ALJ/SW9/jnf **Date of Issuance 1/26/2024**

Decision 24-01-032 January 25, 2024

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates.	Rulemaking 22-07-005

DECISION TO EXPAND SYSTEM RELIABILITY PILOTS OF PACIFIC GAS AND ELECTRIC COMPANY AND SOUTHERN CALIFORNIA EDISON COMPANY

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DECISION TO EXPAND SYSTEM RELIABILITY PILOTS OF PACIFIC GAS AND ELECTRIC COMPANY AND SOUTHERN CALIFORNIA EDISON COMPANY

Summary

This decision directs Pacific Gas and Electric Company and Southern California Edison Company to expand the demand flexibility pilots authorized in Decision 21-12-015 to provide summer reliability benefits. The expanded demand flexibility pilots are authorized to provide system reliability benefits between June 1, 2024 and December 31, 2027.

This decision directs Pacific Gas and Electric Company to expand the Valley Clean Energy Alliance agricultural pumping dynamic rate pilot authorized in Decision 21-12-015 as follows:

- Expand the Valley Clean Energy Alliance pilot to (a) bundled and unbundled agricultural customers on AG-A1, AG-A2, AG-B, and AG-C rates across the utility's service territory, and (b) bundled and unbundled residential, commercial, and industrial customers[1] with load shifting technologies across the utility's service territory;
- Remove the five-megawatt cap on enrollment;
- Meet a combined enrollment target of 100 megawatts of load shifting;
- Administer the expanded pilot programs, provided that Valley Clean Energy Alliance will administer the expanded agricultural pilot in its service area; and
- Implement both pilots with a combined budget of up to $36,695,000, contingent on enrollment levels, including up to $1,800,000 of incentives for community choice

[1] Customers on B-6, B-10, B-19, B-20, E-ELEC, and EV2-A rates will be eligible for the expanded pilot, provided that Pacific Gas and Electric Company shall not simultaneously offer both the Day Ahead Hourly Real Time Pricing rate and the expanded pilot to customers on a given rate schedule.

aggregators to enroll customers in the pilots, and up to $725,000 for Valley Clean Energy Alliance to administer its pilot.[2]

This decision directs Southern California Edison Company to expand its dynamic rate pilot for residential, commercial, and industrial customers authorized in Decision 21-12-015 as follows:

- Partner with community choice aggregators to enroll customers in the pilot program;
- Meet an enrollment target of 50 megawatts of load shifting with no cap on enrollment; and
- Implement the pilot with a budget of up to $17,250,000, contingent on enrollment levels, including up to $1,800,000 of incentives for community choice aggregators to enroll customers in the pilots.

Each of the expanded pilot programs are subject to the following requirements:

- Conduct marketing, education, and outreach to potential pilot participants in environmental and social justice communities;
- Measure benefits of the pilots to environmental and social justice communities and the impact of the pilots on greenhouse gas emissions and other emissions;
- Allow dual-participation in the pilots and the following tariffs and programs: Critical Peak Pricing, electrification rates, time-of-use rates, net energy metering, net billing tariff, and Emergency Load Reduction Program Subgroup A (without third-party Demand Response compensation data privacy challenges).

This proceeding remains open to address additional Phase 1 issues.

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[2] The approved pilot budgets are in Attachment A.

1. Background

1.1. Summer Reliability Demand Flexibility Pilots

On July 30, 2021, Governor Gavin Newsom issued an Emergency Proclamation urging all state energy agencies to ensure there is adequate electricity to meet the needs of Californians in 2022. In Decision (D.) 21-12-015, the Commission adopted supply- and demand-side requirements to ensure that there would be adequate electric power in the event of extreme weather during times of greatest need during the summers of 2022 and 2023.

As part of its comprehensive approach to bolstering summer reliability, D.21-12-015 authorized two demand flexibility pilot programs to contribute to this effort: (a) the Valley Clean Energy Alliance (VCE) agricultural pumping dynamic rate pilot (VCE Ag Pilot) in the service territory of Pacific Gas and Electric Company (PG&E), and (b) the Southern California Edison Company (SCE) dynamic rate pilot (SCE Dynamic Rate Pilot) to incentivize load shifting by commercial and residential customers using electric vehicles, behind-the-meter energy storage, and similar flexible technologies.

The need for additional resources to enhance summer reliability remains urgent. A recent Joint Agency Reliability Planning Assessment Report emphasized the continued risk to system reliability from extreme weather patterns and increasing demand forecasts. The report projected that California would be at a risk of a capacity shortfall if the state experienced the same type of heatwaves as it experienced in 2022 coupled with wildfires.[3]

1.2. Load Management Standards

The California Energy Commission (CEC) amended its electric load management standards (Amended Load Management Standards) to encourage

[3] Joint Agency Reliability Planning Assessment, SB 846 Second Quarterly Report, May 2023.

the use of electrical energy during off-peak hours, when greenhouse gas emissions from electricity resources powering the electric grid tend to be lower. The Office of Administrative Law approved the Amended Load Management Standards on January 20, 2023, effective as of April 1, 2023.

The Amended Load Management Standards apply to large electric utilities, including PG&E, SCE, and San Diego Gas & Electric Company (SDG&E), as well as large community choice aggregators (CCAs).

The Amended Load Management Standards require large electric utilities and CCAs to take four types of actions:

a. Develop and offer to customers at least one retail electricity rate that changes at least hourly;
b. Provide and update hourly and time-varying rates in the CEC's statewide Market Informed Demand Automation Server (MIDAS) database;
c. Develop a standard tool to support third-party services' access to rate information for its customers; and
d. Integrate information about time-dependent rates and automation technologies into existing customer education and outreach programs.

The Amended Load Management Standards include the following deadlines, among others:

- Each large investor-owned utility must offer to each of its electricity customers voluntary participation in a marginal cost-based rate, if approved by the Commission, by January 1, 2027; and
- Each large CCA must offer to each of its electricity customers voluntary participation in a marginal cost-based rate, if approved by its rate-approving body, by July 1, 2027.

1.3. Procedural Background

On July 14, 2022, the Commission issued an Order Instituting Rulemaking to establish demand flexibility policies and modify electric rates to advance the following objectives: (a) enhance the reliability of California's electric system; (b) make electric bills more affordable and equitable; (c) reduce the curtailment of renewable energy and greenhouse gas emissions associated with meeting the state's future system load; (d) enable widespread electrification of buildings and transportation to meet the state's climate goals; (e) reduce long-term system costs through more efficient pricing of electricity; and (f) enable participation in demand flexibility by both bundled and unbundled customers.

The assigned Administrative Law Judge (ALJ) held a prehearing conference on September 16, 2022. The assigned Commissioner issued a Phase 1 Scoping Memo and Ruling (Scoping Memo) on November 2, 2022, that included the issue of whether the Commission should expand any of the existing dynamic rate pilots as a near-term solution that will benefit system reliability.

The Scoping Memo also requested party comments on this issue. Several parties commented that the Commission should extend and expand the VCE Ag Pilot and/or the SCE Dynamic Rate Pilot, including California Community Choice Association (CalCCA); Clean Coalition; Microgrid Resources Coalition (MRC); Polaris Energy Services (Polaris); Small Business Utility Advocates (SBUA); TeMix, Inc. (TeMix); Utility Consumers' Action Network (UCAN); and 350 Bay Area and The Climate Center (350/Climate Center).[4]

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[4] CalCCA's, Polaris's, SBUA's, TeMix's, and 350/Climate Center's opening comments on the Scoping Memo filed on December 2, 2022; Clean Coalition's opening comments on the Scoping Memo filed on December 5, 2022; MRC's and UCAN's reply comments on the Scoping Memo filed on January 4, 2023.

On August 15, 2023, assigned ALJ Wang issued a ruling to request comments on a staff proposal by the Commission's Energy Division (Staff Proposal) with recommendations on extending and expanding the VCE Ag Pilot and the SCE Dynamic Rate Pilot. Parties filed opening comments on September 25, 2023, and reply comments on October 9, 2023.

On October 3, 2023, ALJ Wang issued a ruling (October Ruling) to (a) direct SCE to provide additional information about its proposed pilot budget, (b) direct PG&E to serve its workpapers for its proposed pilot budgets to the service list of this proceeding, and (c) give parties the opportunity to file responses to this additional budget information and/or respond to reply comments on the Staff Proposal. SCE and VCE filed additional information about proposed budgets on October 13, 2023, and PG&E served its pilot budget workpapers on October 13, 2023. Parties filed replies on October 25, 2023.

The following parties filed opening or reply comments on Staff Proposal and/or October Ruling: California Farm Bureau Federation; California Large Energy Consumers Association (CLECA), CalCCA; Central Coast Community Energy (3CE) ; California Efficiency + Demand Management Council (CEDMC); California Environmental Justice Alliance (CEJA); Center for Accessible Technology (CforAT); Clean Power Alliance of Southern California (CPA); Leapfrog Power, Inc.; Marin Clean Energy; OhmConnect, Inc. (OhmConnect); Olivine, Inc. (Olivine); PG&E jointly with Polaris, Gridtractor Inc., and GridX, Inc. (PG&E/Joint Parties); Public Advocates Office at the California Public Utilities Commission (Cal Advocates); Sierra Club; SBUA; SCE; UCAN; VCE; Vehicle-Grid Integration Council (VGIC); and Weave Grid, Inc. (WeaveGrid).

This matter was submitted on October 25, 2023, upon filing of replies to the October Ruling.

2. Issues Before the Commission

The Scoping Memo included the issue of whether the Commission should expand any of the existing dynamic rate pilots as a near-term solution that will benefit system reliability. The Staff Proposal provided recommendations for addressing this issue.

