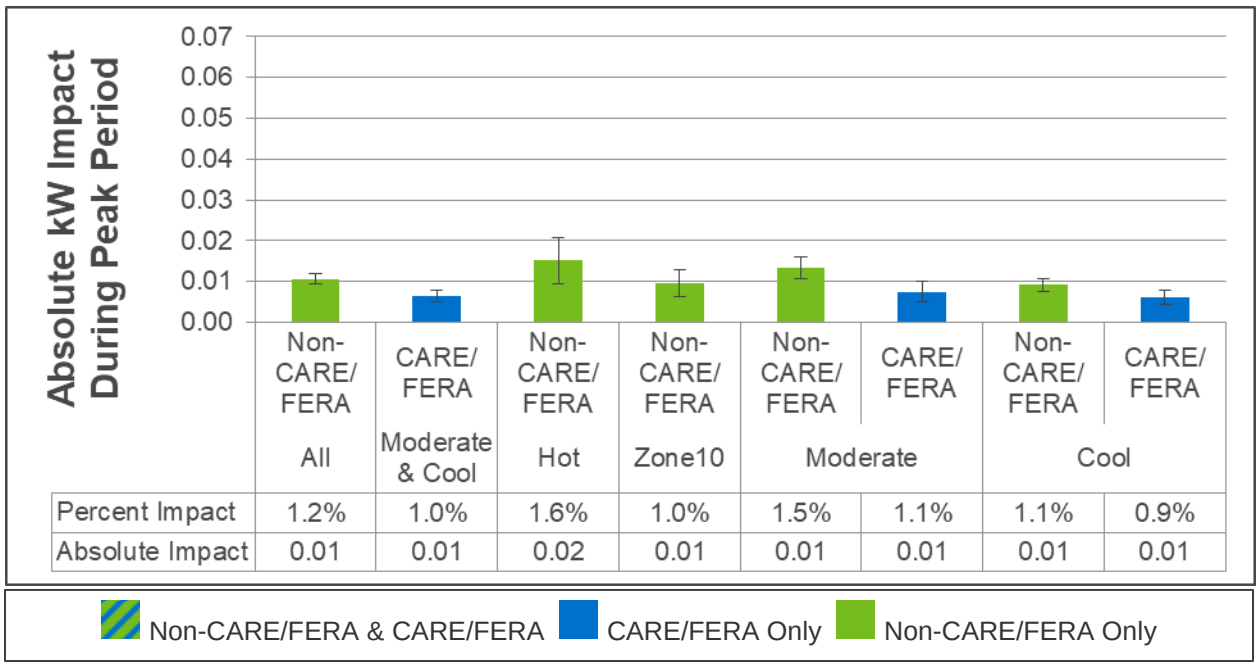
Table 4-4: Average Hourly Load Impacts by Climate Region, Rate Period and Day Type for SCE Rate 5 (Positive values represent load reductions, negative values represent load increases)

Rate 5																	
Day Type	Period	Hours	All			Hot			Zone10			Moderate			Cool		
			Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact
Average Weekday	Mid-Peak	5 PM to 8 PM	0.83	0.01	1.2%	0.93	0.02	1.6%	0.94	0.01	1.0%	0.85	0.01	1.4%	0.78	0.01	1.1%
	Off-Peak	8 PM to 8 AM	0.61	0.00	0.3%	0.73	0.01	1.3%	0.70	0.00	-0.2%	0.63	0.00	0.4%	0.57	0.00	0.3%
	Super Off-Peak	8 AM to 5 PM	0.52	0.00	0.2%	0.45	0.01	2.0%	0.52	0.01	1.7%	0.56	0.00	0.6%	0.51	0.00	-0.5%
	Day	All Hours	0.60	0.00	0.0%	0.65	0.01	1.5%	0.66	0.00	0.6%	0.63	0.00	0.0%	0.57	0.00	0.0%
Average Weekend	Mid-Peak	5 PM to 8 PM	0.83	0.01	0.9%	0.94	0.01	1.2%	0.95	0.01	0.9%	0.85	0.01	1.1%	0.78	0.01	0.8%
	Off-Peak	8 PM to 8 AM	0.60	0.00	0.2%	0.72	0.01	0.9%	0.69	0.00	-0.2%	0.61	0.00	0.3%	0.56	0.00	0.1%
	Super Off-Peak	8 AM to 5 PM	0.60	0.00	0.2%	0.54	0.01	1.2%	0.60	0.01	1.3%	0.64	0.00	0.7%	0.58	0.00	-0.4%
	Day	All Hours	0.63	0.00	0.0%	0.68	0.01	1.1%	0.69	0.00	0.5%	0.65	0.00	0.0%	0.60	0.00	0.0%
Monthly System Peak Day	Mid-Peak	5 PM to 8 PM	0.97	0.01	1.3%	1.13	0.03	2.4%	1.19	0.01	1.0%	1.03	0.02	1.8%	0.88	0.01	1.1%
	Off-Peak	8 PM to 8 AM	0.65	0.00	0.2%	0.79	0.01	1.4%	0.78	0.00	-0.1%	0.68	0.00	0.2%	0.60	0.00	0.2%
	Super Off-Peak	8 AM to 5 PM	0.63	0.00	0.1%	0.59	0.01	1.8%	0.72	0.01	1.2%	0.69	0.00	0.7%	0.59	0.00	-0.6%
	Day	All Hours	0.69	0.00	0.0%	0.76	0.01	1.7%	0.81	0.00	0.6%	0.73	0.00	0.0%	0.63	0.00	0.0%

* A shaded cell indicates estimate is not statistically significant

Figure 4-9 shows the peak period load reductions on weekdays for non-CARE/FERA and CARE/FERA customers. As noted with Rate 4, there are no CARE/FERA customers in the hot or Climate Zone 10 regions. In both the moderate and cool climate regions, non-CARE/FERA load reductions are larger than CARE/FERA load reductions in both absolute and percentage terms. These differences are statistically significant in absolute terms in both climate regions and in percentage terms in the cool climate region.

Figure 4-9: Average Peak Period Impacts for SCE Rate 5 by Climate Region & CARE/FERA Status (Positive values represent load reductions)



	All	Moderate & Cool	Hot	Zone10	Moderate		Cool	
Percent Impact	1.2%	1.0%	1.6%	1.0%	1.5%	1.1%	1.1%	0.9%
Absolute Impact	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01

Table 4-5 and Table 4-6 show the load impacts for each rate period and day type for Rate 5 at the aggregate level and across climate regions. Non-CARE/FERA customers had higher average load and load reductions during peak times across all climate regions on average weekdays, weekends and monthly system peak days.

Non-CARE/FERA customers had statistically significant reductions in average daily demand across most day types in each climate region except the cool climate region. The greatest daily reductions occurred in the hot climate region and Climate Zone 10. On the average weekday, these customers reduced their average demand by 1.5% and 0.6%, respectively. CARE/FERA customers also had average daily demand reductions, generally equal to less than 0.1% but statistically significant.

Table 4-5: Average Hourly Load Impacts by Rate Period and Day Type for SCE Rate 5 by Climate Region – Non-CARE/FERA Customers (Positive values represent load reductions, negative values represent load increases)

Rate 5																
Day Type	Period	Hours	All - Non-CARE/FERA			Hot - Non-CARE/FERA			Zone10 - Non-CARE/FERA			Moderate - Non-CARE/FERA			Cool - Non-CARE/FERA		
			Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact
Average Weekday	Mid-Peak	5 PM to 8 PM	0.87	0.01	1.2%	0.93	0.02	1.6%	0.94	0.01	1.0%	0.91	0.01	1.5%	0.82	0.01	1.1%
	Off-Peak	8 PM to 8 AM	0.64	0.00	0.2%	0.73	0.01	1.3%	0.70	0.00	-0.2%	0.67	0.00	0.4%	0.60	0.00	0.1%
	Super Off-Peak	8 AM to 5 PM	0.54	0.00	0.2%	0.45	0.01	2.0%	0.52	0.01	1.7%	0.60	0.00	0.0%	0.53	0.00	-0.5%
	Day	All Hours	0.63	0.00	0.0%	0.65	0.01	1.5%	0.66	0.00	0.6%	0.67	0.00	0.0%	0.60	0.00	0.0%
Average Weekend	Mid-Peak	5 PM to 8 PM	0.88	0.01	0.9%	0.94	0.01	1.2%	0.95	0.01	0.9%	0.92	0.01	1.0%	0.83	0.01	0.9%
	Off-Peak	8 PM to 8 AM	0.63	0.00	0.1%	0.72	0.01	0.9%	0.69	0.00	-0.2%	0.66	0.00	0.3%	0.59	0.00	0.0%
	Super Off-Peak	8 AM to 5 PM	0.62	0.00	0.2%	0.54	0.01	1.2%	0.60	0.01	1.3%	0.68	0.00	0.3%	0.61	0.00	-0.5%
	Day	All Hours	0.66	0.00	0.0%	0.68	0.01	1.1%	0.69	0.00	0.5%	0.70	0.00	0.0%	0.63	0.00	0.0%
Monthly System Peak Day	Mid-Peak	5 PM to 8 PM	1.03	0.01	1.4%	1.13	0.03	2.4%	1.19	0.01	1.0%	1.10	0.02	1.8%	0.92	0.01	1.2%
	Off-Peak	8 PM to 8 AM	0.69	0.00	0.2%	0.79	0.01	1.4%	0.78	0.00	-0.1%	0.72	0.00	0.2%	0.63	0.00	0.1%
	Super Off-Peak	8 AM to 5 PM	0.66	0.00	0.1%	0.59	0.01	1.8%	0.72	0.01	1.2%	0.74	0.00	0.2%	0.62	0.00	-0.6%
	Day	All Hours	0.72	0.00	0.0%	0.76	0.01	1.7%	0.81	0.00	0.6%	0.78	0.00	0.0%	0.66	0.00	0.0%

* A shaded cell indicates estimate is not statistically significant

Table 4-6: Average Hourly Load Impacts by Rate Period and Day Type for SCE Rate 5 by Climate Region – CARE/FERA Customers (Positive values represent load reductions, negative values represent load increases)

Rate 5																
Day Type	Period	Hours	Moderate & Cool - CARE/FERA			Hot - CARE/FERA			Zone10 - CARE/FERA			Moderate - CARE/FERA			Cool - CARE/FERA		
			Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact	Ref. kW	Impact kW	% Impact
Average Weekday	Mid-Peak	5 PM to 8 PM	0.66	0.01	1.0%	N/A	N/A	N/A	N/A	N/A	N/A	0.68	0.01	1.1%	0.65	0.01	0.9%
	Off-Peak	8 PM to 8 AM	0.49	0.00	0.6%	N/A	N/A	N/A	N/A	N/A	N/A	0.51	0.00	0.1%	0.48	0.00	0.9%
	Super Off-Peak	8 AM to 5 PM	0.45	0.00	0.6%	N/A	N/A	N/A	N/A	N/A	N/A	0.47	0.01	2.3%	0.44	0.00	-0.3%
	Day	All Hours	0.50	0.00	0.0%	N/A	N/A	N/A	N/A	N/A	N/A	0.52	0.01	0.0%	0.48	0.00	0.0%
Average Weekend	Mid-Peak	5 PM to 8 PM	0.65	0.01	1.0%	N/A	N/A	N/A	N/A	N/A	N/A	0.68	0.01	1.5%	0.63	0.00	0.7%
	Off-Peak	8 PM to 8 AM	0.48	0.00	0.6%	N/A	N/A	N/A	N/A	N/A	N/A	0.50	0.00	0.3%	0.47	0.00	0.7%
	Super Off-Peak	8 AM to 5 PM	0.51	0.00	0.5%	N/A	N/A	N/A	N/A	N/A	N/A	0.53	0.01	1.7%	0.50	0.00	0.0%
	Day	All Hours	0.51	0.00	0.0%	N/A	N/A	N/A	N/A	N/A	N/A	0.54	0.01	0.0%	0.50	0.00	0.0%
Monthly System Peak Day	Mid-Peak	5 PM to 8 PM	0.76	0.01	1.1%	N/A	N/A	N/A	N/A	N/A	N/A	0.83	0.01	1.3%	0.73	0.01	1.0%
	Off-Peak	8 PM to 8 AM	0.53	0.00	0.4%	N/A	N/A	N/A	N/A	N/A	N/A	0.56	0.00	-0.1%	0.51	0.00	0.6%
	Super Off-Peak	8 AM to 5 PM	0.52	0.00	0.5%	N/A	N/A	N/A	N/A	N/A	N/A	0.56	0.01	2.2%	0.49	0.00	-0.5%
	Day	All Hours	0.55	0.00	0.0%	N/A	N/A	N/A	N/A	N/A	N/A	0.59	0.01	0.0%	0.53	0.00	0.0%

* A shaded cell indicates estimate is not statistically significant

Annual Conservation Effect

Figure 4-10 shows the annual conservation effect for customers in each climate region on Rate 5. Each region (and the pilot as a whole) showed statistically significant decreases in annual energy use. On average, customers decreased their consumption by 0.5% or 30.6 kWh per customer during the first full year of the pilot. Those in the cool climate region saw the smallest, but still statistically significant, decrease of 0.3% or 14.6 kWh.

Figure 4-10: Average Annual Conservation Effect for SCE Rate 5 by Climate Region (Positive values represent load reductions)

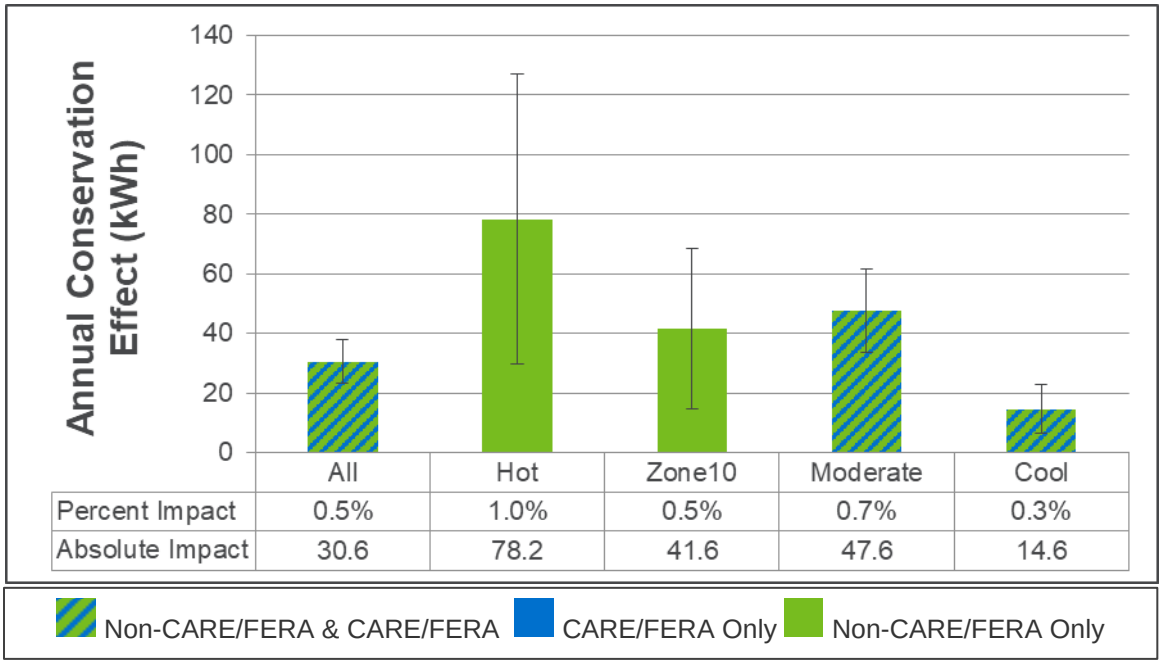
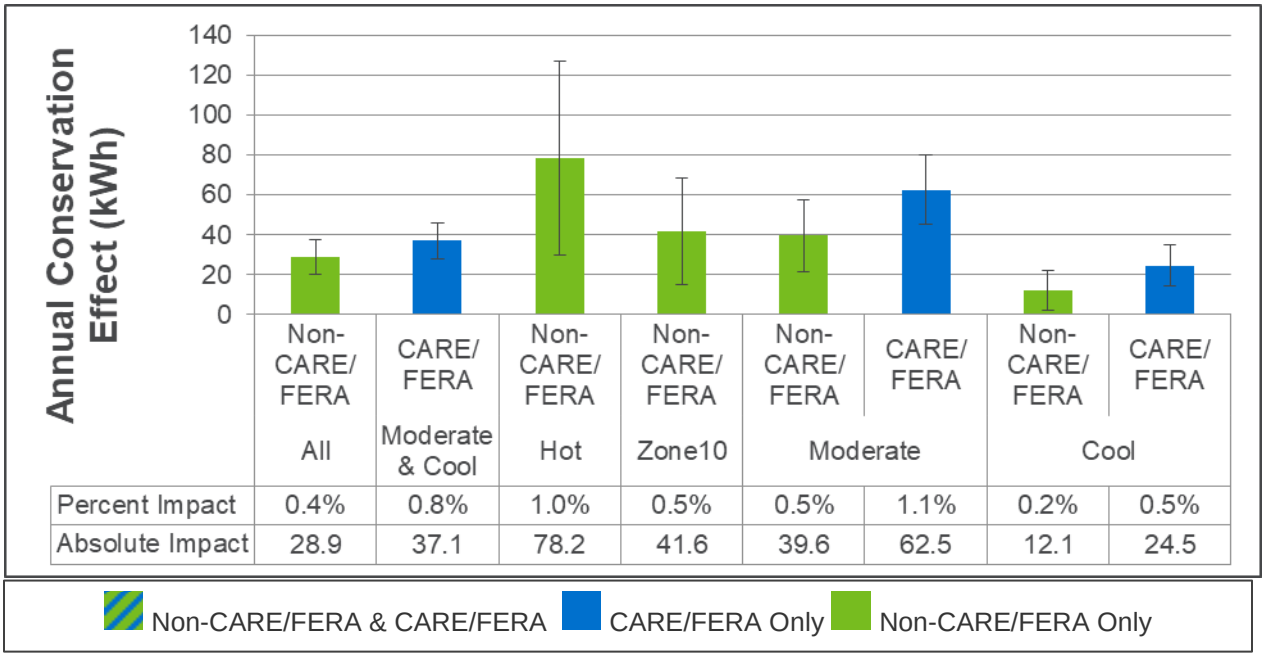


Figure 4-11 shows the annual conservation effect for Rate 5 for CARE/FERA and non-CARE/FERA customers for the pilot as a whole and for each climate region. Each customer segment showed statistically significant annual reductions in energy consumption. In the moderate and cool climate regions, CARE/FERA customers had greater reductions in energy consumption versus non-CARE/FERA customers.

Figure 4-11: Average Annual Conservation Effect for SCE Rate 5 by Climate Region & CARE/FERA Status (Positive values represent load reductions)

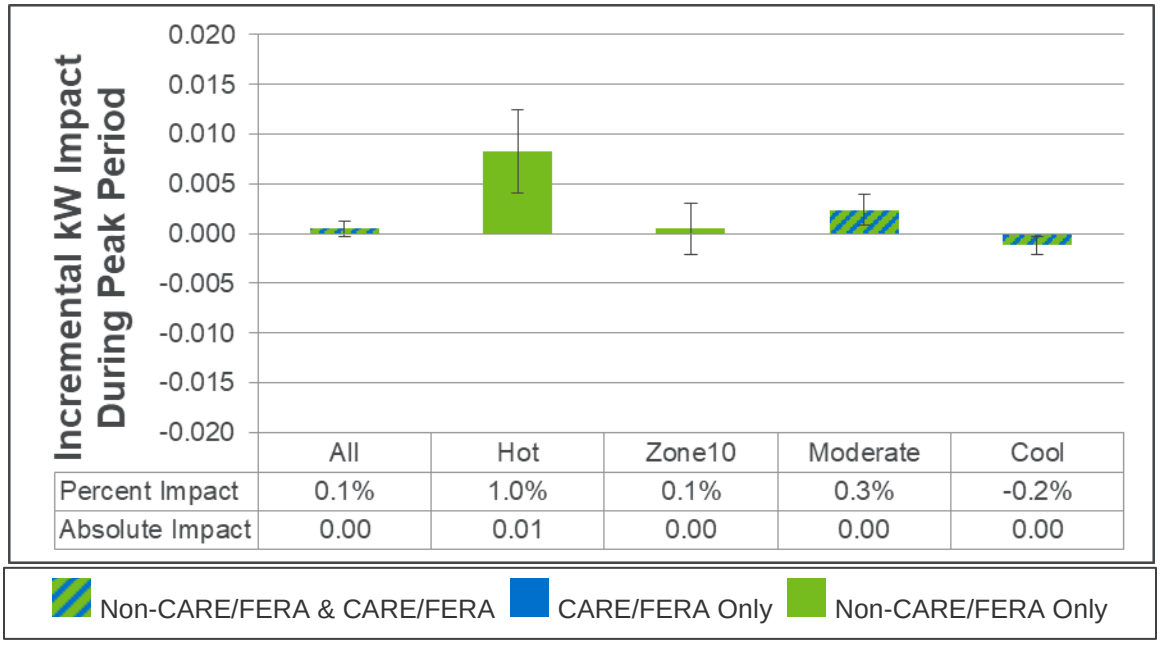


4.4 Post-enrollment Treatments

4.4.1 Enhanced Education & Outreach

SCE varied the education and outreach provided to participants who were on the two TOU rates. Half of the pilot participants on each rate received what SCE describes as enhanced education and outreach, which had different formatting and content as summarized in Section 2.2 of the Interim Report. Figure 4-12 shows the average incremental impact attributable to the enhanced education and outreach at the aggregate level and for each climate region for Rate 4, while Figure 4-13 shows the average incremental impacts at the aggregate level and for each climate region for Rate 5. Positive values in the figure indicate an incremental increase in load reductions (e.g., load reductions are larger with enhanced education) while a negative value means load reductions were smaller for the enhanced education group relative to the less frequent communication. As seen, incremental impacts were only statistically significant in the hot and moderate climate regions.

Figure 4-12: Rate 4 Incremental Load Impacts from Enhanced E&O Treatment by Climate Region
(Positive values represent larger load reductions for Enhanced E&O customers relative to Basic E&O Customers)



	All	Hot	Zone10	Moderate	Cool
Percent Impact	0.1%	1.0%	0.1%	0.3%	-0.2%
Absolute Impact	0.00	0.01	0.00	0.00	0.00

Figure 4-13: Rate 5 Incremental Load Impacts from Enhanced E&O Treatment by Climate Region
(Positive values represent larger load reductions for Enhanced E&O customers relative to Basic E&O customers)

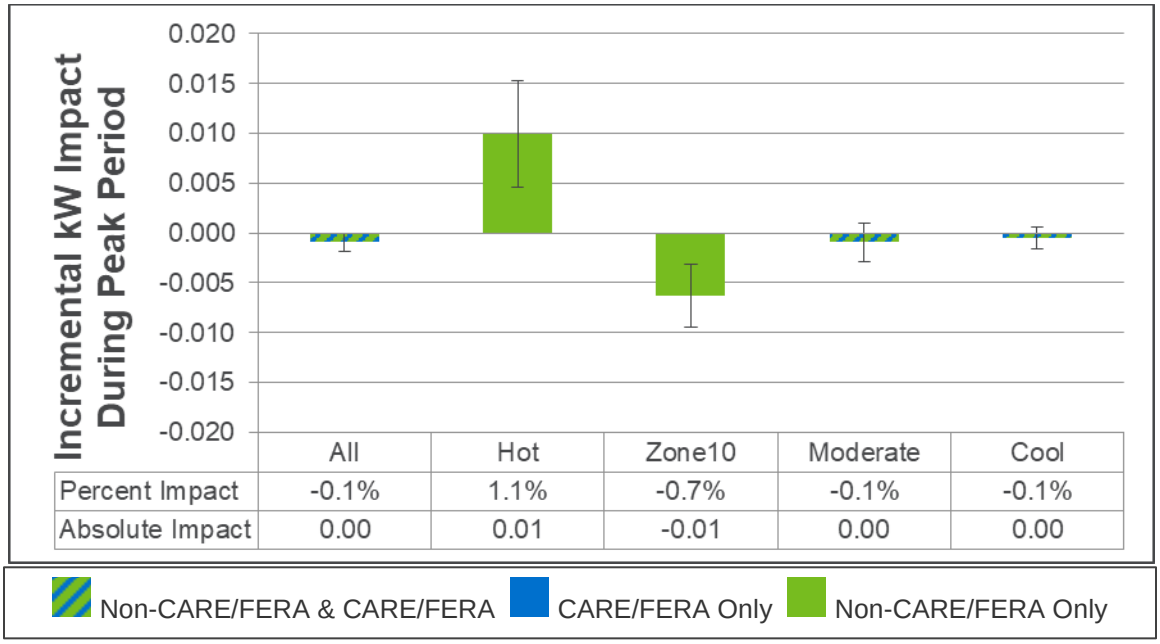


Figure 4-14 and Figure 4-15 display the average incremental peak period impact attributable to the enhanced education and outreach by CARE/FERA status for each climate region for Rate 4 and Rate 5, respectively. Incremental impacts were positive and statistically significant for CARE/FERA customers in the combined moderate and cool climate regions and in the cool climate region separately. The impacts were also positive and statistically significant for non-CARE/FERA customers in the hot and moderate climate regions.

