Docket	:	A.24-06-014 et al
Exhibit Number	:	CA-01
Commissioner	:	Alice Reynolds
Admin. Law Judge	:	Brandon T. Gerstle
Public Advocates		
Project Managers	:	Otto Nichols
		Lauren Schenck
Public Advocates		Christopher Hogan
Witnesses		Otto Nichols
		Lauren Schenck

PUBLIC ADVOCATES OFFICE

CALIFORNIA PUBLIC UTILITIES COMMISSION

TESTIMONY
IN RESPONSE TO
APPLICATION OF SOUTHERN CALIFORNIA EDISON
COMPANY FOR APPROVAL OF LARGE POWER
DYNAMIC PRICING RATE

Application (A.) 24-06-014, A.24-12-008

Policy and Rate Design

San Francisco, California
January 16, 2026

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2	**(Witnesses:** Christopher Hogan, Otto Nichols, and Lauren Schenck)

1   **CHAPTER 1 – POLICY & RATE DESIGN**

2   **(Witnesses:** Christopher Hogan, Otto Nichols, and Lauren Schenck)

3   **I.**   **SUMMARY AND RECOMMENDATIONS**

4   This chapter provides the Public Advocates Office at the California Public

5 Utilities Commission's (Cal Advocates) testimony on Southern California Edison

6 Company's (SCE) proposed policy and rate design for its consolidated Large Power

7 Dynamic Pricing Rate (LPDR Proposal) – Application (A.) 24-06-014 – and Marginal

8 Cost-Based Dynamic Pricing Rates in Compliance with Decision 22-10-049 and Load

9 Management Standards (LMS-Compliant Proposed Rate) – A. 24-12-008 – Applications

10 (Consolidated Application). In its LPDR Application, SCE proposes making the LPDR

11 available to eligible customers on Schedule TOU-8.[1] SCE proposes a program cap of

12 500 megawatts (MW) with an initial contract rate period of 10 years.[2] The LPDR would

13 include a subscription component, dynamic rate components, and other rate components.[3]

14 SCE also clarifies that the LPDR Proposal was meant to be a precursor to the LMS-

15 Compliant Proposed Rate and is not meant to be LMS-compliant.[4]

16   SCE also proposes adoption of an LMS-Compliant[5] Proposed Rate that would be

17 available to all rate classes with no participation caps.[6] Customers would be required to

18 be on a Time of Use (TOU) rate using current pricing intervals in order to participate.[7]

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[1] Application (A.) 24-06-014, *Testimony of Southern California Edison Company (U-338-E) in Support of Application for Approval of Large Power Dynamic Pricing Rate*, Exhibit 1 – Opening Testimony (SCE-01A), filed June 26, 2024, at 5, lines 5-6.

[2] SCE-01A, at 5, lines 14-16, and 6, lines 7-8.

[3] SCE-01A, at 7, lines 2-3.

[4] A. 24-06-014, et al., *Testimony of Southern California Edison Company (U-338-E) in Support of (1) Application for Approval of Large Power Dynamic Pricing Rate and (2) Application for Approval of Marginal Cost-Based Dynamic Pricing Rates in Compliance with Decision 22-10-022 and Load Management Standards*, Exhibit 4 – Supplemental Testimony Pursuant to Decision 25-080-049 (SCE-04), filed October 28, 2025, at 2, lines 12-17.

[5] SCE-04, at 2, lines 12-14, and at 3, lines 25-26.

[6] SCE-04, at 3, line 1.

[7] A.24-12-008, *Testimony of Southern California Edison Company (U-338-E) in Support of Application for Approval of Marginal Cost-Based Dynamic Pricing Rates in Compliance with Decision 22-10-021 and Load Management Standards*, Exhibit 1 – Pricing (SCE-01B), filed December 20, 2024, at 10, lines 24-25.

1   The LMS-Compliant Proposed Rate would also include a subscription component,

2   dynamic rate components, and other rate components,[8] with various modifications

3   (discussed below).

4   This chapter addresses several areas for both the LPDR Proposal and the LMS-

5   Compliant Proposed Rate including: general policy, dual participation rules, marginal

6   energy costs, generation capacity marginal costs, transmission capacity costs, distribution

7   peak capacity costs, and the subscription rate component.

8   The Commission should reject SCE's LPDR Proposal and instead only consider a

9   modified LMS-Compliant Proposed Rate to provide SCE's customers with a dynamic

10   rate option. However, SCE has failed to provide sufficient information on the costs for

11   the LMS-Compliant Proposed Rate for the Commission to determine whether the

12   proposal will result in just and reasonable rates (as discussed below and in Chapter 2).

13   Therefore, the Commission should require SCE to submit supplemental testimony

14   outlining pertinent cost details, such as budget categories and estimates, how

15   implementation and administration costs will be recorded, how costs will be recovered,

16   and who costs will be recovered from.

17   If SCE provides sufficient details regarding costs and budgets, the Commission

18   should adopt Cal Advocates' recommendations for the LMS-Compliant Proposed Rate as

19   follows:

20   ● Require SCE to track under- and over-collections for each rate
21   component to determine whether the rate parameters are set
22   appropriately.

23   ● Require SCE to file proposed rate changes via advice letters or
24   proceedings.

25   ○ These proposals should include information on any changes
26   to pricing values, methods, and any other pertinent details
27   supporting changes.

28   ● Adopt SCE's Dual Participation rules.

29   ● Adopt SCE's Marginal Energy Cost (MEC) component proposal.

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[8] SCE-04, at 4, lines 4-8 and 13-17.

1   ● Adopt SCE's Marginal Generation Capacity Cost (MGCC) component
2   proposal.

3   ● Adopt a transmission rate component which recovers 45% of the
4   transmission revenue requirement through dynamic rates and the
5   remaining 55% through grid charges which reflects the results of SCE's
6   most objective analysis.

7   ● Require SCE to develop distinct rules for setting subscription
8   percentages[9] for each individual participant and annually evaluate
9   whether modifications to the subscription setting process should be
10   made to mitigate revenue under-collections.

11   ● Adopt SCE's system-level dynamic distribution peak capacity pricing
12   function and delay phase in of location-based distribution pricing.

13   ● Reject SCE's duplicative and unnecessary LPDR Proposal and instead
14   allow for expanded flexibility when setting the subscription percentage
15   for SCE's customers taking sub-transmission service for the LMS-
16   Compliant Proposed Rate.

17 **II. GENERAL POLICY ISSUES (Lauren Schenck)**

18   As discussed in the following sections and Chapter 2, the novel nature of dynamic

19 rates creates significant risk for both participants and non-participants. The LMS-

20 Compliant Proposed Rate will comprise a subscription component, dynamic rate

21 components, and other rate components.[10] These three component categories largely

22 mirror the rate design adopted by the Commission for SCE's initial Dynamic Rate Pilot

23 (DRP)[11] and the subsequently adopted Expanded DRP.[12] However, there has not been

24 conclusive evidence demonstrating the success of the initial DRP to date.[13] The LMS-

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[9] The subscription percentage is the percent of electricity usage an enrolled participant is charged according to their OAT.

[10] SCE-04, at 4, lines 4-8 and lines 13-17.

[11] Decision (D.) 21-12-015 adopted SCE's initial Dynamic Rate Pilot to run from 2022 to 2024.

[12] D.24-01-032, *Decision to Expand System Reliability Pilots of Pacific Gas and Electric Company and Southern California Edison Company*, issued January 26, 2024. Implemented by SCE in AL 5273-E.

[13] Christensen Associates, *Final Evaluation of Southern California Edison's Dynamic Rate Pilot* (SCE DRP Final Evaluation), published February 28, 2025, at 66. *See* Exhibit CA-03. "The analysis did not find evidence of consistent and/or large changes in hourly energy usage due to [Automation Service Provider]/customer price response."

1   Compliant Proposed Rate has a similar, but not identical, rate design to the initial and

2   Expanded DRPs.[14]

3   The final evaluation from the initial phase of the DRPs documents several issues.[15]

4   For instance, SCE's initial DRP's rate design has provided little to no evidence that

5   customers changed their usage in response to the highest prices.[16] Additionally, the DRP

6   evaluators found that automation had more of an impact on changes in customer load

7   than switching from TOU to dynamic rates.[17] Finally, evaluators also found that the

8   subscription component is the single most important variable in the revenue collected and

9   showed that it had the potential for gaming.[18]

10   As further explained below in Section D, the largest change in this consolidated

11   application is the inclusion of a new dynamic transmission rate component. SCE's

12   proposed transmission rate component introduces new uncertainty regarding revenue

13   collection and revenue neutrality.[19] To date, there is not a dynamic rate authorized for

14   any of the investor-owned utilities (IOUs) that includes a dynamic retail transmission

15   component. Furthermore, SCE's proposed transmission rate may overestimate the

16   amount of revenue that should be recovered through dynamic transmission rate for SCE's

17   LPDR Proposal and LMS-Compliant Proposed Rate, because both rate proposals share

18   the same underlying transmission rate calculation method. As discussed in Section D.2

19   and D.3 below, overestimation of transmission revenue recovery may result in artificially

20   lower bills for participants and cost shifts to non-participants. To mitigate the risk of

21   under- and over-collections, the Commission should require SCE to conduct annual

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[14] SCE Advice Letter 5273-E, effective May 10, 2024.

[15] SCE DRP Final Evaluation, at 7-8. *See* Exhibit CA-03.

[16] SCE DRP Final Evaluation, at 34. *See* Exhibit CA-03.

[17] Christensen Associates, *Final Evaluation of Valley Clean Energy's Agricultural Dynamic Rate Pilot* (VCE DRP Final Evaluation), published April 17, 2025, at 33 and 35-37. *See* Exhibit CA-03.

[18] SCE DRP Final Evaluation, at 8. *See* Exhibit CA-03.

[19] In this case, if a rate is not revenue neutral and collects more or less than the approved revenue requirement it could shift costs to other customer classes.

1   evaluations that include tracking the revenue neutrality of each rate component to

2   determine whether the parameters and inputs for this complex rate are set appropriately.

3   Given the findings from the initial DRPs, the Commission should require SCE to

4   submit cost and budget proposals that will allow parties to evaluate the reasonableness of

5   the LMS-Compliant Proposed Rate, before proceeding with this application, as discussed

6   further in Chapter 2. If the Commission adopts the LMS-Compliant Proposed Rate, it

7   should require SCE to file advice letters, with proposals for changes to pricing values and

8   rate design methodologies, as learnings arise from the Expanded DRP evaluations.[20]

9   Additionally, if approved, the Commission should require SCE to conduct annual

10   evaluations of its LMS-Compliant Proposed Rate and propose rate changes via advice

11   letters and formal proceedings as lessons are learned. The Commission should also adopt

12   SCE's Dual Participation Rules which integrate previous lessons from other dual-

13   participating demand response program customers.

14   Since Cal Advocates recommends rejection of the LPDR Proposal, it does not

15   include similar recommendations for the LPDR Proposal. However, if the Commission

16   were to move forward with the LPDR Proposal, it has similar deficiencies as the LMS-

17   Compliant Proposed Rate and should face similar requirements as outlined above.

18   **A.   The Commission should reject SCE's Large Power Dynamic**
19   **Rate Proposal.**

20   The lack of details pertaining to budgets, cost recovery, implementation, and

21   overall evaluation of costs compared to benefits that persists throughout SCE's

22   Consolidated Application is exacerbated by the fact that SCE is proposing **two** new

23   dynamic rates without including these necessary details for either. As discussed further

24   in Chapter 2, the Commission must have the necessary information on what a rate or

25   program costs in order to determine whether it is just and reasonable, and to ensure that it

26   adheres to the Commission's Rate Design and Demand Flexibility Design Principles.

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[20] D.24-01-032, Ordering Paragraph (OP) 37(d), "The final evaluation reports for the expanded pilots shall be due on March 1, 2028[.]"

1   Instead of proceeding with two new dynamic rate proposals, the Commission should

2   reject SCE's LPDR Proposal.

3   Since SCE would also offer its LMS-Compliant Proposed Rate to the same

4   customers that SCE's proposes to be eligible for the LPDR Proposal, there is insufficient

5   evidence to demonstrate that an additional LPDR rate option is necessary or beneficial.

6   As further discussed in Section III, the only difference in proposed rate design between

7   the two proposals is in the subscription element and inclusion of a contractual period. An

8   inappropriately set subscription level can be an additional revenue under-collection

9   source. For instance, as discussed in sections F.1 and F.2, a disproportionately large

10   subscription level coupled with dynamic rates that are not perfectly revenue neutral may

11   result in lower average rates and bills for an enrolled participant compared to remaining

12   on their OAT. This revenue under-collection would be shifted and recovered from all

13   other ratepayers through higher rates and bills. The largely duplicative nature of the

14   LPDR Proposal and the risks of compounding cost shifts to other customers over a

15   25-year span,[21] combined with the fact that SCE has not provided sufficient cost and

16   implementation information for either proposal, would put ratepayers at risk of paying for

17   unnecessary costs. Therefore, to mitigate this risk, the Commission should reject SCE's

18   LPDR Proposal.

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[21] SCE's LMS-Compliant Proposed Rate does not provide a set contract length; however, SCE's LPDR Proposal provides participants with the opportunity to remain on their rate for up to 25 years. SCE-01A, at 6, lines 7-8.

B. **The Commission should require SCE to file supplemental testimony outlining budgets, cost recovery details, and an evaluation of estimated costs and benefits for the LMS-Compliant Proposed Rate.**

SCE fails to provide sufficient data and analysis to support adoption of its proposed rates. Accordingly, the Commission should require SCE to submit the necessary information in this proceeding to allow sufficient review and scrutiny. As discussed further in Chapter 2, SCE fails to provide any information on budgets and other details pertaining to costs and cost recovery. This information must be submitted within this proceeding, and not in advice letters as SCE proposes, so parties have enough time to issue discovery and adequately evaluate SCE's proposals.[22]

Additionally, the Commission should require SCE to provide an evaluation of estimated costs and benefits on its proposed new rate before the Commission approves SCE's LMS-Compliant Proposed Rate. California's Public Utilities Code Section 380(h)(7) requires investments into new and existing demand response resources be cost-effective.[23] Dynamic rates are a type of load-modifying demand response program in that they are designed to encourage customers to change their energy consumption through changing price signals that reflect the needs of the grid.[24] The Commission should therefore require SCE to submit estimates of costs and benefits to determine whether to approve the LMS-Compliant Proposed Rate.

C. **The Commission should require SCE to conduct rigorous evaluations.**

Despite SCE's proposal to approve the LMS-Compliant Proposed Rate as a permanent rate, SCE does not propose to include evaluations. Evaluation should be

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[22] A.24-12-008, *Testimony of Southern California Edison Company (U-338-E) in Support of Application for Approval of Marginal Cost-Based Dynamic Pricing Rates in Compliance with Decision 22-10-021 and Load Management Standards*, Exhibit 2 – Systems and Processes (SCE-02), filed December 20, 2024, at 24, lines 1-9.

[23] Pub. Util. Code, § 380(h)(7), "Ensuring that investments are made in new and existing demand response resources that are cost effective and help to achieve electric grid reliability and the state's goals for reducing emissions of greenhouse gases."

[24] D.17-12-003, *Decision Adopting Demand Response Activities and Budgets for 2018 Through 2022*, issued December 21, 2017, at 3.

1   required for all new rates, especially one with such a novel design.[25] At a minimum, SCE

2   should propose a measurement and evaluation plan that includes an annual evaluation.