The issues before the Commission are as follows:

a. Should the Commission approve the Staff Proposal's recommendations to extend the VCE Ag Pilot duration, remove the participation cap, and expand eligibility to (a) all agricultural customers across PG&E's service territory and/or (b) customers on certain commercial or residential rate schedules across the service territory of PG&E, including bundled and unbundled customers? If so, should the Commission authorize the customer eligibility, budget, timing, and evaluation requirements recommended by the Staff Proposal?

b. Should the Commission approve the Staff Proposal's recommendations to extend the SCE Dynamic Rate Pilot for three years and offer customers participating in SCE's Charge Ready Program the opportunity to participate in the pilot? If so, should the Commission authorize the customer eligibility, budget, timing, and evaluation requirements recommended by the Staff Proposal?

3. Expanding the VCE Ag Pilot in PG&E's Service Territory

D.21-12-015 authorized the VCE Ag Pilot with the following key provisions:

- VCE, a CCA, would enroll agricultural customers into an hourly dynamic rate for irrigation pumping;
- The pilot would have a duration of three years and an enrollment cap of five megawatts (MW) of peak load; and
- The Commission authorized a budget of $3.94 million, including: $1 million for integration and automation of

> pumping loads with the pilot price signal; $1.5 million for vendor fees, systems, and technology costs; $750,000 for PG&E's program administration costs, including billing and evaluation; and $690,000 for VCE's administrative costs, including program management, customer care, shadow billing, marketing, education, and outreach (ME&O), and other implementation costs.[5]

The VCE Ag Pilot launched on May 1, 2022 and is scheduled to conclude on December 31, 2024.[6] Polaris provided pumping automation services and TeMix provided transactive pricing system services.

The Staff Proposal asserted that the VCE Ag Pilot has shown initial success in shifting load during ramp and peak hours. The preliminary assessment of the first year of customer load shift to dynamic prices from the VCE Ag Pilot (Preliminary Assessment) was presented by the independent evaluators for the pilot to Working Group 1 of Track B of this proceeding on May 26, 2023. The slides from the Preliminary Assessment were attached to the Staff Proposal. The slides highlighted that the two pilot participants were able to reduce their peak period usage in August 2022 by nearly 50% relative to August 2021.[7] The Preliminary Assessment slides also showed the benefits of automation paired with time-of-use (TOU) rates in July 2022 relative to July 2021. The Preliminary Assessment found that dynamic rates can improve price response over a wider peak period.

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[5] D.21-12-015 at Attachment 1. D.22-06-005 modified D.21-12-015 by adding $690,000 for VCE's administrative costs to the VCE Ag Pilot budget.

[6] VCE Advice Letter 11-E.

[7] The Preliminary Assessment analyzed one billing month (August 15, 2022 through September 15, 2022), the first complete billing month in which dynamic rates were provided through the pilot.

PG&E/Joint Parties provided additional details about the VCE Ag Pilot:[8]

- The pilot has three key design elements: (a) a strong price signal that enables significant customer savings and operational benefits in exchange for response to dynamic prices, (b) automation incentives for remote control of irrigation systems, and (c) targeted ME&O and customer support.
- VCE provides the dynamic generation rate component, subject to its discretion. PG&E provides the dynamic distribution rate component. Third-party vendors provide the week-ahead hourly circuit load forecast and the week-ahead generation price forecast.
- TeMix, the systems vendor selected by VCE, combines the rate components and calculates both generation and distribution prices.
- VCE selected Polaris to be the automation service provider (ASP) responsible for the integration and automation of pumping loads with the pilot price signal through equipment and related data integration via its proprietary software.
- Starting in May 2023, Polaris became responsible for implementing the subscription, shadow billing, and transactive elements of the pilot.
- Automation of pumping load has been central to the pilot, and incentives for automation have been a key recruitment tool. Automation includes hardware, energy monitoring and control software, and integration of hardware and software.
- VCE is responsible for administering the pilot and working with Polaris to recruit customers and automate pumping loads.
- The pilot team changed the rate design and subscription design during the initial pilot period.

[8] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

The Staff Proposal recommended modifying the VCE Ag Pilot to extend the duration and expand participation to agricultural customers throughout PG&E's service territory with the following provisions (PG&E Ag Pilot):

- Extend the pilot duration to December 2027;
- Remove the enrollment cap;
- Apply changes to the pilot in June 2024;
- Allow bundled and unbundled agricultural customers throughout PG&E's service territory to participate for any end-use (in addition to irrigation pumping);
- Authorize a budget of $2.25 million for the extended pilot duration;
- Add new customer eligibility rules, including dual program participation rules;
- Adjust the deadlines for evaluation reports without changing the requirements of evaluation reports;
- Do not modify the rate design, which includes both a dynamic generation price component and a dynamic distribution price component; and
- Do not modify the pilot billing provisions, which utilize a "shadow bill" approach.[9]

The Staff Proposal also recommended expanding the eligibility of the VCE Ag Pilot to customers in PG&E service territory on certain commercial rates and residential electrification rates (PG&E Expanded Pilot 2):

- Allow bundled and unbundled customers in PG&E's service territory on the following commercial and

[9] The Staff Proposal explained how a "shadow bill" works. Participants pay their current bill under the otherwise applicable tariff and also receive a shadow bill, which they will not pay. The shadow bill illustrates a customer's potential savings under the dynamic pilot rates. Participants will receive payments from their Load Serving Entity (LSE) and their Utility Distribution Company (UDC) for their pilot rate savings on either a monthly or annual basis.

residential electrification rate schedules to participate for any end-use: B-19, B-20, or E-ELEC;

- Authorize a budget of $750,000 for program administration costs, billing, evaluation, and ME&O;
- Do not authorize an additional budget for vendor fees, systems, and technology costs for the pilot; and
- Apply the same recommendations for the PG&E Ag Pilot to the PG&E Expanded Pilot 2 (no enrollment cap, same customer eligibility rules, same evaluation requirements, no modification to rate design, and no modification to pilot billing provisions).

In opening comments on the Staff Proposal filed on September 25, 2023, the following parties generally supported the Staff Proposal's recommendations for the PG&E Ag Pilot and the PG&E Expanded Pilot 2: CEDMC, 3CE, CLECA, Leapfrog, Sierra Club, SBUA, UCAN, and VCE. Sierra Club strongly supported broad expansion of dynamic rates pilots to reduce California's reliance on gas peaker plants and the associated emissions of greenhouse gases and criteria pollutants in environmental and social justice (ESJ) communities.[10]

California Farm Bureau Federation strongly supported offering the PG&E Ag Pilot to all bundled and unbundled customers in PG&E's service territory.[11]

CforAT and Cal Advocates did not oppose the PG&E Ag Pilot, with modifications, but raised concerns about PG&E Expanded Pilot 2.

CEJA urged the Commission to design the expanded pilots to ensure that ESJ communities and households benefit from pilot expenditures, such as

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[10] Sierra Club's opening comments on the Staff Proposal filed on September 25, 2023.

[11] California Farm Bureau Federation's reply comments on the Staff Proposal filed on October 9, 2023.

through reduced peaker plant emissions in ESJ communities and investments in ESJ communities.[12]

PG&E/Joint Parties proposed substantial modifications to the PG&E Ag Pilot and the PG&E Expanded Pilot 2, including a proposed budget of approximately $47 million for both pilots, different customer eligibility rules, and modifications to cost recovery.[13] Cal Advocates, CEJA, CforAT, and UCAN strongly opposed the large pilot budgets proposed by PG&E/Joint Parties.[14]

3.1. Whether to Extend the Pilot Duration and Remove the Enrollment Cap

Several parties, including VCE, TeMix, 3CE, CalCCA, and SBUA commented that the Preliminary Assessment indicated that the VCE Ag Pilot showed promising results that merit extension and expansion of the pilot as a near-term solution to support system reliability.

PG&E commented that the results were limited to a small sample size over a 30-day period and that more data are needed to confirm the persistence of load management.[15] Cal Advocates commented that the initial results were too limited in terms of both sample size and duration to make a finding that the VCE Ag Pilot supports system reliability.[16]

VCE commented that while the Preliminary Assessment conducted by independent evaluators showed peak load reduction for one month in 2022, the

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[12] CEJA's opening comments on the Staff Proposal filed on September 25, 2023.

[13] PG&E/Joint Parties opening comments on the Staff Proposal filed on September 25, 2023.

[14] CEJA's and CforAT's reply comments on the Staff Proposal filed on October 9, 2023. UCAN's reply comments on the October Ruling filed on October 25, 2023. Cal Advocates' reply comments on the Staff Proposal filed on November 8, 2023.

[15] PG&E's opening comments on the Staff Proposal filed on September 25, 2023.

[16] Cal Advocates' opening comments on the Staff Proposal filed on September 25, 2023.

results from other months of pilot implementation are consistent with those results. VCE also commented that the Preliminary Assessment results attached to the Staff Proposal show that dynamic pricing paired with automation can improve price response over a wider band of hours than TOU pricing paired with automation.[17] Dynamic pricing can also concentrate load response during the highest priced hours within the peak TOU period, which is also when system reliability is under the most duress.

We find that the VCE Ag Pilot has the potential to further support system reliability during summer peak periods if pilot enrollment is increased.

PG&E/Joint Parties noted that although the Preliminary Assessment only included two pilot participants representing a maximum load of 1.3 MW, the VCE Ag Pilot had six customer participants representing 3.1 MW of enrolled load as of September 14, 2023.[18]

The Staff Proposal recommended extending the pilot to December 2027. The Staff Proposal asserted that the proposed extension is necessary to enable pilot participants to continue to contribute to load flexibility for reliability purposes until a more permanent dynamic rate option is available. The Staff Proposal noted that the CEC's Amended Load Management Standards require large investor-owned utilities and CCAs to offer an optional dynamic rate to all customers after December 2027.

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[17] VCE's opening comments on the Staff Proposal filed on September 25, 2023.