Figure 4-14: Rate 4 Incremental Peak Period Load Impacts from Enhanced E&O Treatment by Climate Region & CARE/FERA Status (Positive values represent larger load reductions for Enhanced E&O customers relative to Basic E&O customers)

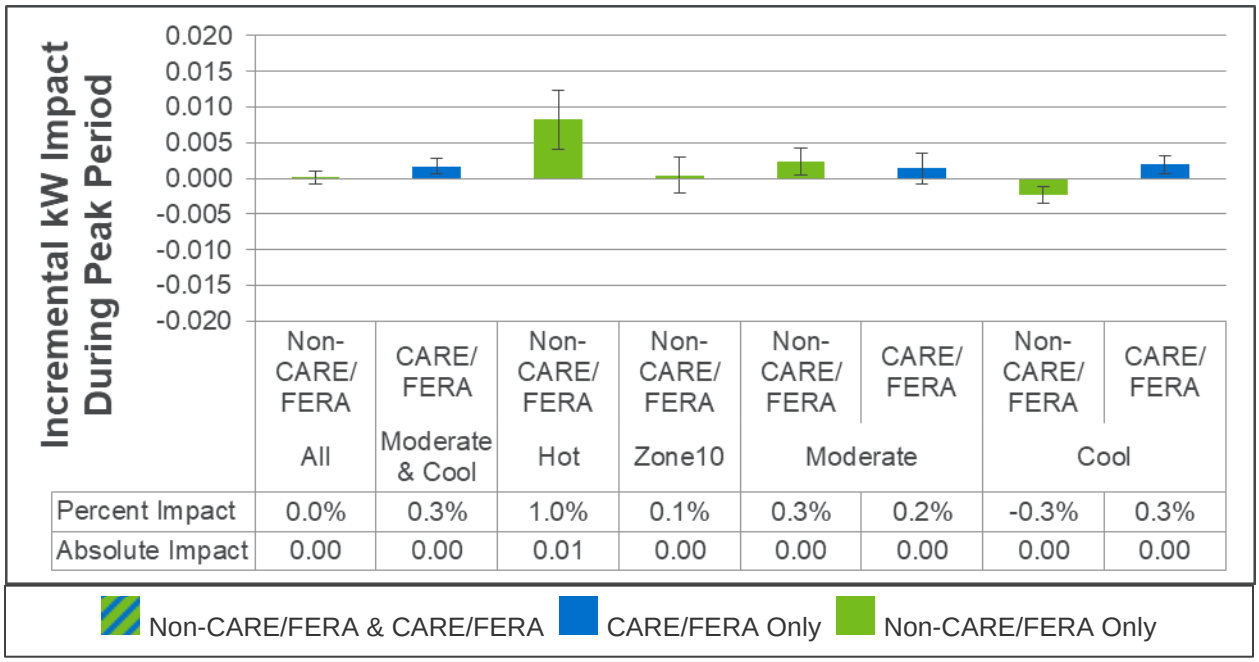
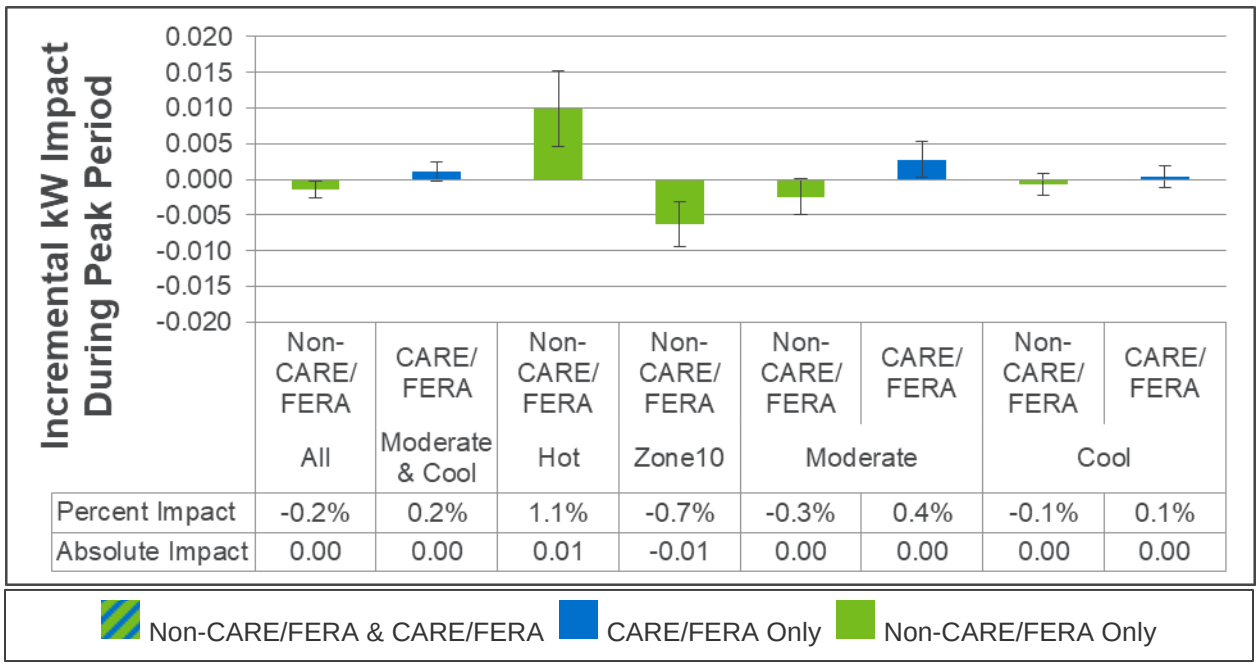


Figure 4-15: Rate 5 Incremental Load Impacts from Enhanced E&O Treatment by Climate Region & CARE/FERA Status (Positive values represent larger load reductions for Enhanced E&O customers relative to Basic E&O customers)



4.4.2 Level Payment Plan

As discussed in Section 2, the enrolled population on each of the default rates was segmented into two groups, those deemed to be most impacted by bill volatility and those who are not. The group impacted by bill volatility was comprised of customers considered to be income-constrained and who were expected to experience increased seasonal bill differentials under the default TOU rate. This segment of customers was further divided into two equal groups, with one group receiving information on SCE's Level Payment Plan (LPP) as a means of managing month-to-month bill volatility.

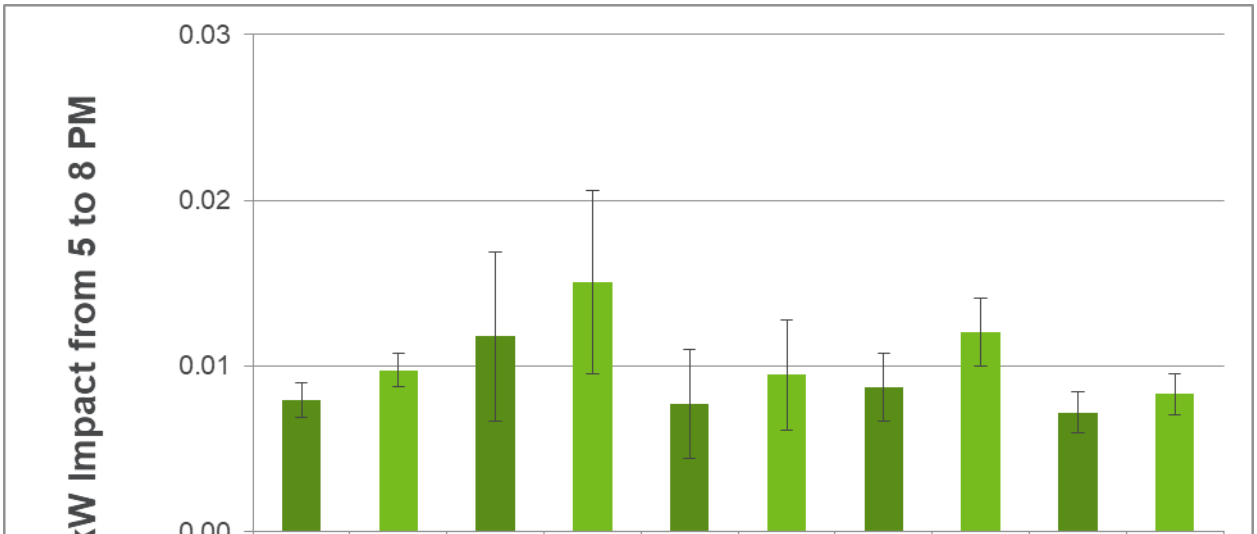
The Pilot plan called for estimating the incremental enrollments in LPP that occurred as a result of the additional messaging and, if enrollment was large enough, to determine if load impacts differed between customers who were and were not on the LPP. However, among the group of approximately 52,000 pilot treatment customers who were deemed most impacted by bill volatility, only 400 enrolled in LPP after the launch of the pilot. As such, participation is not large enough to determine any differences in load impacts between LPP and non-LPP participants.

4.5 Comparison across Rates

Figure 4-16 compares the load impacts for the two rates tested by SCE for the common set of peak-period hours from 5 PM to 8 PM for the entire winter period from October 2018 through May 2019. Using a common set of hours reduces differences in impacts across rates that might be due to differences in the number of hours included in the peak period or the timing of those hours. The hours from 5 PM to 8 PM define the peak period for SCE's Rate 5. Rate 4 has a five hour peak period, from 4 PM to 9 PM and both tariffs have three rate periods in winter. The shorter duration of Rate 5 is offset by the higher peak price. Both Rate 4 and Rate 5 have the same baseline credit.

Customers on Rate 5, which had a shorter peak period with a higher peak period price, produced larger average load reductions than Rate 4 customers in every climate region during the common hours from 5 PM to 8 PM, although not all differences were statistically significant. The largest difference was in the moderate climate region, where Rate 5 customers had percent load reductions that were 40% larger than those provided by Rate 4 customers (however the impacts were similar in terms of kW). This difference was statistically significant. The difference was also statistically significant in the pilot as a whole.

Figure 4-16: Average Impacts from 5 PM to 8 PM across Rates



	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5
	All		Hot		Zone10		Moderate		Cool	
Percent Impact	1.0%	1.2%	1.3%	1.6%	0.8%	1.0%	1.0%	1.4%	0.9%	1.1%
Absolute Impact	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01

Figure 4-17 presents the average daily kWh impacts for each rate during the winter 2018/2019 period. Daily load reductions were similar between Rate 4 and Rate 5 in the cool climate region, and slightly larger for Rate 5 in the moderate climate region. In Climate Zone 10 and the hot climate region, Rate 4 showed daily usage increases – although this estimate was not statistically significant in the hot climate region. In contrast, Rate 5 showed daily usage reductions as large as 1.5% or 0.24 kWh in the hot climate region.

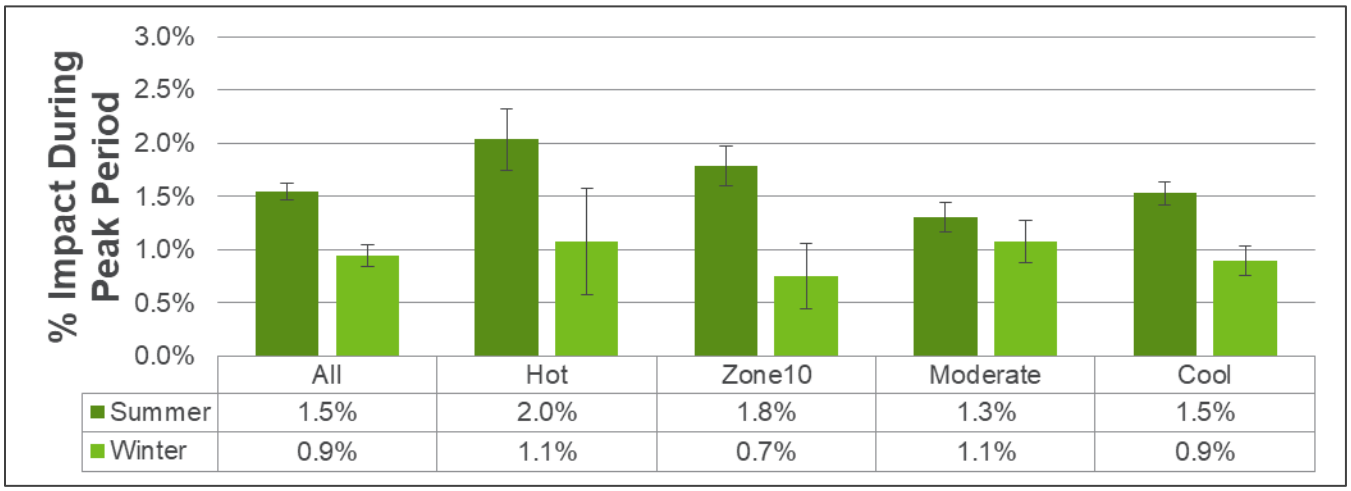
Figure 4-17: Average Daily kWh Impacts across Rates

	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5
	All		Hot		Zone10		Moderate		Cool	
Percent Impact	0.1%	0.4%	-0.6%	1.5%	-0.4%	0.6%	0.4%	0.6%	0.1%	0.1%
Absolute Impact	0.02	0.06	-0.09	0.24	-0.06	0.09	0.06	0.10	0.02	0.02

4.6 Comparison across Seasons

Figure 4-18 presents a comparison of peak period impacts for the summer and winter average weekday for customers on Rate 4. In each segment presented below, impacts were larger in the summer than the winter. For example, in the pilot population as a whole, summer impacts were equal to 1.5% and winter impacts were equal to 0.9%. This difference is statistically significant.

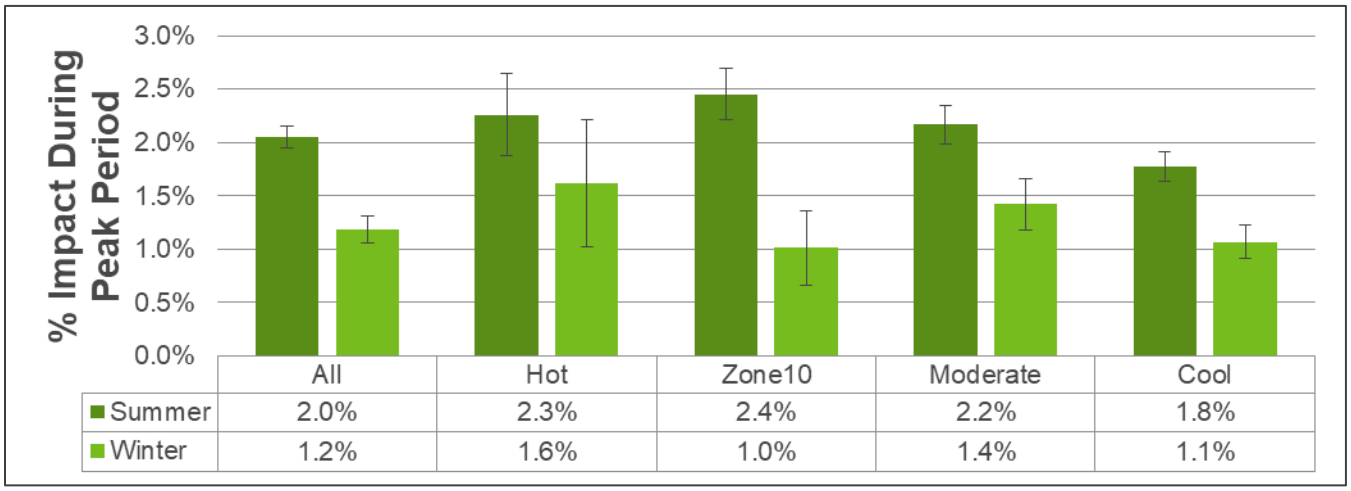
Figure 4-18: Average Peak Period Load Impacts for SCE Rate 4 (Summer vs. Winter)



	All	Hot	Zone10	Moderate	Cool
Summer	1.5%	2.0%	1.8%	1.3%	1.5%
Winter	0.9%	1.1%	0.7%	1.1%	0.9%

Figure 4-19 presents the comparison of peak period impacts across seasons for customers on Rate 5. Like Rate 4, summer impacts were greater than winter impacts. In fact, in some cases the summer impacts were roughly twice as large as those in the winter months. This result is not surprising considering the stronger price signal in the summer.

Figure 4-19: Average Peak Period Load Impacts for SCE Rate 5 (Summer vs. Winter)

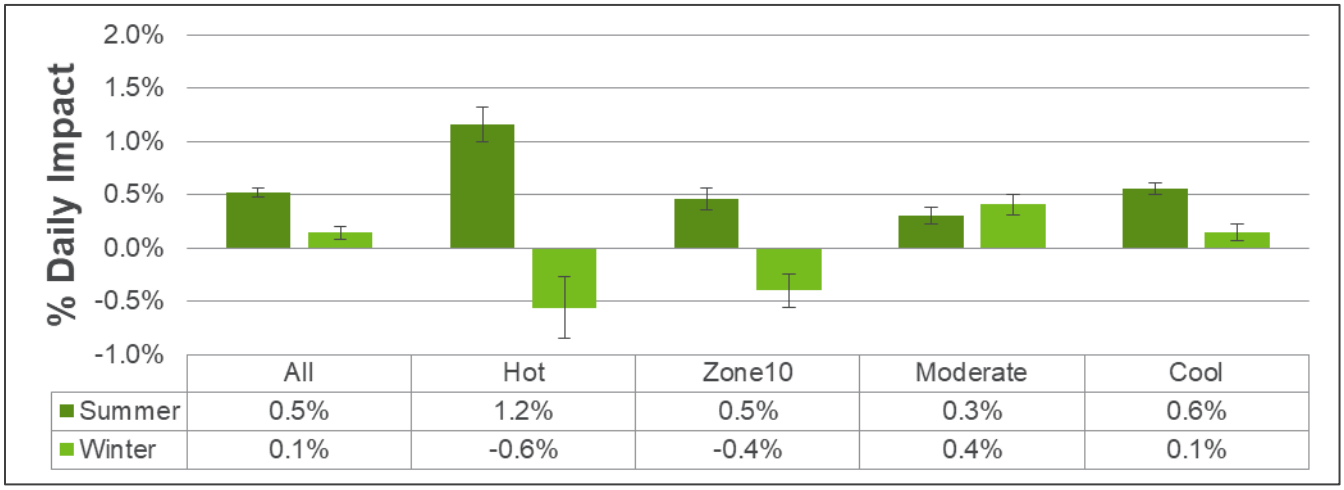


	All	Hot	Zone10	Moderate	Cool
Summer	2.0%	2.3%	2.4%	2.2%	1.8%
Winter	1.2%	1.6%	1.0%	1.4%	1.1%

Figure 4-20 presents the average weekday conservation effect for Rate 4 for the summer and winter seasons. For Rate 4 customer as a whole, customers used 0.5% less electricity during the day (compared to the control group). In the winter, the conservation effect was smaller, only about 0.1%. This pattern was similar in the cool climate region. In the hot climate region and

Climate Zone 10, customers saved energy on the average summer weekday, but actually used more energy than the comparison group in the winter months.

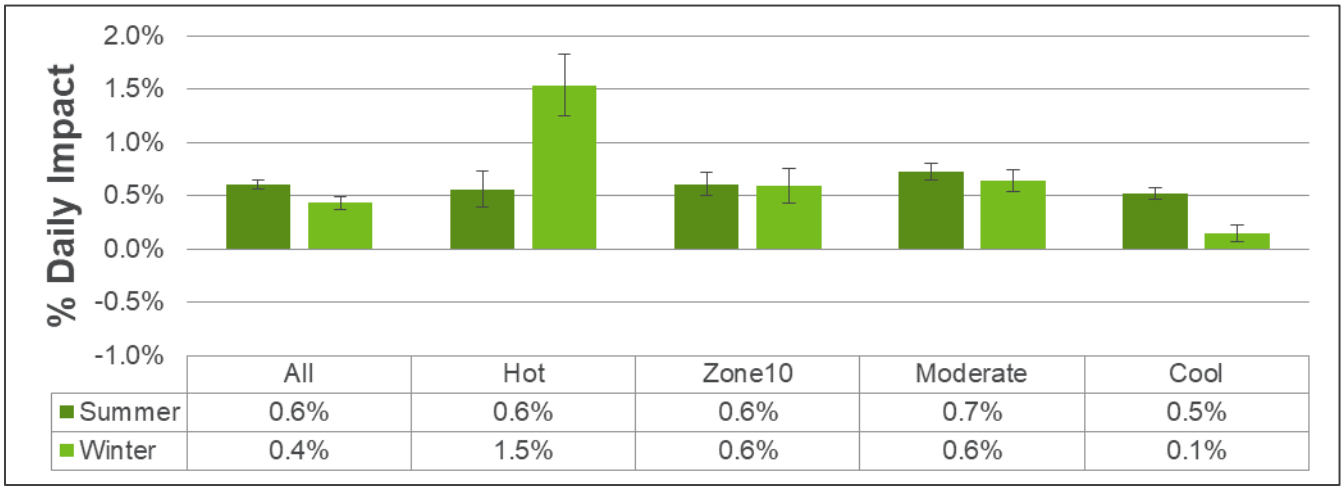
Figure 4-20: Average Daily Load Impacts for SCE Rate 4 (Summer vs. Winter)



	All	Hot	Zone10	Moderate	Cool
Summer	0.5%	1.2%	0.5%	0.3%	0.6%
Winter	0.1%	-0.6%	-0.4%	0.4%	0.1%

Figure 4-21 presents the seasonal comparison of daily energy savings for Rate 5. The difference between the seasons was not as drastic on Rate 5 compared to Rate 4. In fact, in the hot climate region, customers saved more energy in the winter than they did in the summer. In the moderate climate region and Climate Zone 10, daily energy savings were similar between the two seasons.

Figure 4-21: Average Daily Load Impacts for SCE Rate 5 (Summer vs. Winter)



	All	Hot	Zone10	Moderate	Cool
Summer	0.6%	0.6%	0.6%	0.7%	0.5%
Winter	0.4%	1.5%	0.6%	0.6%	0.1%

5 Bill Impacts

This section summarizes the bill impact estimates for the two rate treatments tested by SCE. As discussed in Section 3.1, the impact of TOU rates on customers' bills is an important metric of interest to stakeholders, and a primary objective of the evaluation. This evaluation presents behavioral impacts and total bill impacts, as customers have now been on the new tariffs for a full year. The Interim Report presents structural bill impacts based on pretreatment data. Bill impacts were estimated for the average month in summer, winter, and for the entire year.

Total bill impacts experienced by customers on a TOU rate can be separated into two components: the structural impact and the behavioral impact. The structural impact represents the change in customer bills based solely on the change in the underlying structure of the rate. In this case, it is the change from the OAT to the time-differentiated TOU pilot rates. The behavioral impact represents how customers change their energy usage in response to the new pricing structure of the rate, which includes higher prices in the afternoon and evening and lower prices at other times of day. As noted previously, it is the combination of structural and behavioral bill impacts that produces the total bill impact experienced by the average study participant on each rate.

The results from this analysis represent the average monthly bill across the first year of the pilot (June 2018 through May 2019) and the average monthly bill for winter and spring. Three different bills were calculated for each customer segment:

- **[1] No Change in Behavior or Tariff :** This represents what the treatment group bills would have been in the post-treatment period if they were on the OAT and had not changed their behavior
- **[2] No Change in Behavior, Change in Tariff:** This represents what the treatment group bills would have been in the post-treatment period if they were on the TOU rate and had not changed their behavior
- **[3] Change in behavior and in Tariff:** This represents what the treatment group bills were in the post-treatment period on the TOU rate with a change in behavior

The difference between [1] and [2] is the structural bill impact (based on post-treatment usage after adjusting for any pretreatment differences between control and treatment customers). The difference between [2] and [3] is the amount customers were able to reduce their bills by changing their behavior. Finally, the difference between [1] and [3] is the bill impact due to structural differences in the rates, but mitigated by changes in behavior. This is the total bill impact.

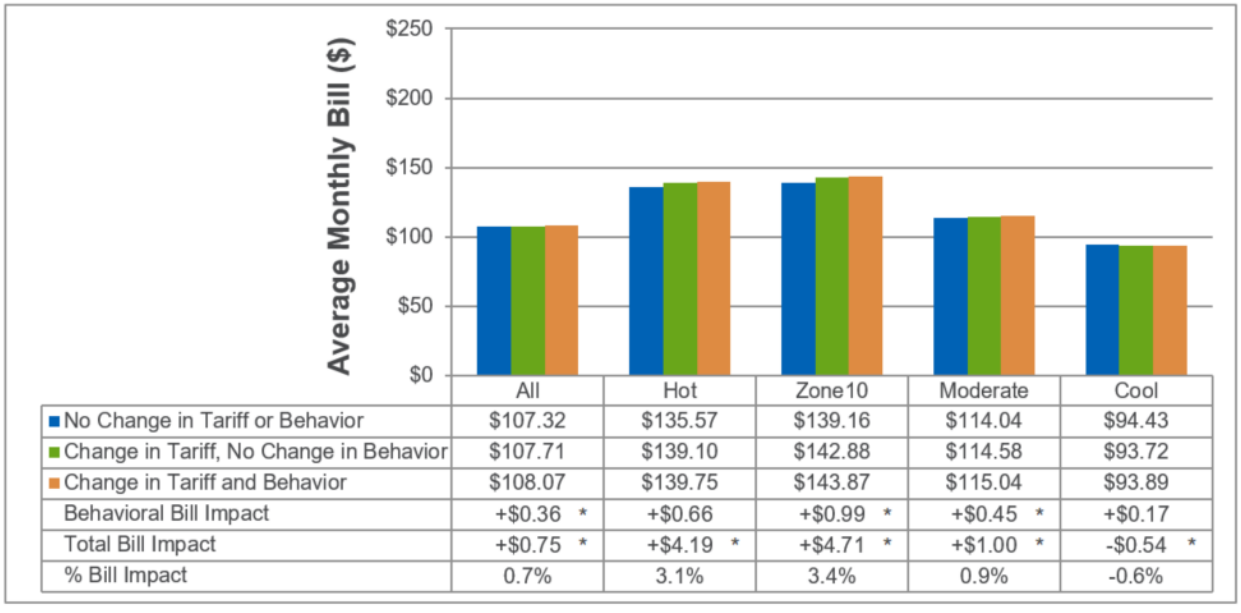
In the bill impact analysis, a major policy objective is to better understand the relationship between the structural bill impacts and how customers were able to respond. The outcome of this relationship is presented by the "Total Bill Impact" and "Percent Bill Impact" shown in the data table at the bottom of the figures below. These values represent the final outcome incorporating the structural change, and the customers' behavioral response. Results are organized by rate, climate region, and segment. For each rate, results are presented for the first year of the pilot, followed by summer and winter estimates.

5.1 Rate 4

Figure 5-1 presents a set of three average monthly bills as defined above for the first year of the pilot for all customers in the pilot and for each climate region for Rate 4. The blue bar represents a typical average monthly bill for a customer still on the OAT and not responding to a TOU rate – noted as "No Change in Tariff or Behavior." For the average customer on Rate 4, this dollar amount was $107.32 per month. The green bar represents what a typical monthly bill would be for a customer who was billed on a TOU rate, but did not change their energy use behavior – noted as "Change in Tariff, No Change in Behavior." This dollar amount is $107.71 for the average Rate 4 customer. The difference between the two values, $0.39, is the average increase a customer would see in their bills by changing from the OAT to Rate 4 with no change in their energy use behavior. This is also referred to as the customer's structural loss. The orange bar represents the average Rate 1 customer's average monthly bill after factoring in the change in rate from the OAT to Rate 4, and then also taking into account any changes in energy use behavior- noted as "Change in Tariff and Behavior." This bill amount averaged $108.07 for the typical Rate 4 customer.

Based on these values, it is possible to estimate the total change in the average monthly bill over the course of the year, including both the change in tariff and in behavior, which, in this instance is a bill increase of $0.75 per year (0.7%). This total change is calculated by subtracting the blue ($107.32) from the orange ($108.07). While this impact is statistically significant, it is still very small and would amount to a bill increase of less than $10 per year, on average.

