BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

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OPENING BRIEF
OF THE SOLAR ENERGY INDUSTRIES ASSOCIATION

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Pursuant to the April 5, 2022, E-Mail Ruling of the Assigned Administrative Law Judge, the Solar Energy Industries Association ("SEIA") submits its Opening Brief in the above captioned proceeding.

I. INTRODUCTION

This proceeding affords the California Public Utilities Commission ("Commission") another opportunity to employ rate design as a means to alleviate the state's tight supply of electricity during peak periods. Providing customers with accurate price signals has been recognized by the Commission as a means to induce customers to conform their energy usage patterns to ways that are beneficial to the grid. The Commission should not overlook any reasonable opportunity to adopt rate designs that will further this goal.

In this regard, SEIA advanced two proposals in this proceeding which are designed to effect beneficial usage of the grid. Both proposals were not adopted in the filed settlements. The Commission should remedy this result and as part of its decision addressing Phase 2 of Southern California Edison Company's ("SCE") 2020 General Rate Case approve (1) an increased differential between the peak and off-peak rates included in SCE's default residential time-of-use ("TOU") rates, and (2) an Option S (storage) rate design to be available as an option for SCE's commercial and industrial customers. The former will incent residential customers to reduce

their usage during the time of the day when electricity is most expensive and there is the most demand on the system, and the latter will provide a strong incentive for customers to operate their onsite storage to reduce their demand on the system during the peak period.

II. THE ON-PEAK TO OFF-PEAK DIFFERENCES IN SCE'S DEFAULT TOU RATES SHOULD BE INCREASED

Differentiating rates between time of use periods is a powerful tool in the Commission's toolbox to incent customer behavior in a manner which is beneficial to not only the customer's overall cost of electricity, but the reliability of the grid as well. TOU rates designed to more accurately reflect the utility's marginal costs during the applicable period will send the necessary price signal to the customer to reduce usage during the time of the day when electricity is most expensive and there is the most demand on the system – i.e., the on-peak period – and shift that usage to periods of the day when the cost of the electricity is less expensive and the demand on the system is reduced – i.e., the off-peak period. TOU rate differentials that do not adequately capture the cost differences between the periods send an insufficient price signal to incent this behavior. Such failure will only serve to exacerbate the state's current tight supply/demand conditions, especially during the summer months. Unfortunately, this is the condition that exists with respect to SCE's default residential rates – the peak-to-off-peak TOU rate differentials are far below differences in marginal costs during the critical summer period. This differential must be modified.

The record in this proceeding shows that the differentials between summer on-peak and off-peak rates in SCE's residential default TOU rates are well below SCE's marginal costs. As illustrated in Table 1 of Exhibit SEIA-01, SCE's proposed summer on-peak / off-peak differential is $0.151 per kWh while the differential in its scaled marginal costs between those two periods is $0.487 per kwh. In other words, the rate differential between on and off-peak

periods reflects less than one-third of the marginal cost differential. This is an inaccurate and inadequate price signal that should be remedied over time to afford residential customers the opportunity to adjust first to TOU rates and then to the increasing accuracy of the price signal.

Accordingly in its testimony, SEIA proposed that beginning in March 2023,[1] SCE should increase the summer on-to-off peak rate differential to the extent necessary to close 15% of the difference between the current rates and its fully scaled marginal costs.[2] This will result in a summer on-peak / off-peak differential of $0.202 per kWh.[3] Even with this increase, SCE's summer on-peak to off-peak differences would still be well below marginal costs. However, it will commence a progression towards more accurate price signals, consistent with the Commission's stated intent:

> Although reflection of cost-causation may be muted when new TOU rates are initially being introduced, over time each rate design should be able to reflect the cost to serve enrolled customers with increasing accuracy.[4]

A gradual increase in the peak-to-off-peak differentials for Pacific Gas and Electric Company's ("PG&E") default residential TOU rate was recently approved by the Commission as part of a settlement in PG&E's last GRC Phase 2 proceeding.[5] The Commission should follow suit with respect to SCE's default residential TOU rates.