[18] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

Several parties supported extension of the pilot from June 2023 until December 2027, including PG&E/Joint Parties, Cal Advocates, 3CE, CalCCA, SBUA, CEDMC, and TeMix.[19]

VCE supported the inclusion of four agricultural pumping seasons but recommended concluding the pilot on April 30, 2028 rather than in December 2027 to allow more time to conclude administrative activities.[20] We clarify that customer participation in the pilot rate should conclude by December 31, 2027 and administrative activities may continue after that date.

PG&E, VCE, Cal Advocates, CalCCA, SBUA, TeMix, and CEDMC supported the removal of the cap on enrollment for the PG&E Ag Pilot.[21] VCE asserted that the removal of the cap would provide near-term summer reliability benefits and help load serving entities and agricultural customers to gain experience with dynamic pricing.[22] Cal Advocates supported removal of the cap to gather more data to evaluate pilot results.[23] We agree that the cap on enrollment should be removed to maximize near-term summer reliability benefits.

3CE supported expansion of the pilot but recommended that each CCA be permitted to set a participation cap for its own service area to enable each CCA to ensure that each participant receives the care and attention needed for

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[19] PG&E/Joint Parties', Cal Advocates', 3CE's, CalCCA's, SBUA's, CEDMC's, and TeMix's opening comments on the Staff Proposal filed on September 25, 2023.

[20] VCE's opening comments on the Staff Proposal filed on September 25, 2023.

[21] PG&E's, VCE's, Cal Advocates', CalCCA's, SBUA's, TeMix's, and CEDMC's opening comments on the Staff Proposal filed on September 25, 2023.

[22] VCE's opening comments on the Staff Proposal filed on September 25, 2023.

[23] Cal Advocates' opening comments on the Staff Proposal filed on September 25, 2023.

success.[24] The removal of the cap on pilot enrollments does not mean that PG&E or participating CCAs will be expected to enroll an unlimited number of customers into the PG&E Ag Pilot. We will discuss pilot enrollment targets and roles and responsibilities in the budget section below.

It is reasonable to authorize the PG&E Ag Pilot without a cap on enrollment to conclude on December 31, 2027. We will discuss the pilot commencement date in the pilot timing section below.

3.2. Whether to Expand Pilot Participation to All Agricultural Customers in PG&E's Service Territory

The VCE Ag Pilot limits participation to customer meters for agricultural irrigation pumping that are served by VCE.

The Staff Proposal recommended expanding pilot participation as follows: (a) agricultural unbundled customers served by any CCA that opts to participate in the pilot, (b) agricultural bundled customers served by PG&E, and (c) any agricultural end-use.

There was broad support for expanding pilot participation to agricultural customers served for any end use rather than limiting participation to agricultural pumping.[25] No party opposed expanding pilot participation to agricultural customers of additional CCAs for any end-use.

Cal Advocates originally opposed allowing bundled agricultural customers to participate in the pilot, arguing that it would require new generation rate design considerations since the VCE Ag Pilot was originally

[24] 3CE's opening comments on the Staff Proposal filed on September 25, 2023.

[25] 3CE's, CalCCA's, CEJA's, CEDMC's, PG&E's, SBUA's, and VCE's opening comments on the Staff Proposal filed on September 25, 2023.

authorized for a CCA that could develop their own generation rates for its own customers.[26]

D.21-12-015 provided rate design directions for the VCE Ag Pilot, and these directions will also apply to the bundled customer rate design for the PG&E Ag Pilot. It is not necessary for the Commission to provide additional directions on bundled customer rate design for the expanded pilot. Further, expanding pilot participation to both bundled and unbundled customers throughout PG&E territory will make it easier for the PG&E Ag Pilot to meet high load shifting targets at a reasonable cost.

PG&E/Joint Parties proposed to allow participation of agricultural bundled customers on the following rate schedules, which represent approximately 92% of agricultural service agreements in PG&E's service territory: AG-A1, AG-A2, AG-B, and AG-C.[27]

In response to VCE's proposal to include agricultural customers on the "split-week" schedule AG-F and to agricultural customers on legacy rate schedules, PG&E argued that those rates are not conducive to load shifting and would result in conflicts in the signals between the shadow bill and the underlying rate. PG&E commented that split-week rates are typically used by customers that want to operate continuously for a multi-day period without having to stop operations to avoid peak period prices. Similarly, customers on legacy rates have outdated TOU periods resulting in conflicting signals. Customers on AG-F or legacy rates that attempt to respond to the real-time pricing (RTP) signal will likely see significant bill increases on their standard

[26] Cal Advocates' opening comments on the Staff Proposal filed on September 25, 2023. Cal Advocates modified its position in reply comments.

[27] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

monthly bill before the shadow bill savings can be realized at the end of the year. PG&E argued that customers who want to participate in the pilot should move to a different rate.[28] We agree that including AG-F or legacy agricultural rates in the PG&E Ag Pilot could result in high monthly bills in the short-term or less load shifting as a result of conflicting signals.

It is reasonable to allow bundled and unbundled agricultural customers on rate schedules AG-A1, AG-A2, AG-B, and AG-C to participate in the PG&E Ag Pilot for any end-use.

3.3. Whether to Expand Pilot Participation to Customers on Certain Commercial Rates and Residential Electrification Rates

As discussed in Section 3, the VCE Ag Pilot limits participation to customer meters for agricultural irrigation pumping that are served by VCE with an enrollment cap of five MW of peak load.

The Staff Proposal recommended expanding pilot participation for PG&E Expanded Pilot 2 with no enrollment cap to the following types of customers: (a) unbundled customers on B-19, B-20, or E-ELEC rates served by any CCA that opts to participate in the pilot, and (b) bundled customers served by PG&E on B-19, B-20, or E-ELEC rates. B-19 customers are medium and large commercial customers with a maximum demand of 500-999 kilowatts (kW). B-20 customers are large commercial customers with a maximum demand greater than 1000 kW. E-ELEC customers are residential customers who have one or more of the following qualifying electric technologies: electric vehicle charging, energy storage, or electric heat pump for water heating or climate control.

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[28] PG&E's reply comments on the October Ruling filed on October 25, 2023.

Several parties supported expansion of the pilot to bundled and unbundled medium and large commercial customers and residential customers on E-ELEC rates throughout PG&E's service territory. CLECA strongly supported offering the expanded pilot to medium and large commercial and industrial customers on the B-19 and B-20 rates, arguing that the VCE Ag Pilot has been demonstrated to be well-suited to these types of customers. CLECA argued that customers on the B-19 and B-20 rates are similar to agricultural customers who preschedule water pumping because these customers have a strong potential ability to schedule crews and material resources, and move significant load in response to dynamic price signals.[29]

VGIC supported the proposed expansion of eligibility and argued that residential eligibility should be further broadened to customers with electric vehicles on EV2-A and EV-B rates.[30] SBUA similarly urged the Commission to expand participation to small commercial customers, arguing that small commercial customers represent a substantial portion of a utility's load.[31]

CforAT opposed PG&E Expanded Pilot 2, raising concerns about offering a dynamic rate to residential customers that could result in higher bills without further consideration of how to educate residential customers about the rate.[32] The Staff Proposal explained that each of the PG&E expanded pilot proposals will continue to use the "shadow bill" approach used in the VCE Ag Pilot. With the shadow bill approach, participating customers will pay their current bill under the otherwise applicable tariff and will also receive a shadow bill for

[29] CLECA's opening comments on the Staff Proposal filed on September 25, 2023.

[30] VGIC's opening comments on the Staff Proposal filed on September 25, 2023.

[31] SBUA's opening comments on the Staff Proposal filed on September 25, 2023.

[32] CforAT's opening comments on the Staff Proposal filed on September 25, 2023.

informational purposes, which they will not pay. The shadow bill shows a customer's potential savings under the dynamic pilot rates. Pilot participants will receive credits for their pilot rate savings, if any, at the end of the year. Pilot participants will not be required to pay more than they would have paid under their otherwise applicable tariff, which serves as a consumer protection measure. As discussed in the PG&E Ag Pilot section above, following a dynamic price signal could result in higher bills for an agricultural customer on a legacy rate with outdated price signals. However, the TOU signals in the E-ELEC residential tariff are up-to-date and should be aligned with the pilot's price signals. We find that the risk that an E-ELEC customer that opts to participate in the PG&E Expanded Pilot 2 will receive higher monthly customer bills due to following the pilot price signals is minimal.

PG&E/Joint Parties proposed to offer the PG&E Expanded Pilot 2 to customers on the rate schedules in the Staff Proposal and additionally offer the pilot to three more commercial and residential rate schedules (B-6, B-10, and EV2-A) provided that the Commission agrees to pause the Day Ahead Real Time Pricing (DAHRTP) rate authorized in D.22-08-002 pursuant to a settlement agreement. PG&E/Joint Parties raised concerns about the overlap in eligibility rates between the DAHRTP rate and the proposed PG&E Expanded Pilot 2.[33]

Cal Advocates originally opposed PG&E Expanded Pilot 2 but modified its position in reply comments. Cal Advocates supported authorization of the PG&E Expanded Pilot 2 if the DAHRTP is paused. Cal Advocates argued that moving

[33] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

forward with both pilots would confuse customers and unnecessarily increase costs to ratepayers.[34]

As PG&E recognized in its response comments, the issue of whether to modify D.22-08-002 is not an issue in the scope of Phase 1 of this proceeding. In the event that the Commission does not pause the requirement to offer the DAHRTP rate pursuant to a separate procedural process, PG&E proposed to only offer the expanded pilot to customers on EV2-A, B-10, and B-19 rates avoid an overlap in eligibility for two dynamic rates while maintaining the pilot's focus on commercial/industrial customers and residential electrification customers.[35] We agree with this approach.