Figure 5-1: Annual Bill Impacts for SCE Rate 4 by Climate Region



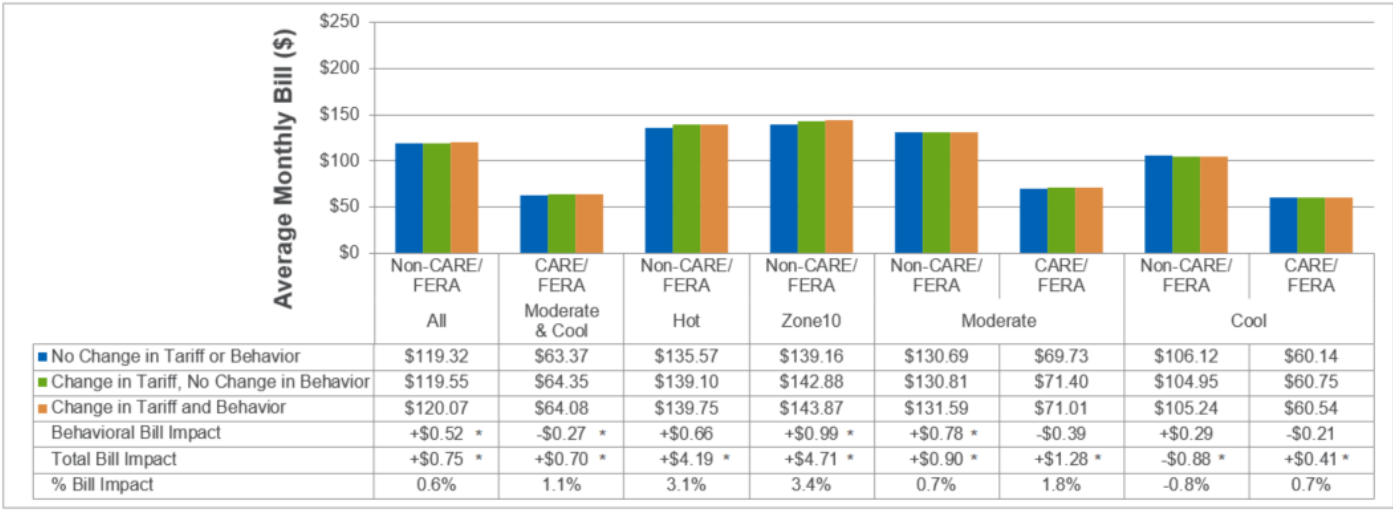
	All	Hot	Zone10	Moderate	Cool
No Change in Tariff or Behavior	$107.32	$135.57	$139.16	$114.04	$94.43
Change in Tariff, No Change in Behavior	$107.71	$139.10	$142.88	$114.58	$93.72
Change in Tariff and Behavior	$108.07	$139.75	$143.87	$115.04	$93.89
Behavioral Bill Impact	+$0.36 *	+$0.66	+$0.99 *	+$0.45 *	+$0.17
Total Bill Impact	+$0.75 *	+$4.19 *	+$4.71 *	+$1.00 *	-$0.54 *
% Bill Impact	0.7%	3.1%	3.4%	0.9%	-0.6%

* Indicates statistically significant bill impacts at the 90% confidence level

Figure 5-2 presents the three sets of average monthly bills as defined above for the Non-CARE/FERA and CARE/FERA segments by climate region for Rate 4. Non-CARE/FERA

customers experienced total bill increases of $0.75 per month, or 0.6%, on average. CARE/FERA customers, which were only located in the moderate and cool climate regions, experienced similar bill increases, $0.70 or 1.1%. Only non-CARE/FERA customers in the cool climate region experienced overall bill reductions over the course of the pilot with bill impacts equal to $0.88 or 0.8% per month, on average. Total bill impacts were statistically significant in each segment, and behavioral bill impacts were statistically significant in the combined climate region segments, Climate Zone 10, and for non-CARE/FERA customers in the moderate climate region.

Figure 5-2: Annual Bill Impacts for SCE Rate 4 by Climate Region & CARE/FERA Status

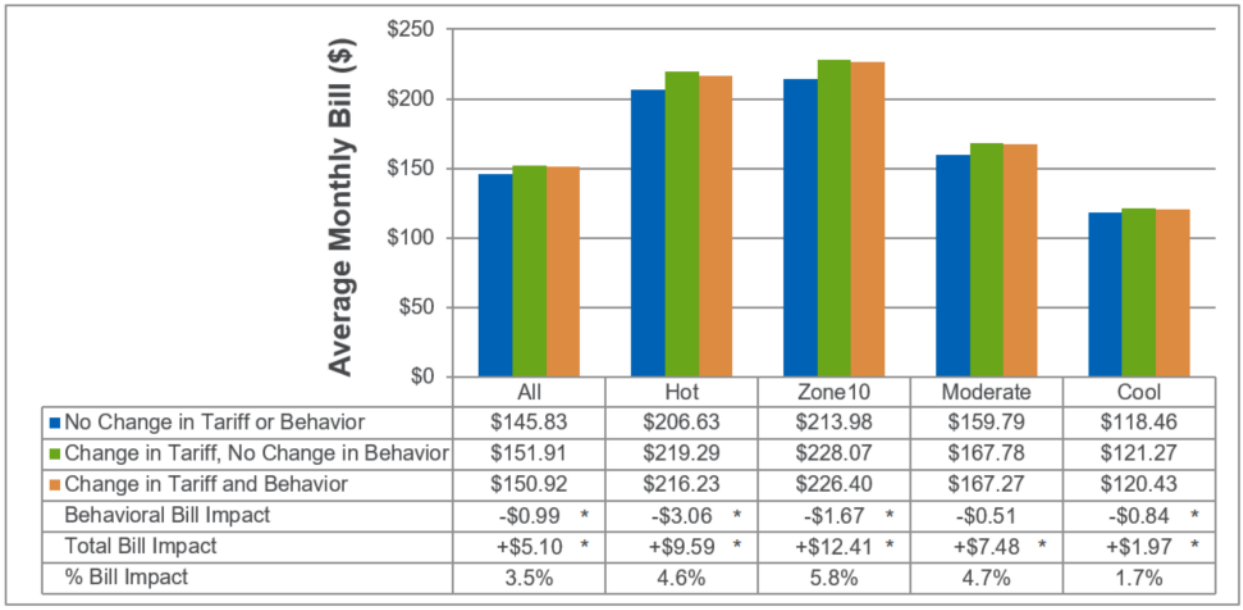


	Non-CARE/ FERA All	CARE/ FERA Moderate & Cool	Non-CARE/ FERA Hot	Non-CARE/ FERA Zone10	Non-CARE/ FERA Moderate	CARE/ FERA Moderate	Non-CARE/ FERA Cool	CARE/ FERA Cool
No Change in Tariff or Behavior	$119.32	$63.37	$135.57	$139.16	$130.69	$69.73	$106.12	$60.14
Change in Tariff, No Change in Behavior	$119.55	$64.35	$139.10	$142.88	$130.81	$71.40	$104.95	$60.75
Change in Tariff and Behavior	$120.07	$64.08	$139.75	$143.87	$131.59	$71.01	$105.24	$60.54
Behavioral Bill Impact	+$0.52 *	-$0.27 *	+$0.66	+$0.99 *	+$0.78 *	-$0.39	+$0.29	-$0.21
Total Bill Impact	+$0.75 *	+$0.70 *	+$4.19 *	+$4.71 *	+$0.90 *	+$1.28 *	-$0.88 *	+$0.41 *
% Bill Impact	0.6%	1.1%	3.1%	3.4%	0.7%	1.8%	-0.8%	0.7%

* Indicates statistically significant bill impacts at the 90% confidence level

Bill impacts for customers on Rate 4 were greater in the summer months. Figure 5-3 presents the three sets of average monthly bills for all customers on Rate 4 during period from June through September 2018. Behavioral bill impacts were negative and statistically significant in all climate regions and in the pilot as a whole, with the exception of the moderate climate region. Total bill impacts were positive and statistically significant in all climate regions and in the pilot as a whole. Customers on Rate 4 faced structural bill increases equal to $6.09, on average. They were able to mitigate a small amount of this impact ($0.99) through changes in behavior and ultimately experienced total bill increases of $5.10 per month, on average. This is equivalent to a 3.5% increase. Customers in Climate Zone 10 faced the largest structural bill impact equal to $14.08, but with changes in behavior brought that value down to $12.41 per month, on average.

Figure 5-3: Summer Bill Impacts for SCE Rate 4 by Climate Region

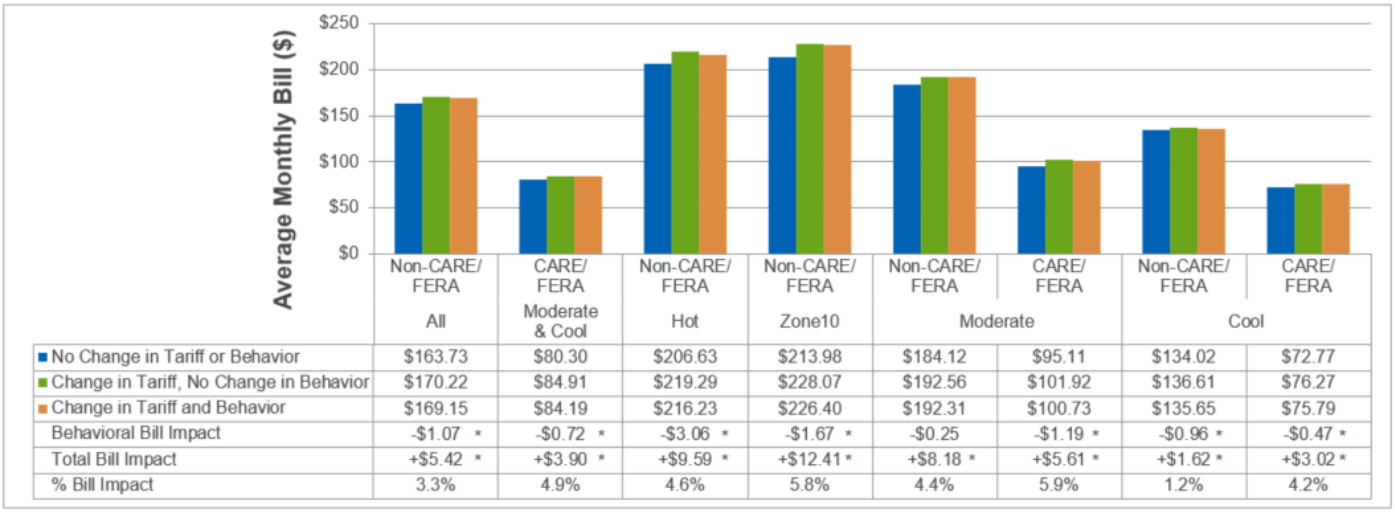


	All	Hot	Zone10	Moderate	Cool
No Change in Tariff or Behavior	$145.83	$206.63	$213.98	$159.79	$118.46
Change in Tariff, No Change in Behavior	$151.91	$219.29	$228.07	$167.78	$121.27
Change in Tariff and Behavior	$150.92	$216.23	$226.40	$167.27	$120.43
Behavioral Bill Impact	-$0.99 *	-$3.06 *	-$1.67 *	-$0.51	-$0.84 *
Total Bill Impact	+$5.10 *	+$9.59 *	+$12.41 *	+$7.48 *	+$1.97 *
% Bill Impact	3.5%	4.6%	5.8%	4.7%	1.7%

* Indicates statistically significant bill impacts at the 90% confidence level

Figure 5-4 presents the three average monthly summer bills for customers on Rate 4 by climate region and CARE/FERA status. Total bill impacts in the summer months were statistically significant for all customer segments presented below, and ranged from 1.2% for non-CARE/FERA customers in the cool climate region to 5.9% for CARE/FERA customers in the moderate climate region. In the moderate climate region, non-CARE/FERA customers faced larger structural bill impacts than CARE/FERA customers ($8.43 versus $6.81), however CARE/FERA customers were able to mitigate a larger portion of their structural losses through changes in behavior. Their behavioral bill impact was equal to a reduction of $1.19, leading to a total bill increase of $5.61 or 5.9%. In the cool climate region, non-CARE/FERA customers had greater behavioral bill impacts and smaller total bill impacts than CARE/FERA customers.

Figure 5-4: Summer Bill Impacts for SCE Rate 4 by Climate Region & CARE/FERA Status

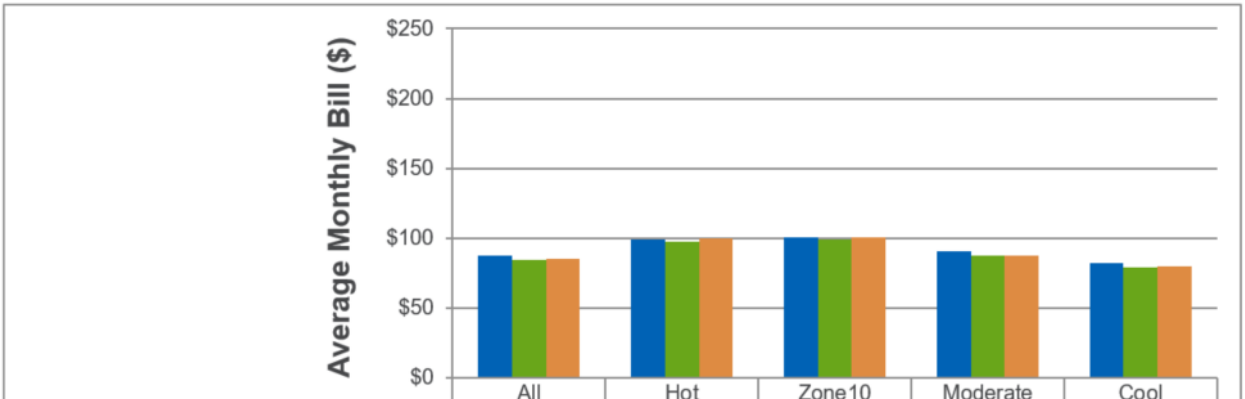


	Non-CARE/ FERA All	CARE/ FERA Moderate & Cool	Non-CARE/ FERA Hot	Non-CARE/ FERA Zone10	Non-CARE/ FERA Moderate	CARE/ FERA Moderate	Non-CARE/ FERA Cool	CARE/ FERA Cool
No Change in Tariff or Behavior	$163.73	$80.30	$206.63	$213.98	$184.12	$95.11	$134.02	$72.77
Change in Tariff, No Change in Behavior	$170.22	$84.91	$219.29	$228.07	$192.56	$101.92	$136.61	$76.27
Change in Tariff and Behavior	$169.15	$84.19	$216.23	$226.40	$192.31	$100.73	$135.65	$75.79
Behavioral Bill Impact	-$1.07 *	-$0.72 *	-$3.06 *	-$1.67 *	-$0.25	-$1.19 *	-$0.96 *	-$0.47 *
Total Bill Impact	+$5.42 *	+$3.90 *	+$9.59 *	+$12.41 *	+$8.18 *	+$5.61 *	+$1.62 *	+$3.02 *
% Bill Impact	3.3%	4.9%	4.6%	5.8%	4.4%	5.9%	1.2%	4.2%

* Indicates statistically significant bill impacts at the 90% confidence level

Figure 5-5 presents winter bill impacts for the average month from October 2018 through May 2019 for customers on Rate 4. Customers had statistically significant behavioral bill impacts in all climate regions, but they were bill increases rather than decreases. However, customers' bills decreased by $1.82 per month, on average after changes in behavior and in their tariff. This is a statistically significant reduction, equal to roughly of 2.1%. Customers in the hot climate region and Climate Zone 10 do not include CARE/FERA customers; and these two groups did not experience statistically significant total bill impacts in the winter months. Customers in the moderate and cool climate regions, on the other hand, experienced statistically significant bill reductions of 3.0% and 2.5%, respectively.

Figure 5-5: Winter Bill Impacts for SCE Rate 4 by Climate Region

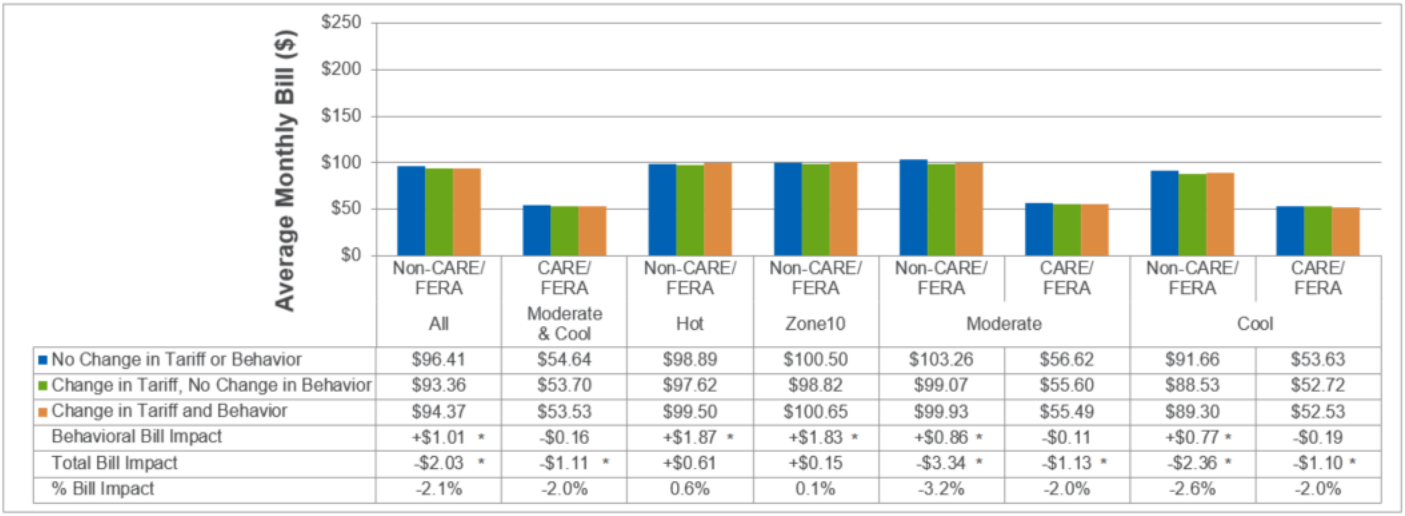


	All	Hot	Zone10	Moderate	Cool
No Change in Tariff or Behavior	$87.44	$98.89	$100.50	$90.53	$81.99
Change in Tariff, No Change in Behavior	$84.85	$97.62	$98.82	$87.20	$79.42
Change in Tariff and Behavior	$85.62	$99.50	$100.65	$87.79	$79.97
Behavioral Bill Impact	+$0.77 *	+$1.87 *	+$1.83 *	+$0.59 *	+$0.55 *
Total Bill Impact	-$1.82 *	+$0.61	+$0.15	-$2.74 *	-$2.02 *
% Bill Impact	-2.1%	0.6%	0.1%	-3.0%	-2.5%

* Indicates statistically significant bill impacts at the 90% confidence level

Bill reductions in the moderate and cool climate regions, presented in Figure 5-6, were experienced by both non-CARE/FERA and CARE/FERA customers on Rate 4. Non-CARE/FERA customers in the moderate climate region had the greatest monthly bill reductions, equal to $3.34 or 3.2% per month, on average. CARE/FERA customers in the moderate and cool climate regions (separately and combined) did not have statistically significant behavioral bill impacts.

Figure 5-6: Winter Bill Impacts for SCE Rate 4 by Climate Region & CARE/FERA Status



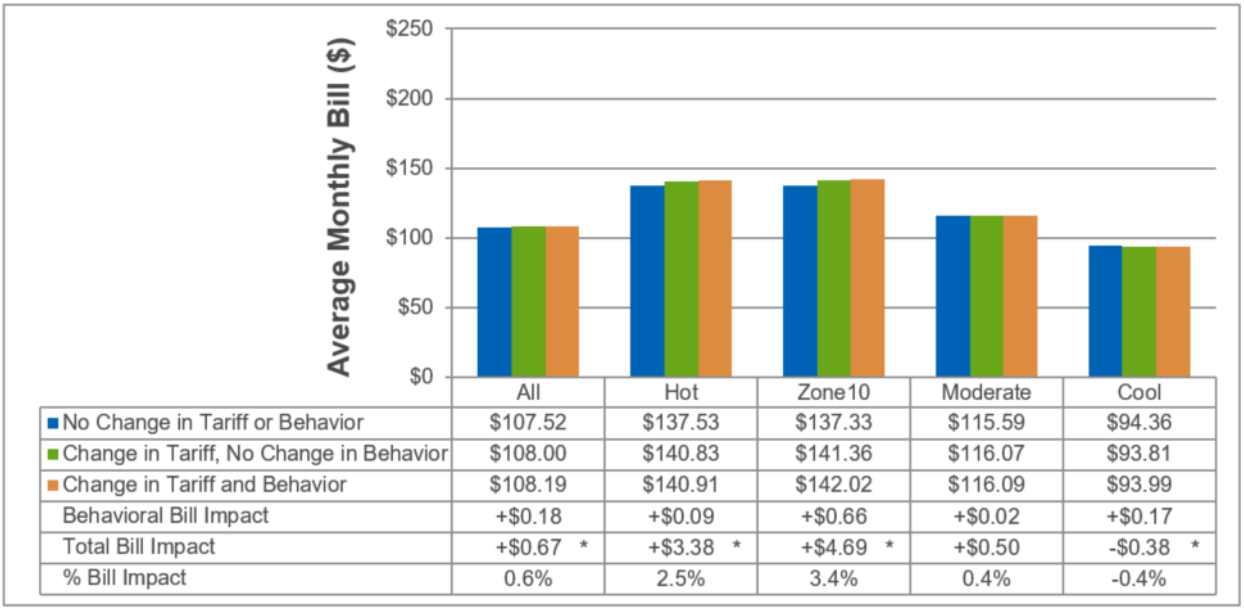
	Non-CARE/ FERA All	CARE/ FERA Moderate & Cool	Non-CARE/ FERA Hot	Non-CARE/ FERA Zone10	Non-CARE/ FERA Moderate	CARE/ FERA Moderate	Non-CARE/ FERA Cool	CARE/ FERA Cool
No Change in Tariff or Behavior	$96.41	$54.64	$98.89	$100.50	$103.26	$56.62	$91.66	$53.63
Change in Tariff, No Change in Behavior	$93.36	$53.70	$97.62	$98.82	$99.07	$55.60	$88.53	$52.72
Change in Tariff and Behavior	$94.37	$53.53	$99.50	$100.65	$99.93	$55.49	$89.30	$52.53
Behavioral Bill Impact	+$1.01 *	-$0.16	+$1.87 *	+$1.83 *	+$0.86 *	-$0.11	+$0.77 *	-$0.19
Total Bill Impact	-$2.03 *	-$1.11 *	+$0.61	+$0.15	-$3.34 *	-$1.13 *	-$2.36 *	-$1.10 *
% Bill Impact	-2.1%	-2.0%	0.6%	0.1%	-3.2%	-2.0%	-2.6%	-2.0%

* Indicates statistically significant bill impacts at the 90% confidence level

5.2 Rate 5

Figure 5-7 presents the three bills described above for customers on Rate 5 by climate region for the full twelve-month analysis period. Much like Rate 4, customers on Rate 5 experienced small but statistically significant average monthly bill increases over the course of the year (equal to $0.67 or 0.6%). Customers in Climate Zone 10 faced the largest structural losses, equal to $4.04 per month on average. These customers were not able to mitigate any of these losses through changes in behavior and ultimately paid $4.69 more per month, on average. This is a bill increase of 3.4% and is statistically significant. Customers in the cool climate region had very small but statistically significant annual bill reductions equal to $0.38 per month, on average. Behavioral bill impacts were not statistically significant in any climate region or for the pilot as a whole.

Figure 5-7: Annual Bill Impacts for SCE Rate 5 by Climate Region

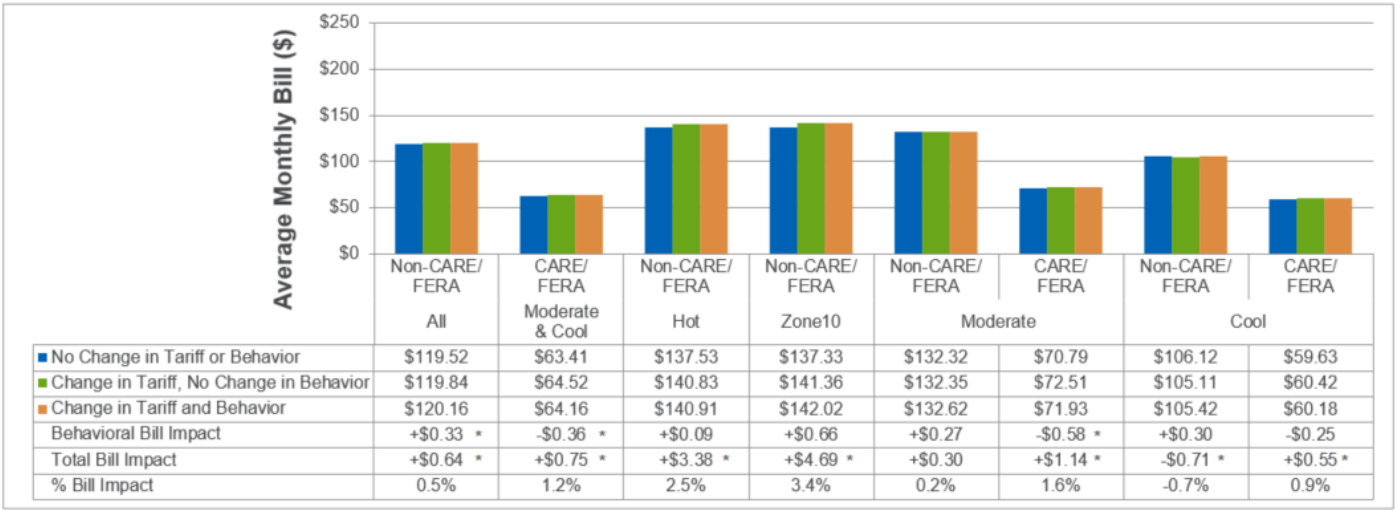


	All	Hot	Zone10	Moderate	Cool
No Change in Tariff or Behavior	$107.52	$137.53	$137.33	$115.59	$94.36
Change in Tariff, No Change in Behavior	$108.00	$140.83	$141.36	$116.07	$93.81
Change in Tariff and Behavior	$108.19	$140.91	$142.02	$116.09	$93.99
Behavioral Bill Impact	+$0.18	+$0.09	+$0.66	+$0.02	+$0.17
Total Bill Impact	+$0.67 *	+$3.38 *	+$4.69 *	+$0.50	-$0.38 *
% Bill Impact	0.6%	2.5%	3.4%	0.4%	-0.4%

* Indicates statistically significant bill impacts at the 90% confidence level

Figure 5-8 presents the three sets of average annual monthly bills for the CARE/FERA and non-CARE/FERA segments by climate region for customers on Rate 5. Most customer segments showed structural losses on an annual basis, however non-CARE/FERA customers in the cool climate region stood to save roughly one dollar per month, on average, with no changes in behavior. Behavioral bill impacts were negative (indicating a reduction in bills) and statistically significant for CARE/FERA customers in the combined moderate and cool climate regions, and for CARE/FERA customers in the moderate climate region separately. Total bill impacts ranged from bill reductions of 0.7% to bill increases of 3.4%. Total bill impacts were statistically significant for each customer segment, with the exception of non-CARE/FERA customers in the moderate climate region.