3   The evaluation metrics should evaluate the costs and benefits of the rate, the efficiency of

4   SCE's marketing, education and outreach and the rate as a whole. See Cal Advocates'

5   Chapter 2 for additional discussion.

6   **D.   The Commission should require SCE to submit proposed rate**
7   **changes in advice letters or proceedings to provide tracking and**
8   **oversight.**

9   SCE's LMS-Compliant Proposed Rate also does not include a reasonable plan for

10 updating rate components. SCE proposes to update the subscription loads[26] and dynamic

11 price functions periodically.[27] However, SCE's current proposal does not explain how

12 the updates will be made or how frequently. SCE's proposal requests the Commission

13 grant it the authority to make changes to the rate design without requirements for

14 documentation or stakeholder input.[28]

15   SCE's proposal risks repeating problems identified within the initial DRP. The

16 final evaluation of the initial DRP explains how changes to the price models were not

17 well documented and as a result the record for several price changes is incomplete.[29]

18 Lack of documentation raises questions about the day-to-day operations of

19 implementation and customer billing and impacts evaluation of the rate design. As

20 another example, in Pacific Gas and Electric Company's DRP in partnership with Valley

21 Clean Energy (referred to as VCE DRP), several rate design changes have been made

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[25] D.24-01-032, Attachment C, *Measurement and Evaluation Plans for the Expanded Pilots*. *See* Appendix 1B, Attachment 1.1, for an example of the M&E plan the Commission required for the Expanded DRPs.

[26] SCE-01B, at 16, lines 6-7.

[27] SCE-01B, at 22, lines 23-25.

[28] SCE-01A), at 30, lines 20-24.

[29] SCE DRP Final Evaluation, at 62. *See* Exhibit CA-03.

1 without proper documentation.[30] These changes led to a disjointed record, as well as

2 additional costs[31] and issues with the evaluation.[32]

3   The Commission should require SCE to file detailed proposals for changes to rate

4 components via Tier 2 advice letters, with information on changes to pricing values and

5 changes to methodologies. Significant rate design changes, such as modifying the

6 subscription rate design or the implicit price functions, without documentation will

7 impact evaluation of the rate and increase customer confusion. If the rate design is

8 frequently changed, accurate evaluation of the rate may be impossible since the rate

9 design was not kept reasonably consistent. If changes are not properly documented and

10 reviewed, customers may also be confused about how the rate is actually designed and

11 how to understand their bills. As documented by the VCE DRP, clear hourly pricing is

12 necessary to achieve customer understanding.[33] To prevent negatively impacting

13 evaluation of the rate and negatively impacting customer understanding, the Commission

14 should require SCE to submit proposals for any changes to the LMS-Compliant Proposed

15 Rate in advice letters or a General Rate Case (GRC).

16   As discussed in the subsequent transmission and distribution rate component

17 sections, the Commission should require SCE's updates to each rate component to be

18 well documented in advice letters or through a formal proceeding. For the transmission

19 peak capacity component, periodic evaluations should occur, via advice letter, to track

20 under- and over-collections to ensure the proposed peak-grid split does not shift costs or

21 unreasonably increase bills for participants. For the distribution peak capacity

22 component, the Commission should require SCE to implement location-based

23 distribution pricing via a rate-setting proceeding in order to allow stakeholder input.

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[30] Protest of the Public Advocates Office to Valley Clean Energy Alliance Advice Letter 17-E, submitted April 19, 2024.

[31] Rulemaking (R.) 22-07-005, *Valley Clean Energy Reply Comments on the Track B Staff Proposal to Expand Existing Pilots*, filed October 9, 2023, at 8.

[32] VCE DRP Final Evaluation, at 4. *See* Exhibit CA-03.

[33] R.22-07-005, *Working Group 1 Presentation by Valley Clean Energy and Polaris Energy Services*, April 14, 2023.

1   Rate-setting proceedings, such as a General Rate Case, typically address rate

2   design since the process requires a significant amount of oversight to ensure that each

3   component is properly developed as a part of the whole rate that is designed to recover

4   each class's allocation of the revenue requirement. The highly granular nature of

5   location-based pricing makes it even more important to scrutinize so that the distribution

6   peak capacity component is properly designed to recover the appropriate revenue.

7   **E.   The Commission should adopt SCE's proposed dual**
8   **   participation rules.**

9   SCE's proposal for dual participation rules aligns with other supply-side demand

10   response programs,[34] and should therefore be adopted by the Commission. Specifically,

11   SCE proposes to allow customers that participate in day-of demand response programs[35]

12   to also participate in its LMS-Compliant Proposed Rate and disallow participation by

13   customers in day-ahead demand response programs.[36] This will allow for the proposed

14   day-ahead dynamic rate to compliment other *day-of* demand response programs, and

15   prevent an overlap of day-ahead price signals which may confuse customers and conflate

16   evaluations and incentives. Furthermore, to prevent double compensation to dual

17   participants, SCE proposes to adjust the subscription level so that no dynamic rate credits

18   are provided during the day-of program events.[37] SCE's proposed dual participation

19   rules allow for complimentary emergency and planned demand response incentives while

20   also negating the risk of double compensation, and should therefore be adopted by the

21   Commission.

22   **III.   RATE DESIGN**

23   This Section includes discussion on the various rate design component proposals

24   that SCE included in its Consolidated Application. SCE's proposals for its Marginal

25   Energy Cost (MEC), Marginal Generation Capacity Cost (MGCC), Transmission

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[34] SCE-01B, at 46, lines 10-12.

[35] SCE-01B, at 46, lines 4-7.

[36] SCE-01B, at 48, lines 12-14.

[37] SCE-01B, at 47, lines 11-15.

1   Capacity Cost, Distribution Capacity Cost, and Subscription components in its Proposed

2   LPDR are largely mirrored across the Proposed LPDR and the LMS-Compliant Proposed

3   Rate. As further discussed in Section E, SCE's Subscription component is the only rate

4   design component that SCE proposes be different between the two rates.

5   **A.   Marginal Energy Costs (Lauren Schenck)**

6   SCE's Marginal Energy Costs (MEC) proposal is reasonable and should be

7   adopted by the Commission. SCE proposes to use the California Independent System

8   Operator's (CAISO) Day-Ahead Default Load Aggregating Point (DLAP) price within

9   SCE's territory for its marginal energy cost (MEC).[38] Using the DLAP price offers

10   distinct benefits over using more granular Locational Marginal Prices (LMP). These

11   benefits include simplified energy cost calculations and mitigation of price volatility.

12   DLAP pricing reflects the aggregated cost of energy within a defined utility service area,

13   providing a single price point for each utility.[39] This simplifies the billing process for

14   load-serving entities, as they can calculate their total energy procurement costs based on a

15   single rate rather than navigating the complexities of location-specific LMPs that can

16   vary significantly across pricing nodes.[40]

17   Since DLAP prices are averaged across a broader area, they tend to be less volatile

18   than LMPs, which are highly localized and can be subject to rapid price fluctuations due

19   to transmission constraints or congestion. The reduced volatility of DLAP pricing makes

20   it easier for utilities to plan for and manage costs, ultimately leading to less volatile prices

21   for ratepayers. Additionally, a system-wide MEC can provide more effective and

22   equitably designed dynamic rates to communicate to ratepayers. This is because

23   customers cannot plan their housing around circuit congestion and cannot control the

24   usage of their neighbors to avoid congestion, making LMPs less impartial than the

25   grouped DLAP option. Rather than varying dynamic rates based on complex LMP

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[38] SCE-04, at 7, lines 2-3.

[39] Decision Adopting Net Surplus Compensation Rate Pursuant to Assembly Bill 920 and the Public Utility Regulatory Policies Act of 1978 (D.11-06-016), filed June 9, 2011, at 27.

[40] Pricing nodes are specific locations on the transmission system where wholesale electricity prices are calculated and published.

1   signals, utilities can use the DLAP rate to provide a clear, consistent, more equitable

2   price signal to ratepayers that can encourage them to adjust usage in response to system-

3   wide conditions.

4   SCE's proposal to use CAISO DLAP values with adjustments is also reasonable

5   because DLAP values include the energy value of losses up to the pricing nodes on the

6   transmission system.[41] SCE supplements the DLAP loss values by including the energy

7   value of losses from the pricing nodes to the customer delivery point in its MEC

8   calculation.[42] By including these loss values in its MEC calculation, SCE is ensuring that

9   the true cost of delivering energy is reflected. If these losses are not factored into MECs,

10   the calculated price underestimates the actual resources required to meet demand. When

11   losses are included, these costs more accurately reflect the strain on the grid, especially

12   during high-demand periods when losses tend to increase.

13   SCE's proposed MECs, based on DLAP values and adjusted energy loss values,

14   are therefore reasonable and should be adopted for the LMS-Compliant Proposed Rate.

15   **B.   Marginal Generation Capacity Costs (Lauren Schenck)**

16   SCE's proposed Peak and Ramp functions are reasonable and should be adopted.

17   SCE's proposes a sigmoidal dynamic price function for marginal generation capacity

18   costs (MGCC).[43] The sigmoidal function is reasonable as it offers a smooth price

19   gradation while accurately reflecting system stress. MGCCs are the costs associated with

20   procuring an additional 1kW of generation capacity to meet a 1kW increase in peak

21   demand. They are used to allocate costs to customer classes based on their contribution

22   to peak demand, including the ramp up to the peak.[44]

23   In this application, SCE is proposing to use a sigmoidal function for both its peak

24   and ramp MGCCs.[45] SCE proposes to use the peak MGCC of $69/kW-Yr, adopted in its

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[41] A.24-06-014 DR-008, question 1.c.i. *See* Appendix 1B, Attachment 1.2.

[42] A.24-06-014 DR-008, question 1.c.ii. *See* Appendix 1B, Attachment 1.2.

[43] SCE-01B, at 24, line 3-5.

[44] The ramp of the MGCC accounts for the additional resources that need to be utilized incrementally in order to meet peak demand

[45] SCE-01B, at 23, line 12-16.

1   2021 General Rate Case Phase 2 (GRC2), as the price cap for its proposed sigmoidal

2   function.[46] Furthermore, SCE proposes a peak MGCC floor of $1.38/kW-Yr (or 2% of

3   the cap) in order to mitigate the intensity of peak prices by ensuring that enough revenue

4   is collected during the lowest price hours to offset the high price during peak hours.[47]

5   SCE states that it intends to update the price floor annually to include further

6   refinements.[48] For its ramp MGCC, SCE also proposes to use the ramp MGCC value

7   adopted in its 2021 GRC, a $40/kW-Yr cap,[49] with no floor.[50]

8   The S-shape of sigmoidal functions is reasonable to allocate MGCCs because it

9   reflects how MGCCs escalate as generation capacity utilization increases. Sigmoidal

10   pricing functions offer a shift in price that mirrors system constraints as demand

11   approaches system capacity. This, in turn, can make customer bills more predictable and

12   less volatile since it prevents infinite price spikes with its cap and has the added benefit of

13   price floors to further mitigate how high the price cap is set. As seen in Figure 1-1,

14   below, sigmoidal pricing functions encapsulate lower incremental cost changes at low or

15   moderate demand levels and sharper increases as capacity is constrained before flattening

16   at higher levels.

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[46] SCE-01B, at 24, line 3-5. A price cap is the maximum price that is allowed to be charged, whereas the floor is the minimum price, per kilowatt-hour.
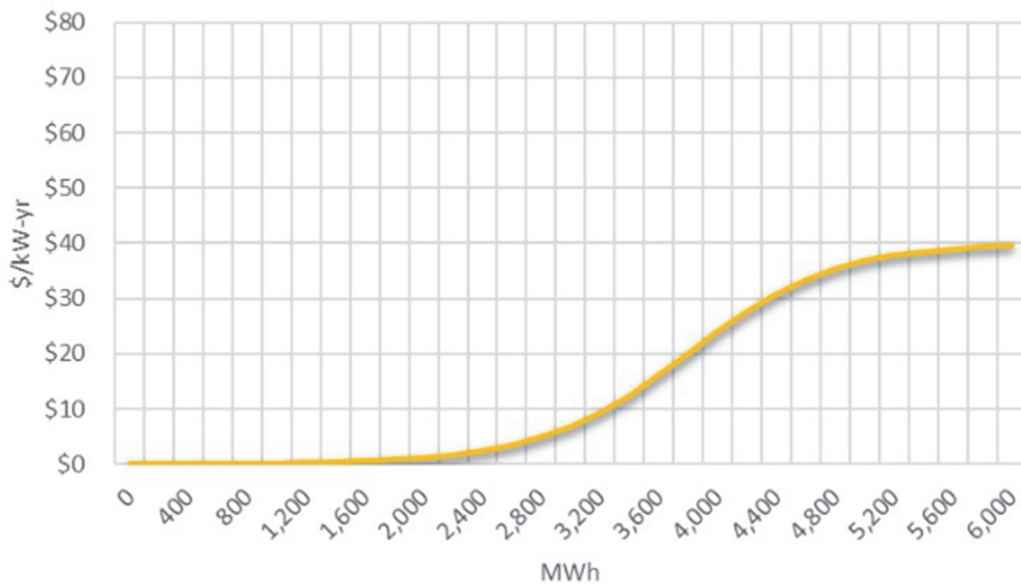
[47] SCE-01B, at 24, line 8-13.

[48] SCE-01B, at 24, line 12-13.

[49] SCE-01B, at 26, lines 9-11.

[50] SCE-01B, at 26, lines 9-11.

1   **Figure 1- 1: SCE's Generation Capacity Ramp Function[51]**

2

3   This structure allows the MGCC price signal to increase in response to grid stress,

4   which may encourage greater price responsiveness during peak periods. This function

5   also allows a reasonable cap for the highest cost hours, as shown by the price leveling out

6   around $40/kW-yr for SCE's proposed ramp MGCC function in Figure 1-1, above.

7   Furthermore, by aligning prices with real-time capacity constraints, sigmoidal pricing

8   incentivizes customers to reduce usage or shift load away from peak times.

9   **C.   Transmission Peak Capacity (Christopher Hogan)**

10   The Commission should adopt SCE's transmission peak capacity proposal with

11   the modification that the dynamic transmission rate component recover 45% of the

12   transmission revenue requirement instead of 50%.[52] SCE's LMS-Compliant Proposed

13   Rate and LPDR Proposal include a transmission rate that is divided into two components,

14   a dynamic component and a grid charge component. SCE proposes to recover the

15   transmission costs related to meeting peak demand through a dynamic transmission rate

16   component that charges participants through a time-varying volumetric rate (kWh).[53]

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[51] SCE-01A, at 16, Figure II-4.

[52] Transmission grid charges would recover the remaining 55% of the transmission revenue requirement.

[53] *See* SCE's Dynamic Pricing Model workpapers, tab "Transmission," column "UDC Trans Price Peak

1   SCE's proposed dynamic transmission rate is computed using a sigmoidal function,

2   which is designed to recover 50% of the allocated transmission revenue,[54] because SCE

3   asserts that peak transmission load contributes 50% to annual transmission load.[55] SCE

4   proposes to collect the other half of the revenue requirement through a transmission grid

5   charge.[56] SCE further proposes to recover the grid charge through a flat volumetric rate

6   for Domestic (residential customers) and TOU-GS-1 (small commercial customers). For

7   all other rate groups, SCE proposes to recover the grid charge through a facilities related

8   demand charge (FRD) based on the participant's monthly maximum demand. Instead of

9   SCE's proposed 50%/50% design,[57] the Commission should set the dynamic transmission

10   rate component to recover 45% of the allocated transmission revenue and the

11   transmission grid charges to recover the remaining 55% of the allocated transmission

12   revenue, as discussed in greater detail below.

13   The objective aspects of rate design stem from the availability of customer usage

14   and electricity cost data to inform and support choices in future rate design elements.

15   However, perfect predictions of future electricity costs and future customer usage on a

16   prospective rate are impossible. This imperfect prediction ability makes it challenging to

17   determine whether a rate will be revenue neutral.[58] Hypothetically, if a rate is not

18   revenue neutral and collects more or less than the approved revenue requirement, a cost-

19   shift[59] to other customer classes and rate schedules would occur.

$/MW-h," cells L28:G8787.

[54] SCE-01B, at 29, line 1-2.

[55] SCE-04, at 14, line 15-17.

[56] SCE-04, at 15, line 17-18 and SCE-01A, at 17, line 2-5.

[57] SCE's 50%/50% design proposal sets the dynamic transmission rate to recover 50% of the allocated transmission revenue, and the transmission grid charges recover the remaining 50% of the allocated transmission revenues.

[58] Revenue neutral refers to collecting the class level revenue requirement.