It is reasonable for PG&E to offer the PG&E Expanded Pilot 2 to commercial, industrial, and residential customers enrolled in the following rates: B-6, B-10, B-19, B-20, E-ELEC, and EV2-A, provided that PG&E shall not simultaneously offer both the DAHRTP rate and the PG&E Expanded Pilot 2 to customers on a given rate schedule. For example, if the Commission does not pause or remove the requirement for PG&E to offer the DAHRTP rate to customers enrolled in B-20 by June 1, 2024, then PG&E shall not offer PG&E Expanded Pilot 2 to customers enrolled in B-20 on that date.

3.4. Whether to Authorize the Proposed Implementation Budgets

The Staff Proposal recommended a budget of $3 million for both of the expanded pilots in PG&E service territory. The Staff Proposal explained that the proposed budget was based on the approved VCE Ag Pilot budget ($3.94 million

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[34] Cal Advocates reply comments on the Staff Proposal filed on October 9, 2023.

[35] PG&E's reply comments on the October Ruling filed on October 25, 2023.

for PG&E) for the three-year pilot period and assumed similar participation levels for the extended pilot period (approximately 3.5 years).

PG&E/Joint Parties argued that the Staff Proposal's budget was insufficient and proposed a budget of approximately $47 million for the two expanded pilots. PG&E/Joint Parties argued that a much larger budget is necessary to meet its proposed participation target of 50 MW for each of the two pilots (compared with the enrollment cap of five MW for the VCE Ag Pilot).[36]

VCE proposed a budget of $2,350,000 to administer the expanded agricultural pilot for the extended pilot period in their service area, and a budget of $2,790,000 to administer the PG&E Expanded Pilot 2 in its service area.

3CE proposed a budget of $4,288,000 to administer the PG&E Ag Pilot in its service area during the extended pilot period.[37]

Cal Advocates, CEJA, CforAT, and UCAN strongly objected to the budget proposals advanced by PG&E/Joint Parties, VCE, and 3CE, and argued that the Staff Proposal's recommended budget was more appropriate.[38]

CforAT expressed concerns that the interim results of the VCE Ag Pilot did not provide sufficient proof of the success of the pilot at supporting system reliability to justify a massive increase of the budget for the expanded pilot.[39] On the other hand, the Sierra Club cautioned the Commission against being "overly conservative" by capping participation in dynamic rate pilots, urging the

[36] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

[37] 3CE's opening comments on the Staff Proposal filed on September 25, 2023.

[38] Cal Advocates', CEJA's, and CforAT's reply comments on the Staff Proposal filed on October 9, 2023. UCAN's reply comments on the October ruling filed on October 25, 2023.

[39] CforAT's reply comments on the Staff Proposal filed on October 9, 2023.

Commission to consider the economic and environmental costs of continuing to rely on gas peaker plants when considering the risks of expanded participation in dynamic rates.[40]

The purpose of this proceeding is to enable widespread demand flexibility through electric rates.[41] As discussed in the background section above, the need for additional resources to enhance system reliability remains urgent. The issue before the Commission is whether and how to expand existing pilots to provide near-term reliability benefits at a reasonable cost.

PG&E's proposal to establish an enrollment target of 50 MW for each expanded pilot is consistent with the purpose of this proceeding and the issue before the Commission. Adopting a budget based on the Staff Proposal would effectively result in capping expanded pilot participation to levels similar to the VCE Ag Pilot instead of advancing the purpose of this proceeding.

It is reasonable to adopt an enrollment target of 50 MW of shiftable load for each of the PG&E expanded pilots.

However, we share the ratepayer impact concerns raised by CforAT, CEJA, Cal Advocates, and UCAN. Cal Advocates recommended comparing the utility and CCA pilot budget proposals with the cost per estimated megawatt-year (MW-yr) of load impact for approved demand response (DR) rates and programs (2023-2027). Cal Advocates commented that the estimated average cost per MW-yr of load shifting was $144 per kilowatt per year (kW-yr) for a representative sample of PG&E's and SCE's DR programs.[42]

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[40] Sierra Club's opening comments on the Staff Proposal filed on September 25, 2023.

[41] Order Instituting Rulemaking to Advance Demand Flexibility Through Electric Rates.

[42] Cal Advocates reply comments on the Staff Proposal filed on October 9, 2023.

PG&E argued that the Cal Advocates' comparison of DR programs and the expanded pilots is not appropriate for two reasons. First, the dynamic rates pilots would provide load shifting for more hours than DR is usually dispatched each year. Second, PG&E argued that it is appropriate for pilot costs to be much higher than the cost of established DR programs because pilots typically require new systems or processes, whereas established programs rely on existing systems.[43] SCE similarly argued that existing permanent DR programs are not a valid yardstick for comparison with an experimental pilot.[44]

While dynamic rates generally provide load shifting and load shedding for more hours per year than DR programs, we agree with Cal Advocates that the costs per kW-yr of estimated load impact for DR programs are a useful benchmark for establishing budgets for dynamic rates programs. However, as these are pilots with a pay for load shift performance design, it is difficult and potentially problematic to estimate the load shift impact of customers enrolled in the pilot. Therefore, comparing the costs per kW-yr of enrolled pilot load to the cost per kW-yr of estimated load impact of existing DR programs is reasonable. The summer reliability pilots have had three years to develop processes and become more administratively efficient.

The Staff Proposal envisioned that the PG&E expanded pilots would build upon the systems and processes developed in the VCE Ag Pilot. We acknowledge that the expansion of the VCE Ag Pilot beyond the VCE service area and agricultural customers may require some additional systems and processes. However, we expect these costs to be substantially lower as a

[43] PG&E's reply comments on the October Ruling filed on October 25, 2023.

[44] SCE's reply comments on the October Ruling filed on October 25, 2023.

proportion of total pilot costs as the pilots approach their target enrollment levels of 50 MW of enrolled load, which is close to the size of several of the DR programs that Cal Advocates included in their price comparison table. We will consider costs per kW-yr of enrolled load when reviewing the implementation costs of the PG&E expanded pilots for meeting the 50-MW enrollment targets.

We will also consider the cost per kW-yr of enrolled load if the PG&E pilots have lower levels of enrollment. Since pilots have substantial upfront costs, the cost per kW-yr of each pilot will only be reasonable if it reaches a minimum level of enrollment. The VCE Ag Pilot had 3.1 MW of enrolled load as of September 14, 2023. We expect that PG&E and the VCE Ag Pilot team have learned a great deal from the first three years of pilot implementation and can enroll substantially more load during the expanded pilot period.

It is reasonable to adopt a minimum enrollment level of 10 MW of shiftable load for each expanded PG&E pilot.[45] If PG&E does not enroll at least five MW of shiftable load in each of its expanded pilots by August 1, 2025, then PG&E shall file a Tier 3 advice letter by October 1, 2025 to propose modifications to its implementation plan for the pilot to ensure that it will meet the minimum enrollment level before the pilot concludes.

Cal Advocates' comments included DR program costs per kW-yr ranging up to $258 per kW-yr for the smallest program, SCE's Agricultural & Pumping Interruptible Program (2023-2027), which had an estimated load impact of 22.8 MW.[46] We acknowledge that the cost per kW-hr may be higher for a program with a 10 MW load impact.

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[45] The minimum enrollment level for each pilot is for the expanded pilot period and does not include load enrolled during the initial VCE Ag Pilot period.

[46] Cal Advocates reply comments on the Staff Proposal filed on October 9, 2023.

For the reasons below, it is reasonable to adopt the implementation budgets for the PG&E expanded pilots in Attachment A, which is briefly summarized here.

PG&E/Joint Parties initially proposed a PG&E Ag Pilot budget of approximately $21 million for three years of implementation, without including costs of CCA participation or providing for reductions if the pilot does not meet its 50-MW enrollment target. This decision approves a PG&E Ag Pilot budget between $7,572,500 and $21,495,000, inclusive of CCA costs, and with adjustments to the budget based on MWs enrolled in the pilot.

The estimated cost of the PG&E Ag Pilot is $143 per kW-yr if the pilot meets the 50-MW enrollment target and uses the entire approved implementation budget. The estimated implementation cost of the PG&E Ag Pilot if the pilot only enrolls 10 MW of shiftable load is $9,372,500, or $312 per kW-yr.[47] The estimated implementation costs of the PG&E Ag Pilot are aligned with the DR program costs discussed above.

PG&E/Joint Parties initially proposed a PG&E Expanded Pilot 2 budget of over $26 million for three years of implementation, without including costs of CCA participation or providing for reductions if the pilot does not meet its 50-MW enrollment target. This decision approves a PG&E Expanded Pilot implementation budget of $4,700,000 to $15,200,000, inclusive of CCA costs, and with adjustments to the budget based on MWs enrolled in the pilot.

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[47] This pilot implementation cost estimates in this decision for meeting the 10 MW minimum enrollment target are based on the following assumptions: use of one-fifth of the customer incentives or integration costs, $200,000 of CCA incentives, and three years of program administration.

The estimated implementation cost of PG&E Expanded Pilot 2 is $101 per kW-yr if the pilot meets the 50-MW enrollment target and uses the entire approved implementation budget. The estimated implementation cost of the PG&E Expanded Pilot 2 if the pilot only enrolls 10 MW of shiftable load is $5,620,000, or $187 per kW-yr. The estimated implementation costs of the PG&E Expanded Pilot 2 are lower than the DR program costs discussed above.

The DR program costs per kW-yr include both implementation costs and payments to customers. PG&E's budget proposals did not include estimates for shadow bill credits or utility savings from the pilot, and the approved implementation budgets above do not include the costs of shadow bill credits or the value of utility savings from the pilot. We expect the cost per kW-yr of each pilot to be higher after accounting for the costs of shadow bill credits. The evaluation section below will address reporting on the costs of shadow bill credits and utility cost-savings for each pilot.

The subsections below discuss the components of the approved implementation budget and related issues raised by parties.