Figure 5-8: Annual Bill Impacts for SCE Rate 5 by Climate Region & CARE/FERA Status

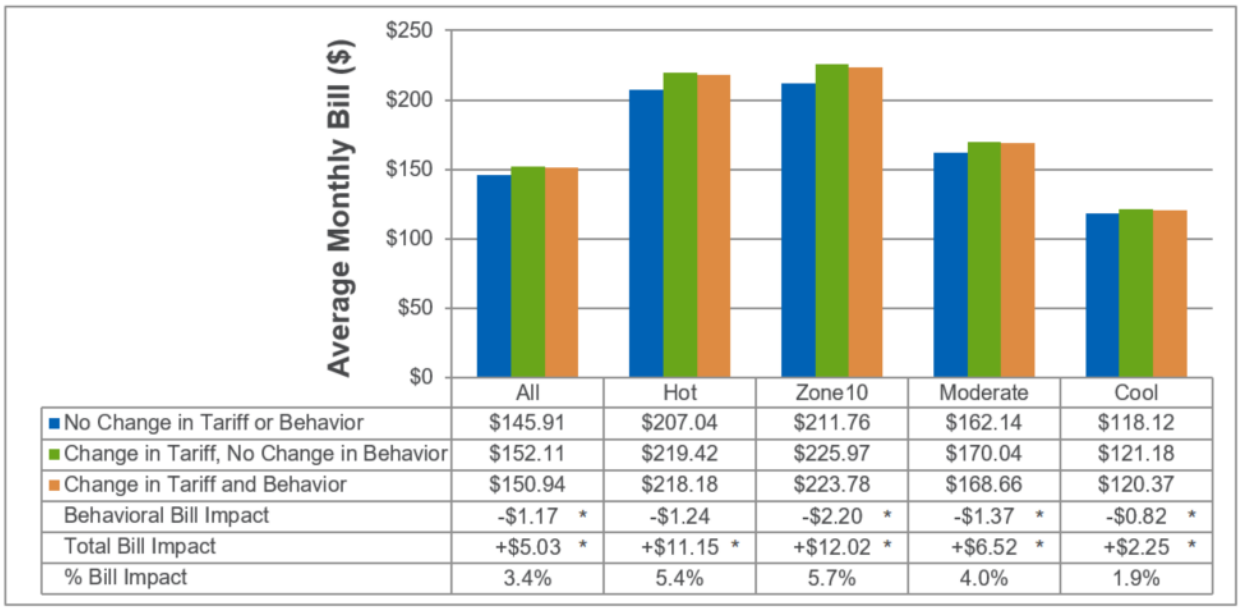


	Non-CARE/FERA All	CARE/FERA Moderate & Cool	Non-CARE/FERA Hot	Non-CARE/FERA Zone10	Non-CARE/FERA Moderate	CARE/FERA Moderate	Non-CARE/FERA Cool	CARE/FERA Cool
No Change in Tariff or Behavior	$119.52	$63.41	$137.53	$137.33	$132.32	$70.79	$106.12	$59.63
Change in Tariff, No Change in Behavior	$119.84	$64.52	$140.83	$141.36	$132.35	$72.51	$105.11	$60.42
Change in Tariff and Behavior	$120.16	$64.16	$140.91	$142.02	$132.62	$71.93	$105.42	$60.18
Behavioral Bill Impact	+$0.33 *	-$0.36 *	+$0.09	+$0.66	+$0.27	-$0.58 *	+$0.30	-$0.25
Total Bill Impact	+$0.64 *	+$0.75 *	+$3.38 *	+$4.69 *	+$0.30	+$1.14 *	-$0.71 *	+$0.55 *
% Bill Impact	0.5%	1.2%	2.5%	3.4%	0.2%	1.6%	-0.7%	0.9%

* Indicates statistically significant bill impacts at the 90% confidence level

Figure 5-9 presents the three sets of average monthly bills for the summer period for customers on Rate 5 by climate region. Customers on Rate 5 had structural bill impacts equal to an increase of $6.20 per month, on average. They were able to reduce their impacts by about $1.17 per month with changes in their behavior in response to their new rate. This is a statistically significant behavioral impact. Total bill impacts experienced by customers on Rate 5 were very similar to those faced by customers on Rate 4 (3.4% versus 3.5%, or about $5.00 per month, on average), and were statistically significant. Like Rate 4, summer structural losses were greatest in Climate Zone 10. Customers in this region had structural bill increases equal to $14.22 and total bill impacts equal to $12.02 per month, on average. This is an impact of about 5.7%.

Figure 5-9: Summer Bill Impacts for SCE Rate 5 by Climate Region

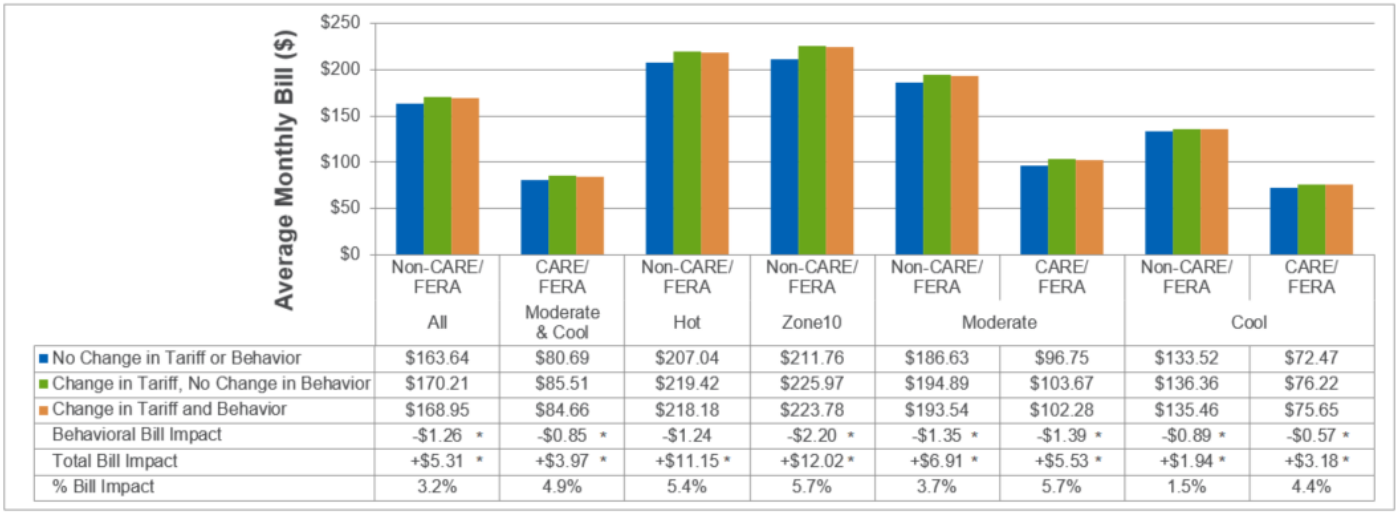


	All	Hot	Zone10	Moderate	Cool
No Change in Tariff or Behavior	$145.91	$207.04	$211.76	$162.14	$118.12
Change in Tariff, No Change in Behavior	$152.11	$219.42	$225.97	$170.04	$121.18
Change in Tariff and Behavior	$150.94	$218.18	$223.78	$168.66	$120.37
Behavioral Bill Impact	-$1.17 *	-$1.24	-$2.20 *	-$1.37 *	-$0.82 *
Total Bill Impact	+$5.03 *	+$11.15 *	+$12.02 *	+$6.52 *	+$2.25 *
% Bill Impact	3.4%	5.4%	5.7%	4.0%	1.9%

* Indicates statistically significant bill impacts at the 90% confidence level

Figure 5-10 presents the three sets of average monthly summer bills by climate region and CARE/FERA status for Rate 5. Customers in each segment experienced statistically significant total bill increases during the summer months, with impacts falling between 1.5% and 5.7%. CARE/FERA customers had greater bill impacts compared to their non-CARE/FERA counterparts.

Figure 5-10: Summer Bill Impacts for SCE Rate 5 by Climate Region & CARE/FERA Status

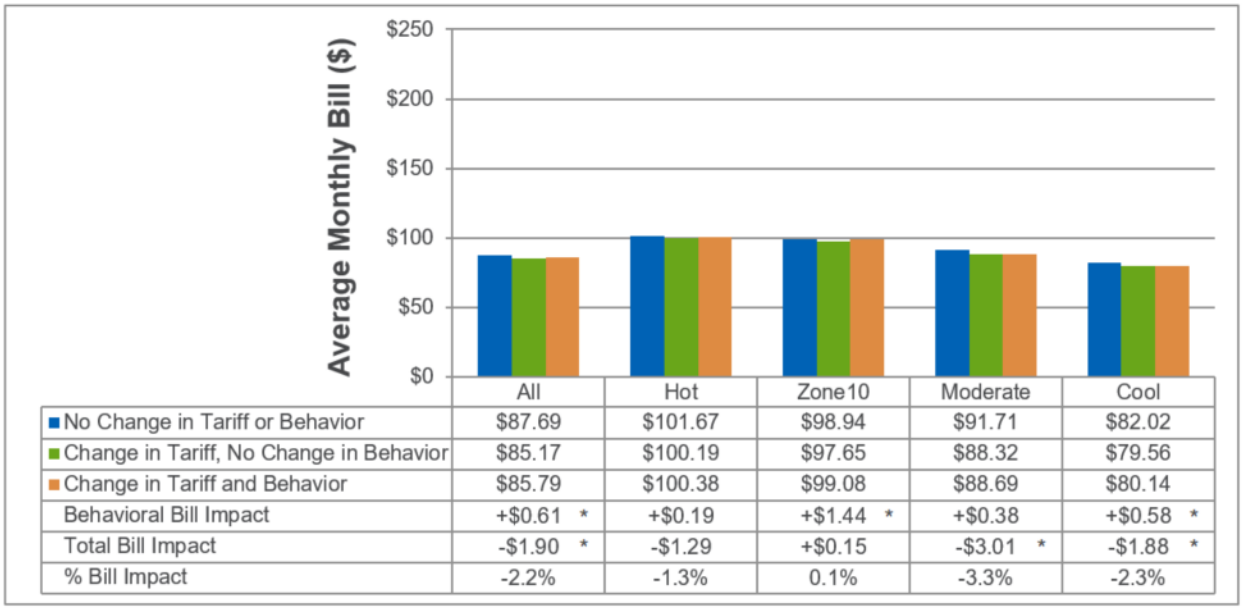


	Non-CARE/ FERA All	CARE/ FERA Moderate & Cool	Non-CARE/ FERA Hot	Non-CARE/ FERA Zone10	Non-CARE/ FERA Moderate	CARE/ FERA Moderate	Non-CARE/ FERA Cool	CARE/ FERA Cool
No Change in Tariff or Behavior	$163.64	$80.69	$207.04	$211.76	$186.63	$96.75	$133.52	$72.47
Change in Tariff, No Change in Behavior	$170.21	$85.51	$219.42	$225.97	$194.89	$103.67	$136.36	$76.22
Change in Tariff and Behavior	$168.95	$84.66	$218.18	$223.78	$193.54	$102.28	$135.46	$75.65
Behavioral Bill Impact	-$1.26 *	-$0.85 *	-$1.24	-$2.20 *	-$1.35 *	-$1.39 *	-$0.89 *	-$0.57 *
Total Bill Impact	+$5.31 *	+$3.97 *	+$11.15 *	+$12.02 *	+$6.91 *	+$5.53 *	+$1.94 *	+$3.18 *
% Bill Impact	3.2%	4.9%	5.4%	5.7%	3.7%	5.7%	1.5%	4.4%

* Indicates statistically significant bill impacts at the 90% confidence level

Figure 5-11 presents winter bill impacts for the average month from October 2018 through May 2019 for customers on Rate 5. Behavioral bill impacts lead to an increase in bills, on average, and were statistically significant for the pilot as a whole and for Climate Zone 10 and the cool climate region. Overall, customers' bills decreased by $1.90 per month, on average. This is a statistically significant reduction, equal to roughly of 2.2%. These impacts are very similar to those experienced by customers on Rate 4, who had average monthly bill reductions equal to $1.82 per month, on average. Customers in the hot climate region and Climate Zone 10 did not experience statistically significant bill impacts in the winter months. Customers in the moderate and cool climate regions, on the other hand, experienced statistically significant bill reductions of 3.3% and 2.3%, respectively.

Figure 5-11: Winter Bill Impacts for SCE Rate 5 by Climate Region

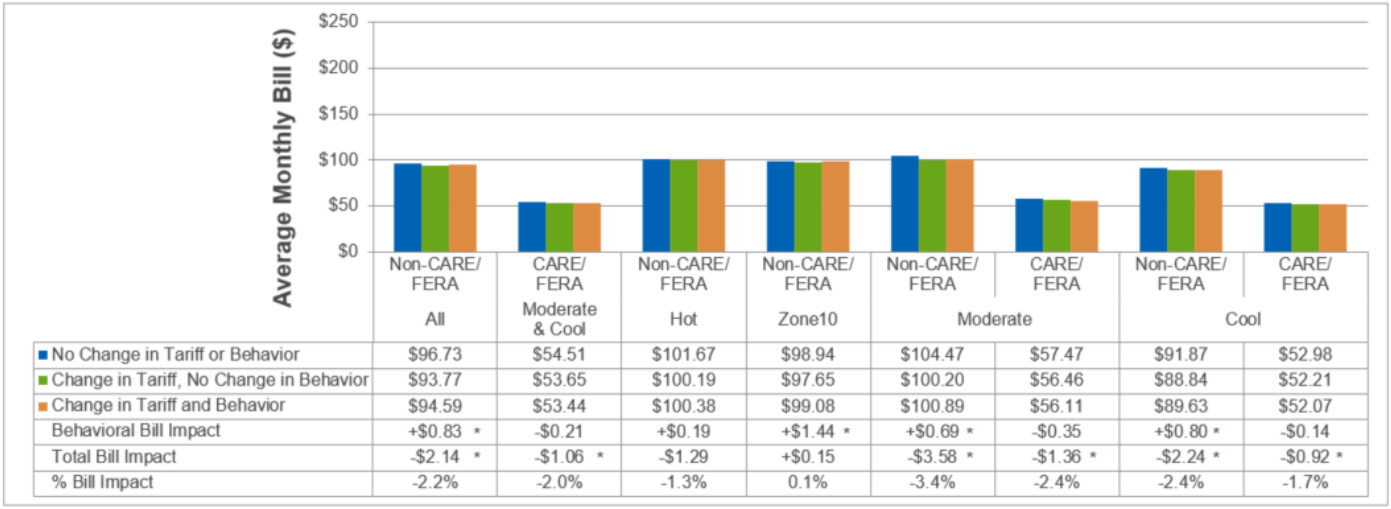


	All	Hot	Zone10	Moderate	Cool
No Change in Tariff or Behavior	$87.69	$101.67	$98.94	$91.71	$82.02
Change in Tariff, No Change in Behavior	$85.17	$100.19	$97.65	$88.32	$79.56
Change in Tariff and Behavior	$85.79	$100.38	$99.08	$88.69	$80.14
Behavioral Bill Impact	+$0.61 *	+$0.19	+$1.44 *	+$0.38	+$0.58 *
Total Bill Impact	-$1.90 *	-$1.29	+$0.15	-$3.01 *	-$1.88 *
% Bill Impact	-2.2%	-1.3%	0.1%	-3.3%	-2.3%

* Indicates statistically significant bill impacts at the 90% confidence level

Bill reductions for customers on Rate 5 in the moderate and cool climate regions, presented in Figure 5-12, were experienced by both non-CARE/FERA and CARE/FERA customers on Rate 4. Non-CARE/FERA customers in the moderate climate region had the greatest monthly bill reductions, equal to $3.58 or 3.4% per month, on average.

Figure 5-12: Winter Bill Impacts for SCE Rate 5 by Climate Region & CARE/FERA Status



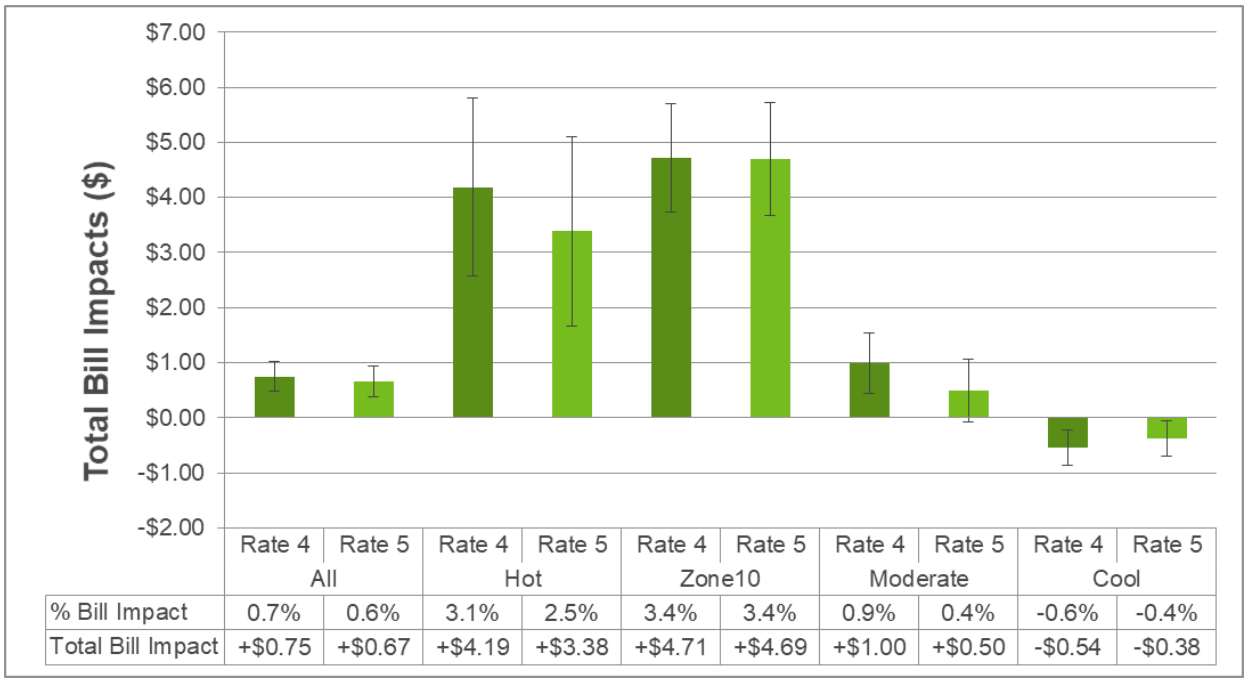
	Non-CARE/ FERA All	CARE/ FERA Moderate & Cool	Non-CARE/ FERA Hot	Non-CARE/ FERA Zone10	Non-CARE/ FERA Moderate	CARE/ FERA Moderate	Non-CARE/ FERA Cool	CARE/ FERA Cool
No Change in Tariff or Behavior	$96.73	$54.51	$101.67	$98.94	$104.47	$57.47	$91.87	$52.98
Change in Tariff, No Change in Behavior	$93.77	$53.65	$100.19	$97.65	$100.20	$56.46	$88.84	$52.21
Change in Tariff and Behavior	$94.59	$53.44	$100.38	$99.08	$100.89	$56.11	$89.63	$52.07
Behavioral Bill Impact	+$0.83 *	-$0.21	+$0.19	+$1.44 *	+$0.69 *	-$0.35	+$0.80 *	-$0.14
Total Bill Impact	-$2.14 *	-$1.06 *	-$1.29	+$0.15	-$3.58 *	-$1.36 *	-$2.24 *	-$0.92 *
% Bill Impact	-2.2%	-2.0%	-1.3%	0.1%	-3.4%	-2.4%	-2.4%	-1.7%

* Indicates statistically significant bill impacts at the 90% confidence level

5.3 Comparison across Rates

Figure 5-13 shows the average total monthly bill impacts for Rate 4 and Rate 5 for each climate region. Bill impacts were very similar between the two rates across the full twelve-month analysis period. In fact, total bill impacts were nearly identical between Rate 4 and Rate 5 in Climate Zone 10, where customers faced bill increases of $4.71 and $4.69 per month, on average. Customers on both rates in the cool climate region saved about 0.5% on their annual bills.

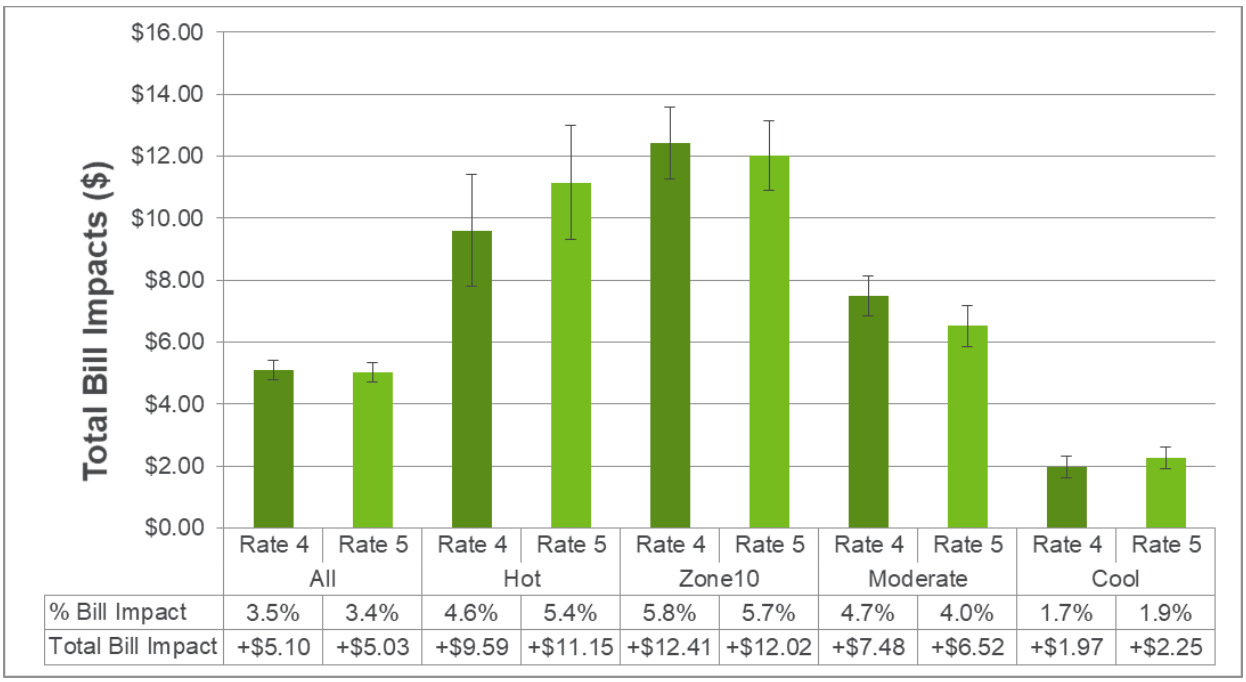
Figure 5-13: Annual Bill Impacts Across Rates



	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5
	All		Hot		Zone10		Moderate		Cool	
% Bill Impact	0.7%	0.6%	3.1%	2.5%	3.4%	3.4%	0.9%	0.4%	-0.6%	-0.4%
Total Bill Impact	+$0.75	+$0.67	+$4.19	+$3.38	+$4.71	+$4.69	+$1.00	+$0.50	-$0.54	-$0.38

The pattern of summer bill impacts across climate regions for Rate 4 and Rate 5 are similar, as shown in Figure 5-14. For both rates, customers in Climate Zone 10 faced the largest monthly bill increases, and those in the cool climate region had the smallest. Bill impacts were statistically significant for all customer segments for both rates.

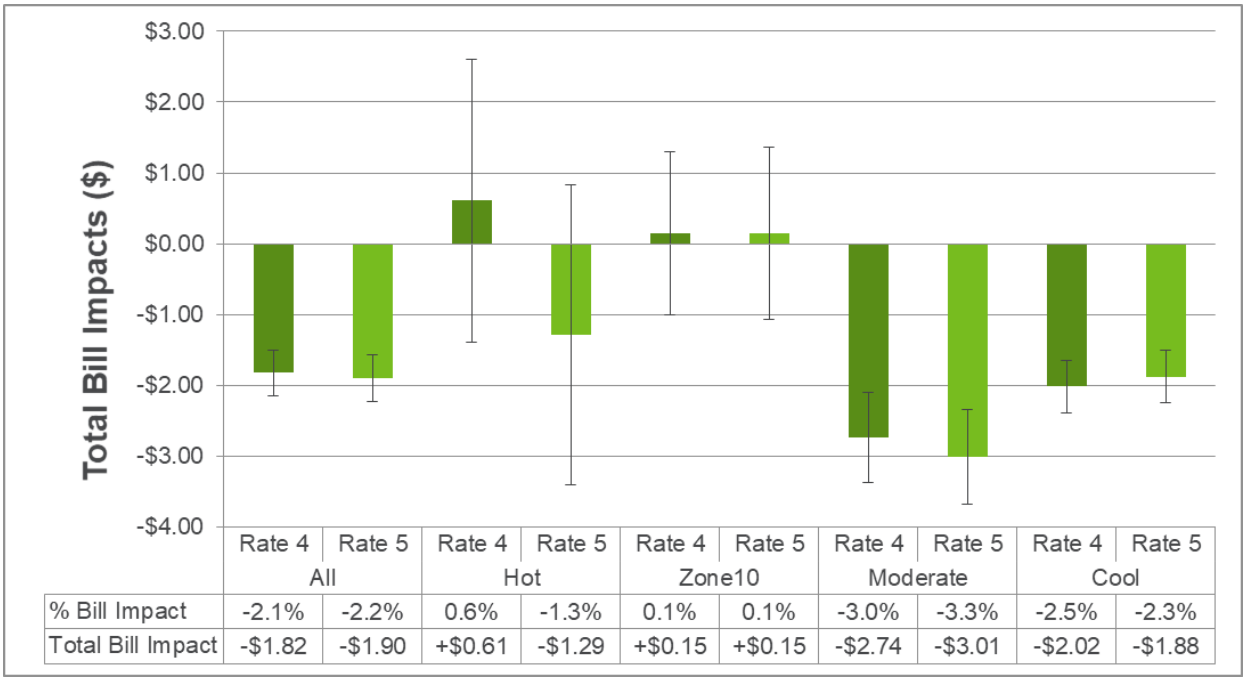
Figure 5-14: Summer Bill Impacts Across Rates



	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5
	All		Hot		Zone10		Moderate		Cool	
% Bill Impact	3.5%	3.4%	4.6%	5.4%	5.8%	5.7%	4.7%	4.0%	1.7%	1.9%
Total Bill Impact	+$5.10	+$5.03	+$9.59	+$11.15	+$12.41	+$12.02	+$7.48	+$6.52	+$1.97	+$2.25

In the winter months, customers in the hot climate region and Climate Zone 10 did not have statistically significant total bill impacts. Customers in the moderate and cool climate region had statistically significant bill reductions, as did the pilot population as a whole. This was true for both rates.

Figure 5-15: Winter Bill Impacts Across Rates



	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5	Rate 4	Rate 5
	All		Hot		Zone10		Moderate		Cool	
% Bill Impact	-2.1%	-2.2%	0.6%	-1.3%	0.1%	0.1%	-3.0%	-3.3%	-2.5%	-2.3%
Total Bill Impact	-$1.82	-$1.90	+$0.61	-$1.29	+$0.15	+$0.15	-$2.74	-$3.01	-$2.02	-$1.88

Although these results are considered final, SCE continues to work with Nexant to better understand the relationship of actions taken and bill impacts.

6 Customer Attrition

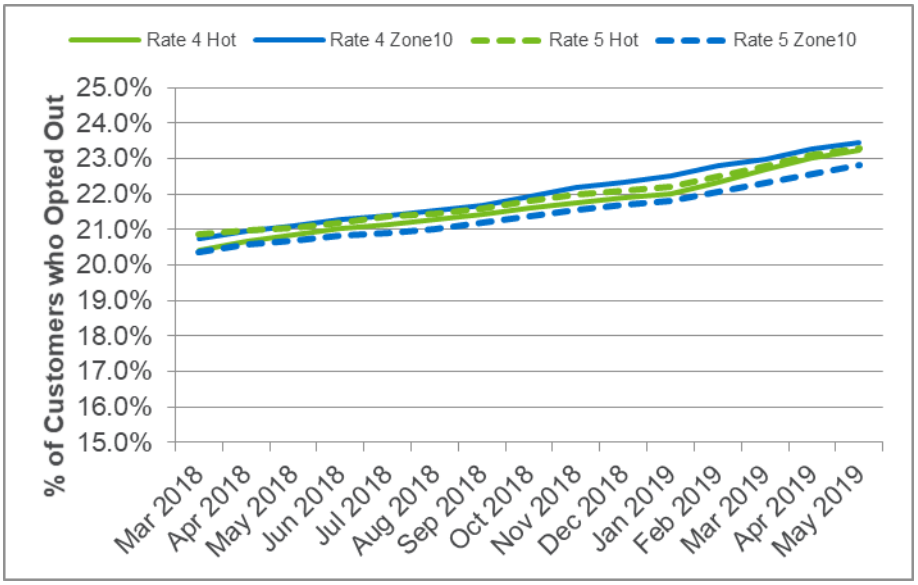
This section summarizes customer attrition and opt-out rates for each rate and informational treatment tested by SCE. As discussed in Section 3.3 of the Interim Report, an analysis of customer opt-out rates can provide useful insights concerning relative customer preferences among the rates.