III. OPTION S RATES SHOULD BE ADOPTED FOR SCE'S COMMERCIAL AND INDUSTRIAL CUSTOMER CLASS

For well over a decade the Commission has undertaken a series of steps to incent the

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1 March 2023 will be a year after SCE completes the transition to default TOU rates. This interval will give customers time to adjust to TOU rates before making changes to the rate structure

2 Exhibit SEIA-01, p. 22, lines 25-27.

3 *Id.,* p .23, Table 1.

4 Decision 17-01-006, p. 40.

5 Decision 21-11-016, pp. 106-108.

installation of customer-side storage technology.[6] This proceeding affords the Commission another opportunity, consistent with statutory goals of the Self Generation Incentive Program (SGIP),[7] and its Energy Storage procurement Framework[8] to advance the development of energy storage resources in California through the adoption of a rate which is designed to incent installation for SCE's large commercial and industrial ("C&I") customers. The Commission has previously adopted such a rate for Pacific Gas and Electric Company ("PG&E"), finding that by providing a strong incentive for customers to operate their onsite storage to reduce their demand on the system during the peak period, the rate "will assist customer-sited energy storage systems to produce ratepayer benefits by avoiding marginal utility costs and reducing GHG emissions."[9] The adoption of an Option S rate for SCE's C&I customers is not breaking new ground. It is merely the application of the Commission's well-established policy in this area to SCE.

A. Applicable Background

This proceeding is not the first time that the matter of the availability of an Option S rate design for SCE's C&I customers has been at issue. In SCE's previous GRC, SEIA advocated for the application of the Commission policy to use rate design to incent storage adoption by

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[6] In December 2010, in response to AB 2514, the Commission instituted rulemaking R.10-12-007 as it viewed "the enactment of AB 2514 as an important opportunity for this Commission to continue its rational implementation of advanced sustainable energy technologies and the integration of intermittent resources in our electricity grid." R. 10-12-007, p.2. Specifically, the Commission viewed energy storage technologies as "providing an effective means for addressing the challenges of relying upon intermittent and off-peak renewable generation" as well as providing "California economic and environmental benefits." R. 10-12-007, p.4.

[7] The statutory goals for SGIP are increased deployment of energy storage systems, reduced GHG emissions, peak demand reduction, improved electric system reliability and efficiency, and reduced ratepayer costs (Public Utilities Code Section 379.6(a)(1)).

[8] In D.13-10-040, the Commission adopted the Energy Storage Procurement Framework and Design Program, authorizing a total energy storage procurement target of 1,325 megawatts (MW). The Commission defined energy storage systems to include a mix of ownership models, including customer sided storage. D.13-10-040, Finding of Fact 21.

[9] D. 18-08-013, p.107.

proposing such an Option S rate. Specifically, SEIA proposed the adoption of an Option S rate that would be identical to SCE's Option E rate with the exception that the maximum demand charge for distribution costs would be converted to a daily peak demand charge, applicable during SCE's on- and mid-peak periods and designed to recover the same class revenues as the existing monthly demand charge. A settlement was ultimately reached in that proceeding which obligated SCE to study whether the adoption of SCE's Option E rates would provide an adequate incentive for customers to adopt the use of on-site storage. Specifically, the settlement stated:

> SCE shall file an RDW application no later than Q4 2019 that includes the consideration of storage-specific rates that incorporate the conversion of distribution costs from a monthly maximum demand charge to *a daily peak demand charge*. SCE is not obligated to propose or support such a design in its application and may consider alternate rate structures.[10]

SCE purportedly complied with this directive by constructing an Option S rate for customers on its TOU-GS-3 and TOU-8-SEC rate schedules. The rate was constructed by converting the non-coincident monthly demand charges in these rates to non-coincident daily demand charge rates. SCE then performed bill comparisons of these Option S rates and regular Option E rates, using approximately 80 existing storage accounts for the TOU-GS-3 class and 20 storage accounts for the TOU-8-SEC class.[11] The study showed that the modeled Option S daily demand rate provides similar bills for storage customers as the already-available Option E rate. This led SCE to conclude that a new daily demand charge rate is not necessary at this time.[12] However, SCE's manner of conducting the study was erroneous, as is the conclusion it has

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[10] *See Motion of Southern California Edison Company and Settling Parties for Adoption of Medium and Large Power Rate Group Rate Design Settlement Agreement*, Appendix A, p. A-26. This settlement was approved by Decision 18-11-07.