3.4.1. Program Administration Costs

The Staff Proposal recommended a program administration budget of $750,000 for PG&E for three years, replicating the approved PG&E program administration budget for VCE Ag Pilot. The Staff Proposal did not address the additional $690,000 program administration budget authorized in D.22-06-005 for VCE's program administration costs.

PG&E/Joint Parties recommended that PG&E should serve as the program administrator for bundled and unbundled customers in both pilots, with an exception for VCE, who should continue to serve as the program administrator in its service territory for the PG&E Ag Pilot. PG&E/Joint Parties asserted that this approach would be less expensive and be faster to implement than providing funding for each CCA to administer the expanded pilots for its generation customers.[48]

CalCCA argued that any CCA should have the option to receive ratepayer funding to administer dynamic rates pilots in their service area. CalCCA argued that each CCA has a deep knowledge of its community and can more effectively and efficiently find customers for which the expanded pilots might be a good fit. CalCCA also argued that administration of dynamic rates pilots would allow CCAs to gain experience with implementing dynamic rates ahead of the deadline to comply with the CEC's Amended Load Management Standards.[49]

3CE proposed a budget of $4,288,000 to administer the PG&E Ag Pilot in its service area during the extended pilot period, including $2.5 million for technology and systems upgrades for 3CE.[50]

CEJA raised concerns about approving separate pilot budgets for each CCA, noting the potential for pilot costs to balloon if all 12 CCAs in PG&E's service territory required large program administration budgets.[51]

We expect that leveraging PG&E's experience and processes from the VCE Ag Pilot will expedite the implementation of the expanded pilots. PG&E's proposal to act as program administration for the expanded pilots, with the exception of administering the PG&E Ag Pilot in VCE's territory, will also avoid duplication of systems and technology costs by each additional participating CCA. However, we also want to provide CCAs with an incentive to participate

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[48] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

[49] CalCCA's reply comments on the October Ruling filed on October 25, 2023.

[50] 3CE's opening comments on the Staff Proposal filed on September 25, 2023.

[51] CEJA's reply comments on the Staff Proposal filed on October 9, 2023.

in the pilots to increase the potential for reaching the expanded pilots' enrollment targets.

Accordingly, we will authorize funding for PG&E to administer each of the expanded pilots and provide incentives to CCAs for participating in the pilots, with an exception for the PG&E Ag Pilot in VCE's service area. CCAs shall receive an incentive of $20 per kilowatt for each year (kW-yr) of customer enrollment in the PG&E Ag Pilot or the PG&E Expanded Pilot 2 in its service territory, subject to a $1,800,000 cap for all CCA incentives for each pilot.[52] For example, if customers with 2.5 MW of shiftable load enrolled in a CCA's service area exactly two years before the pilot concluded, PG&E would pay the participating CCA $20 per kW in the first year, and $20 per kW in the second year, for a total of $100,000 over a two-year period. PG&E would prorate the incentive if the CCA enrolled a customer mid-year.

VCE proposed a program administration budget of $745,000 to administer the PG&E Ag Pilot in its service area with an enrollment target of five MW.[53] This proposed amount is similar to VCE's approved program administration budget in D.22-06-005 and is reasonable.

PG&E/Joint Parties proposed $5.25 million in program administration costs for the PG&E Ag Pilot and $9.58 million in program administration costs for the PG&E Expanded Pilot 2. The proposed program administration costs included the costs of evaluation, operations, program management, ME&O, billing operations, and customer support.[54] PG&E/Joint Parties asserted that its proposed program administration costs for the PG&E Ag Pilot were much higher

[52] The cap for CCA incentives is equal to $20 per kW times 30 MW for three years.

[53] VCE's detailed budget comments filed on October 13, 2023.

[54] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

than the combined program administration costs authorized for the VCE Ag Pilot ($1.44 million) due to the much higher program enrollment target (50 MW target versus five MW cap). PG&E/Joint Parties asserted that its proposed program administration costs for the PG&E Expanded Pilot 2 were much higher than the proposed costs for the PG&E Ag Pilot due to the broader range of customer types and higher expected amount of ME&O and customer support necessary to conduct the second pilot.

We will not require PG&E to enroll significant numbers of customers from each eligible rate schedule in PG&E Expanded Pilot 2. PG&E should develop an ME&O strategy for the PG&E Expanded Pilot 2 that will result in a lower cost per kilowatt enrolled in the pilot. Accordingly, we have reduced the program administration budget for the second pilot from $9.58 million to $7.1 million.

In addition to urging the Commission to keep the pilot budgets close to the Staff Proposal's recommendations, CEJA recommended targeting ME&O for the expanded pilots to customers in ESJ communities and locations that would result in reduced peaker plant emissions in ESJ communities, such as the Greater Fresno area.[55] Cal Advocates agreed with CEJA.[56]

PG&E proposed to consider the impact of the pilot on ESJ communities in the evaluation and measure the impact of the pilots on greenhouse gas emissions and air emissions with particular consideration of ESJ communities.[57] Conducting ME&O to potential pilot participants in ESJ communities and measuring pilot benefits to ESJ communities are two approaches that are specific, implementable, and aligned with the Commission's ESJ Action Plan.

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[55] CEJA's opening comments on the Staff Proposal filed on September 25, 2023.

[56] Cal Advocates reply comments on the Staff Proposal filed on October 9, 2023.

[57] PG&E's reply comments on the Staff Proposal filed on October 9, 2023.

PG&E and SCE shall each propose, in its Tier 2 advice letter for implementing the expanded pilots, a plan for conducting ME&O to potential pilot participants in ESJ communities.[58] We will also discuss how to incorporate ESJ considerations in the evaluation reports in the evaluation section below.

In addition, we share the concerns of ratepayer advocates that the program administration budgets for these pilots would be unreasonably high if few customers enroll in the pilots. We expect that most of the program administration costs will vary based on pilot enrollment levels. Further, by adjusting the program administration budget automatically based on program enrollment levels, we will incentivize the program administrators to meet their enrollment targets and ensure that the cost per kW-yr of the pilot will be reasonable in the event that pilot enrollment is lower than expected.

Accordingly, this decision authorizes a program administration budget for PG&E that increases when it meets 25%, 50%, and 75% of each pilot's enrollment target (50 MW). VCE's program administration budget will also increase when it meets 50% of its five MW enrollment target for the PG&E Ag Pilot.[59]

It is reasonable to adopt the following budget provisions for program administration costs for the PG&E Ag Pilot:

a. PG&E shall have an upfront budget of $1,500,000 for program administration costs;
b. If enrollment for the pilot reaches 12.5 MW, PG&E shall have an additional budget of $1,250,000 for program administration costs;

[58] For the purpose of this requirement, ESJ communities shall be defined in accordance with the definitions in the Commission's ESJ Action Plan 2.0.

[59] Enrollment during the original VCE Ag Pilot duration will not count towards PG&E Ag Pilot enrollment for purposes of unlocking additional program administration funds.

c. If enrollment for the pilot reaches 25 MW, PG&E shall have an additional budget of $1,250,000 for program administration costs;

d. If enrollment for the pilot reaches 37.5 MW, PG&E shall have an additional budget of $1,250,000 for program administration costs;

e. PG&E shall file a Tier 1 advice letter to notify the Commission when pilot enrollment reaches 12.5 MW, 25 MW, or 37.5 MW;

f. VCE shall have an upfront budget of $372,500 for program administration costs;

g. If enrollment for the pilot in VCE's service territory reaches 2.5 MW, VCE shall have an additional budget of $372,500 for program administration costs;

h. CCAs, other than VCE, shall receive an incentive of $20 per unbundled kW-yr enrolled in the pilot in its service territory, subject to a $1,800,000 cap for all CCA incentives for the pilot.

It is reasonable to adopt the following budget provisions for program administration costs for the PG&E Expanded Pilot 2:

a. PG&E shall have an upfront budget of $2,000,000 for program administration costs;

b. If enrollment for the pilot reaches 12.5 MW, PG&E shall have an additional budget of $1,700,000 for program administration costs;

c. If enrollment for the pilot reaches 25 MW, PG&E shall have an additional budget of $1,700,000 for program administration costs;

d. If enrollment for the pilot reaches 37.5 MW, PG&E shall have an additional budget of $1,700,000 for program administration costs;

e. PG&E shall file a Tier 1 advice letter to notify the Commission when pilot enrollment reaches 12.5 MW, 25 MW, or 37.5 MW; and

f. CCAs shall receive an incentive of $20 per unbundled kW-yr enrolled in the pilot in its service territory, subject to a $1,800,000 cap for all CCA incentives for the pilot.

3.4.2. Systems and Technology Costs

The Staff Proposal recommended relying on the existing systems from the VCE Ag Pilot instead of investing in additional systems for the expanded pilots. The Staff Proposal did not recommend a budget for customer technology incentives.

PG&E/Joint Parties proposed the systems and technology costs for the two pilots in Table 1 below. Proposed vendor fees, systems, and technology costs included costs for the pricing engine, the shadow billing platform, the transactive platform or interface, and customer tools for considering enrollment.

Table 1: PG&E/Joint Parties' Proposed Systems and Technology Costs[60]

Category	PG&E Ag Pilot	PG&E Pilot 2
Vendor fees, systems, and technology	$5,710,000	$6,780,000
Customer incentives for automation of loads and integration with the pilot price signal	$10,000,000	$10,000,000
Totals	**$15,710,000**	**$16,780,000**

PG&E/Joint Parties asserted that user-friendly energy monitoring and control software and providing incentives to automate irrigation pumping were both essential ingredients of the VCE Ag Pilot. PG&E/Joint Parties argued that the Staff Proposal's budget did not appropriately account for the costs of

[60] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

providing automation incentives or integrating end-uses for a high participation target.[61]

We find that PG&E/Joint Parties' proposed vendor fees, systems, and technology costs for the PG&E Ag Pilot are necessary to expand the pilot to customers across PG&E's service territory and reach the 50 MW enrollment target. We also agree that agricultural customers should receive incentives to automate loads and integrate with the pilot price signal. However, PG&E/Joint Parties' proposed incentive per customer ($200/kW-yr) may be higher than necessary for agricultural pumping in the later years of the pilot or for non-pumping agricultural end-uses (such as EV charging). Accordingly, we will reduce the budget for agricultural customer incentives from $10 million to $8 million.