[59] Cost-shift is when the difference between the adopted revenue requirement and the revenue recovered by the rate is recovered from other rate schedules and/or customer classes. Hypothetically, if SCE's LPDR Proposal recovers more revenue than the approved revenue requirement, this reduces the revenue required to be recovered from other schedules and/or classes through lower rates. Conversely, if SCE's LPDR Proposal recovers less revenue than the approved revenue requirement, rates for other rate schedules and/or customer classes increase in order to recover the uncollected portion of the revenue requirement.

1   SCE's dynamic transmission component is a balance of data and assumptions and

2   has the potential to shift revenue responsibility to other customer classes due to the

3   complexity of this novel rate design and the subjective assumptions required to design

4   this rate. Therefore, if the Commission adopts SCE's LMS-Compliant Proposed Rate or

5   the LPDR Proposal, the Commission should also require SCE to submit detailed annual

6   evaluations that include tracking under- and over-collections for the transmission rate

7   component to determine whether the parameters and inputs for this complex rate are set

8   appropriately. Additionally, SCE should submit any proposed changes via advice letters

9   or formal proceedings to allow tracking of rate changes.

10   **1.   SCE's Proposed 50%/50% Transmission Peak-Grid Split**
11   **is Subjective and May Overstate the Amount of Revenue**
12   **Necessary for Recovery through Dynamic Transmission**
13   **Rates.**

14   SCE's proposal to recover 50% of the transmission revenue requirement through a

15   dynamic rate is primarily based on a mix of subjective results SCE uses to determine the

16   percentage of transmission costs incurred to meet transmission demand during the peak

17   hours. SCE supports recovering 50% of the transmission revenue requirement through a

18   dynamic rate based on its estimate that approximately 50% of the transmission system

19   capacity is needed to serve peak load capacity for each month of the year.[60] However, a

20   45% peak capacity allocation aligns with the results of SCE's most objective analysis that

21   peak transmission load contributes to 45% of the annual transmission load[61] and

22   mitigates the chance of overestimating the peak capacity allocation, as described in

23   further detail below. If the Commission adopts the LMS-Compliant Proposed Rate or the

24   LPDR Proposal, it should require SCE to evaluate the appropriateness of the transmission

25   rate parameters and whether the rate is revenue neutral to inform proposed changes via

26   advice letter or through more formal proceedings.

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[60] A.24-06-014 DR-004, question 4. *See* Attachment 1.3.

[61] SCE-04, at 15, line 11-12.

1   SCE's initial analysis[62] estimated the contribution of transmission load to peak and

2   base load by calculating what SCE calls an "implied capacity factor." The implied

3   capacity factor determines the amount of transmission system capacity used to serve base

4   load, which can be used in the non-dynamic portion of the rate design. SCE's implied

5   capacity factor was estimated by averaging the top 10 coincident peak loads per month

6   divided by the annual coincident peak, and finally averaging the results over the last three

7   years.[63] SCE first determined that roughly 50% of transmission system capacity was

8   used to serve base load using a subjective analysis of the implied capacity factor graph

9   (See Figure 1-2 below).[64] Based on its analysis, SCE assigned the rounded minimum

10   value of 50% of transmission capacity as a proxy for base load.[65] Second, SCE

11   determined the remaining 50% of transmission system capacity was used to serve peak

12   load.[66] Therefore, SCE set the dynamic transmission rate component to recover 50% of

13   the transmission revenue requirement related to serving peak load.

14

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[62] SCE's initial analysis to determine the transmission peak capacity allocation of 50% was included in its LPDR Proposal testimony. *See* SCE-01A, at 18, line 1-11. SCE provided two additional analyses to determine the transmission peak capacity allocation in SCE-04, at 15, line 1 – 18.

[63] SCE-01A, at 17, line 3-6.

[64] In reference to Figure I-2: SCE's 12-CP Implied Capacity Factor graph, SCE states "Based on these calculations, the figure shows that roughly 50% of this imputed coincident peak capacity can be approximated as a "base load" capacity in that it is [the] amount that regularly serves customer load in each month of the year." A. 24-06-014 DR-004, question 4. *See* Attachment 1.3.

[65] In reference to how SCE determined 50% of transmission system capacity should be assigned to base load, SCE stated "The amount of "base load" deemed capacity is informed by the shape of the monthly capacity values included in the attached workbook in response to Q01.a, where 50% is the closest round percentage approximation of the minimum amount of imputed peak capacity during the year." A.24-06-014 DR-009, question 2.a.i. *See* Attachment 1.4.

[66] A.24-06-014 DR-004, question 4. *See* Attachment 1.3.

1

Figure 1-2: SCE's 12-CP Implied Capacity Factor[67]

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3
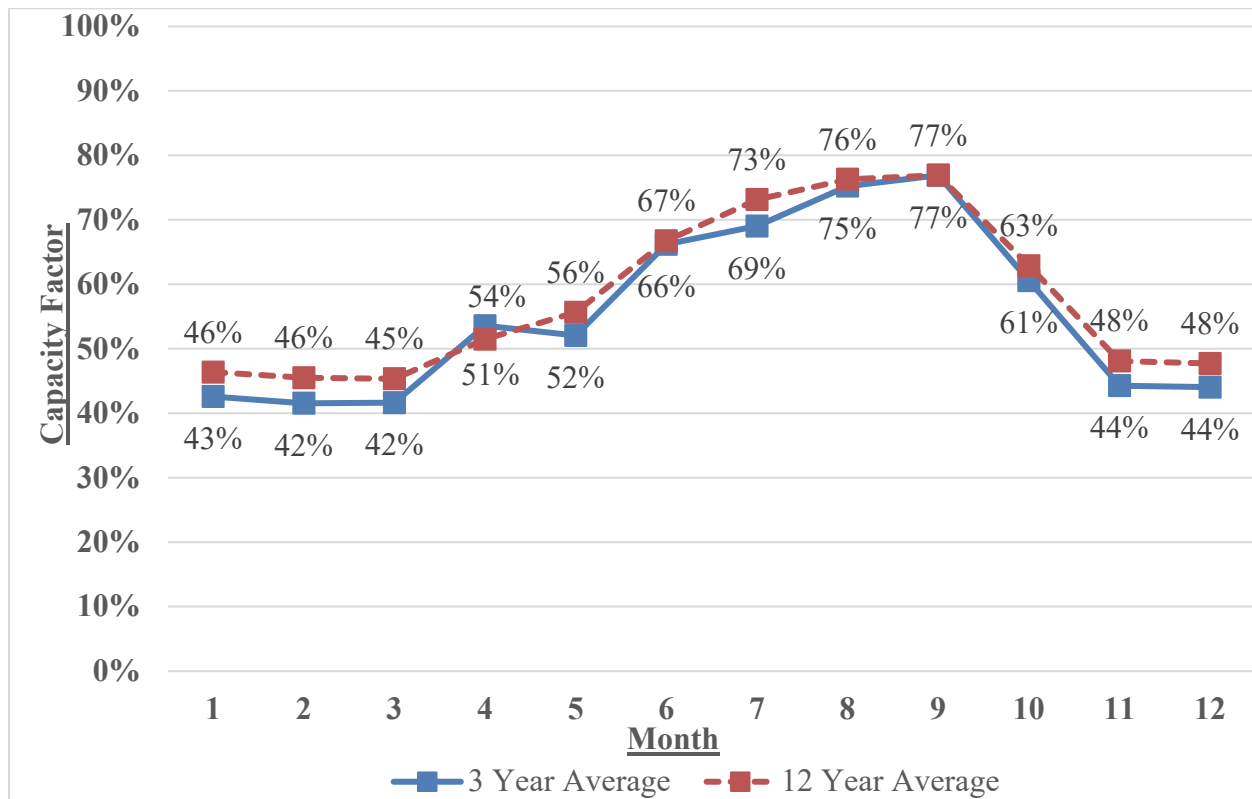
4   However, SCE could have also interpreted result of its analysis of the last three

5   years of coincident peak load to infer that the dynamic related portion of the transmission

6   revenue requirement is approximately 44% or 46%, and not the 50% that SCE includes in

7   its proposal.[68] For example, the base load percentage could be estimated by averaging

8   the capacity factor percentages for each of the 12 months in the 3-Year Average data

9   which equates to 56%.[69] Thus, the contribution of load to the system peak load would be

10 44%,[70] and could also serve as a proxy for the amount of transmission revenue to be

11 recovered from the dynamic transmission rate. Alternatively, the base load percentage

---

1   could be determined as 54%, because it is the maximum monthly capacity factor

2   percentage excluding the months SCE identified as having the largest peak demands.[71]

3   Under this alternative analysis, 46% of the transmission load would contribute to the

4   transmission peak load and should be the amount of revenue recovered under the

5   dynamic transmission rate.[72] These alternative and similarly subjective interpretations of

6   the correct base load percentage exemplifies the need for annual evaluations of the

7   Proposed Rate to determine the reasonableness of the parameters.

8   In SCE's supplemental testimony,[73] SCE supported its 50% peak capacity

9   allocation proposal using the rounded results from two additional analyses. SCE's first

10   additional analysis estimated the contribution of transmission load to the summer peak as

11   the three-year sum of the summer coincident peaks (4-CP) divided by the three-year sum

12   of the annual coincident peaks (12-CP).[74] Dividing the summer coincident peaks by the

13   annual coincident peak is a more objective analysis than SCE's initial, implied capacity

14   factor analysis. This greater objectivity is due to the fact that the average peak

15   transmission demand is the largest during the summer months over both the last three

16   years and twelve years, and thus more of the transmission capacity costs would be

17   required to meet customer demand.[75] This more objective analysis results in 43% of the

18   annual coincident peak capacity attributed to the summer months.[76] SCE then rounds the

19   transmission capacity result to 45% to reflect higher October coincident peaks compared

20   to the other eight winter months.[77] Thus, this analysis would support that 45% of the

21   transmission load is contributed by the peak transmission load, and thus a dynamic

---

[71] SCE identified the summer months (June through September) and October as the months with the largest peak loads. SCE-04, at 15, line 4 - 9.

[72] 46% Contribution of load to peak load = (1-54%).

[73] SCE-04, at 15, line 1-17.

[74] SCE-04, Table III-2: Summary of Coincident Peak Load Attributes, at 15, and SCE-04, at 15, line 9 - 11.

[75] SCE identified the summer months (June through September) and October as the months with the largest peak loads. SCE-04, at 15, line 4 - 9.

[76] SCE-04, Table III-2: Summary of Coincident Peak Load Attributes, at 15.

[77] SCE-04, at 15, line 11-12.

1   transmission rate should recover 45% of the transmission revenue requirement to account

2   for the peak transmission capacity costs. The transmission grid charges (non-dynamic)

3   would recover the remaining 55% of the transmission revenue requirement.

4   For the final analysis, SCE plotted the 36 monthly coincident peaks ordered by

5   magnitude, using a load duration curve (See Figure 1-3 below). SCE then identified an

6   inflection point at the 24th coincident peak in the load duration curve as a proxy estimate

7   for the capacity related portion of load,[78] which SCE states represents a 46% capacity

8   allocation.[79] SCE's testimony does not provide any reasoning to support how an

9   inflection point in its load duration curve graph is reasonable for accurately identifying

10   the contribution of peak or base load to annual load. However, assuming SCE's analysis

11   can be used to inform the contribution of peak or base transmission load to annual load,

12   identification of the inflection point from a data plot relies on more subjectivity than the

13   previous method of dividing the summer coincident peak results by the annual coincident

14   peak results which resulted in a 43% capacity contribution. For example, an alternative

15   reviewer of the data plot may determine the inflection point is actually at the 23rd, 25th or

16   26th month depending on their perspective which may result in a higher or lower peak

17   capacity allocation.

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[78] SCE-04, Figure III-1: CP Load Duration Curve for Years 2020-2022, at 16.

[79] SCE-04, at 15, line 13-15.

1   **Figure 1-3: SCE's CP Load Duration Curve for Years 2020-2022[80]**

2
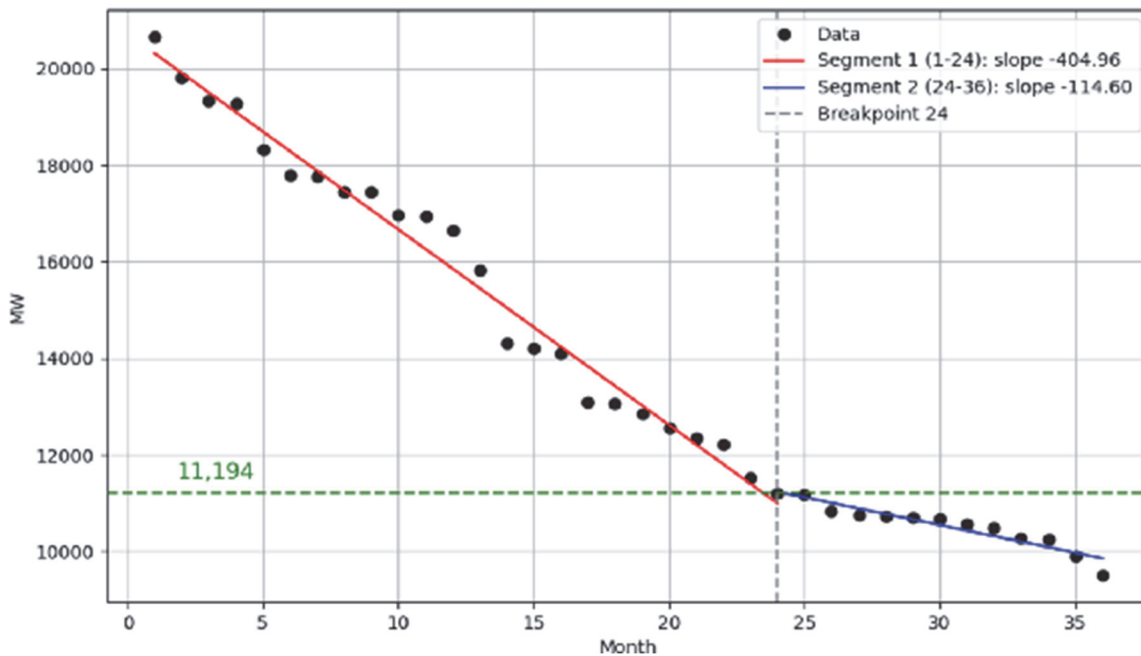
3   The Commission should adopt a 45% transmission peak capacity allocation based

4   on the results of SCE's analyses dividing the summer coincident peaks by the annual

5   coincident peaks and rounding to the nearest 5th percentile. This accounts for the higher

6   October peak load and is the most objective method that can be readily repeated going

7   forward. Relying on SCE's two subjective methods of analysis for identifying the

8   transmission peak capacity allocation introduces unnecessary subjectivity into the

9   determination. In this particular instance, the results from all three analyses are very

10   similar, but if the results vary more dramatically in the future, SCE does not propose a

11   method of analysis to rely on more heavily. Given the potential for ambiguous results in

12   the future, the Commission should adopt SCE's proposed method of dividing the summer

13   coincident peak results by the annual coincident peak results to determine the

14   transmission capacity allocation in the proceeding, and for future dynamic transmission

15   rate evaluations.

16

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[80] SCE-04, Table III-1: *CP Load Duration Curve for Years 2020-2022*, at 16.

1   **2.**   **Overestimating the Amount of Revenue that Should be**
2   **Recovered through Dynamic Transmission Rates May**
3   **Result in Cost Shifts to Participants and Non-**
4   **Participants.**

5   Discussed in the following sections, overestimating the dynamic transmission rate

6 component may result in two adverse consequences: (1) Artificially larger bills for

7 participants, and (2) Cost-shifts to non-participants. Thus, if the Commission adopts a

8 dynamic transmission rate in this proceeding, the Commission should require future

9 evaluations to determine whether the transmission rate component parameters and

10 assumptions are set appropriately.

11   **3.**   **Overestimation of the Transmission Peak Grid Split May**
12   **Increase Bills for Participants on the Proposed Rate.**

13   Overestimation of the dynamic related peak transmission load contribution may

14 result in increased bills for participants. The hourly dynamic transmission rate

15 participants would pay is calculated based on a sigmoidal price function equation and

16 depends on the percentage of transmission revenue that would be recovered through the

17 dynamic component.[81] A 45% dynamic transmission component would result in a

18 decrease[82] to all hourly dynamic transmission rates participants would pay based on the

19 sigmoidal function compared to SCE's proposal.[83] Under SCE's proposed 50% dynamic

20 transmission component, participating customers that are unable to shift or reduce load

21 out of the highest cost hours would be paying a higher dynamic transmission rate,

22 assuming the 45% is actually a more accurate assignment. For example, there are

23 multiple hours in September when SCE proposes to charge enrolled residential customers

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[81] SCE-04, at 23, line 21-24.