[11] Exhibit SEIA-01, p. 27, lines 2-6.

[12] *Id.,* p. 27, lines 6-9.

drawn therefrom. SEIA's testimony in this proceeding supports the adoption of Option S storage rates for C&I customers on SCE's TOU-GS-2, TOU-GS-3, and TOU-8 rate schedules.[13]

B. SCE's Study is Flawed

As referenced above, the settlement in A. 17-06-030 specifies that the daily demand charge included in the Option S rate will be a daily *peak*, or coincident, demand charge applicable only during the on-peak period. SCE's study, however, used a non-coincident daily demand charge. The use of a non-coincident daily demand charge is inconsistent with the Option S proposal that SEIA advanced in A. 17-06-030 and does not reflect the intent of the settlement approved by the Commission in that proceeding. Moreover it does not reflect the Option S rate design approved by the Commission for PG&E.[14]

SCE defends its error by asserting that SEIA's interpretation of the settlement reflects a "flawed understanding of cost causation principles."[15] Specifically, SCE asserts that it "appropriately converted the Grid related costs of the base rate (Option D), which are recovered as a monthly non-coincident demand charge, into a daily non-coincident demand charge."[16] The underlying premise of SCE's argument, however, appears to be that it does not agree with the manner in which the Option S rate is designed. Thus, in their analysis SCE used another design. Specifically, SCE states:

> SEIA's proposed Option S inappropriately converts the vast majority of distribution design demand cost recovery into time-coincident energy and demand

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[13] Option S would be available to customers on those rate schedules who install on-site eligible storage with a discharge capacity that is at least 10 percent of the customer's peak demand in kilowatts over the last 12 months. *See* Exhibit SEIA-01, p. 29, line 25, to p.30, line 1.

[14] See D. 18-08-013, p. 108.

[15] Exhibit SCE-08, p. 4, footnote 7.

[16] *Id.*

charges. This results in an overly restrictive design that inappropriately applies the wrong cost components to the daily demand rate component.[17]

While SCE certainly has the right to argue this position in this proceeding, the fact that it disagrees with the manner in which the Commission directed it to do the study did not give SCE the authority to ignore the Commission's dictate. Indeed, because SCE's study used a non-coincident daily demand charge instead of a coincident peak daily demand charge, it failed to capture the impact of one of the central design features of Option S rates – the conversion of a non-coincident distribution demand charge to a coincident peak daily demand charge.

C. Option S Incentivizes Optimal Operation of On-Site Storage

The optimal operation of storage is charging the storage in off-peak hours, then discharging the storage to minimize demand in the 4:00 p.m. to 9:00 p.m. on-peak or mid peak hours. An Option S rate shifts the costs collected through the non-coincident demand charge (which applies to the maximum 15-minute load at any time in the monthly billing period) to a daily demand charge that applies to the maximum 15-minute load during the 4:00 p.m. to 9:00 p.m. on-peak or mid-peak period.[18] This provides a stronger incentive for the customer to operate the storage to reduce on- or mid-peak demand, rather than using the storage to reduce non-coincident demand that can occur in off-peak hours.[19] Option S also encourages the storage customer to discharge the storage to level on- and mid-peak demand. Finally, the daily demand charge in Option S reduces the risks for customers compared to the use of a monthly demand charge. Under the latter, if the customer incurred a significant 15-minute demand on one day, it loses any incentive to reduce its demand below this level for the rest of the billing period, and the

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17 *Id.,* p. 6, lines 5-8.