On the other hand, PG&E's Expanded Pilot 2 should target commercial, industrial, and residential customers that previously adopted technologies that are capable of automated load-shift responses to a dynamic price signal. Many of these customers received state incentives for enabling technologies such as energy storage and electric vehicles. Accordingly, we replaced the proposed budget of $10 million for customer incentives for automating loads with a $3.6 million budget for integrating customer load shifting technologies with pilot systems.

The proposed budget of $5,710,000 systems and technology costs for the PG&E Ag Pilot is modeled on the systems and technology costs of the VCE Ag Pilot, scaled up to meet a higher enrollment target. The proposed budget includes costs of the pricing engine, shadow billing platform, transactive

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[61] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

platform, customer tools, and integration of customers. We agree that it is reasonable for the PG&E Ag Pilot to continue to use the same or similar systems and technology solutions as the VCE Ag Pilot for agricultural customers.

The PG&E Expanded Pilot 2 proposed a budget of $6,780,000 for systems and technology costs, including the same types of costs proposed for the PG&E Ag Pilot, plus additional costs of enhancing PG&E's customer relationship management system. The second pilot is very different from the PG&E Ag Pilot and will not need all of the same technology solutions. For the PG&E Expanded Pilot 2, PG&E should prioritize working with customers with existing enabling technologies. PG&E should propose a cost per kW for integrating customer technologies in their advice letter for implementing the pilot.

Accordingly, we have reduced the systems and technology budget for the second pilot to $2,700,000 to reflect the removal of unnecessary costs for the transactive pricing platform, customer tools for considering the rate, and enhancing PG&E's customer relationship management system.

It is reasonable to approve the systems and technology costs for the PG&E expanded pilots described in Attachment A. The systems and technology budget and the customer integration incentive budgets for the PG&E Ag Pilot should include such costs for VCE customers that participate in the PG&E Ag Pilot.

PG&E's pilot implementation advice letter should include proposals for (a) the dollar amount of customer integration incentives to provide on a per kW basis during each year of the PG&E Ag Pilot for each proposed customer end-use, (b) the dollar amount of customer technology integration costs on a per kW basis during each year of the PG&E Expanded Pilot 2 for each proposed customer end-use, and (c) how the kW-magnitude of customers will be assessed for each proposed end-use.

4. SCE Expanded Pilot

D.21-12-015 authorized the SCE Dynamic Rates Pilot to study how price-responsive pilot projects can enhance system reliability between May 1, 2022 and December 31, 2024. The Commission authorized SCE to administer the pilot program with an implementation budget of $2.5 million. D.21-12-015 directed SCE to use TeMix's Retail Automated Transactive Energy System (RATES) software platform to "conduct comprehensive studies that fully assess the costs and benefits of real-time rates, including required infrastructure, manufacturer interest, and customer impacts."[62]

D.21-12-015 did not include any customer eligibility or technology restrictions. The decision encouraged SCE to enroll residential, commercial, and industrial customers with smart enabling price-responsive end-uses such as electric vehicle charging, behind-the-meter batteries, and controllable loads. The decision also allowed SCE to use a shadow bill credit approach for compensating participants.[63]

SCE's pilot advice letter[64] included the following implementation components:

- The pilot would include SCE bundled customers with price-responsive end-uses, such as electric vehicle charging, behind-the-meter batteries, and controllable loads.
- The pilot could include residential, commercial, and industrial customers.
- The pilot would combine real-time pricing and transactional subscription elements.

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[62] D.21-12-015 at Attachment 1.

[63] D.21-12-015 at Attachment 1.

[64] SCE's Advice Letter 4684-E.

- SCE planned to work with ASPs to enroll customers with previously-installed enabling technologies that are compatible with TeMix's software platform.
- Customers would receive any shadow bill credits at least once per year.

The Staff Proposal recommended extending and expanding the SCE Dynamic Rates Pilot as follows:

- Extend the duration of the pilot to December 2027;
- Offer customers participating in SCE's Charge Ready Program the opportunity to participate in the pilot; and
- Authorize an additional budget of $1.25 million for the pilot, including $700,000 for program administration and $500,000 for vendor fees, systems, and technology costs.

SCE provided the following information about the status of the SCE Dynamic Rates Pilot as of September 25, 2023:

- The pilot had five participating customers on shadow billing, including two residential customers and three commercial customers, with 0.032 MW of available load to shift.
- 18 additional customers will start shadow billing on October 1, 2023, including 11 residential customers and seven commercial customers, with 0.081 MW of available load to shift.
- A total of 71 SCE customer accounts have been identified as eligible for the pilot and are progressing through subscription data and pricing design verification steps to proceed to full participation (shadow billing).

The following parties generally supported the Staff Proposal for the proposed expansion of the SCE Dynamic Rates Pilot (SCE Expanded Pilot): CalCCA, CEDMC, CLECA, CPA, Leapfrog, Sierra Club, SBUA, UCAN, and VCE.

The following parties did not oppose the Staff Proposal for the SCE Expanded Pilot, subject to modifications: Cal Advocates, CEJA, and CforAT.

SCE proposed substantial modifications to the pilot expansion, including a proposed budget of approximately $30 million, a different pilot duration, and customer eligibility rules.

We will address each element of the proposed expansion of the SCE Expanded Pilot in this section, except the proposed changes to the customer eligibility rules and evaluation requirements, which we will address in separate sections below.

4.1. Whether to Extend the Pilot Duration

The Staff Proposal recommended extending the SCE Dynamic Rates Pilot for three years to December 2027. Staff noted that a significant number of potential participants were still in the validation queue. If the pilot ended in 2024, a significant number of participants would have participated in the pilot for less than a year. The Staff Proposal asserted that an extension of this pilot would help assist SCE and CCAs in SCE's territory to gain institutional knowledge helpful to effectively offer rates compliant with Load Management Standards by the CEC's 2027 deadline and provide near-term reliability benefits before more permanent dynamic rates options become available in 2027.

SCE proposed extending the pilot for one year, with the option to extend the pilot for two additional years. SCE recommended extending the pilot for one year to gather sufficient data to determine whether load impacts can be sustained over time through the pilot and allowing SCE to propose to extend the pilot for two additional years through a Tier 2 advice letter.[65]

[65] SCE's opening comments on the Staff Proposal filed on September 25, 2023.

The CEC's Amended Load Management Standards require SCE to offer dynamic rates to each customer by January 1, 2027. This requirement is not contingent upon SCE's successful implementation of a dynamic rate pilot. A three-year expanded pilot period will give SCE sufficient time to review initial pilot results and improve its implementation of the pilot, if needed.

Cal Advocates supported SCE's recommendation to extend the pilot for one year, arguing that this approach would protect ratepayers in the event that the SCE pilot is not successful. WeaveGrid also supported a one-year extension of the pilot, arguing that the low participation to date in SCE's Dynamic Rate Pilot and the high budget proposed by SCE indicates a need to move more slowly.[66]

We agree that SCE's initial pilot participation levels are troubling and share Cal Advocates' and WeaveGrid's concerns about SCE's high proposed budget for the pilot in light of the low participation levels. However, we will address the participation levels and budget concerns by adopting pilot enrollment targets and a budget that is linked to meeting enrollment targets as we adopted for the PG&E expanded pilots. We will discuss this issue further in the pilot budget section below.

Finally, CalCCA asserted that many CCAs may not be ready to launch pilot enrollment in their service areas on June 1, 2024 and should be given the opportunity to join the pilot later.[67] If the pilot concluded in December 2025, it would not be feasible to allow CCAs to join the pilot after June 1, 2024. We will discuss CCA participation further in the following section.

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[66] WeaveGrid's reply comments on the Staff Proposal filed on October 9, 2023.

[67] CalCCA's opening comments on the Staff Proposal filed on September 25, 2023.

It is reasonable to approve a pilot duration for the SCE Expanded Pilot that concludes on December 31, 2027.

4.2. Whether to Offer the Pilot to CCA Customers

D.21-12-015 did not exclude unbundled customers from the SCE Dynamic Rates Pilot or affirmatively require SCE to coordinate with CCAs to support participation in the pilot. The August 15, 2023 ruling asked parties whether any changes to the pilot would be needed to enable CCA participation.

SCE commented that it supported gaining additional learnings from CCA participation but recommended that pilot participation be initially limited to one CCA to allow SCE to gain learnings from working with one CCA before applying learnings to working with additional CCAs.[68] CalCCA disagreed, arguing that SCE's proposal would be unfair to excluded CCA customers and would prevent additional CCAs from learning how to implement dynamic rates through pilot participation.[69]

We agree with SCE that it would be more cost-efficient for SCE to initially learn how to work with one CCA and apply the learnings to working with additional CCAs. However, limiting participation in the pilot to one CCA would limit the potential system benefits of the pilot. We can address both concerns by allowing SCE to work with a single CCA for the first 12 months of the extended pilot period and require SCE to work with any CCA that opts to participate in the pilot for the balance of the pilot period.

This approach also addresses CalCCA's additional concern that many CCAs may not be ready to launch pilot enrollment in their service areas on June

[68] SCE's opening comments on the Staff Proposal filed on September 25, 2023.

[69] CalCCA's reply comments on the Staff Proposal filed on October 9, 2023.

1, 2024.[70] Additional CCAs may join the SCE pilot at the beginning of the second year of the extended pilot period.