[82] For example, SCE's 50% proposed dynamic transmission component results in a rate of ~$.07454 per MWh for the first hour of January 1 for residential customers (SCE Workpaper "2025.12.10 - Domestic Dynamic Pricing Model Workpaper," tab "Summary," cell Y68). In comparison, Cal Advocates calculated that a dynamic transmission component of 45% results in a rate of ~$.06709 per MWh for the same hour by changing the non-dynamic transmission percentage to 55% (SCE Workpaper "2025.12.10 - Domestic Dynamic Pricing Model Workpaper," tab "General," cell H59). Thus, a 45% dynamic component results in a rate which is 10% less than would result from SCE's 50% dynamic transmission component (-10.00% = [.06709/.07454-1]%).

[83] The lower dynamic rates resulting from the 45% dynamic related transmission component would instead be recovered through an increased non-dynamic transmission grid charge.

1   more than $47 per MWh for the dynamic transmission rate component assuming a 50%

2   dynamic transmission component.[84] However, assuming a 45% dynamic transmission

3   component is more accurate, those customers would pay approximately $4.70 less

4   ($42.30 per MWh), which would potentially result in lower bills depending on their

5   specific contracted subscription agreement.[85]

6   **4.   Overestimation of the Transmission Peak Grid Split May**
7   **Shift Costs to Non-Participating Customer Classes.**

8   Overestimating the contribution of transmission peak capacity costs to the overall

9   transmission revenue requirement and the resulting revenue collected through the

10 dynamic transmission rate component may also result in cost shifts to other rate

11 schedules and customer classes. Overestimation of the dynamic related transmission

12 component inflates the dynamic transmission rates charged to participating customers in

13 all hours. Further, if a customer responds to the inflated price signal, and reduces their

14 load in a more expensive hour, they are reducing their billed amount by approximately

15 11.11%[86] more than the actual dynamic transmission-related value of the electricity they

16 are not using. If multiple customers enrolled on this rate responded to the inflated

17 dynamic rates by reducing their usage during expensive hours through conservation or

18 shifting load to cheaper hours, insufficient revenue will be collected from participating

19 customers. This is because these customers would receive an implicit approximate 11%

20 premium for reducing their dynamic transmission usage which is not recovered from the

21 other proposed rate components. Essentially, overvaluing the dynamic transmission

22 component by approximately 11% on a consistent basis provides enrolled customers who

23 are flexible with their load an inherent subsidy. Because SCE is proposing under- and

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[84] SCE Workpaper "2025.12.10 - Domestic Dynamic Pricing Model Workpaper," tab "Summary," column Y, starting at cell Y68.

[85] Usage for dynamic rate customers outside of the highest cost hours would also be charged more under SCE's proposed 50% dynamic transmission component compared to a 45% component; however, the resulting bill increase is greatly reduced on a dollar per kWh basis.

[86] Using the previous example of comparing rates during the first hour of January 1, SCE's 50% proposed dynamic transmission assignment results in a rate of ~$.07454 per MWh. In comparison, a dynamic transmission assignment of 45% results in a rate of ~$.06709 per MWh for the same hour. Thus, a 50% dynamic component results in a rate which is 11.11% more than would result from a 45% dynamic transmission assignment (11.11% = [.07454/.06709 -1]%).

1   over-collections to be collected from all ratepayers,[87] the under-collections from the

2   LMS-Compliant Proposed Rate and LPDR Proposal may increase the revenue

3   responsibility and rates for all other customers.

4   The Commission should reject SCE's LPDR Proposal, because it provides

5   participants with the opportunity to remain enrolled on this rate for up to 25 years,[88] over

6   which under-collections may compound. Instead of adopting SCE's LPDR Proposal, the

7   Commission should allow non-residential customers with large demands greater

8   flexibility in setting their subscription level on the LMS-Compliant Proposed Rate to

9   mitigate transmission revenue cost shifts to other ratepayers. SCE's large customers

10   receiving sub-transmission service (TOU-8-SUB) have the greatest risk of shifting costs

11   to other ratepayers resulting from SCE's proposal to recover 50% of the transmission

12   revenue requirement through the dynamic rate. For example, using the hypothetical

13   TOU-8-SUB customer from SCE's Workpapers, the average OAT transmission rate they

14   would pay is 1.04 cents per kWh.[89] Now, assume the same customer is on SCE's LMS-

15   Compliant Proposed Rate or LPDR Proposal with a 50% dynamic transmission rate

16   component, and a subscription demand of 2,000 kW (approximately 25% of their average

17   monthly maximum demand). This customer pays an average transmission rate of

18   .89 cents per kWh[90] which is 15% less than on their average OAT rate, despite no change

19   in usage. In other words, this customer would pay less on SCE's LMS-Compliant

20   Proposed Rate or LPDR Proposal without reducing their electricity usage or shifting their

21   usage to cheaper hours of the day. The 15% reduction in transmission revenue generated

22   by the customer would be shifted and recovered from other ratepayers instead of through

23   higher bills. If the hypothetical customer instead enrolled on the LMS-Compliant

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[87] A.24-06-014 DR-004, question 3. *See* Attachment 1.5.

[88] SCE-01A, at 6, lines 7-8.

[89] SCE Workpaper "A2406014 - SCE Dynamic Rates Application Workpaper - Bill Impact Model - 2025 Oct Rates – 20251211," tab "15 min," cell BC51.

[90] -15.037% = (0.8879/1.0447-1) X 100%. Cal Advocates calculated the average transmission rate for the 2,000 kW subscription customer by inserting the 2,000 kW subscription value into SCE's Workpaper A2406014 - SCE Dynamic Rates Application Workpaper - Bill Impact Model - 2025 Oct Rates – 20251211," tab "15 min," cell AD35.

1   Proposed Rate or LPDR Proposal with Cal Advocates' proposed 45% dynamic

2   transmission component, the customer would pay a slightly higher average transmission

3   rate of .97 cents per kWh,[91] which is only an 7.6% reduction from the 1.04 cents per kWh

4   they would pay on their OAT rate.

5   Although the difference between using Cal Advocates' proposed 45% and SCE's

6   proposed 50% dynamic transmission component may seem small in this example, SCE

7   proposes to provide customers with the opportunity to remain on the LPDR Proposal for

8   up to 25 years,[92] and the approximate 7.4% difference[93] would compound each year.

9   Therefore, the Commission should reject SCE's LPDR Proposal and instead allow large

10   customers, such as TOU-8-SUB customers, to enroll in the LMS-Compliant Proposed

11   Rate which does not include a contractual enrollment period and allow these customers

12   more flexibility in setting their subscribed load, as discussed further below.

13   **D.   Distribution Peak Capacity (Otto Nichols)**

14   **1.   SCE's recommendation to start with a system-level
15   distribution dynamic price is reasonable and should be
16   adopted.**

17   SCE recommends starting with system-level distribution dynamic prices and then

18   moving to more specific location-based distribution prices in a second phase. SCE

19   argues that location-based distribution pricing should only be implemented once there is a

20   clearer perspective on whether the significantly more complex structure needed for

21   location-based pricing provides the anticipated benefits to warrant changes.[94] SCE's

22   proposal for location-based distribution pricing would aggregate its 46 A-Banks by seven

---

[91] Cal Advocates recalculated the hourly dynamic transmission rate and transmission FRD, by inserting 55% as the percentage of transmission revenue required by the non-dynamic transmission rate using SCE Workpaper "2025.12.10 - Domestic Dynamic Pricing Model Workpaper," tab "General," cell H69. Cal Advocates used the rate solver to calculate the dynamic and FRD transmission rates assuming a 45% dynamic transmission component and then inserted the results into SCE Workpaper "SCE Workpaper "A2406014 - SCE Dynamic Rates Application Workpaper - Bill Impact Model - 2025 Oct Rates – 20251211."

[92] SCE-01A, at 6, lines 7-8.

[93] ~7.4% difference = 15.0% - 7.6%.

[94] SCE-04 at 37, line 9-12.

1   planning regions and set regional dynamic distribution prices.[95] SCE states that this two-

2   step approach gives customer groups time and experience to learn the necessary systems

3   and processes that enable load response to dynamic rates before being exposed to

4   potentially more volatile dynamic rates.[96] Additionally, SCE states that insight from the

5   Expanded DRP will help streamline design and operational parameters that will only help

6   with the wider adoption of location-based dynamic rates.[97]

7   Starting with system-level distribution pricing while delaying the phase-in of

8   location-based distribution pricing is reasonable and should be adopted. This phase-in

9   approach will allow time to fully assess equity considerations, specifically how location-

10   based distribution pricing correlates with the locations of low-income or disadvantaged

11   communities (DAC) customers. For example, Figures III-10 and III-11 from SCE's

12   supplemental testimony,[98] shown below, illustrate how SCE's proposed location-based

13   distribution dynamic prices for residential customers (i.e. pricing locationally based on

14   the seven planning regions for A-Banks), produces much higher hourly prices than SCE's

15   proposed system average distribution of dynamic prices for residential customers. This

16   disparity is visualized by the range of dynamic prices in Figure III-10 reaching above

17    $600/MWh while the range of dynamic prices in Figure III-11 stays below $300/MWh.

18   A wider range of location-based prices compared to the system average prices could lead

19   to equity concerns for customers.
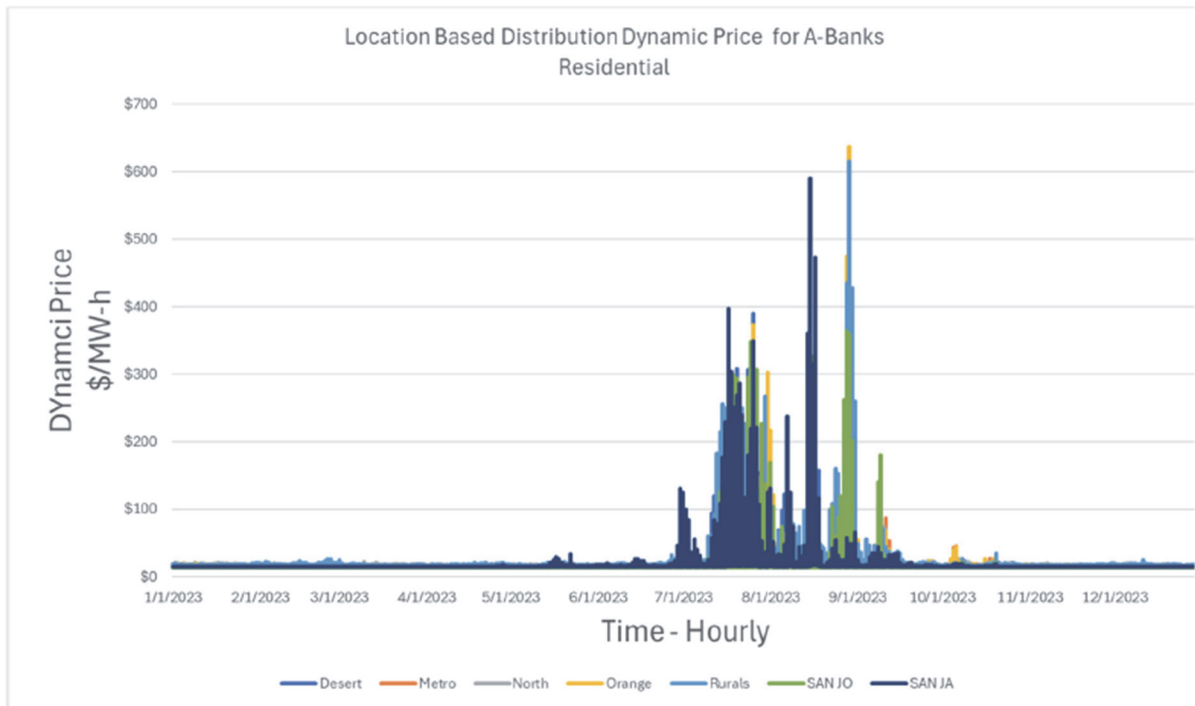
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[95] SCE-04 at 38, line 15-16.

[96] SCE-04 at 37, line 12-14.

[97] SCE-04 at 37, line 14-16.

[98] SCE-04, Figure III-10: Location-Based Distribution Dynamic Price for A-Banks Residential and Figure III-11: System Average Distribution Dynamic Price for A-Banks Residential, at 40.

Figure III-10
Location-Based Distribution Dynamic Price for A-Banks Residential

1

Figure III-11
System Average Distribution Dynamic Price for A-Banks Residential

2
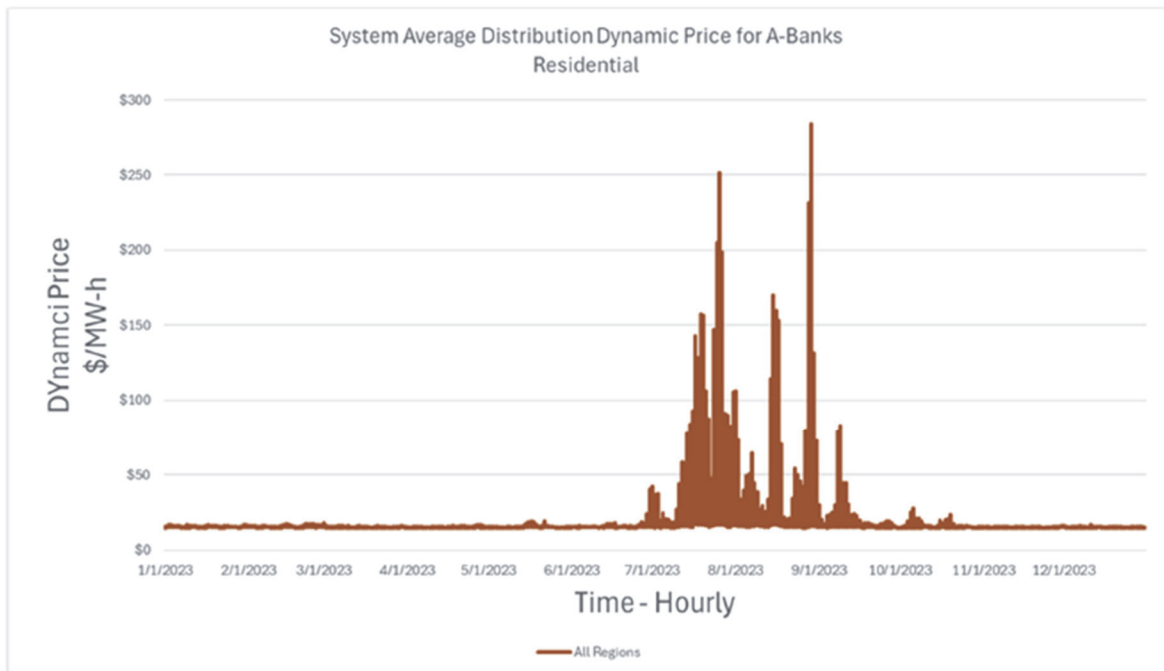
1   Further, SCE's workpaper supporting its proposal shows a wide range of

2 maximum hourly location-based distribution prices across its proposed seven planning

3 regions.[99] As shown in Table 1-1 below, SCE's Orange planning region would see a

4 much higher maximum hourly location-based distribution pricing compared to SCE's

5 North planning region at $578.8 per MWh compared to $299.0 per MWh. This disparity

6 could lead to equity concerns if higher priced regions include a greater share of low-

7 income or DAC customers compared to lower priced regions. SCE should further

8 investigate how regions with higher location-based distribution pricing correlate with

9 low-income or DAC customers before implementing permanent location-based

10 distribution pricing.