18 Exhibit SEIA-01, p. 28, lines 4-7.

19 *Id*., p. 28, lines 7-9.

customer may simply not run the storage unit for the rest of the month - providing no benefit to the grid. [20]

SCE appears not to dispute the benefits of Option S, but rather its primary argument is that Option S is not necessary because the same benefits are afforded through Option E. Thus, SCE argues that "similar to a daily demand charge, Option E incentivizes efficient storage cycling that maximizes grid benefit through price signals associated with time-variant energy charges"[21] and that these same time variant energy charges "serve to incentivize efficient storage operation on a daily basis."[22] Specifically, SCE argues that "converting a significant amount of capacity cost recovery into energy charges [as is done in Option E] substantially reduces customer risk and provides a daily incentive to cycle storage every day to reduce on- and mid-peak energy charges"[23] While SCE's argument is not inaccurate, the reality is that Option S adds to this energy price incentive by providing a daily incentive to reduce the daily demand charge portion of the rate.

D. Option S Would Not Undermine Rate Design Principles Achieved Through Option E

SCE asserts that Option S "would undermine the Rate Design Principles achieved through Option E."[24] Specifically, SCE argues that "the architecture of any DER rate should strike the appropriate balance between optimizing DER performance and adhering to cost causation principles while managing customer bill impacts" and that "Option E, as a DER rate, strikes this balance through a design that enables 60% recovery of design demand costs in time

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20 *Id*., p. 29, lines 1-5.

21 Exhibit, SCE-08, p. 4 lines 7-9.

22 *Id*., p. p.5, lines 3-4.

23 *Id.,* p. 5, lines 6-8.

24 *Id.,* p. 5, line 9.

varying energy charges (Peak related costs), 10% recovery in non-time varying energy charges (Grid related costs), and 30% recovery in non-coincident demand charges (Grid related costs),"[25] while Option S fails to effect such balance. There is nothing about the design of Option S that undermines the Commission's rate design principles or undermines the balance which SCE attempts to achieve for DER rates.

As referenced above, SCE believes that a DER rate should balance performance optimization, cost causation, and bill impact management. SCE concedes that Option S and Option E are similar with respect to customer bills and grid benefits.[26] Moreover, the record of this proceeding shows that Option S provides superior incentives for performance optimization, by focusing the customer's incentives on operating its storage to reduce on-peak demand daily. This will result in a greater assurance that the storage will provide grid benefits. Thus, the only element that may be missing from Option S in order for it to achieve the requisite "balance" is adherence to cost causation. In this regard, SCE asserts that Option S "inappropriately converts the vast majority of distribution design demand cost recovery into time-coincident energy and demand charges" with the result being "an overly restrictive design that inappropriately applies the wrong cost components to the daily demand rate component."[27] But SCE' argument is wrong.

First SCE ignores that the Commission ordered PG&E to do exactly what SCE is now categorizing as "inappropriate" – convert non-coincident demand charges into daily on-peak demand charges – in the design of the PG&E Option S rate. This indicates that the Commission

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[25] *Id.*, p. 5, lines 13-16.

[26] *Id,* p. 6, lines 2-3.

[27] *Id*., p.

believed that the benefits of Option S – in terms of superior performance optimization and grid benefits – outweighed any possible departure from cost causation that resulted from this conversion. The Commission should make the same judgement here. Second, converting non-coincident demand charges to on- and mid-peak demand charges is inaccurate and contrary to cost causation only to the extent that the applicable customers exhibit individual peak demands that are both (1) outside of the on- and mid-peak periods and (2) substantially higher than their on- and mid-peak demands. SCE has not shown the extent to which this is true, and many commercial customers will have demands in the on- and mid-peak periods that approach or exceed their off-peak demands. In short, the significant potential benefits of Option S far outweigh any departure from strict cost causation.

SCE also asserts that, given the similarities between Option E and Option S rates, the rate design principle of "rate simplification" weighs against the approval of Option S. This assertion is baseless and, in fact, runs counter to explicit Commission directives. First, it is unclear to which of the Commission's rate design principles SCE is referring. SCE provides no citation and there is no stated principle of "rate simplification." Second, the Commission has made clear that it expects utilities to offer a menu of TOU rate options within the different customer classes.[28] Commercial and industrial customers are sophisticated users of electricity and will be able to discern whether Option E or Option S best meets their operational needs. "Rate simplification" is not necessary in this circumstance.