6.1 Post-enrollment Opt-Outs

Post-enrollment opt-out rates were very small during the period following enrollment through the end of the first year of the pilot (May 2019). Cumulative opt-out rates are presented for the post-enrollment period for each climate region and CARE/FERA status in Figure 6-1, Figure 6-2, and Figure 6-3. Generally any difference in cumulative opt-out rates between segments occurred during the pre-treatment period. Post-enrollment opt-out rates for all customer segments were between 1.8% and 3.1%. Post enrollment opt-out rates are lowest in the cool climate region and highest in the hot region. Within the moderate climate region, Rate 5 customers show a slightly lower opt-out rate than Rate 4 customers.

Bill protection for customers ended in March or April of 2019, depending on the individual customer's billing cycle. The end of bill protection did not result in any not noticeable increase in customer opt-outs from the pilot rates. SCE should continue to monitor customer opt-outs in order to better understand customer participation trends for the eventual full default TOU rollout.

Figure 6-1: Cumulative Opt-Out Rates for Hot and Zone 10 Climate Regions[11]



[11] Opt-out rates here present customers who opted out to the OAT, not those who opted out into the alternate rate.

Figure 6-2: Cumulative Opt-Out Rates for Moderate Climate Region

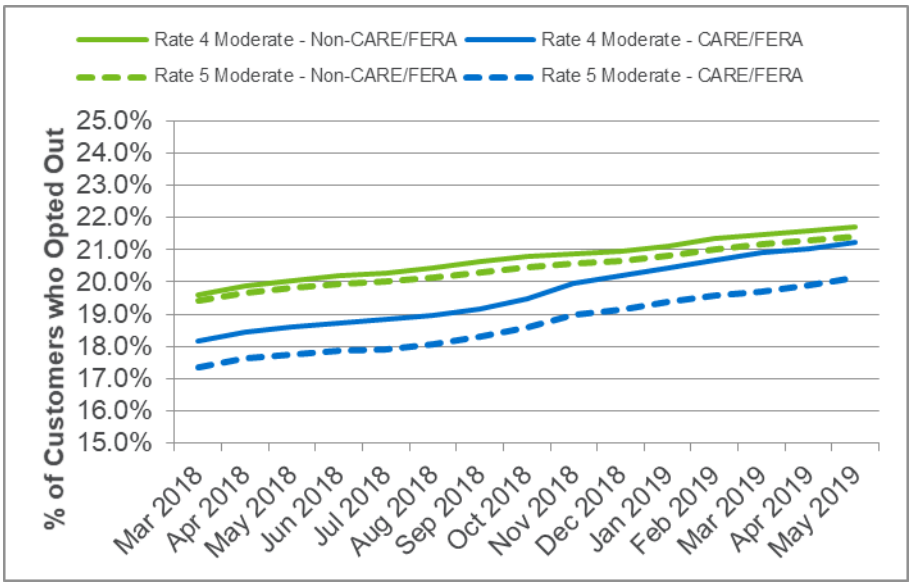
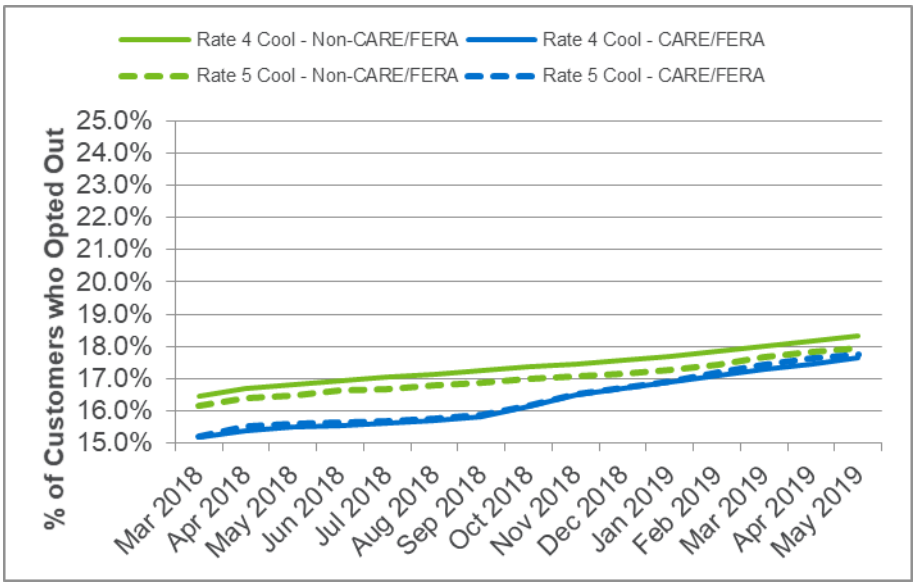


Figure 6-3: Cumulative Opt-Out Rates for Cool Climate Region



Also of interest are post-enrollment opt-out rates by aftercare treatment cell. Table 6-1 summarizes the various treatments that were examined after customers enrolled on the new TOU rates and the sample sizes for each treatment group.

The enrolled population on each of the default rates was divided equally into those slated to receive basic or enhanced welcome packets and ongoing education and outreach (E&O) communication and then segmented further into two groups, those deemed to be most impacted by bill volatility and those who are not. The group impacted by bill volatility was considered to be income-constrained customers who would experience increased seasonal bill differentials under the default TOU rate. As seen in Table 6-1, this segment of customers is further divided into two

equal groups, with one group receiving information on SCE's Level Payment Plan (LPP) as a means of managing month-to-month bill volatility.

Table 6-1: Post-Enrollment Treatments

Aftercare Cell	Rate	Communication	Impacted by Bill Volatility	LPP Promotion	Sample Size
1	4	Enhanced E&O	Impacted by Bill Volatility	LPP Promotion	6,448
2				No Promotion	6,448
3			Not Impacted	No Promotion	64,245
4		Basic E&O	Impacted by Bill Volatility	LPP Promotion	6,420
5				No Promotion	6,418
6			Not Impacted	No Promotion	64,245
7	5	Enhanced E&O	Impacted by Bill Volatility	LPP Promotion	6,646
8				No Promotion	6,644
9			Not Impacted	No Promotion	65,311
10		Basic E&O	Impacted by Bill Volatility	LPP Promotion	6,705
11				No Promotion	6,703
12			Not Impacted	No Promotion	65,195

Figure 6-4 shows cumulative post-enrollment opt-out rates for the various aftercare treatment cells and Table 6-2 shows similar information along with the results of a series of t-tests. Cells highlighted in gray indicate that the difference in opt-out rates within that comparison is not statistically significant. When the two rates are combined, there is no difference in opt-out rates between customers who received the LPP offer and those who did not. The same is true for the difference between those who received the Enhanced ME&O versus those who did not. The only statistically significant difference is the opt-out rates between those who enrolled on Rate 4 and those who enrolled on Rate 5. Customers who enrolled on Rate 4 were 10% more likely to opt out.

Figure 6-4: Cumulative Post-Enrollment Opt-Out Rates by Aftercare Treatment

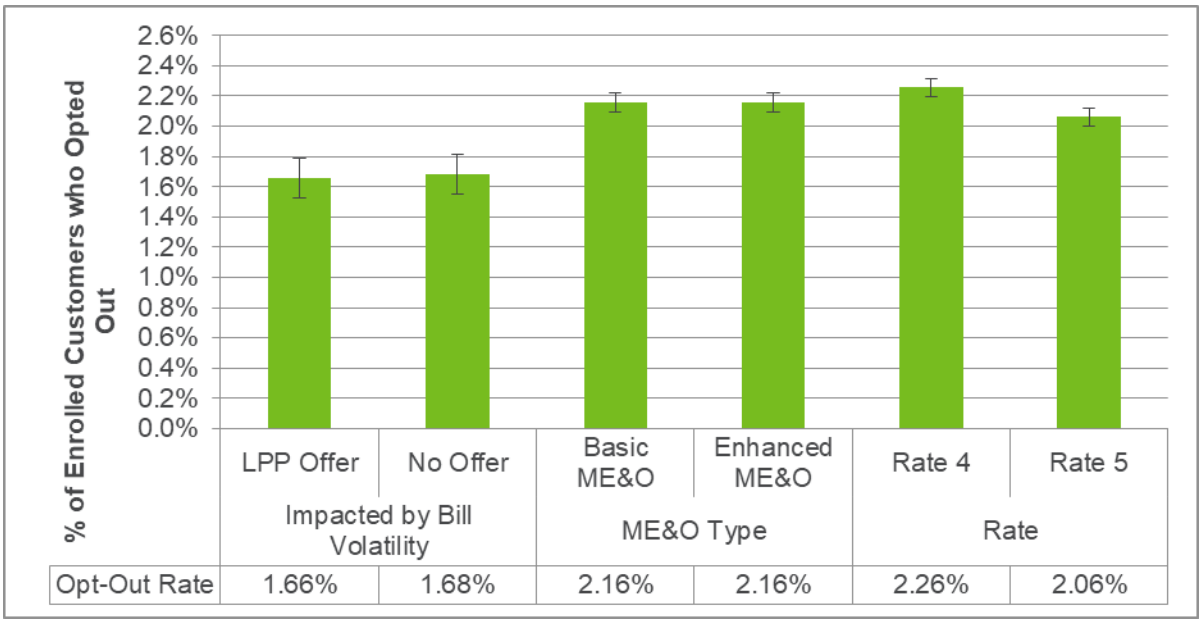


Table 6-2: Cumulative Post-Enrollment Opt-Out Rates by Aftercare Treatment

Rate	Comparison	Aftercare Treatment	Number of Customers	Post-enrollment Opt-Out Rate	P-Value
Both Rates	Impacted by Bill Volatility	LPP Offer	25,768	1.66%	0.839
		No Offer	25,713	1.68%	
	ME&O Type	Basic ME&O	153,056	2.16%	0.981
		Enhanced ME&O	153,060	2.16%	
	Rate	Rate 4	152,171	2.26%	0.000
		Rate 5	153,945	2.06%	
Rate 4	Impacted by Bill Volatility	LPP Offer	12,713	1.68%	0.621
		No Offer	12,700	1.76%	
	ME&O Type	Basic ME&O	76,070	2.29%	0.328
		Enhanced ME&O	76,101	2.22%	
Rate 5	Impacted by Bill Volatility	LPP Offer	13,055	1.64%	0.832
		No Offer	13,013	1.61%	
	ME&O Type	Basic ME&O	76,986	2.02%	0.293
		Enhanced ME&O	76,959	2.10%	

* A shaded cell indicates estimate is not statistically significant

6.2 Survival Analysis

In addition to the analysis presented above and the pairwise comparisons discussed in the Interim Report, an approach called survival analysis was used to examine customer attrition within the pilot. Motivation for using survival analysis methods stems from the advantages these techniques provide over the pairwise comparison method. One such advantage is that survival analysis approaches allow for the inspection of participant attrition rates over time. This information provides insights into the pattern of participant attrition over the course of the program and how they may vary during different periods of the program or relative to key events. Survival analysis methods also offer convenient visuals for the comparison of opt-out rates across multiple groups.

The survival analysis technique utilized in this section is the Kaplan-Meier estimator which provides a visualization of participant attrition from the program as a function of time. A useful aspect of the Kaplan-Meier is that multiple groups can be plotted at the same time. These plots assist in the comparison of differences in the rate and timing of participants opting out of the program for different groups.

To conduct a survival analysis, it is important to define a few key items. Firstly, an "opt-out" is an event that is defined as a customer that left their assigned rate. Customers that closed their accounts during the course of the program are not considered opt-outs as the action of closing an account is not necessarily directly associated to the rate placement. Another item to be defined in the analysis is the start date and duration of the study period. In this program, the start date corresponds to the time period that customers were first notified of the pilot (mid-December 2017). The labels on the x-axis of the following graphs indicate the number of days since the initial notification.[12]

Figure 6-5 shows the Kaplan-Meier survival function for the two treatment rates during the pre-enrollment and post-enrollment periods. Key events are labeled by vertical lines in the graph. Overall, participants on Rate 4 had a slightly higher rate of opting-out than participants on Rate 5 over the course of the study. These findings are consistent with the pairwise analysis presented in the interim evaluation. The majority of opt-outs occur before customers were enrolled on their assigned rate and the two rates have similar opt-out patterns. After customers enrolled on the pilot, opt out rates were relatively low, leading to a nearly flat line throughout the right-hand side of the graph. There is no noticeable spike in opt-outs following receipt of the Welcome Kits, indicating that post-enrollment messaging was not a significant driver in pilot opt-out rates.

[12] This type of analysis requires a specific date to be defined as the "start date". December 17, 2017 was chosen as a midpoint in December 2017.

Figure 6-5: Kaplan-Meier Survival Function for Customers Assigned to Rate 4 and Rate 5

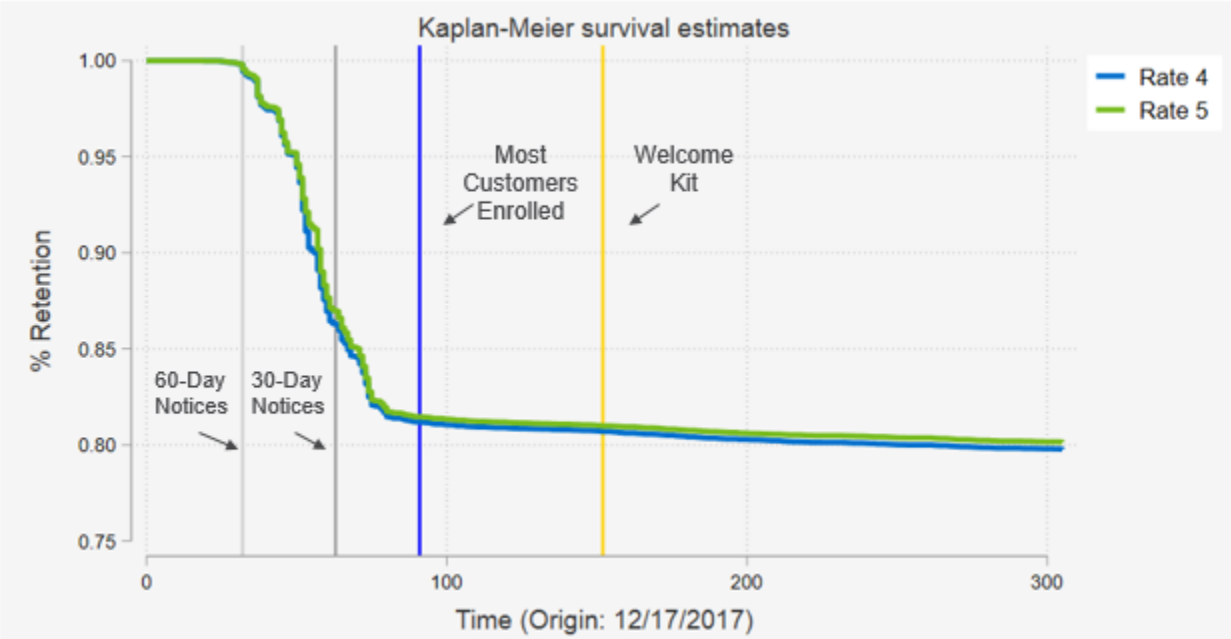


Figure 6-6 shows the Kaplan-Meier survival functions for participants in the four climate regions and CARE/FERA segments. Again, key program events are marked by vertical lines and the majority of the opt-outs occurred prior to enrollment on the rates. Customers in the cool climate region have lowest opt-out rates for the pilot, followed by customers in the moderate climate region. Participants in the hot climate region and Climate Zone 10 had the highest opt-out rates and the survival trends are nearly identical. Non-CARE/FERA customers in the moderate region have slightly higher opt-rate rates than CARE/FERA customers in the same region, but both customer segments in the cool climate region opted out at essentially the same rate. These results from the Kaplan-Meier survival analysis align with the results from the pairwise analysis in the Interim Report as the groups demonstrated a similar pattern of opt-out rates across the different customer segments.

Figure 6-6: Kaplan-Meier Survival Function across Climate Regions and CARE/FERA Status (Rate 4 and Rate 5 combined)

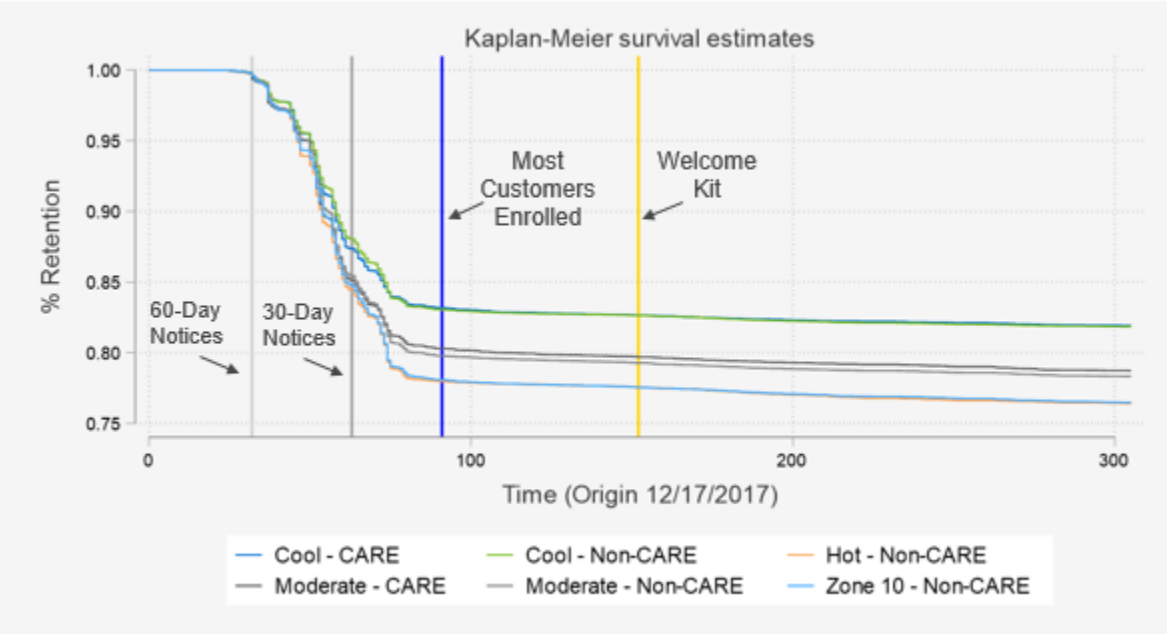


Figure 6-7 compares opt-out rates for Rate 4 customers receiving four different default notification types. From the figure, it is apparent that participants that received "opportunity messaging" (Cell 2 and Cell 4) have lower opt-out rates compared to participants that received "loss aversion" messaging (Cell 1 and Cell 3). Again, the results from the Kaplan-Meier survival function align with the pairwise comparisons in the Interim Report.

Figure 6-7: Kaplan-Meier Survival Function across Notification Types on Rate 4

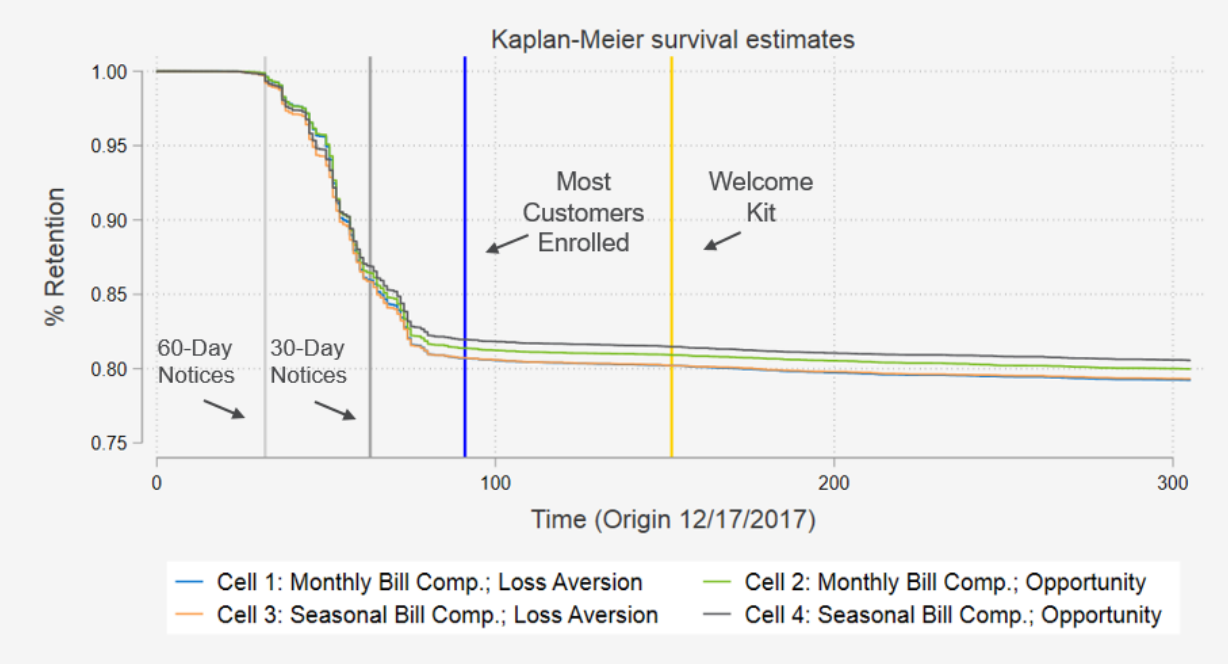
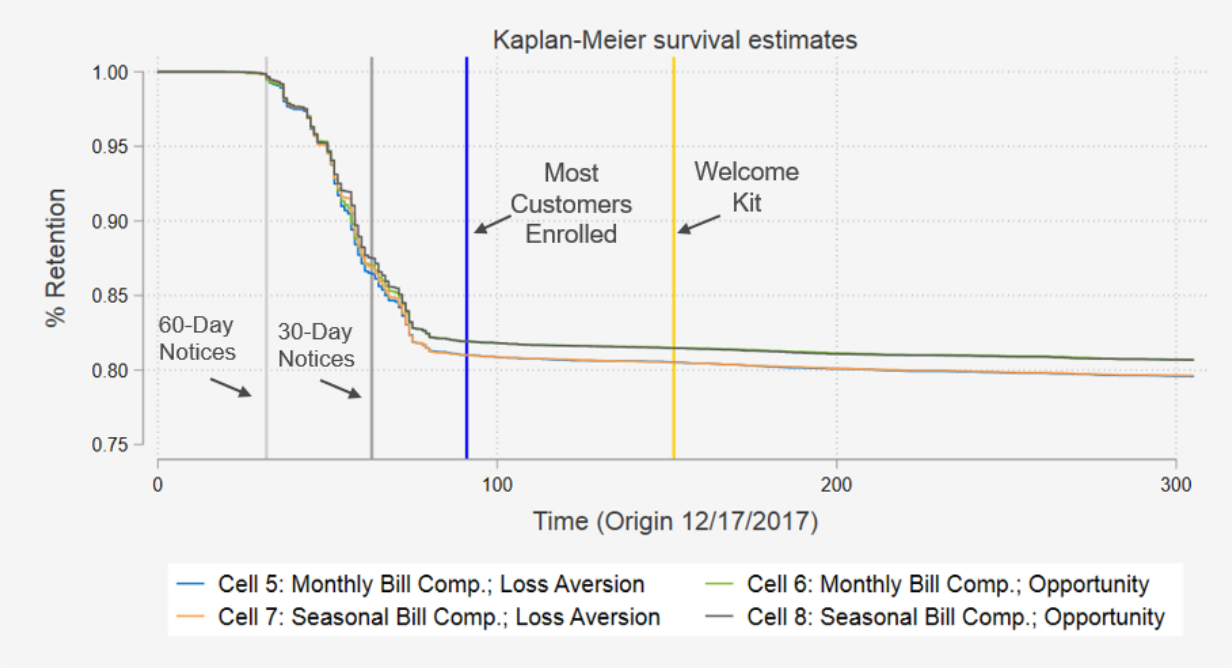


Figure 6-8 compares opt-out rates for Rate 5 customers who received four different notification types prior to the launch of the pilot. Participants that received notifications with “opportunity” messaging (Cell 6 and Cell 8) had slightly lower likelihood to opt out of the program over time in comparison to participants with “loss aversion” messaging (Cell 5 and Cell 7). This behavior is similar to the opt-out patterns observed for participants on Rate 4 in Figure 6-7. The findings are also consistent with the pairwise analysis in the Interim Report.

Figure 6-8: Kaplan-Meier Survival Functions across Notifications Types on Rate 5



7 Key Findings

This evaluation focused on the winter months of SCE's Default TOU pilot as well as post-enrollment bill impacts. In combination with the Interim Evaluation that focused on the summer months and pre-enrollment customer preferences, these reports have produced a large amount of information that will help guide SCE's approach to implementation of default TOU pricing. This section summarizes the findings from both evaluations.

Differences in load and bill impacts and opt-out rates across customer segments at the service territory level reflect not just differences across segments, but also differences in the mix of customers across climate regions. CARE/FERA customers in the hot climate region and Climate Zone 10 were not allowed to be enrolled on TOU tariffs using default recruitment. As such, comparisons across the two hot and two more moderate regions not only reflect differences in climate but also differences in the mix of customers. These differences must be kept in mind when making comparisons across segments and climate regions.

7.1 Load Impacts

Key findings pertaining to load impacts from the SCE pilots include:

- On average, default customers on both Rates 4 and 5 produced small but statistically significant, peak-period load reductions in the summer months. In these months, peak period load reductions averaged roughly 1.5% for Rate 4 and 2.0% for Rate 5. In the winter months, peak period load reductions were 0.9% for Rate 4 and 1.2% for Rate 5.
- Load reductions for the common hours shared by the two rates (5 to 8 PM) were greater for Rate 5 than for Rate 4 in both the winter and the summer, likely because of the higher peak period price per kWh. It's also possible the shorter peak period of Rate 5 allowed for greater flexibility in customer response to the price signal. The difference was statistically significant for the territory as a whole and in the moderate climate region for both seasons. The difference was statistically significant in the summer months for Climate Zone 10.
- Statistically significant but small reductions in daily electricity use were found for both rates and in all climate regions in the summer months. It appears that the average customer in SCE's service territory was more likely to reduce overall usage during the peak period rather than shift usage to off-peak hours.
- In the winter months, daily electricity usage impacts were mixed. They were small but statistically significant at the full pilot level for both rates, and for all climate regions on Rate 5. Customers in the hot climate region did not have statistically significant daily kWh impacts in the winter, and customers in Climate Zone 10 on Rate 4 actually increased their average weekday consumption by 0.4%.
- In the summer months, the pattern of load reductions across climate regions in absolute terms was consistent between the two rates but was slightly different in percentage terms. Absolute peak period load reductions were largest in Climate Zone 10 and the hot climate region regions, but these segments did not include CARE/FERA customers.