11   **Table 1-1: Maximum and Minimum Hourly A-Bank Location-Based**

12   **Distribution Pricing by Region ($/MWh)[100]**

Region	All Regions	Desert	Metro	North	Orange	Rurals	San Ja	San Jo
Max	357.6	353.2	419.4	299.0	578.8	486.4	303.7	491.1
Min	17.12	16.80	17.65	17.39	17.25	16.03	14.58	16.02

13

14 Only after SCE investigates equity considerations further, and the Commission then

15 deems location-based pricing to be equitable, should SCE move forward with considering

16 location-based pricing.[101]

17   Additionally, Cal Advocates agrees with SCE that continuing to gain insights from

18 SCE's Expanded DRP will be critical to better understand location-based pricing before

19 implementing permanently for more customers. As SCE notes in a data request response,

20 the core of SCE's proposal hinges on a "crawl-walk-run" framework, that proposes an

21 initial implementation of dynamic rates with a system-wide distribution dynamic price

---

[99] SCE's Supplemental A-Bank Dynamic Pricing Model Workpaper.

[100] Data pulled from the "ABank" tab of SCE' Supplemental A-Bank Dynamic Pricing Model Workpaper.

[101] Even if location-based distribution pricing is deemed equitable, there has not been evidence to date of the added benefits of more specific location-based distribution dynamic pricing compared to system-level pricing. More consideration of the added benefits would be needed to warrant the cost and resources required to implement such granular pricing.

1 signal, followed by a phased progression toward localized dynamic price signals.[102] A

2 gradual approach is reasonable as it allows for these critical considerations and additional

3 insights.

4   Finally, SCE should address the phase in of location-based distribution pricing in a

5 future proceeding, such as in a General Rate Case Phase 2 Application (GRC2), as

6 opposed to implementing such significant rate design changes more informally through

7 advice letters. This way stakeholders will be able to address concerns through testimony

8 and assure that location-based distribution dynamic pricing is given the appropriate

9 attention it deserves as a new and complex approach to rate design.

10   **E.**   **Subscription Rate Component (Christopher Hogan)**

11   SCE proposes including a subscription component in both its LPDR Proposal and

12 LMS-Compliant Proposed Rate with differences in approach.[103] The subscription

13 component is designed to represent the amount of customer load that is non-flexible.[104]

14 The subscription load billing determinants include facilities related demand (FRD)

15 charges, time related demand (TRD) charges, TOU energy charges, non-TOU energy

16 charges, customer charge, and average demand for base interruptible program (BIP)

17 incentives depending on the customer's OAT.[105] Therefore, a customer's subscription

18 load will be shaped to the customer's usage within TOU periods.[106] The subscription

19 component will be billed according to the otherwise applicable tariff (OAT), shown by

20 the solid line in Figure 1-4 below, and any usage above or below the subscription will be

21 billed according to the dynamic rate.[107] Conceptually, any load consumed above the

22 subscription level is a debit to the customer while any load that is not consumed is a

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[102] Consolidated Dynamic Rates Proceeding (A.24-06-014 et al.) DR 005, question 2, *See* Appendix 1B, Attachment 1.6.

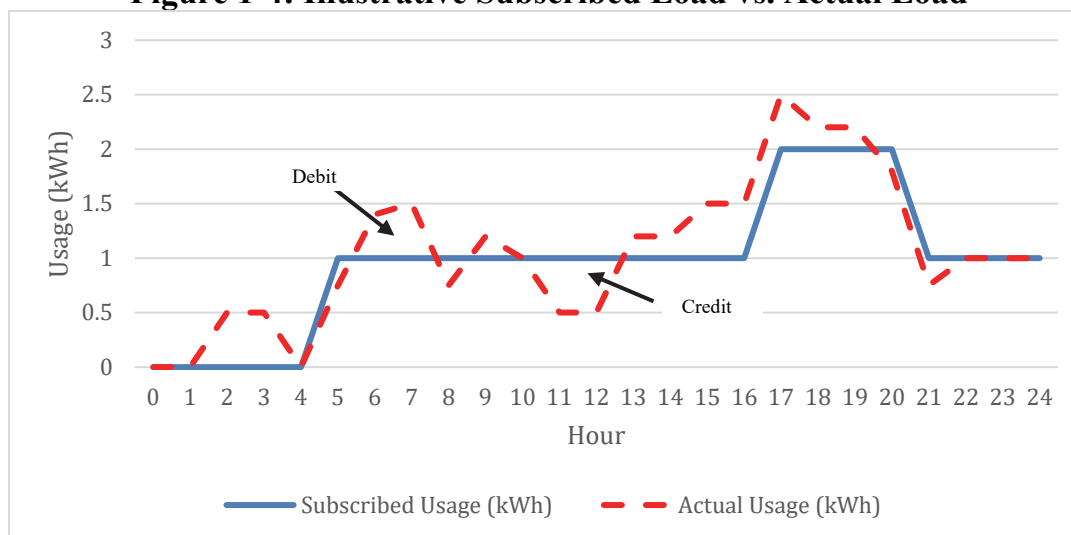[103] SCE-04, at 23, line 19-21.

[104] SCE-01A, at 8, line 5-6.

[105] SCE-01A, at 8 line 16 – 9 line 26.

[106] SCE-01A, at 8, line 6-8. SCE-01B, at 17, line 6-10.

[107] SCE-01A, at 7, line 5-7.

1   credit to the customer.[108] Figure 1-4 below illustrates the concept of debits and credits

2   relative to the subscription load.

3

Figure 1-4: Illustrative Subscribed Load vs. Actual Load

4

5   For SCE's LMS-Compliant Proposed Rate, SCE proposes to set the subscription

6   level based on the customer's historical usage. If the customer has a demand of 500kW

7   or greater, they will have the option to either agree to SCE's calculated subscription

8   values, or can choose a subscription equal to plus or minus 20% of SCE's calculated

9   value.[109] For the LPDR Proposal, SCE explains that the subscription load level will be

10   bilaterally agreed upon by the customer and SCE.[110] SCE also proposes that the

11   subscription load be based on the customer's historical and/or forecasted usage for the

12   subscription year.[111] The subscription component will allow customers to "hedge against

13   potential price fluctuations and customer bill volatility."[112]

14   While the subscription component offers an option for customers to better control

15   and understand their bills, there are revenue under-collection risks associated with

16   misassigning customer's subscribed load which would lead to rate increases for other

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[108] SCE-01A, at 10, line 19-22.

[109] SCE-01B, at 14, line 9-12.

[110] SCE-01A, at 8, line 3-5.

[111] SCE-01A, at 8, line 3-5.

[112] SCE-01A, at 7, line 12-13.

1   customers to collect the additional revenue. The risk of revenue under-collection is

2   higher for SCE's LPDR Proposal, because enrolled customers may remain on the rate for

3   up to 25 years,[113] over which time the revenue under-collections could compound.

4   Because of the risks associated with the subscription component, the Commission should

5   require SCE to annually evaluate the LMS-Compliant Proposed Rate's subscription

6   parameters.

7   Under SCE's proposal, where there are no specific rules, guidelines or criteria for

8   determining a customer's subscription load, a customer could potentially game the rate.

9   The Commission should require SCE to propose specific rules, guidelines and criteria for

10 determining a customer's subscription load to avoid intended consequences like revenue

11 under-collection, as discussed in the following sections. Additionally, the Commission

12 should reject SCE's LPDR Proposal which may result in revenue under-collections over a

13 25-year period. Instead, the Commission should allow SCE's customers taking sub-

14 transmission service (TOU-8-SUB) more flexibility in setting the subscription levels

15 under the LMS-Compliant Proposed Rate, if this rate is adopted in this proceeding.

16 Lastly, to mitigate the potential for revenue under-collections, the Commission should

17 require SCE to calculate the customer demand for the subscription portion of the LMS-

18 Compliant Proposed Rate (or the LPDR Proposal if approved) as the subscription

19 percentage multiplied by the actual customer demand instead of adopting SCE's method.

20 Calculating the subscription bill demand in this manner results in more revenue neutral

21 dynamic rates.

22   **1.   SCE should be required to provide specific rules,**
23   **guidelines and criteria for determining a customer's**
24   **subscription load.**

25   SCE proposes that the subscription load be based on the customer's historical

26 and/or forecasted usage for the subscription year.[114] However, SCE does not provide any

27 details on whether any rules, guidelines or criteria will be used to determine a customer's
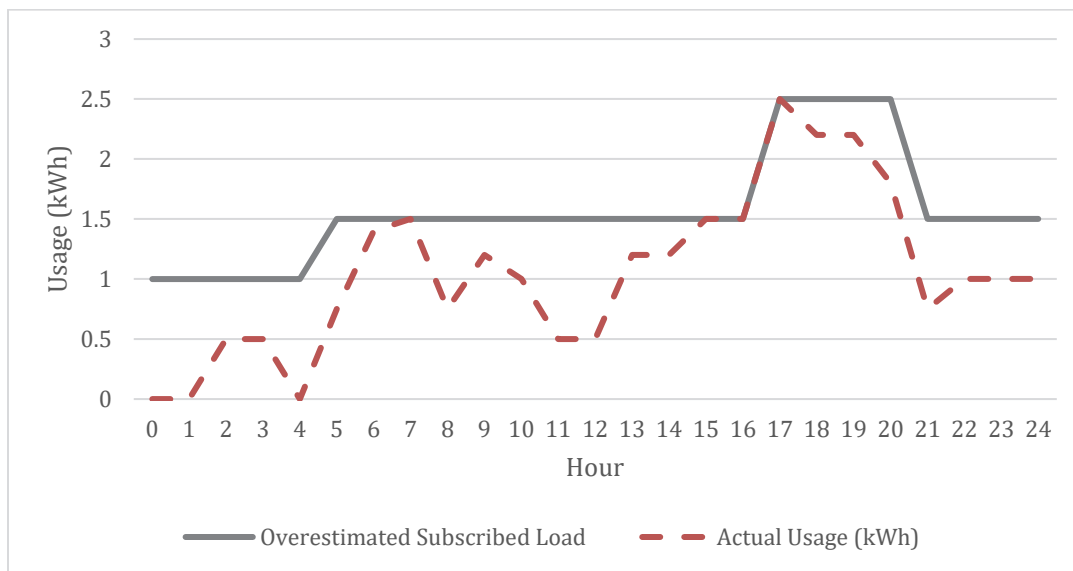
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[113] SCE-01A, at 6, lines 7-8.

[114] SCE-01A, at 8, line 3-5.

1   subscription load. SCE explains that "specific rules, guidelines or criteria for

2   determining a customer's subscription will be informed and developed based on

3   outcomes from this proceeding and will be established as a Retail Rate Tariff based

4   CPUC decision in this Application."[115] But SCE has not put forth any rules, guidelines

5   or criteria for determining a customer's subscription load and therefore parties cannot

6   assess SCE's plan for customers' subscription loads. If SCE's LMS-Compliant Proposed

7   Rate is adopted, the Commission should require SCE to develop specific rules for setting

8   subscription percentages either via advice letter or formally considered in a future

9   proceeding. The development of these rules should prioritize learnings on how to make

10   future dynamic rates revenue neutral and increase participant's ease with shifting load

11   from peak periods to off-peak periods.

12   Development of specific rules, guidelines and criteria for determining a

13   customer's subscription load is critical to avoid customers 'gaming' the rate. The

14   concept of gaming the rate means that a customer can request a subscription load where

15   they benefit indefinitely regardless of change in usage. To illustrate the potential

16   problem, consider a customer who enrolls in the LMS-Compliant Proposed Rate for a

17   rate group where the dynamic rate slightly over collects revenue compared to the OAT

18   rate (~1%), and the customer makes no changes to their demand. Also assume the

19   customer chooses a subscription load that is larger than their typical usage for all hours of

20   the year. Figure 1-5 below shows an illustrative example of the scenario for this

21   customer with an overestimated subscription load.

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[115] A.24-06-014 DR-009, question 3.a.i. *See* Appendix 1B, Attachment 1.4.

1   **Figure 1-5: Illustrative Overestimated Subscription Load vs. Actual Load**

Figure 1-5 chart: Usage (kWh) vs. Hour, with legend "Overestimated Subscribed Load" and "Actual Usage (kWh)"

2

3   This customer with the overestimated subscription load would receive a lower bill

4   compared to their bill on the OAT rate despite no changes to their usage (such as

5   conservation or load shifting). This is because the unused subscription load is credited to

6   the customer at a higher rate than their OAT rate. However, if the subscription load were

7   determined based on the customer's typical usage instead, the charges for usage above

8   the subscription would cancel out the credits for usage below the subscription, and the

9   customer would be charged similar to their OAT rate (revenue neutral).

10   In other words, if a customer's subscribed load is set too high, then a customer

11   would benefit more on the dynamic rate than the OAT, without making any changes to

12   their electricity usage, such as shifting more load outside of the more expensive peak

13   hours. This outcome defeats the purpose of the dynamic rate which is intended to change

14   usage behavior in a way that is mutually beneficial for the customer and the grid. This

15   also creates problems for revenue collection if there is consistent under-collection from

16   participating customers on the non-dynamic portion of their bill, so the risk for cost

17   shifting increases.[116] The risk for revenue under-collection is discussed further in the

18   following section.

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[116] SCE-01A at 8 line 16– 9 line 26. The subscription load billing determinants include facilities related demand (FRD) charges, time related demand (TRD) charges, TOU energy charges, non-TOU energy charges, customer charge, and average demand for base interruptible program (BIP) incentives. If all these revenues are not collected from dynamic rate customers, SCE would need to collect the revenue

1   Subscription components are also being used in other dynamic rate pilots, but

2   there are no permanent rate designs with subscription components for any of the IOUs. It

3   is premature for SCE to assume that the subscription component will function without

4   any unintended consequences. In fact, the final evaluation from SCE's Dynamic Rate

5   pilot recommended further studying the "optimal method of subscription pricing (e.g.,

6   whether/how to update quantities over time, how to deal with NEM and electric vehicle

7   adoption)."[117] Therefore, if the Commission adopts a rate in this proceeding, the

8   Commission should also require SCE to annually evaluate the rate's parameters, such as

9   setting a subscription load which incentivizes customers to reduce their peak usage either

10 through conservation or shifting usage outside the peak hours when the cost to serve is

11 less expensive. Lessons learned from the other pilots can help to inform the Proposed

12 Rate.

13   For instance, in the PG&E and VCE AgFIT Pilot,[118] the original subscription rate

14 design had several unintended consequences and required modification. The original

15 VCE AgFIT Pilot rate design used a two-part subscription tariff. The rate design

16 changed to a one-part subscription tariff that was based on week-ahead pricing

17 forecasts.[119] This change was made to circumvent several issues with the original

18 subscription design. VCE found that subscriptions based on historical usage weaken the

19 correlation between savings and load shifting, which was contrary to the pilot goals.[120]

20 VCE found this to be true due to the extreme variability of agricultural load.[121] SCE

21 should carefully consider the implications associated with using historical load to inform

---

from other customers.

[117] SCE DRP Final Evaluation, at 8. See Exhibit CA-03.

[118] The VCE AgFIT Pilot is a three-year pilot rate that allows agricultural customers with an hourly dynamic rate for irrigation and pumping, authorized in D. 21-12-015, Ordering Paragraph 50, at 176-177. See D.24-01-032, at 8 - 9.

[119] VCE and Polaris Energy Services (pilot partner for the initial AgFIT Pilot) presented this change during the Demand Flexibility Working Group 1 presentation on April 14, 2023. *See* Appendix 1B, Attachment 1.7.

[120] Demand Flexibility Working Group 1 presentation on April 14, 2023, slide 2.

[121] Demand Flexibility Working Group 1 presentation on April 14, 2023, slide 2.

1   customer's subscription load to avoid disincentivizing productive load shifting. VCE

2   also found that customers could end up as energy traders (or gaming the rate) for days,

3   weeks or months.[122] The Commission should consider these findings when assigning

4   subscription loads to customers to avoid customer confusion and unproductive

5   participation.