E. The Adoption of an Option S for PG&E is Directly Relevant to this Proceeding

SCE argues that the Commission's adoption of an Option S rate for PG&E's commercial

[28] D.17-01-006 at 8 ("a menu of TOU rate options should be developed in utility-specific rate design proceedings and should provide rate choices addressing different customer profiles and needs.").

and industrial is not germane to whether the Commission should adopt such a rate for SCE; that any comparison to PG&E is "apples and oranges."[29] In short, SCE argues that when the Commission adopted Option S for PG&E it was an add on to PG&E's Options R rate, but SCE no longer has an Option R rate. Rather it has an Option E rate that "was intended to be a replacement of, and refinement of, Option R rates"[30] But SCE's argument is irrelevant.

When the Commission adopted Option S for PG&E none of PG&E's existing rates had a daily demand change – the key element of a storage rate. Similarly, none of SCE's currently existing commercial and industrial rate options, including Option E, has a daily demand charge - they all rely on a monthly demand charge. In other words, PG&E was in the exact position in which SCE currently rests. The Commission's adoption of a storage rate for PG&E's commercial and industrial customers is directly on point, and relevant precedent for the Commission's adoption of such a rate for SCE.

F. SCE's Arguments for Delay are Baseless

SCE notes that as part of its authorization of PG&E's Option S rate, the Commission recognized the importance of studying the experience with such rates to "determine if they optimize the behaviors of customer-sited energy storage systems."[31] PG&E was thus ordered to conduct a study of Option S, to be submitted when it files its next rate design application after January 1, 2021, "to determine the impact of Option S rates on energy storage performance and any potential cost-shift that result from that performance."[32] Given this, SCE asserts that the Commission should not proceed with adoption of Option S for SCE until evaluation of the

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29 Exhibit SCE-08, p. 7.

30 *Id.*

31 *See* Exhibit SCE-08, p. 8 lines 13-16, *citing* D.18-08-013, p. 112.

32 D.18-08-013, p. 112.

results of the PG&E study.[33] There is no basis for such delay.

First, as noted in SEIA's testimony, the study performed by SCE shows that bills for storage customers under Option S will be similar to bills under Option E. Given this, the impact of the new option on SCE's revenue recovery (and thus potential cost shift) should not be a concern to other ratepayers in the class.[34] Second, the results of a study performed on customers in PG&E's service territory should not be predetermined to be applicable to customers in SCE's service territory. If the Commission believes it necessary to determine whether the approval of an Option S for SCE's system results in optimizing the behavior of customer-sited energy storage systems in SCE's service territory, it can direct SCE to perform such a study of its own Option S customers. Finally, it should be noted that it is unclear when PG&E will file its next rate design application. Currently it is not scheduled to file its next GRC Phase 2 application until September 30, 2024,[35] and whether PG&E will determine to file a rate design window application in the intervening years is an open question. Thus, what SCE is actually proposing is a lengthy, unwarranted delay prior to the consideration of an Option S for its commercial and industrial customers.

IV. CONCLUSION

For the reasons stated above the Commission should direct SCE to:

- Increase the summer on-to-off peak rate differential in its default residential TOU rates to the extent necessary to close 15% of the difference between the current rates and its fully scaled marginal costs, with such change to be implemented in March 2023; and

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[33] Exhibit SCE-08, p. 8, lines 20-22.

[34] Exhibit SEIA-01 p. 29, lines 17-19.

[35] *See* August 25, 2021, Letter from Executive Director, Rachel Peterson granting Request to "Defer Filing Phase II of Pacific Gas and Electric Company' 2023 General Rate Case."

- Offer to its eligible commercial and industrial customers an Option S Rate which has a daily demand charge that applies to the maximum 15-minute load during the 4:00 p.m. to 9:00 p.m. on-peak or mid-peak period.

Respectfully submitted the 11th day of May 2022 at San Francisco, California

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