Absolute impacts were smallest in the cool climate region, which included CARE/FERA and non-CARE/FERA customers.

- In the winter period, the pattern of peak load reductions across climate regions was consistent between the two rates in both percentage and absolute terms. Customers in the hot climate region had the largest impacts (1.1% for Rate 4 and 1.6% for Rate 5), and customers in the cool climate region had the smallest impacts (0.9% for Rate 4 and 1.1% for Rate 5).
- In the moderate and cool climate regions, non-CARE/FERA customers typically had statistically significantly greater peak period impacts compared to CARE/FERA customers. This was true in both seasons. One exception was households in the moderate climate region on Rate 4 in the summer, where the difference was not statistically significant. This finding is consistent with the opt-in TOU pilot.
- The incremental summer peak period impact among households who received the Enhanced E&O treatment compared to households that did not was not statistically significant, with only one exception. In other words, the additional messaging did not increase peak period impacts. The exception was CARE/FERA customers in the moderate climate region who had an incremental increase in load impacts equal to about 0.6%.
- In the winter months, incremental impacts from the Enhanced E&O treatment were mixed. For both rates, customers in the hot climate region who received the enhanced treatment had load impacts that were statistically significant greater than those who did not. Customers in the moderate climate region on Rate 4 also had statistically significant incremental peak impact impacts.
- The offer to high bill volatility, low income customers to enroll on the Level Pay Plan as a way of managing volatility in bills across months and seasons was only taken up by a very small number of customers.

7.1.1 Arc Price Elasticities

Table 7-1 shows the peak period prices for each pilot rate as well as the Tier 2 and Tier 3 prices for the otherwise applicable tariff faced by the control group. As indicated in the title to the table, the treatment group prices represent the marginal price excluding the baseline credit. The most comparable OAT prices is the price that applies between 100% and 400% of the baseline quantity. As seen in the table, there is significant variation in the marginal price that applies to peak period hours across rates and seasons.

Table 7-1: Peak Period Price above Baseline Quantity (¢/kWh)

Season	Customer Segment	Rate 4	Rate 5	Control Group Tariff (OAT)	
				101 – 400% of Baseline	>400% of Baseline
Summer (Reflects January 2018 Prices)	Non-CARE/FERA	41.1	48.7	24.6	34.7
	CARE/FERA	27.8	32.9	16.6	23.3
	Total	37.5	44.5	22.4	31.6
Winter (Reflects March 2019 Prices)	Non-CARE/FERA	28.9	30.0	23.9	41.8
	CARE/FERA	19.5	20.3	16.0	28.1
	Total	26.4	27.4	21.8	38.1

A useful way of comparing the change in usage caused by a change in price is what economists call price elasticity. The price elasticity is simply the percentage change in quantity demanded given a percentage change in price. While price elasticities are best estimated as coefficients on the price variable in a demand model, they can also be calculated by hand for a given set of prices and quantities. These are known as arc price elasticities. When there are tiered rates as there are here, where prices vary with quantity, a question arises as to what is the relevant price term to use in a demand model or when calculating price elasticities. Is it the price you pay for the next unit of electricity, which is known as the marginal price, or is it the average price? With tiered rates, both marginal and average prices vary with consumption, which means that the prices paid differ across customers, across months within seasons, and across seasons. For simplicity, we ignore all of these complexities and, in Table 7-2, show the arc price elasticities for each rate using prices above the baseline quantity for the TOU rates and prices between 100% and 400% of baseline for the OAT. The usage values pertain only to the three hours from 5 PM to 8 PM, which is the peak period common to both rates.

All of the arc price elasticities presented in Table 7-2 have values in the range that economists refer to as highly inelastic demand, which means that it takes a large percentage change in price to produce a significant change in demand compared with products and services that are much more elastic. A price elasticity of 0.10 means that a 100% increase in price would produce a 10% reduction in demand for a good or service. For non-CARE/FERA customers on Rate 4 during the summer months, the price elasticity is equal to 0.03, which indicates that a 100% increase in price would produce a decrease in demand of 3%. As seen in the table, non-CARE/FERA customers are more price responsive than CARE/FERA customers (but keep in mind that the non-CARE/FERA segment includes customers in the hot climate region and Climate Zone 10).

Table 7-2: Arc Price Elasticities Using Marginal Prices above Baseline Quantities

Season	Customer Segment	Rate 4	Rate 5
Summer	Non-CARE/FERA	0.03	0.02
	CARE/FERA	0.02	0.02
	Total	0.03	0.02
Winter	Non-CARE/FERA	0.05	0.05
	CARE/FERA	0.04	0.04
	Total	0.05	0.05

SCE was also interested in learning about the price elasticity for prices below the baseline quantities. Table 7-3 shows the Tier 1 OAT prices and TOU peak prices minus the baseline credit. This represents the prices faced by customers with lower usage. Table 7-4 shows the price elasticities calculated using those prices in a manner consistent with the tables presented above. Under both this case and the above case, the findings are that demand is highly inelastic.

Table 7-3: Peak Period Price below Baseline Quantity (¢/kWh)

Season	Customer Segment	Rate 4 (minus the baseline credit)	Rate 5 (minus the baseline credit)	Control Group Tariff (OAT) 0% to 100% of Baseline
Summer (Reflects January 2018 Prices)	Non-CARE/FERA	33.1	40.7	17.5
	CARE/FERA	22.5	27.6	11.8
	Total	30.2	37.1	15.9
Winter (Reflects March 2019 Prices)	Non-CARE/FERA	22.1	23.3	18.6
	CARE/FERA	15.1	15.9	12.5
	Total	20.2	21.3	16.9

Table 7-4: Arc Price Elasticities Using Marginal Prices below Baseline Quantities

Season	Customer Segment	Rate 4	Rate 5
Summer	Non-CARE/FERA	0.02	0.02
	CARE/FERA	0.01	0.01
	Total	0.02	0.02
Winter	Non-CARE/FERA	0.05	0.05
	CARE/FERA	0.04	0.04
	Total	0.05	0.05

7.2 Bill Impacts

Key findings pertaining to bill impacts include:

- Rate 4 and Rate 5 have very similar distributions of structural benefiters, non-benefiters, and customers in the neutral bill impact category of ±$3/month.
- A majority of customers are neither structural benefiters nor non-benefiters on an annual basis. Over 30% of non-CARE/FERA customers are structural non-benefiters while fewer than 20% of CARE/FERA customers fall into the same category. However, the CARE/FERA group does not include customers in the hot climate region where bill increases under the TOU rates are more likely to occur.
- Over 50% of customers in the hot climate region and Climate Zone 10 are structural non-benefiters on an annual basis. In the summer months, about 80% of customers in these regions are structural non benefiters while about 15% fall into the neutral category.
- Roughly 40% and 60% of CARE/FERA customers in the moderate and cool climate regions, respectively, are neither structural benefiters nor non-benefiters in the summer months.
- In the winter months, between 25% and 30% of non-CARE/FERA customers in all climate regions would save money on TOU rates. This outcome is expected because SCE's OAT is not seasonally differentiated. The TOU rates are seasonally differentiated with higher prices during the summer and lower prices during the winter.
- Annual total bill impacts (bill impacts that reflect structural differences in the rate and changes in behavior) were generally very small ($0.75 and $0.67 per month, on average, for Rate 4 and Rate 5, respectively). On an annual basis, customers in the Climate Zone 10 had the greatest total bill impacts, while those in the cool climate zone actually saved a small amount of money, on average. Total bill impacts were statistically significant for the pilot populations as a whole and for each climate region, with the exception of customers on Rate 5 in the moderate climate region. Non-CARE/FERA customers typically had smaller bill impacts compared to CARE/FERA customers on an annual basis.
- Total bill impacts in the summer months were statistically significant and positive for the Rate 4 and Rate 5 populations as a whole and in every climate regions on both rates. In other words, customers experienced bill increases on the TOU rate versus the OAT in the summer months.
- Total bill impacts in the winter months were statistically significant and negative for the Rate 4 and Rate 5 populations as a whole and in the moderate and cool climate regions on both rates. In other words, customers saved money on the TOU rate versus the OAT in the winter months.
- Annually, customers enrolled on Rate 4 had statistically significant bill increases due to behavioral changes, as did Rate 4 customers in the moderate climate region and Climate Zone 10. On an annual basis, behavioral bill impacts were generally not statistically significant for any climate region or for Rate 5 populations as a whole.

- In the summer months, customers reduced their bills through changes in behavior. Behavioral bill reductions were statistically significant for the Rate 4 and Rate 5 populations as a whole and in most climate regions. The opposite was true in the winter months, where customers increased their bills through changes in behavior. These increases were not statistically significant for customers in the hot and moderate climate region on Rate 5.

7.3 Customer Attrition

Key findings pertaining to the opt-out analysis include:

- When the pre-enrollment opt-out decision is defined as selecting the OAT rather than the offered default rate, the difference in opt-out rates between Rates 4 and 5 were very small and not statistically significant. However, when the opt-out decision is defined as choosing either the OAT or the alternative TOU rate, the opt-out rate was about 5% higher (one percentage point) for Rate 4 than for Rate 5. This finding, along with the fact that more customers offered Rate 4 chose Rate 5 than vice versa, indicates that the average customer has a small but statistically significant preference for Rate 5 over Rate 4.
- Customers presented with loss aversion messaging were slightly more likely to opt out before enrollment compared to those who received messaging focused on an opportunity to save money on TOU. This difference was statistically significant.
- There was no difference in pre-enrollment opt-out rates between customers who received a monthly rate comparison and those who received a seasonal rate comparison. Though, it should be noted that a total annual bill comparison was also presented to both informational treatment groups.
- Post-enrollment opt-out rates were very small –1.8% and 3.1% for CARE/FERA and non-CARE/FERA customers in all climate regions. This indicates the vast majority of customers stay on the rate once they are enrolled on a TOU rate.
- Customers on Rate 4 were statistically significantly more likely to opt out post-enrollment. Again, it is possible the longer peak period was less desirable for some customers. However, the difference was very small (2.3% vs. 2.1%).

7.4 A Note About Comparing Default and Opt-in Results

If comparisons are made between results from this default pilot and the prior opt-in pilot, it is important to note a few important considerations:

- The first summer for the opt-in pilot covered July through September, while the default pilot estimates presented in this report include June through September. The omission of June, which is often a cooler month, from the opt-in pilot could affect the size of the impacts from the first summer.
- The peak period for Rate 1 in the opt-in pilot was from 2 PM to 8 PM whereas, the peak period for Rate 4 in the default pilot is from 4 PM to 9 PM. Rate 2 in the opt-in pilot has the same peak period hours, 5 PM to 8 PM, as Rate 5 in the default pilot.

- The peak period prices and price ratios also changed between the opt-in and default pilot. The summer peak period price for Rate 1 was $0.35 during the longer peak period under the opt-in pilot compared to $0.41 under the shorter peak period for Rate 4 in the default pilot. The peak to super-off-peak ratio for Rate 1 was 1.5:1 while the peak to off-peak ratio for Rate 4 is 1.8:1. The summer peak period price for Rate 2 in the opt-in pilot ($0.54 ¢/kWh) was higher than for Rate 5 in the default pilot ($0.49 ¢/kWh). The peak to super-off-peak ratio for Rate 2 was 3.1:1 while the peak to off-peak ratio for Rate 5 is 2.1:1.

- The opt-In pilot included CARE/FERA customers in each climate region whereas the default pilot does not include CARE/FERA customers in the hot climate zone or in Climate Zone 10.

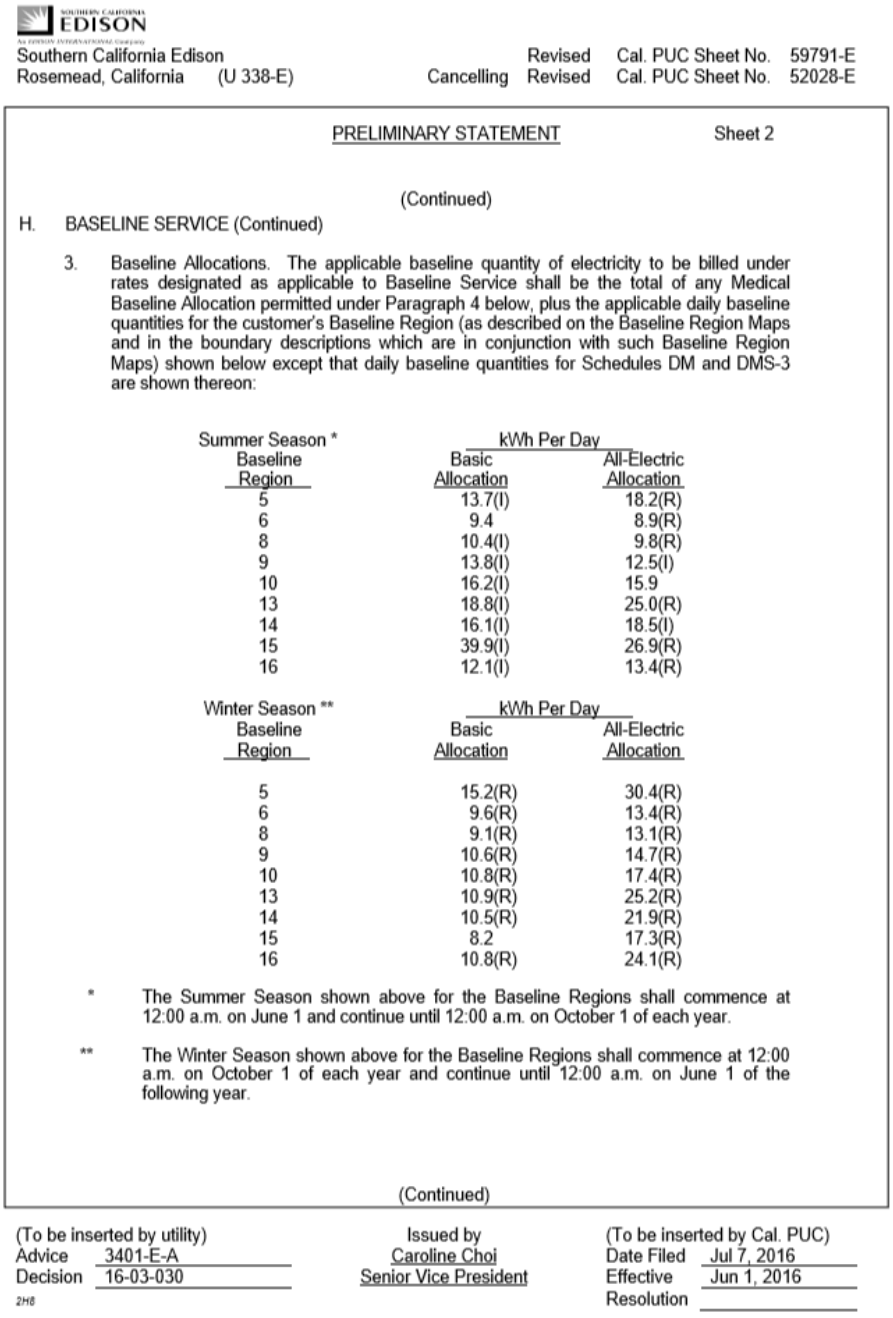
- Climate Zone 10 was included in the Moderate climate region in the opt-in pilot.

In summary, the months included in the evaluation, peak period hours, prices, and inclusion of CARE/FERA customers all changed between the opt-in and default pilots. Therefore, the differences observed between the pilots are not solely a difference in customer response to opt-in versus default enrollment strategies.

Appendix A Tariffs used in Bill Impact Analysis

A.1 Baseline Allocations

Analysis Period: Pretreatment through February 28, 2019



Southern California Edison
Rosemead, California (U 338-E)

Revised Cal. PUC Sheet No. 59791-E
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PRELIMINARY STATEMENT Sheet 2

(Continued)

H. BASELINE SERVICE (Continued)

3. Baseline Allocations. The applicable baseline quantity of electricity to be billed under rates designated as applicable to Baseline Service shall be the total of any Medical Baseline Allocation permitted under Paragraph 4 below, plus the applicable daily baseline quantities for the customer's Baseline Region (as described on the Baseline Region Maps and in the boundary descriptions which are in conjunction with such Baseline Region Maps) shown below except that daily baseline quantities for Schedules DM and DMS-3 are shown thereon:

Summer Season *	kWh Per Day	
Baseline Region	Basic Allocation	All-Electric Allocation
5	13.7(I)	18.2(R)
6	9.4	8.9(R)
8	10.4(I)	9.8(R)
9	13.8(I)	12.5(I)
10	16.2(I)	15.9
13	18.8(I)	25.0(R)
14	16.1(I)	18.5(I)
15	39.9(I)	26.9(R)
16	12.1(I)	13.4(R)

Winter Season **	kWh Per Day	
Baseline Region	Basic Allocation	All-Electric Allocation
5	15.2(R)	30.4(R)
6	9.6(R)	13.4(R)
8	9.1(R)	13.1(R)
9	10.6(R)	14.7(R)
10	10.8(R)	17.4(R)
13	10.9(R)	25.2(R)
14	10.5(R)	21.9(R)
15	8.2	17.3(R)
16	10.8(R)	24.1(R)

* The Summer Season shown above for the Baseline Regions shall commence at 12:00 a.m. on June 1 and continue until 12:00 a.m. on October 1 of each year.

** The Winter Season shown above for the Baseline Regions shall commence at 12:00 a.m. on October 1 of each year and continue until 12:00 a.m. on June 1 of the following year.

(Continued)

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PRELIMINARY STATEMENT Sheet 2

(Continued)

H. BASELINE SERVICE (Continued)

3. Baseline Allocations. The applicable baseline quantity of electricity to be billed under rates designated as applicable to Baseline Service shall be the total of any Medical Baseline Allocation permitted under Paragraph 4 below, plus the applicable daily baseline quantities for the Customer's Baseline Region (as described on the Baseline Region Maps and in the boundary descriptions which are in conjunction with such Baseline Region Maps) shown below except that daily baseline quantities for Schedules DM and DMS-3 are shown thereon: (T)

Summer Season *	kWh Per Day	
Baseline Region	Basic Allocation	All-Electric Allocation
5	17.2 (I)	17.9 (I)
6	11.4 (I)	8.8 (R)
8	12.6 (I)	9.8
9	16.5 (I)	12.4 (R)
10	18.9 (I)	15.8 (R)
13	22.0 (I)	24.6 (R)
14	18.7 (I)	18.3 (R)
15	46.4 (I)	24.1 (I)
16	14.4 (I)	13.5 (I)

Winter Season **	kWh Per Day	
Baseline Region	Basic Allocation	All-Electric Allocation
5	18.7	29.1 (R)
6	11.3 (I)	13.0 (R)
8	10.6 (I)	12.7 (R)
9	12.3 (I)	14.3 (R)
10	12.5 (I)	17.0 (R)
13	12.6 (I)	24.3 (R)
14	12.0 (I)	21.3 (R)
15	9.9 (I)	18.2 (I)
16	12.6 (I)	23.1 (R)

* The Summer Season shown above for the Baseline Regions shall commence at 12:00 a.m. on June 1 and continue until 12:00 a.m. on October 1 of each year.

** The Winter Season shown above for the Baseline Regions shall commence at 12:00 a.m. on October 1 of each year and continue until 12:00 a.m. on June 1 of the following year.

(Continued)

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A.2 Schedule D

Analysis Period: Pretreatment through December 2018

Southern California Edison
Rosemead, California (U 338-E)

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Cancelling Revised Cal. PUC Sheet No. 62244-E

Schedule D
DOMESTIC SERVICE

Sheet 2

(Continued)

RATES

	Delivery Service	Generation[2]	
	Total[1]	UG***	DWREC[3]
Energy Charge- $/kWh/Meter/Day			
Baseline Service			
Summer	0.08875 (I)	0.08589 (I)	0.00000
Winter	0.08875 (I)	0.08589 (I)	0.00000
Nonbaseline Service*			
101% - 400% of Baseline - Summer	0.16034 (R)	0.08589 (I)	0.00000
Winter	0.16034 (R)	0.08589 (I)	0.00000
High Usage Charge			
(Over 400% of Baseline) - Summer	0.26072 (I)	0.08589 (I)	0.00000
- Winter	0.26072 (I)	0.08589 (I)	0.00000
Basic Charge - $/Meter/Day			
Single-Family Accommodation	0.031		
Multi-Family Accommodation	0.024		
Minimum Charge** - $/Meter/Day			
Single-Family Accommodation	0.338 (I)		
Multi-Family Accommodation	0.338 (I)		
Minimum Charge (Medical Baseline)** - $/Meter/Day			
Single-Family Accommodation	0.169 (I)		
Multi-Family Accommodation	0.169 (I)		
California Climate Credit[4]	(36.00) (R)		
Peak Time Rebate - $kWh		(0.75)	
Peak Time Rebate w/enabling technology - $/kWh		(1.25)	

* Nonbaseline Service includes all kWh in excess of applicable Baseline allocations as described in Preliminary Statement, Part H, Baseline Service.
** The Minimum Charge is applicable when the Delivery Service Energy Charge, plus the applicable Basic Charge is less than the Minimum Charge.
*** The ongoing Competition Transition Charge (CTC) of $(0.00075) per kWh is recovered in the UG component of Generation. (I)
1 Total = Total Delivery Service rates are applicable to Bundled Service, Direct Access (DA) and Community Choice Aggregation Service (CCA Service) Customers, except DA and CCA Service Customers are not subject to the DWRBC rate component of this Schedule but instead pay the DWRBC as provided by Schedule DA-CRS or Schedule CCA-CRS.
2 Generation = The Generation rates are applicable only to Bundled Service Customers.
3. DWREC = Department of Water Resources (DWR) Energy Credit - For more information on the DWR Energy Credit, see the Billing Calculation Special Condition of this Schedule.
4. Applied on an equal basis, per household, semi-annually. See the Special Conditions of this Schedule for more information.

(Continued)

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Schedule D
DOMESTIC SERVICE

Sheet 2

(Continued)

RATES

	Delivery Service Total[1]	Generation[2] UG***	Generation[2] DWREC[3]
Energy Charge- $/kWh/Meter/Day			
Baseline Service			
Summer	0.09461 (I)	0.08470	(0.00007) (R)
Winter	0.09461 (I)	0.08470	(0.00007) (R)
Nonbaseline Service*			
101% - 400% of Baseline - Summer	0.14571 (R)	0.08470	(0.00007) (R)
Winter	0.14571 (R)	0.08470	(0.00007) (R)
High Usage Charge			
(Over 400% of Baseline) - Summer	0.31898 (I)	0.08470	(0.00007) (R)
- Winter	0.31898 (I)	0.08470	(0.00007) (R)
Basic Charge - $/Meter/Day			
Single-Family Accommodation	0.031		
Multi-Family Accommodation	0.024		
Minimum Charge** - $/Meter/Day			
Single-Family Accommodation	0.346 (I)		
Multi-Family Accommodation	0.346 (I)		
Minimum Charge (Medical Baseline)** - $/Meter/Day			
Single-Family Accommodation	0.173 (I)		
Multi-Family Accommodation	0.173 (I)		
California Climate Credit[4]	(36.00)		

* Nonbaseline Service includes all kWh in excess of applicable Baseline allocations as described in Preliminary Statement, Part H, Baseline Service.
** The Minimum Charge is applicable when the Delivery Service Energy Charge, minus the DWRBC, plus the applicable Basic Charge is less than the Minimum Charge. The difference between these two amounts is the Balance of Minimum Charge and is included on a customer's bill.
*** The ongoing Competition Transition Charge (CTC) of $0.00075 per kWh is recovered in the UG component of Generation.
1 Total = Total Delivery Service rates are applicable to Bundled Service, Direct Access (DA) and Community Choice Aggregation Service (CCA Service) Customers, except DA and CCA Service Customers are not subject to the DWRBC rate component of this Schedule but instead pay the DWRBC as provided by Schedule DA-CRS or Schedule CCA-CRS.
2 Generation = The Generation rates are applicable only to Bundled Service Customers.
3 DWREC = Department of Water Resources (DWR) Energy Credit - For more information on the DWR Energy Credit, see the Billing Calculation Special Condition of this Schedule.
4 Applied on an equal basis, per household, semi-annually. See the Special Conditions of this Schedule for more information.

(Continued)

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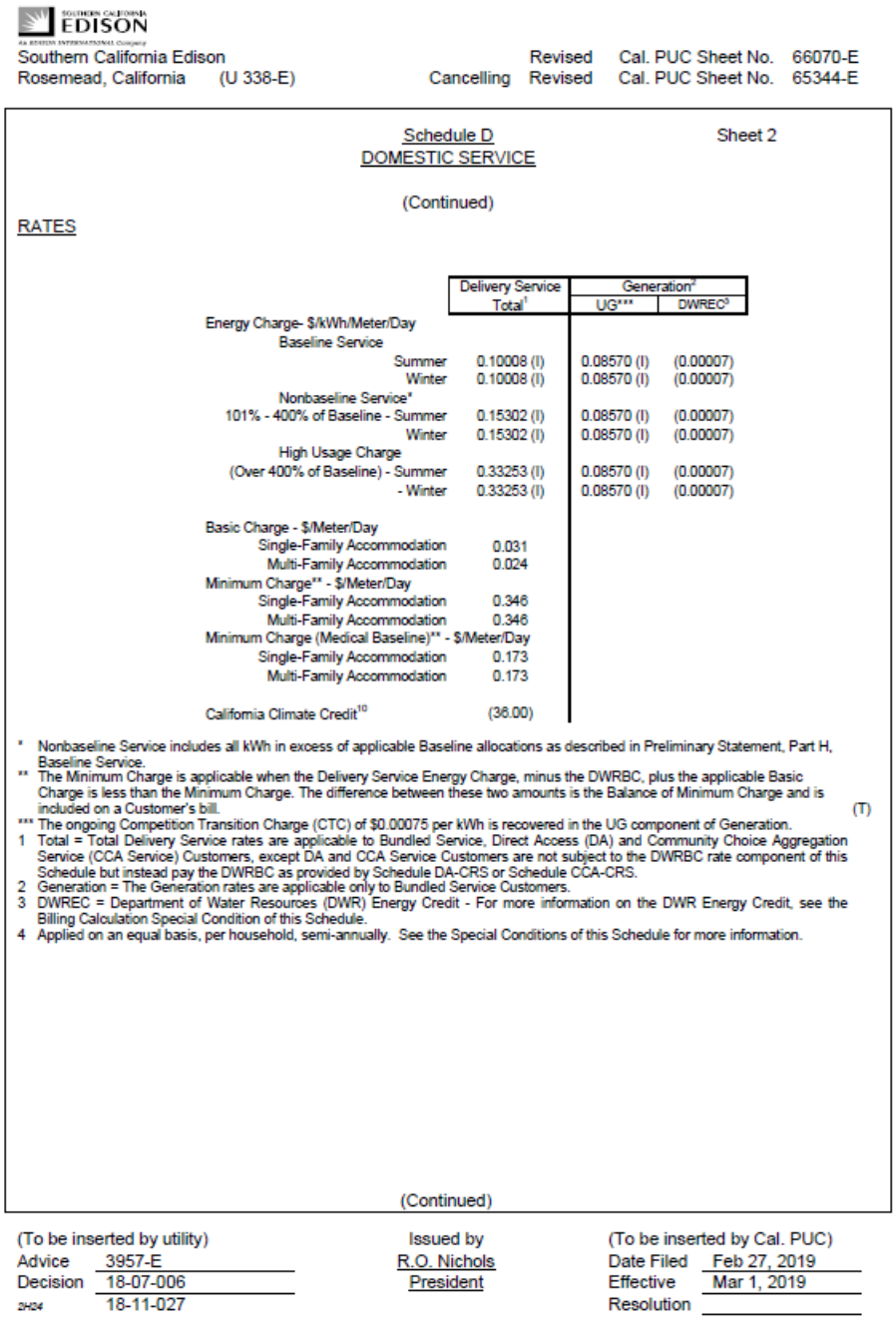

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Southern California Edison — Revised Cal. PUC Sheet No. 66070-E
Rosemead, California (U 338-E) — Cancelling Revised Cal. PUC Sheet No. 65344-E

Schedule D — Sheet 2
DOMESTIC SERVICE

(Continued)

RATES

	Delivery Service Total[1]	Generation[2] UG***	Generation[2] DWREC[3]
Energy Charge- $/kWh/Meter/Day			
Baseline Service			
Summer	0.10008 (I)	0.08570 (I)	(0.00007)
Winter	0.10008 (I)	0.08570 (I)	(0.00007)
Nonbaseline Service*			
101% - 400% of Baseline - Summer	0.15302 (I)	0.08570 (I)	(0.00007)
Winter	0.15302 (I)	0.08570 (I)	(0.00007)
High Usage Charge			
(Over 400% of Baseline) - Summer	0.33253 (I)	0.08570 (I)	(0.00007)
- Winter	0.33253 (I)	0.08570 (I)	(0.00007)
Basic Charge - $/Meter/Day			
Single-Family Accommodation	0.031		
Multi-Family Accommodation	0.024		
Minimum Charge** - $/Meter/Day			
Single-Family Accommodation	0.346		
Multi-Family Accommodation	0.346		
Minimum Charge (Medical Baseline)** - $/Meter/Day			
Single-Family Accommodation	0.173		
Multi-Family Accommodation	0.173		
California Climate Credit[10]	(36.00)		

* Nonbaseline Service includes all kWh in excess of applicable Baseline allocations as described in Preliminary Statement, Part H, Baseline Service.
** The Minimum Charge is applicable when the Delivery Service Energy Charge, minus the DWRBC, plus the applicable Basic Charge is less than the Minimum Charge. The difference between these two amounts is the Balance of Minimum Charge and is included on a Customer's bill. (T)
*** The ongoing Competition Transition Charge (CTC) of $0.00075 per kWh is recovered in the UG component of Generation.
1 Total = Total Delivery Service rates are applicable to Bundled Service, Direct Access (DA) and Community Choice Aggregation Service (CCA Service) Customers, except DA and CCA Service Customers are not subject to the DWRBC rate component of this Schedule but instead pay the DWRBC as provided by Schedule DA-CRS or Schedule CCA-CRS.
2 Generation = The Generation rates are applicable only to Bundled Service Customers.
3 DWREC = Department of Water Resources (DWR) Energy Credit - For more information on the DWR Energy Credit, see the Billing Calculation Special Condition of this Schedule.
4 Applied on an equal basis, per household, semi-annually. See the Special Conditions of this Schedule for more information.