6   **2.   SCE asserts that the LPDR Proposal and LMS-Compliant**
7   **Proposed Rate are designed to be revenue neutral, but Cal**
8   **Advocates' analysis shows that improper assignment of**
9   **subscribed load could lead to revenue under- collections.**

10   If the subscription load is improperly assigned, customers could pay less than they

11   would under the OAT, despite making no changes to usage. To avoid this outcome, the

12   Commission should (1) require SCE to develop distinct rules for setting the subscription

13   percentage,[123] (2) annually evaluate whether modifications to the subscription setting

14   process should be made to mitigate revenue under-collections, and (3) adopt the

15   recommendations of Cal Advocates in subsection 3, below. The illustrative table below

16   shows the average rate a customer would pay on a dynamic rate (LMS-Compliant

17   Proposed Rate or LPDR Proposal) compared to the average rate they would pay on their

18   OAT rate at varying subscription levels and assuming no change in usage. If the dynamic

19   average rate is larger than the OAT average rate then the customer would have a larger

20   bill if they enrolled on the dynamic rate despite no change in electricity usage. If the

21   OAT average rate is larger than the dynamic average rate, then the customer would have

22   a smaller bill if they enrolled on the dynamic rate despite no change in usage.

23   The subscription level percentages dictate the amount of average usage a dynamic

24   rate enrolled customer would be charged at their OAT rate. For instance, a customer with

25   a subscription level of 0% would have all of their usage charged at the dynamic rate. A

26   customer with a 50% subscription level would have half of their average usage in each

27   TOU period by month charged at the OAT rate, and the remaining 50% would be charged

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[122] Demand Flexibility Working Group 1 presentation on April 14, 2023, slide 2.

[123] The subscription percentage is the percent of electricity usage an enrolled participant is charged according to their OAT.

1   at the dynamic rate. Lastly, a customer with a subscription level of 100% would be

2   charged their OAT rate for all usage up to their average usage amount in that TOU period

3   each month. A 100% subscription level customer would be charged at their dynamic rate

4   for usage that exceeded the average usage and would receive credits if they used less

5   electricity than their average usage based on the dynamic rate.

6   **Table 1-2: Illustrative TOU-8-SUB Average Rate Impact Table[124]**

Subscription Level – Percentage of Average Usage for a LPDR or LMS-Compliant Rate Customer Charged at the OAT Rate	Total Average Rate for the LPDR or LMS-Compliant Rate (cents/kWh)	Total Average Rate for the OAT Rate (cents/kWh)	Difference (cents/kWh)	Difference Compared to OAT (%)
Column	A	B	C=A-B	D=C/B*100%
0%	16.90	16.13	.77	4.75%
20%	16.42	16.13	0.29	1.79%
40%	15.94	16.13	-0.19	-1.16%
60%	15.47	16.13	-0.66	-4.12%
80%	14.99	16.13	-1.14	-7.07%
100%	14.51	16.13	-1.62	-10.02%
120%	14.04	16.13	-2.09	-12.98%

7

8   Based on Table 1-2 above with this illustrative load profile, there is an

9   approximate cut off between 20% and 40% of subscribed load, whereby the dynamic rate

10   would charge the customer more than the OAT. Therefore, if a customer's subscription

11   is set too high, at greater than 40% of maximum annual usage, then customers would

12   have a lower average rate than customers on the OAT. This misalignment can lead to

13   revenue under-collections. If the revenue under-collections are recovered from all

14   customers as SCE proposes,[125] this will result in a cost shift to other customer classes.

15   SCE should monitor customers' subscription load assignments to avoid unintentionally

16   allowing customers to benefit in a way that creates a cost shift to other customers. This

---

[124] Table 1-2 was calculated using SCE's TOU-8-SUB LMS-Compliant Rate Proposal Bill Impact Model, but also applies to the LPDR Proposed Rate with the generation price curve set to the moderate peak option. *See* Cal Advocates' workpaper supporting Chapter 1, "A2406014 Cal Adv CH1 Workpaper 4. "

[125] A.24-06-014 DR-004, question 3. *See* Attachment 1.5.

1 issue is supported by the findings from the initial Dynamic Rate Pilot which concludes

2 that "the customer's subscription load profiles were the most important factor in

3 determining whether a customer was due a shadow bill credit."[126]

4   **3.   SCE should be required to calculate subscription level**
5   **demand as the subscription percentage multiplied by the**
6   **demand for setting demand charges for LMS-Compliant**
7   **Proposed Rate participants.**

8   In order to ensure revenue neutrality, SCE should modify the way it calculates the

9 demand charged at the subscription rate (subscription demand), so that it is consistent

10 with the method SCE uses to calculate subscription volumetric usage In SCE's LMS-

11 Compliant Proposed Rate workpapers, SCE determines the amount of volumetric

12 electricity usage charged on the subscription rate as a percentage of average usage.[127]

13 For example, a subscription percentage of 80% signifies that 80% of the customers

14 electricity usage within a TOU period for a given month will be charged at the

15 subscription rate. Any usage above the subscription usage will then be charged based on

16 the dynamic rate. However, SCE determines the subscription level demand for demand

17 charges as the maximum hourly subscription level usage[128] within the demand charge's

18 respective time interval.[129] SCE should instead calculate the subscription level demand

19 as the subscription percentage multiplied by the customer's demand for the respective

20 time interval. For example, if a customer's maximum demand for a given month is

21 200 kW, and their subscription level is 50%, the subscription demand for the customer's

22 FRD charge should be 100 kW (200 kW*50%). Calculating the subscription demand by

---

[126] SCE DRP Final Evaluation, at 8. *See* Exhibit CA-03. The initial pilot rate included a shadow bill for customer whereby customer bills were billed relative to their OAT, either a debit or a credit.

[127] *See* SCE's Bill Impact workpapers tab "15 min," column "Retail Subscription kWh," cells G8:G8767.

[128] See SCE's Bill Impact workpapers tab "15 min," cells AE38:AG39. For TOU-GS-3 customer example in Table 1-3, see "SCE Dynamic Pricing Application Workpaper - Bill Impact Model - TOU-GS-3 – 20251105," tab "15 min," cells AE38:AG39.

[129] A time related demand charge is billed to the customer based on their maximum usage within the on-peak TOU period for a given summer month, and the mid-peak TOU period in a given winter month. The FRD charge is not TOU period dependent, and is billed to the customer based on the maximum demand in a given month irrespective of the TOU period.

1   multiplying the subscription percentage by the customer's demand increases the chance

2   of revenue neutrality for SCE's workpaper examples at varying subscription levels.

3   Table 1-3 below compares the resulting average rates for a TOU-GS-3 customer

4   with a 60% subscription percentage using SCE's LMS-Compliant Proposed Rate Bill

5   Impact workpapers with both Cal Advocates' proposed demand calculation and SCE's

6   proposed demand calculation. Cal Advocates' proposed subscription demand was

7   calculated by multiplying the customer's demand by 60%. Using Cal Advocates'

8   demand calculation results in average rates which are more similar to the average OAT

9   rate component (more revenue neutral) than the rates that result from SCE's demand

10   calculation.

11   **Table 1-3: Cal Advocates' Demand Calculation Increases Revenue Neutrality**
12   **Compared to SCE's Demand Calculation**
13   **(Example: TOU-GS-3 Customer with a 60% Subscription Percentage)[130]**

Rate Component	OAT Average Rate (cents/kWh)	Average Rate Using Cal Advocates' Demand Calculation (60% Subscription Percentage * Demand)	Difference from OAT	Average Rate Using SCE's Demand Calculation	Difference from OAT
Column	A	B	C=(B-A)/ A	D	E=(D-A)/ A
NBCs	4.48	4.48	0%	4.48	0%
Generation Energy	7.10	7.07	0%	7.07	0%
Generation Capacity	2.85	3.08	8%	2.38	-16%
Generation Total	9.95	10.15	2%	9.45	-5%
Distribution Non-Standby	10.05	10.09	0%	9.01	-10%
Transmission Non-Standby	1.48	1.53	4%	1.32	-11%
Customer	0.84	0.84	0%	0.84	0%
	26.79	27.09	1%	25.10	-6%

14

15   Adopting SCE's proposed LMS-Compliant Proposed Rate with Cal Advocates'

16   modifications, and recommendations to annually evaluate the rate will provide an

---

[130] *See* Cal Advocates' workpaper supporting Chapter 1, "A2406014 Cal Adv CH1 Workpaper 5."

1   opportunity to examine the topic of setting appropriate subscription levels for

2   participants. Subscription levels are an important customer protection for dynamic rate

3   participants, and the deeper understanding will make dynamic rates more acceptable to a

4   broader range of customers and will help mitigate the chance of cost shifting to non-

5   participants.

6   **IV.   CONCLUSION**

7   For the reasons explained above the Commission should reject SCE's

8   Consolidated Application due to its deficient detail regarding costs, budgets, and

9   implementation. If SCE provides sufficient information, the Commission should adopt

10   Cal Advocates' modifications to the LMS-Compliant Proposed Rate's as described

11   herein, and reject the highly-duplicative LPDR Proposal.

APPENDIX A

Qualifications of Witnesses

QUALIFICATIONS AND PREPARED TESTIMONY

OF

LAUREN SCHENCK

1

Q.1 Please state your name and address.

A.1 My name is Lauren K. Schenck, and my business address is
505 Van Ness Avenue, San Francisco, California, 94102.

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

A.2 I am employed by the Public Advocates Office at the California Public Utilities
Commission and my job title is Public Utilities Regulatory Analyst.

Q.3 Please describe your educational and professional experience.

A.3 I have a Bachelor of Science in Earth Sciences from the University of California,
Santa Cruz, and a Master of Science in Law from Northwestern University
Pritzker School of Law. I have been employed by the Public Advocates Office, in
the Electricity Pricing and Consumer Programs Branch since September of 2022,
and have worked on utility General Rate Cases, the Demand Flexibility Order
Instituting Rulemaking, and proceedings related to behind-the-meter solar. I have
experience conducting complex analyses related to rate design, sales forecasting,
and affordability issues.

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

A.4 My area of responsibility in this proceeding is focused on Marginal Energy Costs
and Marginal Generation Capacity Costs in Chapter 1 and Chapter 2 on Budget,
Cost Recovery, Implementation, and Evaluation Issues.

Q.5 Does that complete your prepared testimony?

A.5 Yes.

QUALIFICATIONS AND PREPARED TESTIMONY
OF
OTTO NICHOLS

1		**QUALIFICATIONS AND PREPARED TESTIMONY**
2		**OF**
3		**OTTO NICHOLS**
4	Q.1	Please state your name and address.
5		
6	A.1	My name is Otto Nichols and my business address is 505 Van Ness Avenue,
7		San Francisco, CA 94102.
8		
9	Q.2	By whom are you employed and what is your job title?
10		
11	A.2	I work in the Electricity Pricing and Customer Programs Branch of Cal Advocates
12		as a Regulatory Analyst.
13		
14	Q.3	Please describe your educational and professional experience.
15		
16	A.3	I graduated from the University of San Francisco with a Master of Science degree
17		in Energy Systems Management and hold a Bachelor of Science degree in
18		Business Management and Economics from DePaul University in Chicago,
19		Illinois. I joined the Electricity Pricing section of Cal Advocates in October 2021
20		as a Public Utilities Regulatory Analyst and my work is focused on utility electric
21		rate design. I have experience conducting analyses related to rate design, sales
22		forecasting, and affordability issues. My previous professional experience includes
23		a decarbonization analyst position for the renewable energy consulting firm, Apala
24		Group.
25		
26	Q.4	What is your area of responsibility in this proceeding?
27		
28	A.4	My area of responsibility is focused on Distribution Peak Capacity Costs in
29		Cal Advocates' Prepared Testimony in this proceeding.
30		
31	Q.5	Does that complete your prepared testimony?
32		
33	A.5	Yes, it does.

1		**QUALIFICATIONS AND PREPARED TESTIMONY**
2		**OF**
3		**CHRISTOPHER HOGAN**
4	Q.1	Please state your name and address.
5	A.1	My name is Christopher Hogan, and my business address is
6		505 Van Ness Avenue, San Francisco, California, 94102.
7		
8	Q.2	By whom are you employed and what is your job title?
9	A.2	I am employed by the Public Advocates Office at the California Public Utilities
10		Commission and my job title is Public Utilities Regulatory Analyst.
11		
12	Q.3	Please describe your educational and professional experience.
13	A.3	I graduated from California State University East Bay, in Hayward California with
14		a Master of Science degree in Statistics and a Bachelor of Science degree in
15		Statistics and Economics. I have been employed by Cal Advocates for more than
16		seven years. In my experience at Cal Advocates, I have submitted testimony and
17		participated in Southern California Edison Company's (SCE) 2024 General Rate
18		Case Phase II Application (A. 24-03-019), San Diego Gas & Electric Company's
19		(SDG&E) 2023 GRC Phase II Application (A. 23-01-008), SCE's 2021 GRC
20		Phase II (A. 20-10-012), Pacific Gas and Electric Company's (PG&E) 2020 GRC
21		Phase II (A.19-11-019), SDG&E's 2019 GRC Phase II (A.19-03-002), Phase 2A
22		of PG&E's and SCE's 2018 Rate Design Window Proceeding (consolidated as
23		A.17-12-011), and SCE's 2018 GRC Phase II (A.17-06-030).
24	Q.4	What is your area of responsibility in this proceeding?
25	A.4	My area of responsibility in this proceeding is focused on the Transmission Peak
26		Capacity and the Subscription Rate Component.
27		
28	Q.5	Does that complete your prepared testimony?
29	A.5	Yes.

APPENDIX B

Supporting Materials

LIST OF ATTACHMENT FOR APPENDIX B

Attachment #	Description
Attachment 1.1	D.24-01-032 Attachment C, *Measurement and Evaluation Plan for the Expanded Pilots*
Attachment 1.2	Cal Advocates – SCE Data Request 008
Attachment 1.3	Cal Advocates –SCE Data Request 004, Question 4
Attachment 1.4	Cal Advocates –SCE Data Request 009
Attachment 1.5	Cal Advocates –SCE Data Request 004, Question 3
Attachment 1.6	Cal Advocates – SCE Data Request 005, Question 2
Attachment 1.7	Demand Flexibility Working Group 1 presentation on April 14, 2023

ATTACHMENT 1.1: D.24-01-032 Attachment C, *Measurement and Evaluation Plan*
for the Expanded Pilots

Attachment C
Measurement and Evaluation Plan for the Expanded Pilots

Each measurement and evaluation plan for an expanded pilot shall include how
to assess the following items:

a. The response of customer loads to prices, to evaluate the
   efficacy of the dynamic pilot rate to shift customer exports
   into peak hours;

b. The monthly bill impacts of the pilot dynamic rate in
   comparison to a customer's otherwise applicable tariff;

c. The recovery of generation and resource adequacy costs for
   customers on the pilot tariff, including the impact of any
   under collection of generation and resource adequacy
   revenues against the impact of the shifted participant loads
   on marginal generation and resource adequacy costs, and
   on the avoided cost value, including using the
   Commission's Avoided Cost Calculator, where
   appropriate;

d. The recovery of delivery costs for customers on the pilot
   tariff, including the impact of any under-collection of
   delivery revenues against the impact of the shifted
   participant loads on marginal delivery costs, and on the
   avoided cost value, including using the Commission's
   Avoided Cost Calculator, where appropriate.

e. The number participating customers and the number of
   kWs of shiftable load enrolled in ESJ communities;

C-1

      f. The total amount of shadow bill credits delivered to customers in ESJ communities;

      g. The impact of the expanded pilot on greenhouse gas emissions and other emissions with particular consideration of ESJ communities, and

      h. Lessons learned about how dynamic rates and associated programs can be designed to provide benefits to ESJ communities.

In addition, the measurement and evaluation plan for the SCE Expanded Pilot shall include a comparison of residential and small business pilot customer results with a group of similar customers on TOU rates with previously installed technologies that enable load shifting.