It is reasonable to (a) direct SCE to allow one CCA to commence enrollment of customers in the SCE Expanded Pilot by June 1, 2024, and (b) require SCE to allow customers of any CCA to participate in the SCE Expanded Pilot beginning on June 1, 2025, provided that the CCA files a Tier 1 advice letter by March 1, 2025 confirming that it will support pilot enrollment beginning on June 1, 2025. SCE shall propose which CCA customers will initially be permitted to enroll in the SCE Expanded Pilot in its Tier 2 pilot implementation advice letter after consulting with interested CCAs.

4.3. Whether to Offer the Pilot to SCE Charge Ready Participants

The Staff Proposal recommended requiring SCE to offer the SCE Expanded Pilot to existing and new participants in SCE's Charge Ready program (SCE Charge Ready) authorized by D.16-01-023 and expanded by D.20-08-045. SCE Charge Ready is an electric vehicle charging infrastructure program.

Cal Advocates, Sierra Club, SBUA, VGIC, and SCE supported offering the SCE Extended Pilot to SCE Charge Ready participants.[71] SCE noted that the SCE Dynamic Rates Pilot team is currently exploring the technical compatibility of SCE Charge Ready charging providers and other EV charging application programming interfaces with the TeMix platform.[72]

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[70] CalCCA's opening comments on the Staff Proposal filed on September 25, 2023.

[71] Cal Advocates', Sierra Club's, SBUA's, VGIC's, and SCE's opening comments on the Staff Proposal filed on September 25, 2023.

[72] SCE's opening comments on the Staff Proposal filed on September 25, 2023.

No party opposed offering the expanded pilot to SCE Charge Ready participants.

It is reasonable to require SCE to offer the SCE Expanded Pilot to existing and new participants in SCE's Charge Ready Program.

4.4. Whether to Authorize the Proposed Implementation Budget

D.21-12-015 authorized a budget of $2.5 million for all implementation costs of the SCE Dynamic Rates Pilot for implementation between May 1, 2022 and December 31, 2024.

The Staff Proposal recommended a budget of $1.25 million for implementation costs for a three-year pilot extension period, including $750,000 for SCE's administration costs and $500,000 vendor fees, systems, and technology costs. The Staff Proposal was based on the expectation that SCE's administration costs should be approximately the same during the extension period and that vendor fees, systems, and technology costs should be lower for the extension period because the Staff Proposal recommended limited changes to the pilot.

SCE's opening comments proposed a pilot implementation budget of nearly $30 million to extend the pilot for three years, including nearly $19.8 million for ASP and vendor costs, $3.1 million for program administration costs, $3.17 million for ME&O, and $3.348 million for customer incentives. SCE's opening comments did not explain why it proposed to increase the budget by more than ten times the original pilot budget during the extension period.[73]

On October 3, 2023, ALJ Wang issued a ruling that directed SCE to file additional information about its proposed budget for the pilot.

[73] SCE's opening comments on the Staff Proposal filed on September 25, 2023.

On October 13, 2023, SCE filed additional information about its proposed three-year budget for the SCE Expanded Pilot, including the following points:[74]

- The estimates of $3.1 million for program administration costs and $3.17 million for ME&O were based on assumptions that SCE would work with ASPs to enroll 300 residential customers and 600 small, medium, and large commercial and industrial customers.
- The $19.8 million estimates for ASP and technology vendor costs included $2.5 million in fixed upfront costs and $5.767 million in annual costs.
- SCE estimated that customers would receive an aggregated total of $3.348 million in shadow bill credits for load shifting.

Cal Advocates, CEJA, CforAT, and UCAN strongly objected to SCE's budget proposal and argued that the Commission should adopt the Staff Proposal's recommended budget.[75]

As discussed above, the issue before the Commission is how to expand existing summer reliability pilots to provide near-term system reliability benefits at a reasonable cost. We aim to support substantial growth in the MWs enrolled in the SCE pilot while protecting ratepayers from excessive pilot implementation costs.

We will apply the same approach that we applied to the PG&E pilot budgets to the budget for the SCE Expanded Pilot. Accordingly, we will adopt pilot enrollment targets and a budget that is aligned with the DR program cost benchmarks and that increases based on enrolled load.

[74] SCE's additional detailed budget proposal filed on October 13, 2023.

[75] Cal Advocates', CEJA's, and CforAT's reply comments on the Staff Proposal filed on October 9, 2023. UCAN's reply comments on the October ruling filed on October 25, 2023.

SCE did not provide an enrollment target related to enrolled load, but it proposed customer enrollment targets of 900 customers and its proposed budget of nearly $30 million that indicated its intention to expand participation in its pilot at a similar scale as proposed by PG&E.

It is reasonable to adopt an enrollment target of 50 MW of shiftable load and a minimum enrollment level of 10 MW of shiftable load for the SCE Expanded Pilot. If SCE does not enroll at least five MW of shiftable load in the SCE Expanded Pilot by August 1, 2025, then it shall file a Tier 3 advice letter by October 1, 2025 to propose modifications to its pilot implementation plan to ensure that it will meet the minimum enrollment level before the pilot concludes.

For the reasons below, it is reasonable to adopt the implementation budget for the SCE Expanded Pilot in Attachment A, which is briefly described below.

For the reasons discussed in the PG&E budget section above, we will use a benchmark of $144 per kW-yr of load shifting for reviewing SCE's proposed budget to meet the 50-MW enrollment target and will use a benchmark of $258 per kW-yr to consider the appropriate budget for SCE to meet the 10 MW minimum enrollment level.

The total approved implementation budget for the SCE Expanded Pilot is $17,250,000. The estimated implementation cost of the pilot is $115 per kW-yr if the pilot meets the 50-MW enrollment target and uses the entire approved budget. The estimated implementation cost of the SCE Expanded Pilot if the pilot only enrolls 10 MW of shiftable load is $7,670,000, approximately $256 per kW-yr.[76]

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[76] This program administration budget estimates in this decision for meeting the 10 MW minimum enrollment target is based on the following assumptions: use of one-fifth of the

Footnote continued on next page.

The estimated costs of the SCE Expanded Pilot are lower than the DR cost benchmarks. However, the estimated costs of the SCE Expanded Pilot do not include the costs of shadow bill credits because SCE did not provide an estimate tied to a MW enrollment target.[77]

The subsections below discuss the components of the approved implementation budget and other budget-related issues raised by parties.

4.4.1. Program Administration Costs

SCE proposed $3,120,750 in program administration staff labor costs spread evenly over the course of three years. SCE included labor costs for 11 team members, including 100% of the time of six staff members. SCE asserted that, as pilot enrollment increases, it will need incremental labor to handle the increasing quantity of work. SCE also proposed a budget of $3,170,000 for three years of ME&O and a budget of $405,000 for evaluation costs, including comparison of pilot results with a TOU control group as recommended by CEJA.[78]

SCE also proposed two major line items as systems and technology costs that should have been listed as program administration costs:

- $2,100,000 for third-party contract support services (database, reporting, ASP management and coordination).
- $4,750,000 for third-party data transfer services (subscription development, including data analysis).

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variable systems and technology budget, $200,000 of CCA incentives, and three years of program administration.

[77] SCE's estimate of $3,348,222 for shadow bill credits assumed that the pilot would enroll 300 residential customers and 600 small, medium, and large commercial and industrial customers. SCE did not provide enrollment targets or estimates by MW enrolled of shiftable load. We also note that shadow bill credits are not an implementation cost. Cost recovery for shadow bill credits is addressed separately in the cost recovery section of this decision.

[78] SCE's detailed budget information filed on October 13, 2023.

SCE's total proposed budget of $13,545,750 for program administration costs is unreasonably high compared with the $7.1 million program administration budget we approved for PG&E Expanded Pilot 2. The pilots are very similar for the purpose of reviewing program administration costs. Both pilots will be available to residential, commercial, and industrial customers with an enrollment target of 50 MW. SCE's program administration budget should be reduced to $7.1 million.

In accordance with the program administration budgets we adopted for PG&E's expanded pilots above, we will authorize a portion of SCE's program administration costs upfront and the balance of the budget upon attainment of 25%, 50% and 75% of the 50-MW enrollment target.

CPA's opening comments asserted that it did not have sufficient information to estimate its administrative costs of participating in the SCE Dynamic Rate Pilot as a CCA. CPA noted that it did not anticipate having non-ratepayer sources of funding available for pilot implementation costs or additional incentives.[79] For consistency, we will apply the CCA compensation approach we adopted for the PG&E expanded pilots to this SCE Expanded Pilot. SCE shall pay each participating CCA an incentive of $20 per kW-yr enrolled in the pilot in its service territory, subject to a $1,800,000 cap for all CCA incentives for the pilot.

It is reasonable to adopt the following program administration budget provisions for the SCE Expanded Pilot:

a. SCE shall have an upfront budget of $2,000,000 for program administration costs;

[79] CPA's opening comments on the Staff Proposal filed on September 25, 2023.

b. If enrollment for the pilot reaches 12.5 MW, SCE shall have an additional budget of $1,700,000 for program administration costs;

c. If enrollment for the pilot reaches 25 MW, SCE shall have an additional budget of $1,700,000 for program administration costs;

d. If enrollment for the pilot reaches 37.5 MW, SCE shall have an additional budget of $1,700,000 program administration costs;

e. SCE shall file a Tier 1 advice letter to notify the Commission when pilot enrollment reaches 12.5 MW, 25 MW, or 37.5 MW; and

f. CCAs shall receive an incentive of $20 per unbundled kW-yr enrolled in the pilot in its service territory, subject to a $1,800,000 cap for all CCA incentives for the pilot.

4.4.2. Systems and Technology Costs

SCE proposed $19.8 million in systems and technology costs for the SCE Expanded Pilot. For the reasons discussed in the program administration costs discussion above, we removed the proposed costs for third-party contract support services and data transfer services from Table 2, which shows SCE's proposed systems and technology costs.