(Continued)

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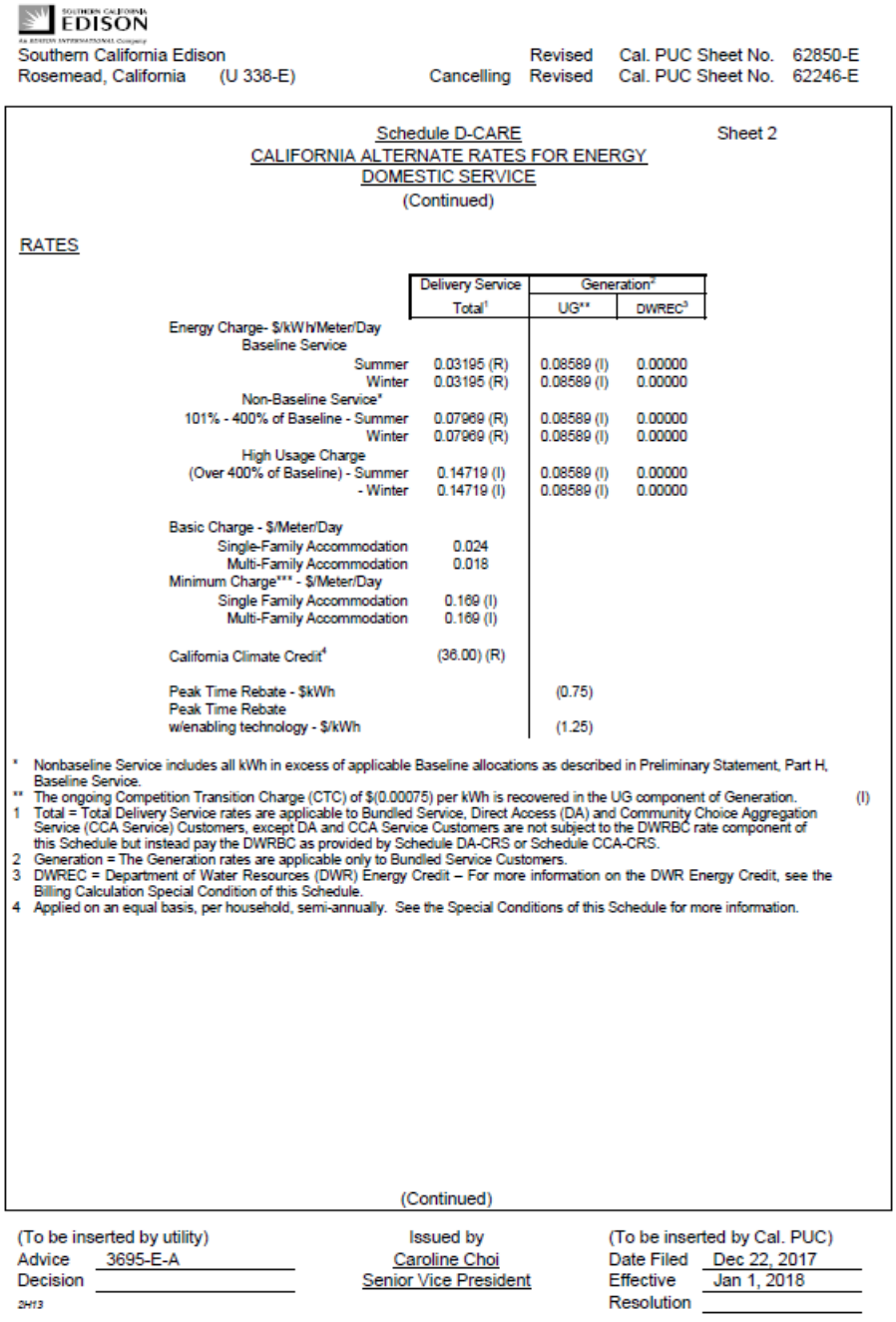
2H24 18-11-027 — Resolution

A.3 Schedule D-CARE

Analysis Period: Pretreatment through December 2018



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Southern California Edison — Revised Cal. PUC Sheet No. 62850-E
Rosemead, California (U 338-E) — Cancelling Revised Cal. PUC Sheet No. 62246-E

Schedule D-CARE — Sheet 2
CALIFORNIA ALTERNATE RATES FOR ENERGY
DOMESTIC SERVICE
(Continued)

RATES

	Delivery Service	Generation[2]	
	Total[1]	UG**	DWREC[3]
Energy Charge- $/kWh/Meter/Day			
Baseline Service			
Summer	0.03195 (R)	0.08589 (I)	0.00000
Winter	0.03195 (R)	0.08589 (I)	0.00000
Non-Baseline Service*			
101% - 400% of Baseline - Summer	0.07969 (R)	0.08589 (I)	0.00000
Winter	0.07969 (R)	0.08589 (I)	0.00000
High Usage Charge			
(Over 400% of Baseline) - Summer	0.14719 (I)	0.08589 (I)	0.00000
- Winter	0.14719 (I)	0.08589 (I)	0.00000
Basic Charge - $/Meter/Day			
Single-Family Accommodation	0.024		
Multi-Family Accommodation	0.018		
Minimum Charge*** - $/Meter/Day			
Single Family Accommodation	0.169 (I)		
Multi-Family Accommodation	0.169 (I)		
California Climate Credit[4]	(36.00) (R)		
Peak Time Rebate - $kWh		(0.75)	
Peak Time Rebate w/enabling technology - $/kWh		(1.25)	

* Nonbaseline Service includes all kWh in excess of applicable Baseline allocations as described in Preliminary Statement, Part H, Baseline Service.
** The ongoing Competition Transition Charge (CTC) of $(0.00075) per kWh is recovered in the UG component of Generation. (I)
1 Total = Total Delivery Service rates are applicable to Bundled Service, Direct Access (DA) and Community Choice Aggregation Service (CCA Service) Customers, except DA and CCA Service Customers are not subject to the DWRBC rate component of this Schedule but instead pay the DWRBC as provided by Schedule DA-CRS or Schedule CCA-CRS.
2 Generation = The Generation rates are applicable only to Bundled Service Customers.
3 DWREC = Department of Water Resources (DWR) Energy Credit – For more information on the DWR Energy Credit, see the Billing Calculation Special Condition of this Schedule.
4 Applied on an equal basis, per household, semi-annually. See the Special Conditions of this Schedule for more information.

(Continued)

(To be inserted by utility) Advice 3695-E-A Decision
2H13

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Southern California Edison
Rosemead, California (U 338-E)

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Schedule D-CARE
CALIFORNIA ALTERNATE RATES FOR ENERGY
DOMESTIC SERVICE
(Continued)

Sheet 2

RATES

		Delivery Service Total[1]	Generation[2] UG**	Generation[2] DWREC[3]
Energy Charge- $/kWh/Meter/Day				
Baseline Service				
	Summer	0.03629 (I)	0.08470	(0.00007) (R)
	Winter	0.03629 (I)	0.08470	(0.00007) (R)
Non-Baseline Service*				
101% - 400% of Baseline	- Summer	0.07013 (R)	0.08470	(0.00007) (R)
	Winter	0.07013 (R)	0.08470	(0.00007) (R)
High Usage Charge				
(Over 400% of Baseline)	- Summer	0.18657 (I)	0.08470	(0.00007) (R)
	- Winter	0.18657 (I)	0.08470	(0.00007) (R)
Basic Charge - $/Meter/Day				
Single-Family Accommodation		0.024		
Multi-Family Accommodation		0.018		
Minimum Charge*** - $/Meter/Day				
Single Family Accommodation		0.173 (I)		
Multi-Family Accommodation		0.173 (I)		
California Climate Credit[4]		(36.00)		

* Nonbaseline Service includes all kWh in excess of applicable Baseline allocations as described in Preliminary Statement, Part H, Baseline Service.
** The ongoing Competition Transition Charge (CTC) of $0.00075 per kWh is recovered in the UG component of Generation.
*** The Minimum Charge is applicable when the Delivery Service Energy Charge, minus the DWRBC, plus the applicable Basic Charge is less than the Minimum Charge. The difference between these two amounts is the Balance of Minimum Charge and is included on a customer's bill.
1 Total = Total Delivery Service rates are applicable to Bundled Service, Direct Access (DA) and Community Choice Aggregation Service (CCA Service) Customers, except DA and CCA Service Customers are not subject to the DWRBC rate component of this Schedule but instead pay the DWRBC as provided by Schedule DA-CRS or Schedule CCA-CRS.
2 Generation = The Generation rates are applicable only to Bundled Service Customers.
3 DWREC = Department of Water Resources (DWR) Energy Credit – For more information on the DWR Energy Credit, see the Billing Calculation Special Condition of this Schedule.
4 Applied on an equal basis, per household, semi-annually. See the Special Conditions of this Schedule for more information.

(Continued)

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Caroline Choi
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Rosemead, California (U 338-E)

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Cancelling Revised Cal. PUC Sheet No. 65346-E

Schedule D-CARE
CALIFORNIA ALTERNATE RATES FOR ENERGY
DOMESTIC SERVICE
(Continued)

Sheet 2

RATES

	Delivery Service Total[1]	Generation[2] UG**	Generation[2] DWREC[3]
Energy Charge- $/kWh/Meter/Day			
Baseline Service			
Summer	0.03954 (I)	0.08570 (I)	(0.00007)
Winter	0.03954 (I)	0.08570 (I)	(0.00007)
Nonbaseline Service*			
101% - 400% of Baseline - Summer	0.07473 (I)	0.08570 (I)	(0.00007)
Winter	0.07473 (I)	0.08570 (I)	(0.00007)
High Usage Charge			
(Over 400% of Baseline) - Summer	0.19536 (I)	0.08570 (I)	(0.00007)
- Winter	0.19536 (I)	0.08570 (I)	(0.00007)
Basic Charge - $/Meter/Day			
Single-Family Accommodation	0.024		
Multi-Family Accommodation	0.018		
Minimum Charge*** - $/Meter/Day			
Single Family Accommodation	0.173		
Multi-Family Accommodation	0.173		
California Climate Credit[10]	(36.00)		

* Nonbaseline Service includes all kWh in excess of applicable Baseline allocations as described in Preliminary Statement, Part H, Baseline Service.
** The ongoing Competition Transition Charge (CTC) of $0.00075 per kWh is recovered in the UG component of Generation.
*** The Minimum Charge is applicable when the Delivery Service Energy Charge, minus the DWRBC, plus the applicable Basic Charge is less than the Minimum Charge. The difference between these two amounts is the Balance of Minimum Charge and is included on a Customer's bill. (T)

1 Total = Total Delivery Service rates are applicable to Bundled Service, Direct Access (DA) and Community Choice Aggregation Service (CCA Service) Customers, except DA and CCA Service Customers are not subject to the DWRBC rate component of this Schedule but instead pay the DWRBC as provided by Schedule DA-CRS or Schedule CCA-CRS.
2 Generation = The Generation rates are applicable only to Bundled Service Customers.
3 DWREC = Department of Water Resources (DWR) Energy Credit – For more information on the DWR Energy Credit, see the Billing Calculation Special Condition of this Schedule.
4 Applied on an equal basis, per household, semi-annually. See the Special Conditions of this Schedule for more information.

(Continued)

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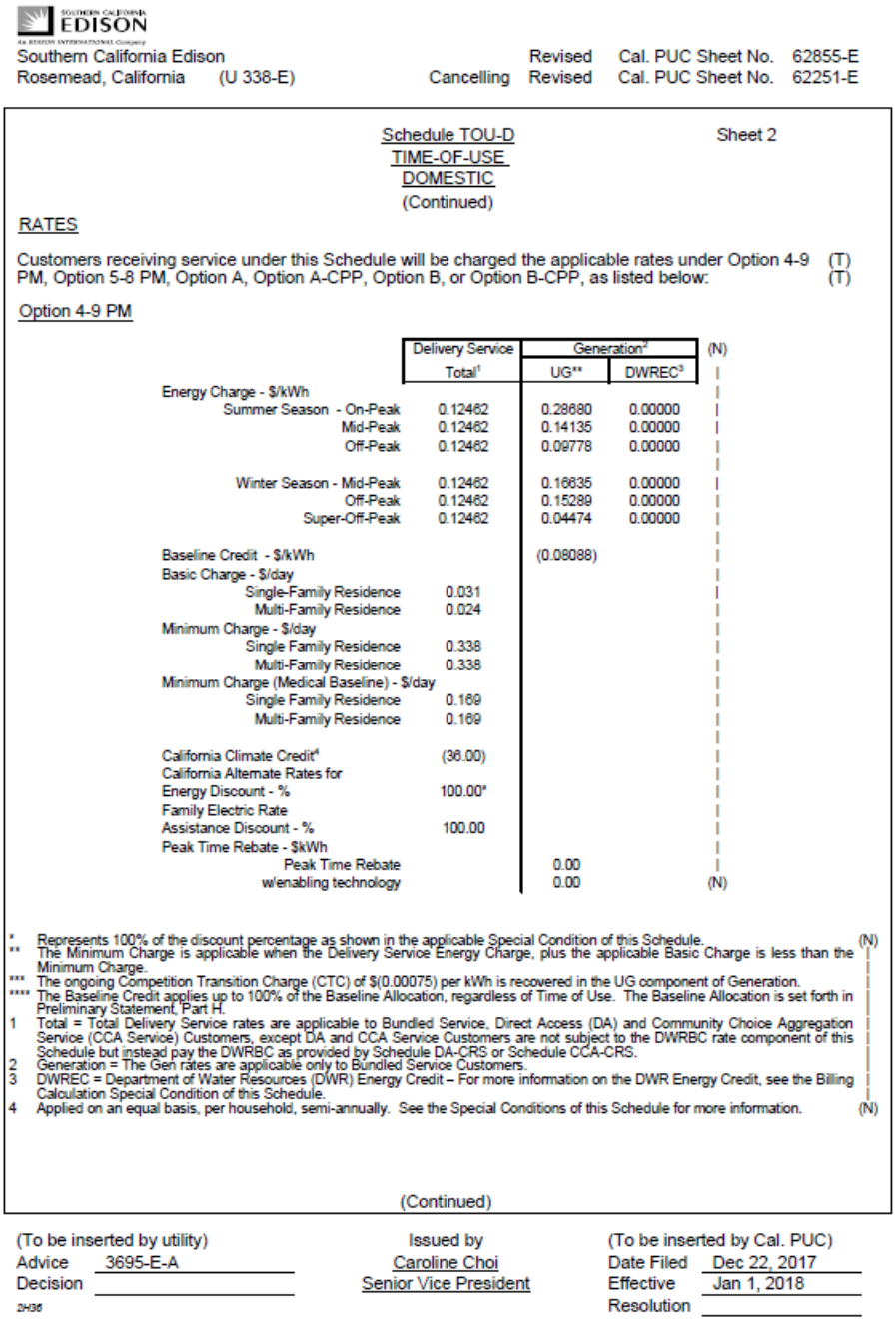
A.4 Rate 4

Analysis Period: Pretreatment through December 31, 2018



SOUTHERN CALIFORNIA EDISON
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Southern California Edison — Revised Cal. PUC Sheet No. 62855-E
Rosemead, California (U 338-E) — Cancelling Revised Cal. PUC Sheet No. 62251-E

Schedule TOU-D
TIME-OF-USE
DOMESTIC
(Continued)

Sheet 2

RATES

Customers receiving service under this Schedule will be charged the applicable rates under Option 4-9 PM, Option 5-8 PM, Option A, Option A-CPP, Option B, or Option B-CPP, as listed below: (T) (T)

Option 4-9 PM

	Delivery Service	Generation[2]		(N)
	Total[1]	UG**	DWREC[3]	
Energy Charge - $/kWh				
Summer Season - On-Peak	0.12462	0.28680	0.00000	
Mid-Peak	0.12462	0.14135	0.00000	
Off-Peak	0.12462	0.09778	0.00000	
Winter Season - Mid-Peak	0.12462	0.16635	0.00000	
Off-Peak	0.12462	0.15289	0.00000	
Super-Off-Peak	0.12462	0.04474	0.00000	
Baseline Credit - $/kWh		(0.08088)		
Basic Charge - $/day				
Single-Family Residence	0.031			
Multi-Family Residence	0.024			
Minimum Charge - $/day				
Single Family Residence	0.338			
Multi-Family Residence	0.338			
Minimum Charge (Medical Baseline) - $/day				
Single Family Residence	0.169			
Multi-Family Residence	0.169			
California Climate Credit[4]	(36.00)			
California Alternate Rates for Energy Discount - %	100.00*			
Family Electric Rate Assistance Discount - %	100.00			
Peak Time Rebate - $/kWh				
Peak Time Rebate		0.00		
w/enabling technology		0.00		(N)

* Represents 100% of the discount percentage as shown in the applicable Special Condition of this Schedule. (N)
** The Minimum Charge is applicable when the Delivery Service Energy Charge, plus the applicable Basic Charge is less than the Minimum Charge.
*** The ongoing Competition Transition Charge (CTC) of $(0.00075) per kWh is recovered in the UG component of Generation.
**** The Baseline Credit applies up to 100% of the Baseline Allocation, regardless of Time of Use. The Baseline Allocation is set forth in Preliminary Statement, Part H.
1 Total = Total Delivery Service rates are applicable to Bundled Service, Direct Access (DA) and Community Choice Aggregation Service (CCA Service) Customers, except DA and CCA Service Customers are not subject to the DWRBC rate component of this Schedule but instead pay the DWRBC as provided by Schedule DA-CRS or Schedule CCA-CRS.
2 Generation = The Gen rates are applicable only to Bundled Service Customers.
3 DWREC = Department of Water Resources (DWR) Energy Credit – For more information on the DWR Energy Credit, see the Billing Calculation Special Condition of this Schedule.
4 Applied on an equal basis, per household, semi-annually. See the Special Conditions of this Schedule for more information. (N)

(Continued)

(To be inserted by utility)
Advice 3695-E-A
Decision
2H36

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Caroline Choi
Senior Vice President

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Southern California Edison
Rosemead, California (U 338-E)

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Schedule TOU-D
TIME-OF-USE
DOMESTIC
(Continued)

Sheet 2

RATES

Customers receiving service under this Schedule will be charged the applicable rates under Option 4-9 PM, Option 5-8 PM, Option A, Option A-CPP, Option B, or Option B-CPP, as listed below:

Option 4-9 PM

	Delivery Service Total[1]	Generation[2] UG***	Generation[2] DWREC[3]
Energy Charge - $/kWh			
Summer Season - On-Peak	0.12396 (R)	0.27278 (R)	(0.00007) (R)
Mid-Peak	0.12396 (R)	0.13257 (R)	(0.00007) (R)
Off-Peak	0.12396 (R)	0.09057 (R)	(0.00007) (R)
Winter Season - Mid-Peak	0.12396 (R)	0.15582 (R)	(0.00007) (R)
Off-Peak	0.12396 (R)	0.14288 (R)	(0.00007) (R)
Super-Off-Peak	0.12396 (R)	0.03894 (R)	(0.00007) (R)
Baseline Credit**** - $/kWh		(0.06713) (I)	
Basic Charge - $/day			
Single-Family Residence	0.031		
Multi-Family Residence	0.024		
Minimum Charge** - $/day			
Single Family Residence	0.346 (I)		
Multi-Family Residence	0.346 (I)		
Minimum Charge (Medical Baseline)** - $/day			
Single Family Residence	0.173 (I)		
Multi-Family Residence	0.173 (I)		
California Climate Credit[4]	(36.00)		
California Alternate Rates for			
Energy Discount - %	100.00*		
Family Electric Rate Assistance Discount - %	100.00		

* Represents 100% of the discount percentage as shown in the applicable Special Condition of this Schedule.
** The Minimum Charge is applicable when the Delivery Service Energy Charge, plus the applicable Basic Charge is less than the Minimum Charge.
*** The ongoing Competition Transition Charge CTC of $0.00075 per kWh is recovered in the UG component of Generation.
**** The Baseline Credit applies up to 100% of the Baseline Allocation, regardless of Time of Use. The Baseline Allocation is set forth in Preliminary Statement, Part H.
1 Total = Total Delivery Service rates are applicable to Bundled Service, Direct Access (DA) and Community Choice Aggregation Service (CCA Service) Customers, except DA and CCA Service Customers are not subject to the DWRBC rate component of this Schedule but instead pay the DWRBC as provided by Schedule DA-CRS or Schedule CCA-CRS.
2 Generation = The Gen rates are applicable only to Bundled Service Customers.
3 DWREC = Department of Water Resources (DWR) Energy Credit – For more information on the DWR Energy Credit, see the Billing Calculation Special Condition of this Schedule.
4 Applied on an equal basis, per household, semi-annually. See the Special Conditions of this Schedule for more information.

(Continued)

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Senior Vice President

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2H9

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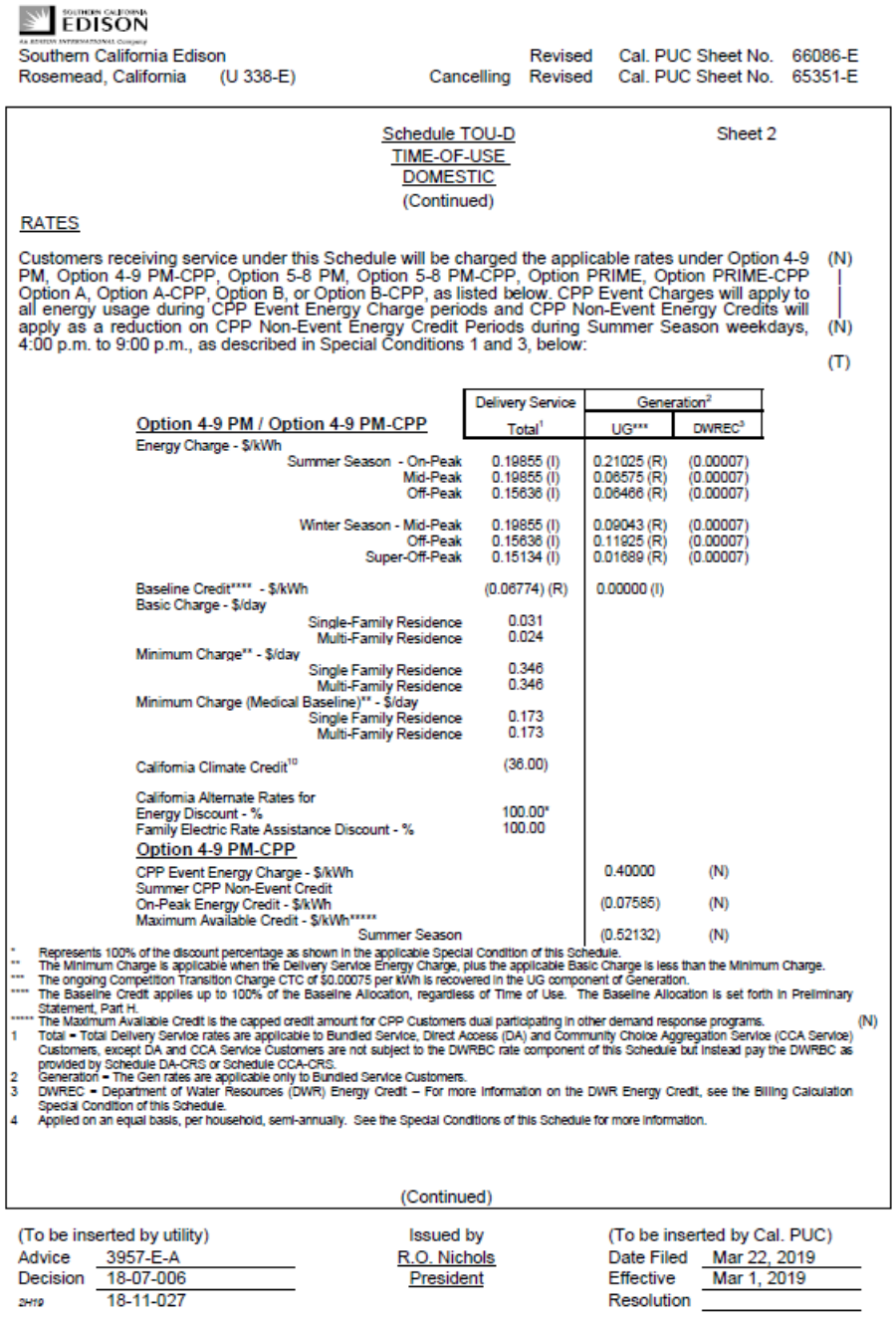

SOUTHERN CALIFORNIA EDISON
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Southern California Edison — Revised Cal. PUC Sheet No. 66086-E
Rosemead, California (U 338-E) — Cancelling Revised Cal. PUC Sheet No. 65351-E

Schedule TOU-D
TIME-OF-USE
DOMESTIC
(Continued)

Sheet 2

RATES

Customers receiving service under this Schedule will be charged the applicable rates under Option 4-9 PM, Option 4-9 PM-CPP, Option 5-8 PM, Option 5-8 PM-CPP, Option PRIME, Option PRIME-CPP Option A, Option A-CPP, Option B, or Option B-CPP, as listed below. CPP Event Charges will apply to all energy usage during CPP Event Energy Charge periods and CPP Non-Event Energy Credits will apply as a reduction on CPP Non-Event Energy Credit Periods during Summer Season weekdays, 4:00 p.m. to 9:00 p.m., as described in Special Conditions 1 and 3, below: (N) (N) (T)

	Delivery Service	Generation[2]	
Option 4-9 PM / Option 4-9 PM-CPP	Total[1]	UG***	DWREC[3]
Energy Charge - $/kWh			
Summer Season - On-Peak	0.19855 (I)	0.21025 (R)	(0.00007)
Mid-Peak	0.19855 (I)	0.06575 (R)	(0.00007)
Off-Peak	0.15636 (I)	0.06466 (R)	(0.00007)
Winter Season - Mid-Peak	0.19855 (I)	0.09043 (R)	(0.00007)
Off-Peak	0.15636 (I)	0.11925 (R)	(0.00007)
Super-Off-Peak	0.15134 (I)	0.01689 (R)	(0.00007)
Baseline Credit**** - $/kWh	(0.06774) (R)	0.00000 (I)	
Basic Charge - $/day			
Single-Family Residence	0.031		
Multi-Family Residence	0.024		
Minimum Charge** - $/day			
Single Family Residence	0.346		
Multi-Family Residence	0.346		
Minimum Charge (Medical Baseline)** - $/day			
Single Family Residence	0.173		
Multi-Family Residence	0.173		
California Climate Credit[10]	(36.00)		
California Alternate Rates for Energy Discount - %	100.00*		
Family Electric Rate Assistance Discount - %	100.00		
Option 4-9 PM-CPP			
CPP Event Energy Charge - $/kWh		0.40000	(N)
Summer CPP Non-Event Credit On-Peak Energy Credit - $/kWh		(0.07585)	(N)
Maximum Available Credit - $/kWh***** Summer Season		(0.52132)	(N)

* Represents 100% of the discount percentage as shown in the applicable Special Condition of this Schedule.
** The Minimum Charge is applicable when the Delivery Service Energy Charge, plus the applicable Basic Charge is less than the Minimum Charge.
*** The ongoing Competition Transition Charge CTC of $0.00075 per kWh is recovered in the UG component of Generation.
**** The Baseline Credit applies up to 100% of the Baseline Allocation, regardless of Time of Use. The Baseline Allocation is set forth in Preliminary Statement, Part H.
***** The Maximum Available Credit is the capped credit amount for CPP Customers dual participating in other demand response programs. (N)
1 Total = Total Delivery Service rates are applicable to Bundled Service, Direct Access (DA) and Community Choice Aggregation Service (CCA Service) Customers, except DA and CCA Service Customers are not subject to the DWRBC rate component of this Schedule but instead pay the DWRBC as provided by Schedule DA-CRS or Schedule CCA-CRS.
2 Generation = The Gen rates are applicable only to Bundled Service Customers.
3 DWREC = Department of Water Resources (DWR) Energy Credit – For more information on the DWR Energy Credit, see the Billing Calculation Special Condition of this Schedule.
4 Applied on an equal basis, per household, semi-annually. See the Special Conditions of this Schedule for more information.