(END OF ATTACHMENT C)

C-2

Appendix B, Attachment 1.1, p. 2

ATTACHMENT 1.2: Cal Advocates – SCE Data Request 008

Question 01:
Energy

1. In its testimony, SCE proposes to use the CAISO Day-Ahead Locational Marginal Energy Price (LMP) for the marginal energy cost component.[1] In its pricing model workbook, SCE labels the energy cost data as "2022 LMP Day Ahead."[2] However, SCE also explains in testimony: "The energy component of the dynamic price represents a pass-through of the CAISO Day-Ahead Default Load Aggregating Point (DLAP) settled price published by the CAISO for SCE's territory."[3]

   a. Please confirm and provide a narrative explanation for whether the 2022 LMP Day Ahead value in the pricing model is the DLAP or the LMP value from CAISO. For context, Cal Advocates understands the DLAP price to reflect the average LMP across all the pricing nodes within SCE's service area. Whereas the LMP value represents a more granular location specific to certain nodes in SCE's service territory.

   b. Please confirm whether the energy price explained in part (a) is an unaltered value from CAISO's Open Access Same-Time Information System (OASIS)[4] database or if SCE has scaled or modified the prices shown in the pricing model, tab 'Model Price,' Column AE. If SCE has modified the OASIS price to reach the prices show in the pricing model, please explain how.

   c. SCE's proposed pricing model includes CAISO energy price values and a separate column to address losses. Cal Advocates' understanding is that

---

[1] A.24-06-014 SCE Testimony in Support of Large Power Dynamic Pricing Rate, at 10.

[2] "A2406014 - SCE Dynamic Pricing Rates Application - Pricing Model.xlsx," Model Price tab, column AE. The label is subsequently used on other tabs like the Summary Graphs tab, column I.

[3] A.24-06-014 SCE Testimony in Support of Large Power Dynamic Pricing Rate, at 11.

[4] California Independent System Operator, "OASIS – OASIS Prod – PUBLIC – 0" (accessed October 24, 2024). http://oasis.caiso.com/

CAISO's LMP values include the energy price, congestion cost and losses cost.

    i. Does the CAISO energy price SCE proposes to use already incorporate losses?

    ii. If yes, please provide a narrative explanation for the differences between SCE's incorporation of losses compared to the CAISO's incorporation of losses and why they are not duplicative.

Response to Question 01:

Q01.1.a. The *"2022 LMP Day Ahead"* in the pricing model is the SCE DLAP price for all LMP nodes in the CAISO Day-Ahead Market.

Q01.1.b. The prices provided in the model as *"2022 LMP Day Ahead"* are unaltered from CAISO's Open Access Same-Time Information System (OASIS).

Q01.1.c.i. The CAISO energy price used in SCE's proposal includes the energy value of losses up to the Pricing Node, and reflects the energy value of losses on the CAISO transmission network.

Q01.1.c.ii. In the proposed dynamic price, SCE incorporates the energy component of losses associated with delivering power from the Pricing Node to the customer premise and reflects the energy value of losses for the delivery system downstream of the transmission interface.

ATTACHMENT 1.3: Cal Advocates –SCE Data Request 004, Question 4

Southern California Edison
A.24-06-014 – LPDPR

DATA REQUEST SET C a l A d v o c a t e s - S C E - 0 0 4

To: Cal Advocates
Prepared by: Hank Elgin
Job Title: Advisor
Received Date: 8/29/2024

Response Date: 9/13/2024

Question 04:
Page 17 of SCE-01 states, "SCE applies a 50%-50% assignment of Transmission revenue requirement to Peak Capacity and Grid Capacity related cost recovery."

a. Please provide SCE's reasoning for proposing this 50%-50% assignment to Peak Capacity and Grid Capacity related cost recovery.

Response to Question 04:

Q04.a. To differentiate the attributes of the transmission network for the purposes of this rate proposal, SCE functionalizes transmission costs/revenue requirement into two components – (1) Time-varying costs, and (2) Non-time varying costs. Traditionally, the transmission network has been viewed as an expansive and integrated system of resources/assets that performs a host of core functions which are not limited to but include: (1) Supporting the balance of demand and supply on the grid while retaining competitive parity in wholesale market prices, (2) Enabling bi-directional power-flows that can vary intermittently, temporally, and geographically based on network conditions, (3) Providing sufficient load carrying and power-flow capacity in normal operating conditions and/or reliability scenarios, (4) Providing a robust and resilient flow of power during contingency events and (5) Ensuring the integration of renewables in support of the State's policy goals related to transitioning to a decarbonized economy.

Pricing for one of the attributes described above, namely the balance of supply and demand, is currently included in CAISO LMPs as congestion pricing. Because the network configuration has grown highly integrated over time, it is important to note here that the transmission network has required the deployment of a sizeable amount of capital and resources, and therefore has materially high sunk costs. To better reflect transmission pricing in a dynamic rate, SCE attempts to functionalize the power-capacity of the network into the following - one that is time varying with sufficient network capacity to meet peak customer load on the system, and the second that is non-time varying for an always-on resilient and reliable network, which supports the flow of large quantities of high voltage that can vary geographically, directionally, and intermittently based on network conditions.

To approximate the amount of functionalized costs/revenue requirements that can be assigned to peak system needs, SCE observes the most recent three years of retail monthly customer coincident peak load data. As illustrated in Figure II-6 on page 18 of SCE's testimony in support of the Large Power Dynamic Pricing rate, SCE computes an average of the monthly coincident peak load as a percent of the annual peak load inclusive of an approximate 30% operating reserve as an imputed value of system coincident peak capacity. Based on these calculations, the figure shows that roughly 50% of this imputed coincident peak capacity can be approximated as a "base load" capacity in that it is amount that regularly serves customer load in each month of the year. The remaining 50% is then an approximation of imputed capacity serving the *peakiness* of customer load in some months of the year. SCE also observed this average monthly capacity ratio over the last twelve years and notes that monthly dispersion of values varies nominally from the observation in the last three years.

ATTACHMENT 1.4: Cal Advocates –SCE Data Request 009

Question 01 - 05:
TRANSMISSION RATE DESIGN

1. Please provide the workpapers supporting Figure II-6: 12-CP Implied Capacity Factor on page 18 of SCE-01 with formulas intact.

    a. Please include the input loads and calculations used to graph the 12- and 3-year average monthly capacity factors included in Figure II-6.

2. In SCE's September 13, 2024 response to Cal Advocates' Data Request 4, question 4, SCE stated,

    "As illustrated in Figure II-6 on page 18 of SCE's testimony in support of the Large Power Dynamic Pricing rate, SCE computes an average of the monthly coincident peak load as a percent of the annual peak load inclusive of an approximate 30% operating reserve as an imputed value of system coincident peak capacity. Based on these calculations, the figure shows that roughly 50% of this imputed coincident peak capacity can be approximated as a "base load" capacity in that it is amount that regularly serves customer load in each month of the year."

    a. Please provide SCE's reasoning for choosing a 50% base load estimate.

        i. For example, was the 50% base load estimate a result of averages, the shape of the graph, or an inflection point in the graph?

SUBJECT: SUBSCRIPTION LOAD

3. Page 8 of SCE-01 states,

    "The Subscription Load will be bilaterally agreed upon by the customer and SCE, and informed by a customer's historical, and/or forecast electricity use expected in the upcoming year for which the subscription is being set. The Subscription Load is shaped to represent a base amount of

load deemed non-flexible and associated with subscription service."

    a. Does SCE have specific rules, guidelines or criteria for determining a customer's subscription load that would be agreeable to SCE?

        i. If so, please list those rules, guidelines or criteria and provide a brief narrative describing the purpose of each listed rule, guideline or criteria.

    b. Does SCE have specific rules, guidelines or criteria for determining a subscription load which would not be agreeable to SCE?

        i. If so, please list those rules, guidelines or criteria, and provide a brief narrative describing the purpose of each listed rule, guideline or criteria.

    c. Would SCE be agreeable to a maximum subscription load that is forecasted to result in a lower customer bill than if the customer were on its otherwise applicable tariff (OAT)?

4. Has SCE performed any analysis on the maximum subscription level agreeable to SCE (i.e., whether subscription loads above customers' hourly load or max hourly load are permissible)?

    a. If so, please provide SCE's analysis.

5. In workpaper "A2406014 - SCE Dynamic Pricing Rates Application - Bill Impact Model.xlsm," cells BT38, BT41, BT42, BU38, BU41, BU42 have a value of "#REF!".

    a. Please confirm that these cells should be blank with no values and/or formulas instead.

        i. If not, please provide an updated version of this workpaper with these cells populated.

Response to Question 01 - 05:

Q01.a. The calculations and inputs for the capacity factors shown in Figure II-6 are provided in the attached Excel workbook, "2011-2022_monthly_12cp.xl".

Q02.a.i. The amount of "base load" deemed capacity is informed by the shape of the monthly capacity values included in the attached workbook in response to Q01.a, where 50% is the closest round percentage approximation of the minimum amount of imputed peak capacity during the year.

Q03.a.i. Specific rules, guidelines or criteria for determining a customer's subscription will be informed and developed based on outcomes from this proceeding and will be established as a Retail Rate Tariff based CPUC decision in this Application. Generally, the subscription and dynamic portions of the customer load are bound by the customer's metered consumption and any specific rules or criteria that are needed to guide those commensurate levels will be determined in this proceeding.

Q03.b.i. Same question as Q03.a.i. Please see response to Q03.a.i.

Q03.c.i. The subscription portion of the customer's load will be priced on the customer's applicable tariffed rate. SCE expects that the subscription portion of the customer's load will be informed by a pattern of historical consumption, including any pertinent inputs from the customer based on how much load they elect or deem as flexible. The dynamic rate that is used to bill the customer's flexible load is designed revenue neutral to the tariffed retail rate consistent with rate design principles SCE uses when designing optional rate offerings for our customers. Should a customer and SCE determine a subscription portion of load that is less than the customer's metered load, the customer's subscription portion of the bill will be lower than a comparative bill assessed using the customers metered load and the same tariffed retail rate. Customer's load response to the revenue neutral dynamic rate will determine the dynamic rate bill and the summation of the subscription portion of the bill and the dynamic portion of the bill results in the customer's total retail bill on the proposed rate.

Q04.a. The impact of various subscription levels can be studied changing the value in cell AI35 of workpaper, "A2406014 - SCE Dynamic Pricing Rates Application - Bill Impact Model.xlsm". SCE would not accept subscription levels that exceed expected metered load.

ATTACHMENT 1.5: Cal Advocates –SCE Data Request 004, Question 3

Southern California Edison
A.24-06-014 – LPDPR

DATA REQUEST SET C a l A d v o c a t e s - S C E - 0 0 4

To: Cal Advocates
Prepared by: Hank Elgin
Job Title: Advisor
Received Date: 8/29/2024

Response Date: 9/13/2024

Question 03:
What ratemaking treatment does SCE propose for potential under- or over-collections originating from this proposed rate?

a. For example will SCE recover undercollections from all customer classes and rate groups, or only the TOU-8 rate group which is eligible for this proposed rate?

Response to Question 03:

Q03.a. As a revenue neutral, optional rate, revenue imbalances from the Large Power Dynamic Pricing rate structure will be recovered in the same manner as revenue imbalances stemming from weather or consumption variances from forecast. During the annual Update Window, SCE will assess pricing functions and subscription levels with respect to maintaining a revenue neutral rate design.

ATTACHMENT 1.6: Cal Advocates – SCE Data Request 005, Question 2

Question 02:
SUBJECT: LOCATION BASED DISTRIBUTION PRICING

2. SCE states that for its large power dynamic rate, distribution dynamic prices were produced through an approach that was, among other things, mindful of equity considerations of pricing geographically for demographically divergent communities.[2]
   a. Please explain this point further by describing, in detail, the equity considerations of pricing geographically for demographically divergent communities.
      i. Please elaborate on any insights SCE discovered from being mindful of these equity considerations. For example, did SCE discover that the locations of higher priced A-Bank location-based distribution pricing correlate geographically with disadvantaged communities?

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[2] A.24-06-014 et al SCE-04 Supplemental Testimony at 37.

Response to Question 02:

2.a.

Reference to SCE being mindful of equity considerations is directly attributed to SCE's proposed "crawl-walk-run" approach. Because Dynamic Rates have not been widely implemented across SCE's consumer groups, SCE continues to gain insight from its experience in the Dynamic Rate Pilots. While SCE presented its approach for location-based dynamic rates in compliance with CPUC guidance in Decision (D.)25-04-089, the core of SCE's proposal still hinges on a "crawl-walk-run" framework, that proposes an initial implementation of dynamic rates with a system-wide distribution dynamic price signal, followed by a phased progression toward localized dynamic price signals.[1] This approach helps SCE carefully balance the scope and impact of dynamic rate adoption across its consumer groups, as well as how dynamic rates can further the State's policy goals.[2]

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[1] SCE proposes a pathway approach to allow for real-world experience and time to examine insights gained from both the initial rollout of dynamic rates and any potential learnings from SCE's ongoing Dynamic Rate Pilot.
[2] SCE's approach for designing system-wide distribution dynamic prices presented in Supplemental testimony is informed by the underlying A-Bank load across SCE's planning regions and presents a novel approach that is modular

SCE's approach underscores the importance of optimizing an inclusive portfolio of IOU rates and programs that can further the Commission's broader policy goals related to decarbonization and energy equity. While SCE proposes that dynamic rates remain opt-in rates for all consumer groups, the initial deployment of system-wide pricing helps tailor systems and processes to enhance customer experience and engagement - This in turn will promote wider adoption of these rates across consumer groups. Simultaneously, the Pilots will continue to assess how location-based pricing can affect customers with varied demographic profiles and evaluate how dynamic rate adoption can expand beyond the domain of customer groups with advanced energy acumen, or those with the financial resources to implement behind-the-meter technologies that enhance load flexibility. While SCE has not studied location-based demographic profiles and their correlation with a customer's affinity for dynamic pricing, SCE posits that location-based pricing can act as leverage in the self-selection process when customers opt into dynamic rates. Making conscientious decisions along the way that support equitable access is important because all customers should be able to leverage the positive impact of these beneficial rates.

2.a.i

In response to 2.a. SCE noted that a pathway approach allows for adequate time to develop an ecosystem that supports broader customer adoption of dynamic rates while also advancing the CPUC's socio-economic policy objectives. SCE's Dynamic Rates Pilots continue to offer insights on how dynamic rates can work in practice, but it is also important to note here that the location-based pricing used in these pilots remains unprecedented and is very much experimental. The Final Evaluation Report of the first phase of SCE's Dynamic Rate Pilot was published in Q1 of 2025 and revealed the complex requirements for systems and processes that are needed to support the broader adoption of dynamic rates across all consumer groups.[3] While SCE's learnings on equity considerations in this first Pilot were limited, SCE expects to gain additional insight in the Expanded Pilot. SCE's Expanded Dynamic Rate Pilot, approved by CPUC Decision 24-01-032, is currently underway through 2027, with a Final Evaluation report scheduled for release at the end of Q1 2028. SCE anticipates that this report will incorporate additional insights into the equity considerations of deploying dynamic rates.

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in design should the Commission consider more granular location-based pricing at a later milestone on implementation pathway.
[3] Final Evaluation of Southern California Edison's Dynamic Rate Pilot

Adjusted Average Price
— Alternative to Subscriptions —

Rebecca Boyles and David Meyers

Valley Clean Energy and Polaris Energy Services

4/14/2023
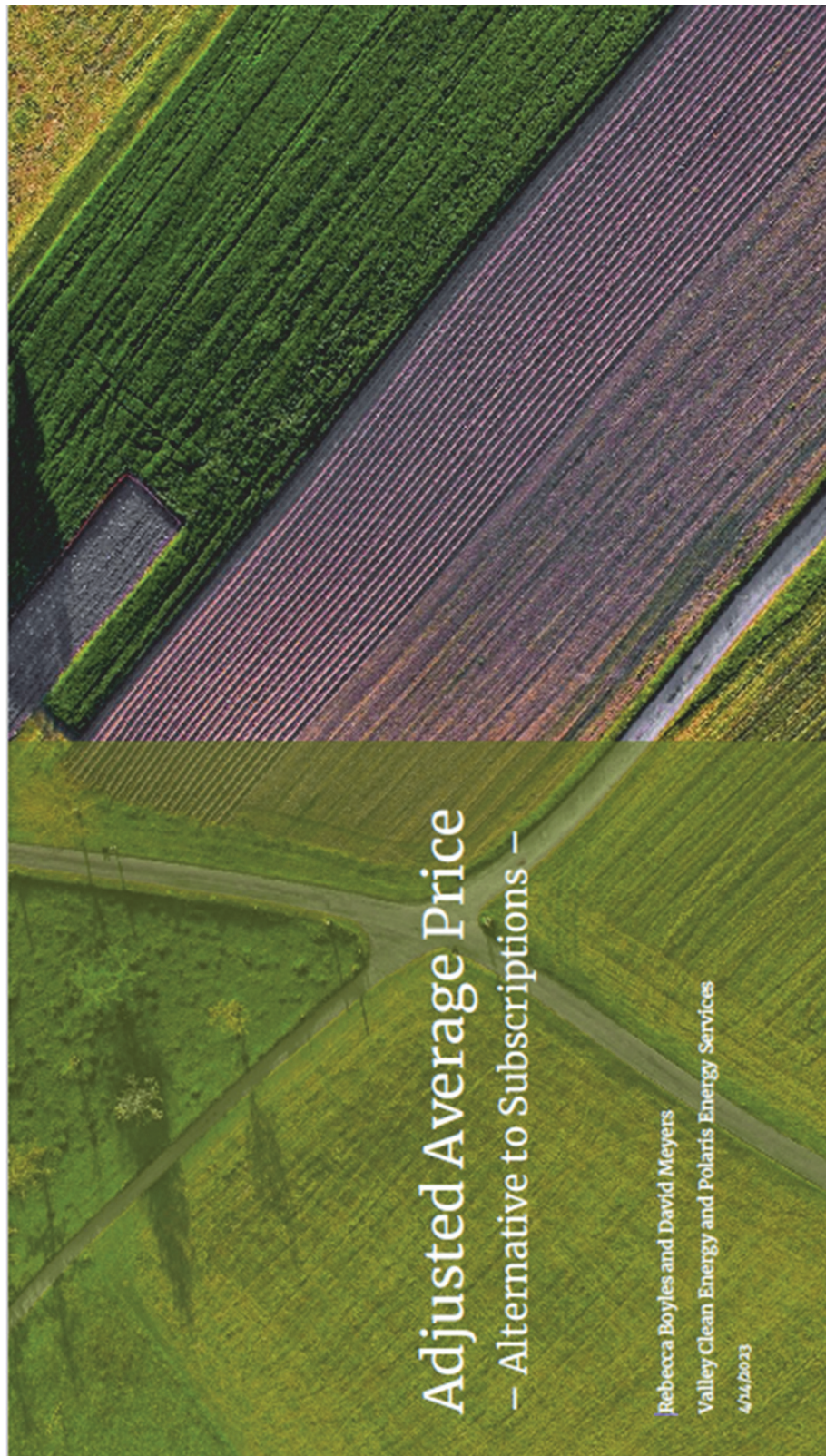
Why the Adjusted Average?

- Subscriptions based on historical usage appeared to weaken the correlation between savings and load shift, a key Pilot goal

  – Effect was more pronounced because of the extreme variability of Ag load

  – Savings defined as how the customer would have performed using their historical load shape compared to their shifted load shape w/ AgFIT)

- Customers could end up as energy traders for a day/week/month

- Stated prices (on which customers make usage decisions) different than actual prices – in opposition to "what you see is what you pay," a key Pilot goal

- Bill confusion and difficulty explaining subscriptions to customers

Achieving the Adjusted Average

Calculate an Average OAT Price, what we are calling the Subscription Price

- Set the subscription price based on the average unit cost for each tariff in each season with a typical load shape ("flat" = equal in each hour). The average unit cost may be determined by PG&E's typical LCOE that appears in some of the tariffs or calculated by PES for all monitored customers on each tariff. This can be done bundled or unbundled.

- For load profiles with more variability, a non−flat adder can be calculated easily.

Calculate the Dynamic Price using a price adder

- A Dynamic Price Adder is created by finding the difference between each hour's price and the average of the forward week's prices. This Adder is the applied to the Subscription Price to get a Dynamic Price for each hour.

Options with the Adjusted Average

Two ways in which the Dynamic Price Adder can be applied to the Subscription Price

1. Applied directly (Figure 5): in this case the hourly price is the subscription price +/– the adder. This method represents the "truest" reflection of costs on the grid in the prices paid by customers.

2. Applied as a percentage (Figure 6): in this case the hourly price is the subscription price multiplied by the value of the adder divided by the weekly average dynamic price. This method maintains the magnitude of the price signal generated by costs on the grid but is applied proportionally based on the subscription price.

Options:

- Price Cap: limit the impact of peak prices incurred by customers and reduce the prices in other hours (not allowing the price to go negative).

- Attenuation: Use a formula to limit the magnitude of the prices.

Figure 1

8/2 7-Day Raw Dynamic Prices & 8/2 7-Day Adjusted Dynamic

Adjusted = to average zero

Figure 1: Raw dynamic prices (tenders) are converted to a positive or negative adder. The average of 168 hours of forward prices is $0.00/kWh.

Figure 2

8/2 and 8/3 7 day Adjusted Dynamic Prices
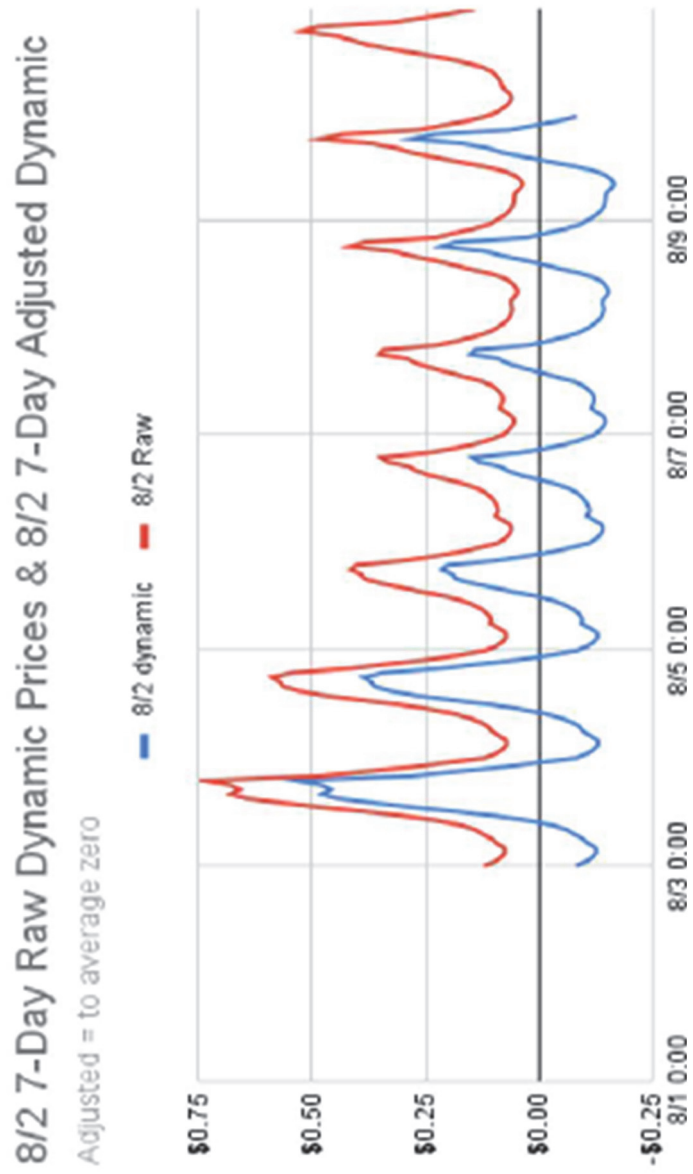
Figure 2: Each day, the adjustment results in changes to the previous adjusted prices as new, higher or lower-priced hours enter or exit the 168-hour window.

In this example the day that enters the window shown in 8/3 dynamic prices (day 8/10) is lower-priced than the day that exits the window (day 8/3), so the other prices in the window increase to compensate and maintain the $0.00/kWh average.

Figure 3

8/2 and 8/3 7-day Subscription + Adjusted Dynamic Prices

Figure 3: Each hours' prices are added to the subscription price, based on the service point's OAT. The prices update each day based on the 168-hour tenders.

Energy that has not been scheduled previously, transacts at the new prices. Schedule changes result in "selling back" at a higher or lower price, just like the AgFIT 1.0 tariff.
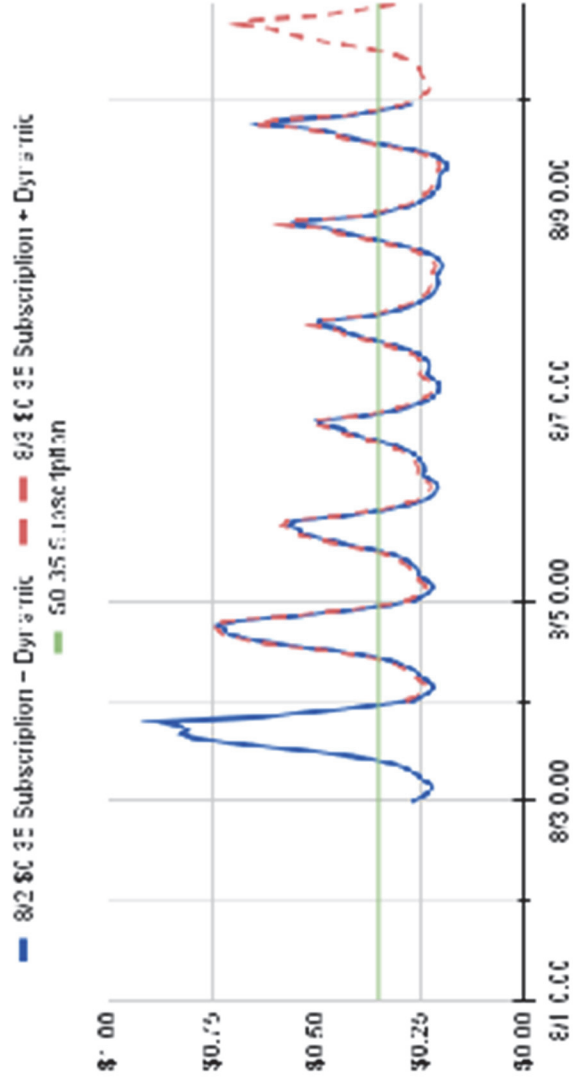
Figure 4

Figure 4: In this example, prices received on 8/3 include a spike in prices for peak hours on 8/4 (e.g. a grid emergency).

The increase in prices in those hours is balanced by a reduction in prices in the other hours in the 168-hour window. Note that the red line is slightly below the blue line in this example, compared to slightly above the blue line in Figure 3.

8/2 and 8/3 7-day Subscription + Adjusted Dynamic Prices

Figure 5

8/2 and 8/3 7-day Subscription + Adjusted Dynamic Prices
w/$0.25 and $0.35/kWh Subscriptions
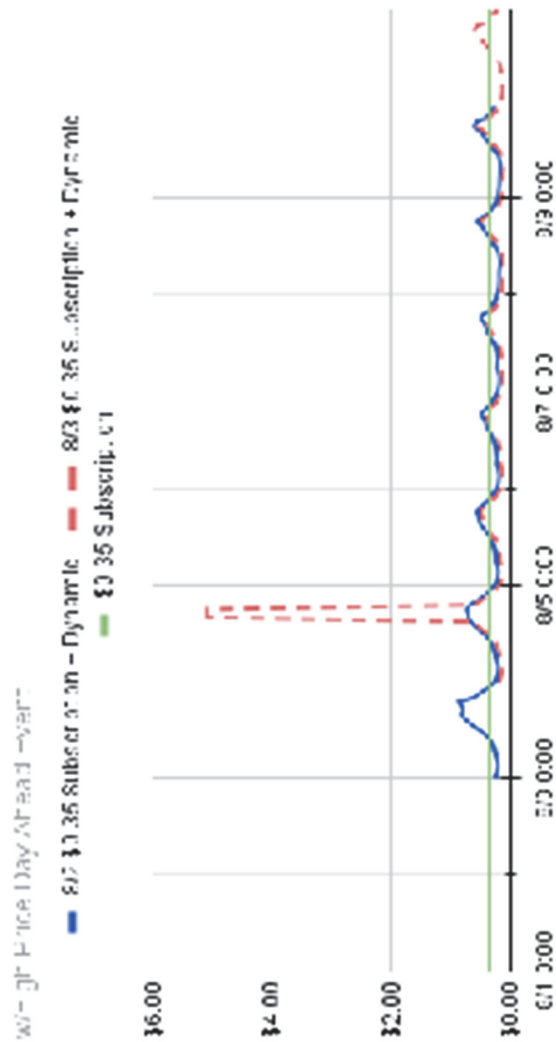
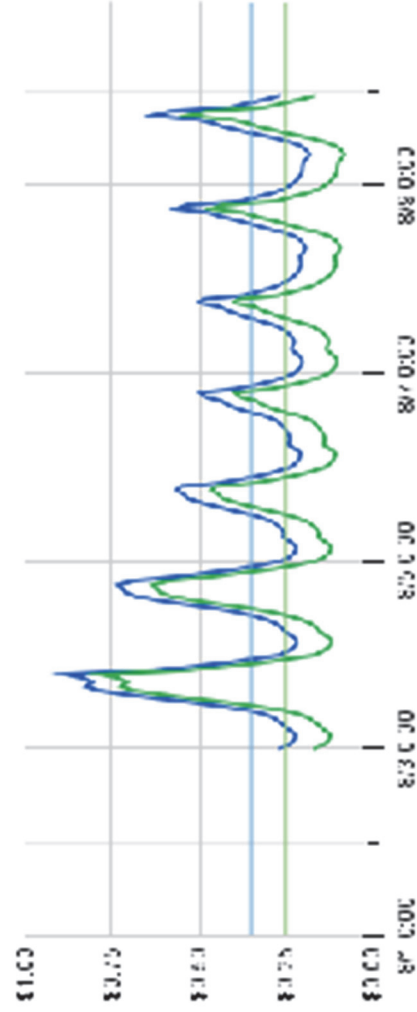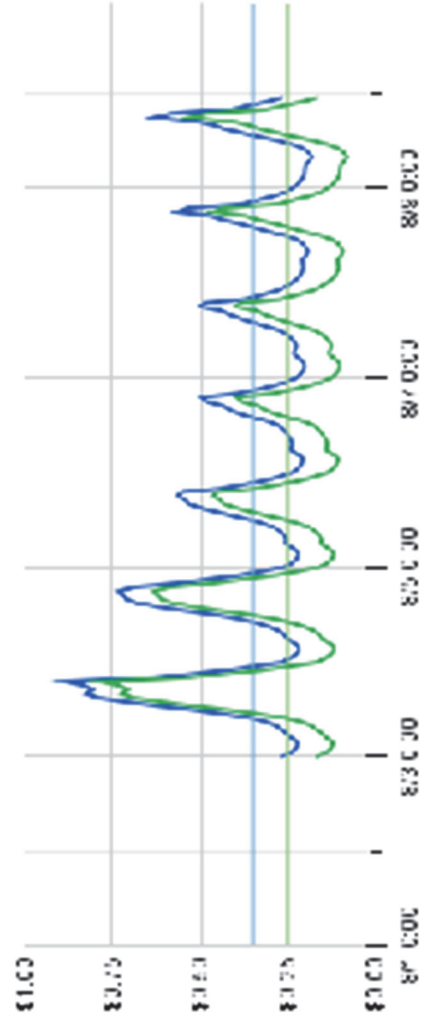Figure 5: For each hour the dynamic price is added to the subscription price.

Figure 6

Figure 6: For each hour, the dynamic price is added to the subscription price as a percentage of the 168-hour average.

Benefits of Adjusted Average

Keeps the benefits of historical load subscriptions, but may be more appropriate for Ag:

- Service points that continue to consume load in a flat load shape will pay the Average OAT price
  - Reduces LSE/DO risk by anchoring prices to what customers would pay for the actual usage volume with an unshifted load profile
- Customers clearly see what they pay in each hour and can plan accordingly
  - Feedback from participants: very important aspect of Pilot
- Easier to understand and explain to enrolled and potential program participants
- Promotes load shift directly proportional to the needs of the grid as reflected by raw prices within the flexibility customers have during the scheduling time frame
- Prices can be published via MIDAS or other price machine using only a rate identifier
  - No customer-specific information needed
- Simple to implement