(Continued)

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A.5 Rate 5

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Southern California Edison
Rosemead, California (U 338-E)

Original Cal. PUC Sheet No. 62857-E
Cancelling Cal. PUC Sheet No.

Schedule TOU-D
TIME-OF-USE
DOMESTIC
(Continued)

Sheet 4

RATES (Continued)

Option 5-8 PM

	Delivery Service	Generation[2]	
	Total[1]	UG**	DWREC[3]
Energy Charge - $/kWh			
Summer Season - On-Peak	0.12462	0.36284	0.00000
Mid-Peak	0.12462	0.16090	0.00000
Off-Peak	0.12462	0.10575	0.00000
Winter Season - Mid-Peak	0.12462	0.17790	0.00000
Off-Peak	0.12462	0.16134	0.00000
Super-Off-Peak	0.12462	0.04657	0.00000
Baseline Credit - $/kWh		(0.08088)	
Basic Charge - $/day			
Single-Family Residence	0.031		
Multi-Family Residence	0.024		
Minimum Charge - $/day			
Single Family Residence	0.338		
Multi-Family Residence	0.338		
Minimum Charge (Medical Baseline) - $/day			
Single Family Residence	0.169		
Multi-Family Residence	0.169		
California Climate Credit[4]	(36.00)		
California Alternate Rates for Energy Discount - %	100.00*		
Family Electric Rate Assistance Discount - %	100.00		
Peak Time Rebate - $/kWh			
Peak Time Rebate		0.00	
w/enabling technology		0.00	

* Represents 100% of the discount percentage as shown in the applicable Special Condition of this Schedule.
** The Minimum Charge is applicable when the Delivery Service Energy Charge, plus the applicable Basic Charge is less than the Minimum Charge.
*** The ongoing Competition Transition Charge (CTC) of $(0.00075) per kWh is recovered in the UG component of Generation.
**** The Baseline Credit applies up to 100% of the Baseline Allocation, regardless of Time of Use. The Baseline Allocation is set forth in Preliminary Statement, Part H.
1 Total = Total Delivery Service rates are applicable to Bundled Service, Direct Access (DA) and Community Choice Aggregation Service (CCA Service) Customers, except DA and CCA Service Customers are not subject to the DWRBC rate component of this Schedule but instead pay the DWRBC as provided by Schedule DA-CRS or Schedule CCA-CRS.
2 Generation = The Gen rates are applicable only to Bundled Service Customers.
3 DWREC = Department of Water Resources (DWR) Energy Credit – For more information on the DWR Energy Credit, see the Billing Calculation Special Condition of this Schedule.
4 Applied on an equal basis, per household, semi-annually. See the Special Conditions of this Schedule for more information.

(Continued)

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Southern California Edison
Rosemead, California (U 338-E)

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Schedule TOU-D
TIME-OF-USE
DOMESTIC
(Continued)

Sheet 4

RATES (Continued)

Option 5-8 PM

	Delivery Service Total[1]	Generation[2] UG***	Generation[2] DWREC[3]
Energy Charge - $/kWh			
Summer Season - On-Peak	0.12396 (R)	0.34607 (R)	(0.00007) (R)
Mid-Peak	0.12396 (R)	0.15141 (R)	(0.00007) (R)
Off-Peak	0.12396 (R)	0.09826 (R)	(0.00007) (R)
Winter Season - Mid-Peak	0.12396 (R)	0.16692 (R)	(0.00007) (R)
Off-Peak	0.12396 (R)	0.15100 (R)	(0.00007) (R)
Super-Off-Peak	0.12396 (R)	0.04071 (R)	(0.00007) (R)
Baseline Credit**** - $/kWh		(0.06713) (I)	
Basic Charge - $/day			
Single-Family Residence	0.031		
Multi-Family Residence	0.024		
Minimum Charge** - $/day			
Single Family Residence	0.346 (I)		
Multi-Family Residence	0.346 (I)		
Minimum Charge (Medical Baseline)** - $/day			
Single Family Residence	0.173 (I)		
Multi-Family Residence	0.173 (I)		
California Climate Credit[4]	(36.00)		
California Alternate Rates for			
Energy Discount - %	100.00*		
Family Electric Rate Assistance Discount - %	100.00		

* Represents 100% of the discount percentage as shown in the applicable Special Condition of this Schedule.
** The Minimum Charge is applicable when the Delivery Service Energy Charge, plus the applicable Basic Charge is less than the Minimum Charge.
*** The ongoing Competition Transition Charge (CTC) of $0.00075 per kWh is recovered in the UG component of Generation.
**** The Baseline Credit applies up to 100% of the Baseline Allocation, regardless of Time of Use. The Baseline Allocation is set forth in Preliminary Statement, Part H.
1 Total = Total Delivery Service rates are applicable to Bundled Service, Direct Access (DA) and Community Choice Aggregation Service (CCA Service) Customers, except DA and CCA Service Customers are not subject to the DWREC rate component of this Schedule but instead pay the DWREC as provided by Schedule DA-CRS or Schedule CCA-CRS.
2 Generation = The Gen rates are applicable only to Bundled Service Customers.
3 DWREC = Department of Water Resources (DWR) Energy Credit – For more information on the DWR Energy Credit, see the Billing Calculation Special Condition of this Schedule.
4 Applied on an equal basis, per household, semi-annually. See the Special Conditions of this Schedule for more information.

(Continued)

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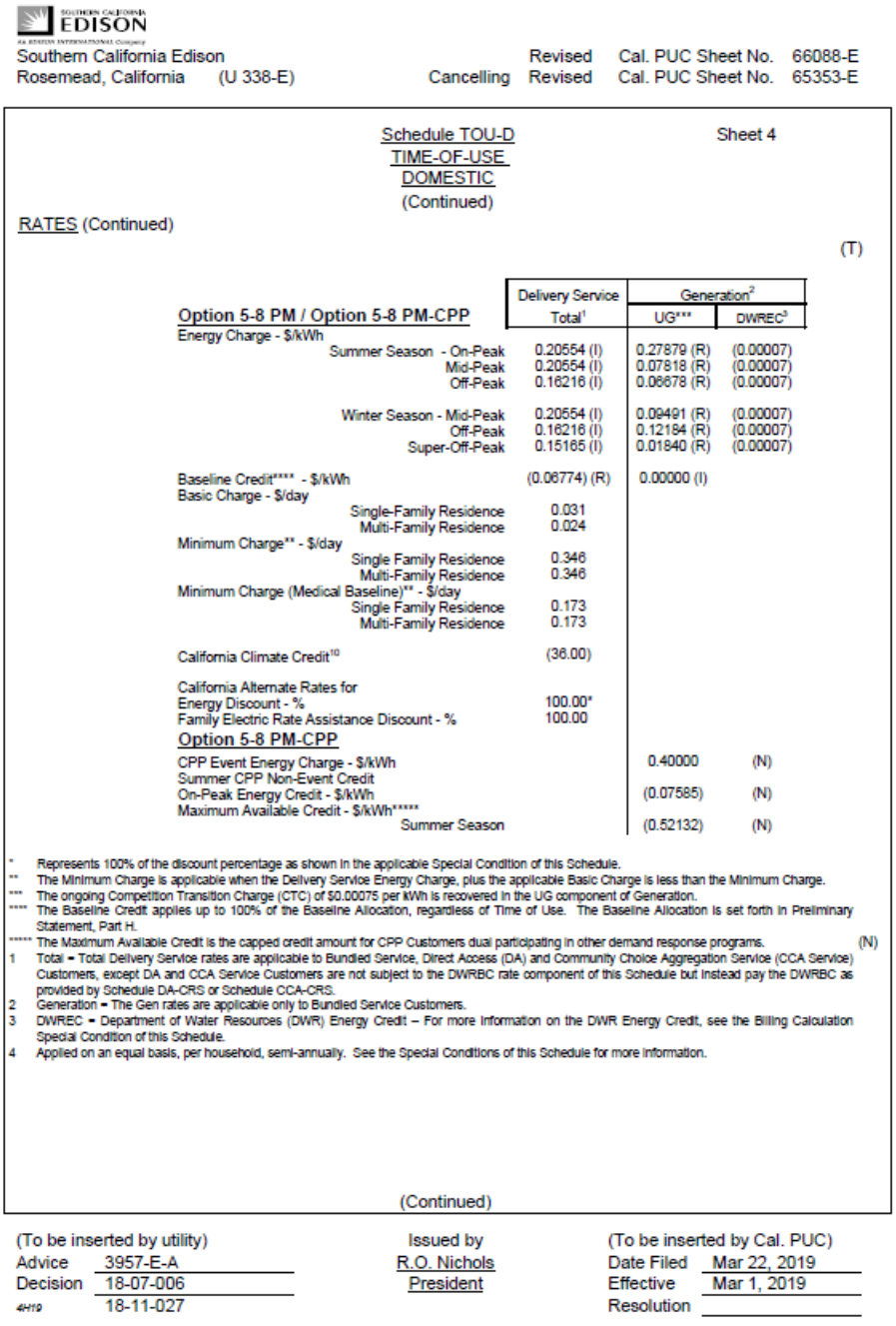

SOUTHERN CALIFORNIA EDISON
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Southern California Edison — Revised Cal. PUC Sheet No. 66088-E
Rosemead, California (U 338-E) — Cancelling Revised Cal. PUC Sheet No. 65353-E

Schedule TOU-D
TIME-OF-USE
DOMESTIC
(Continued)

Sheet 4

RATES (Continued)

(T)

	Delivery Service Total[1]	Generation[2] UG***	Generation[2] DWREC[3]
Option 5-8 PM / Option 5-8 PM-CPP			
Energy Charge - $/kWh			
Summer Season - On-Peak	0.20554 (I)	0.27879 (R)	(0.00007)
Mid-Peak	0.20554 (I)	0.07818 (R)	(0.00007)
Off-Peak	0.16216 (I)	0.06678 (R)	(0.00007)
Winter Season - Mid-Peak	0.20554 (I)	0.09491 (R)	(0.00007)
Off-Peak	0.16216 (I)	0.12184 (R)	(0.00007)
Super-Off-Peak	0.15165 (I)	0.01840 (R)	(0.00007)
Baseline Credit**** - $/kWh	(0.06774) (R)	0.00000 (I)	
Basic Charge - $/day			
Single-Family Residence	0.031		
Multi-Family Residence	0.024		
Minimum Charge** - $/day			
Single Family Residence	0.346		
Multi-Family Residence	0.346		
Minimum Charge (Medical Baseline)** - $/day			
Single Family Residence	0.173		
Multi-Family Residence	0.173		
California Climate Credit[10]	(36.00)		
California Alternate Rates for			
Energy Discount - %	100.00*		
Family Electric Rate Assistance Discount - %	100.00		
Option 5-8 PM-CPP			
CPP Event Energy Charge - $/kWh		0.40000	(N)
Summer CPP Non-Event Credit			
On-Peak Energy Credit - $/kWh		(0.07585)	(N)
Maximum Available Credit - $/kWh*****			
Summer Season		(0.52132)	(N)

* Represents 100% of the discount percentage as shown in the applicable Special Condition of this Schedule.
** The Minimum Charge is applicable when the Delivery Service Energy Charge, plus the applicable Basic Charge is less than the Minimum Charge.
*** The ongoing Competition Transition Charge (CTC) of $0.00075 per kWh is recovered in the UG component of Generation.
**** The Baseline Credit applies up to 100% of the Baseline Allocation, regardless of Time of Use. The Baseline Allocation is set forth in Preliminary Statement, Part H.
***** The Maximum Available Credit is the capped credit amount for CPP Customers dual participating in other demand response programs. (N)
1 Total = Total Delivery Service rates are applicable to Bundled Service, Direct Access (DA) and Community Choice Aggregation Service (CCA Service) Customers, except DA and CCA Service Customers are not subject to the DWRBC rate component of this Schedule but instead pay the DWRBC as provided by Schedule DA-CRS or Schedule CCA-CRS.
2 Generation = The Gen rates are applicable only to Bundled Service Customers.
3 DWREC = Department of Water Resources (DWR) Energy Credit – For more information on the DWR Energy Credit, see the Billing Calculation Special Condition of this Schedule.
4 Applied on an equal basis, per household, semi-annually. See the Special Conditions of this Schedule for more information.

(Continued)

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4H10 18-11-027

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A.7 TOU CARE and FERA Discounts

Analysis Period: Pretreatment through December 31, 2018

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

Southern California Edison — Revised Cal. PUC Sheet No. 62873-E
Rosemead, California (U 338-E) — Cancelling Revised Cal. PUC Sheet No. 62136-E*

Schedule TOU-D
TIME-OF-USE
DOMESTIC
(Continued)

Sheet 21 (T)

SPECIAL CONDITIONS (Continued)

6. Change of Rate Schedule: At any time, a customer on this Schedule may elect to leave his/her Rate Option (e.g., Option 4-9 PM, Option 5-8 PM, Option A, Option B) and elect to either: (1) switch to another Rate Option of this Schedule, or (2) transfer from this Schedule to another applicable residential rate schedule. The elected rate change will become effective on the next regularly scheduled meter read date following the customer's notice to SCE. Unless the customer was placed on a Rate Option by SCE (i.e., defaulted), the customer shall not be allowed to make an additional change in rate until 12 months of service has been provided under the elected rate, unless otherwise specified in that rate schedule. (T) | (T) (T)

7. California Alternate Rates for Energy (CARE) Discount: Customers who meet the definition of a CARE Household, as defined in Schedule D-CARE, may qualify for a 27.9 percent discount off of their electric bill prior to the application of the Public Utilities Commission Reimbursement Fee (PUCRF) and any applicable user fees, taxes, and late payment charges. Eligible CARE customers are required to pay the PUCRF and any applicable user fees, taxes, and late payment charges in full. In addition, eligible CARE customers are exempt from paying the CARE Surcharge of $0.00504 per kWh and the Department of Water Resources Bond Charge of $0.00549 per kWh. The 27.9 percent discount in addition to these exemptions result in an average effective CARE Discount of 32.5 percent. An application and eligibility declaration is required for service under this Special Condition. Eligible customers shall have the CARE Discount applied to this Schedule commencing no later than one billing period after receipt and approval of the customer's application by SCE. Customers may be rebilled for periods in which they do not meet the eligibility requirements for the CARE Discount. Customers receiving service under the Family Electric Rate Assistance (FERA) Discount Special Condition of this Schedule are not eligible to take service under this Special Condition. (T)

8. Family Electric Rate Assistance Discount: Customers who meet the definition of a FERA household, as defined in Schedule D-FERA, may qualify for a 12 percent discount off of their bill prior to the application of any applicable taxes and late payment charges. An application and eligibility declaration is required for service under this Special Condition. Eligible customers shall be billed on this Special Condition commencing no later than one billing period after receipt and approval of the customer's application by SCE. Customers may be rebilled for periods in which they do not meet the eligibility requirements for the CARE Discount. Customers receiving service under the CARE Discount Special Condition of this Schedule are not eligible to take service under this Special Condition. (T)

(Continued)

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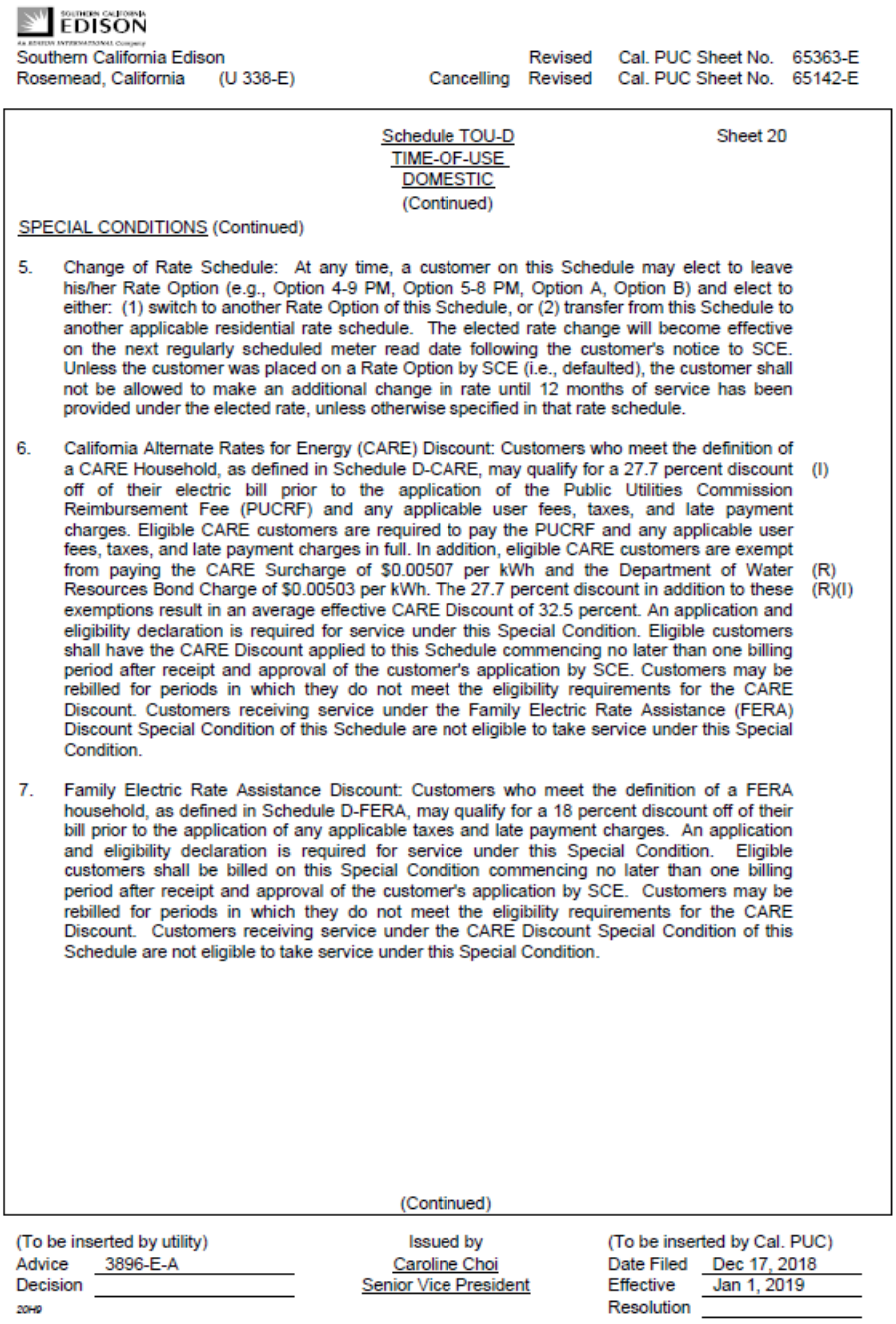

SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

Southern California Edison — Revised Cal. PUC Sheet No. 65363-E
Rosemead, California (U 338-E) — Cancelling Revised Cal. PUC Sheet No. 65142-E

Schedule TOU-D
TIME-OF-USE
DOMESTIC
(Continued)

Sheet 20

SPECIAL CONDITIONS (Continued)

5. Change of Rate Schedule: At any time, a customer on this Schedule may elect to leave his/her Rate Option (e.g., Option 4-9 PM, Option 5-8 PM, Option A, Option B) and elect to either: (1) switch to another Rate Option of this Schedule, or (2) transfer from this Schedule to another applicable residential rate schedule. The elected rate change will become effective on the next regularly scheduled meter read date following the customer's notice to SCE. Unless the customer was placed on a Rate Option by SCE (i.e., defaulted), the customer shall not be allowed to make an additional change in rate until 12 months of service has been provided under the elected rate, unless otherwise specified in that rate schedule.

6. California Alternate Rates for Energy (CARE) Discount: Customers who meet the definition of a CARE Household, as defined in Schedule D-CARE, may qualify for a 27.7 percent discount off of their electric bill prior to the application of the Public Utilities Commission Reimbursement Fee (PUCRF) and any applicable user fees, taxes, and late payment charges. Eligible CARE customers are required to pay the PUCRF and any applicable user fees, taxes, and late payment charges in full. In addition, eligible CARE customers are exempt from paying the CARE Surcharge of $0.00507 per kWh and the Department of Water Resources Bond Charge of $0.00503 per kWh. The 27.7 percent discount in addition to these exemptions result in an average effective CARE Discount of 32.5 percent. An application and eligibility declaration is required for service under this Special Condition. Eligible customers shall have the CARE Discount applied to this Schedule commencing no later than one billing period after receipt and approval of the customer's application by SCE. Customers may be rebilled for periods in which they do not meet the eligibility requirements for the CARE Discount. Customers receiving service under the Family Electric Rate Assistance (FERA) Discount Special Condition of this Schedule are not eligible to take service under this Special Condition. (I) (R) (R)(I)

7. Family Electric Rate Assistance Discount: Customers who meet the definition of a FERA household, as defined in Schedule D-FERA, may qualify for a 18 percent discount off of their bill prior to the application of any applicable taxes and late payment charges. An application and eligibility declaration is required for service under this Special Condition. Eligible customers shall be billed on this Special Condition commencing no later than one billing period after receipt and approval of the customer's application by SCE. Customers may be rebilled for periods in which they do not meet the eligibility requirements for the CARE Discount. Customers receiving service under the CARE Discount Special Condition of this Schedule are not eligible to take service under this Special Condition.

(Continued)

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Schedule TOU-D
TIME-OF-USE
DOMESTIC
(Continued)

Sheet 18

SPECIAL CONDITIONS (Continued)

6. Change of Rate Schedule: At any time, a Customer on this Schedule may elect to leave his/her Option (e.g., Option 4-9 PM, Option 5-8 PM, Option PRIME, Option A, Option B) and elect to either: (1) switch to another Option of this Schedule for which they are eligible, or (2) transfer from this Schedule to another applicable residential rate schedule. The elected rate change will become effective on the next regularly scheduled meter read date following the Customer's notice to SCE. Unless the Customer was placed on an Option by SCE (i.e., defaulted), the Customer shall not be allowed to make an additional change in rate until 12 months of service has been provided under the elected rate, unless otherwise specified in that rate schedule. (T) | (T)(N) (T) | (T)

7. California Alternate Rates for Energy (CARE) Discount: Customers who meet the definition of a CARE Household, as defined in Schedule D-CARE, may qualify for a 28.7 percent discount off of their electric bill prior to the application of the Public Utilities Commission Reimbursement Fee (PUCRF) and any applicable user fees, taxes, and late payment charges. Eligible CARE Customers are required to pay the PUCRF and any applicable user fees, taxes, and late payment charges in full. In addition, eligible CARE Customers are exempt from paying the CARE Surcharge of $0.00517 per kWh and the Department of Water Resources Bond Charge of $0.00549 per kWh. The 28.7 percent discount in addition to these exemptions result in an average effective CARE Discount of 32.5 percent. An application and eligibility declaration is required for service under this Special Condition. Eligible Customers shall have the CARE Discount applied to this Schedule commencing no later than one billing period after receipt and approval of the Customer's application by SCE. Customers may be rebilled for periods in which they do not meet the eligibility requirements for the CARE Discount. Customers receiving service under the Family Electric Rate Assistance (FERA) Discount Special Condition of this Schedule are not eligible to take service under this Special Condition. (T) (I) (I) (I) (T) (T)

8. Family Electric Rate Assistance Discount: Customers who meet the definition of a FERA household, as defined in Schedule D-FERA, may qualify for an 18 percent discount off of their bill prior to the application of any applicable taxes and late payment charges. An application and eligibility declaration is required for service under this Special Condition. Eligible Customers shall be billed on this Special Condition commencing no later than one billing period after receipt and approval of the Customer's application by SCE. Customers may be rebilled for periods in which they do not meet the eligibility requirements for the CARE Discount. Customers receiving service under the CARE Discount Special Condition of this Schedule are not eligible to take service under this Special Condition. (T) (T) (T)

(Continued)

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