Table 2: SCE's Proposed Systems and Technology Costs[80]

Category	Fixed Cost	Annual Costs Over Three Years
ASP third party contracts technology integration, software services, customer site management	$0	$7,740,000
TeMix contract for expanded circuit pricing modeling, subscription billing	$1,900,000	$2,850,000

[80] SCE's detailed budget information filed on October 13, 2023.

Category	Fixed Cost	Annual Costs Over Three Years
Supplemental research of OpenADR, Charge Ready, and circuit level modeling for price machine grid factors		$336,000
Third party modeling support for business use case development		$525,000
Totals	**$1,900,000**	**$11,451,000**

SCE proposed to continue to rely on contracts with ASPs to enroll customers in the pilot. SCE argued that the ASPs are key to successful customer enrollment and participation in the pilot because they understand the pilot benefits, they have the technical competency and resources to enable customer enrollment and sustained participation, and they can manage customer end uses to deliver customer energy bill savings in response to dynamic pricing.[81]

SCE asserted that it needs the increased funding to rapidly increase customer participation in the pilot and integrate new forms of electric end uses such as storage and electric transportation. SCE estimated that it would add six to eight new ASPs to the pilot.[82]

We agree that SCE will need additional funding for systems and technology costs, and that most of these costs are not fixed costs. However, SCE's proposed systems and technology costs of $11,181,000 are far higher than necessary to achieve the 50-MW enrollment target. For the PG&E Expanded Pilot 2, we approved $6,335,000 for systems and technology costs.

UCAN commented that SCE's budget proposal indicated that SCE had a very different intended purpose for expanding the pilot than contemplated by

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[81] SCE's detailed budget information filed on October 13, 2023.

[82] SCE's detailed budget information filed on October 13, 2023.

the Staff Proposal. UCAN argued SCE's plan to use ratepayer funds to develop advanced software products for large commercial and industrial customers is not reasonable. UCAN cited SCE's proposal to use some of the funds to develop a predictive model for machine learning at customer sites so that large customers may act as their own ASPs as an example of this problem.[83] We agree with UCAN that SCE's proposed line items for research and business use case development are not reasonable pilot implementation costs.

We approved a budget of $3,600,000 for PG&E to integrate customer technologies for the PG&E Expanded Pilot 2. For the reasons we provided in the PG&E pilot budget section above, we will authorize the same amount for SCE to work with ASPs to integrate customers with previously installed enabling technologies.

For the reasons above, it is reasonable to approve the systems and technology budget for the SCE Expanded Pilot described in Attachment A.

SCE shall file a Tier 2 advice letter within 60 days of the effective date of this decision to propose a pilot implementation strategy to achieve the 50-MW enrollment target with its approved budget. This may require SCE to change its strategy for the types of customers it aims to enroll or the types of ASPs it seeks to partner with. SCE's pilot implementation advice letter should also include proposals for (a) the dollar amount of customer technology integration costs on a per kW basis during each year of the pilot for each proposed customer end-use, and (b) how the kW-magnitude of customers will be assessed for each proposed end-use.

[83] UCAN's reply comments on the October Ruling filed on October 25, 2023, citing SCE's detailed budget information filed on October 13, 2023.

SBUA commented that SCE should enroll at least 150 small business customers to have sufficient small business participation for useful evaluation results on the customer segment. SBUA asserted that small businesses have unique financial and technical challenges for participating in demand flexibility rates.[84]

While more information about supporting the participation of small business customers in dynamic rates would be valuable, we will not direct SCE to enroll a minimum of 150 small business customers in the pilot. The primary purpose of expanding these existing pilots is to provide near-term system reliability benefits at a reasonable cost. SCE's strategy for implementing the expanded pilot must be tailored to meet the 50-MW enrollment target within the approved budget. The costs of enrolling and supporting integration of 150 small business customers may be too high to achieve within the approved budget.

5. Timing of the Expanded Pilots

The Staff Proposal recommended beginning the expansion of the summer reliability pilots on June 1, 2024.

SCE supported expansion of its pilot beginning on June 1, 2024. VCE recommended applying all modifications to the pilot on May 1, 2024 to enable enrollment of additional customers before the summer of 2024.[85]

PG&E expressed concerns about the feasibility of expanding the VCA Ag Pilot beyond VCE's service area and offering the pilot to different customer classes by the summer of 2024. PG&E commented that it would be feasible

[84] SBUA's reply comments on the Staff Proposal filed on October 9, 2023.

[85] VCE's opening comments on the Staff Proposal filed on September 25, 2023.

implement the expanded pilots beginning in June 2024 if the Commission issued a decision on the pilots by December 2023.[86]

We understand that it will be easier for VCE and SCE to begin expansion of their existing pilots than it will be for PG&E to implement new systems and processes for the expanded pilots throughout PG&E's service territory with additional customer types. We must also consider the urgency of expanding the pilots to support near-term summer reliability.

VCE may file a Tier 2 advice letter within 60 days of the effective date of this decision to apply all modifications to the VCE Ag Pilot authorized in this decision on May 1, 2024.

PG&E shall file a Tier 2 advice letter within 60 days of the effective date of this decision to propose an implementation plan for the PG&E Ag Pilot and the PG&E Expanded Pilot 2 and to commence enrollment in the PG&E Ag Pilot and the PG&E Expanded Pilot 2 on June 1, 2024.

SCE shall file a Tier 2 advice letter within 60 days of the effective date of this decision to propose an implementation plan for the SCE Expanded Pilot and to apply all modifications to the pilot authorized in this decision on June 1, 2024.

Cal Advocates noted that D.21-12-015 authorized the summer reliability pilots to commence on May 1, 2022 and continue for three years. Cal Advocates asked for clarifications about how the original budget would change for the existing pilots if the expanded pilots commenced in June 2024. D.21-12-015 provided for the existing pilots to conclude on December 31, 2024.[87]

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[86] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

[87] Cal Advocates' opening comments on the Staff Proposal filed on September 25, 2023.

We clarify that this decision authorizes budgets for the expanded pilots based on a three-year implementation period. Enrollment for the expanded pilots will commence on June 1, 2024 and will conclude by the end of May 2027. Pilot participants may continue to receive shadow bill credits for participation through December 31, 2027. SCE and VCE may begin to spend funds from the expanded pilot budget authorized in this decision on the date of the disposition of their respective Tier 2 advice letter to implement the expanded pilots. PG&E may begin to spend funds from the expanded pilot budgets authorized in this decision on the effective date of this decision.

CalCCA asserted that many CCAs may not be ready to launch pilot enrollment in their service areas on June 1, 2024 and recommended allowing CCAs to join the pilots in phases.[88] We addressed this comment for the SCE pilot above. We will also provide an opportunity for CCAs to commence enrollment in the PG&E pilots by June 2025. This will give CCAs more time to consider participation in the pilot and will ensure that participating CCAs commence enrollment in time to provide summer reliability benefits in 2025.

Any CCA in PG&E's service territory may file a Tier 1 advice letter by March 1, 2025 to notify the Commission that it will commence enrollment in a PG&E expanded pilot by June 1, 2025.

6. Cost Recovery for Expanded Pilots

The Staff Proposal did not recommend any changes to the cost recovery process for the expanded pilots. D.21-12-015 authorized PG&E to conduct the VCE Ag Pilot under its DR Emerging Technologies program authorized in D.17-12-013, and authorized SCE to conduct the SCE Dynamic Rates Pilot under

[88] CalCCA's opening comments on the Staff Proposal filed on September 25, 2023.

its DR Emerging Markets and Technologies program authorized in D.17-12-003. This decision does not change the cost recovery for the original pilots authorized D.21-12-015.

Rather than continuing cost recovery through the DR Emerging Technologies program, PG&E requested for its expanded pilots that the Commission authorize funding for program costs on a forecast basis and order two-way balancing accounts be used to facilitate the recovery from customers of the program implementation costs and revenue shortfalls, if any. PG&E proposed to true-up shadow bill credits on an annual basis and recover (a) the revenue shortfall from the distribution component of PG&E's bundled and unbundled customers in Distribution Revenue Adjustment Mechanism (DRAM Balancing Account), a two-way balancing account, and (b) the revenue shortfall from the generation component of PG&E's bundled customers and departed load customers who left PG&E bundled service from the preceding six month period in the last Power Charge Indifference Adjustment (PCIA) vintage year of the Portfolio Allocation Balancing Account (PABA), a two-way balancing account, on an annual basis through PG&E's Annual Electric True-up process from all customer classes. PG&E asserted that it currently recovers shadow bill credits for the distribution component of the VCE Ag Pilot through the DRAM Balancing Account.[89]

PG&E commented that a draft joint utility working group report recommended that PG&E record dynamic rate pilot costs to its existing Dynamic and Real Time Pricing Memorandum Account (DRTPMA) where existing RTP pilot costs are already authorized to be recorded in subaccounts for recovery in a

[89] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

future application. PG&E asserted that the working group report did not consider the higher proposed budgets for PG&E's expanded pilot proposals. PG&E argued that a two-way balancing account is better for these pilots because the costs would be trued-up in rates on an annual basis, resulting in less rate volatility than a memorandum account, which would recover all costs incurred over multiple years in one year.[90]

CPA requested that CCAs be granted the same cost recovery for shadow bill credits as the Commission authorized for SCE in D.21-12-015.[91]

SCE proposed for its expanded pilot that (a) the administrative and bill credit costs associated with the delivery portion of a customer's bill would be recovered from all customers via distribution rates using the distribution subaccount of SCE's Base Revenue Requirement Balancing Account (BRRBA-D), (b) the administrative and bill credit costs associated with the generation portion of a bundled service customer's bill would be recovered from bundled service customers via bundled generation rates using the generation subaccount of SCE's BRRBA-G, and (c) the administrative and bill credit costs associated with the generation portion of a departing load customer's bill would be the responsibility of their generation provider. SCE argued that this approach follows the cost causation rate design principle.[92]

CalCCA urged the Commission to instead direct the utilities to recover both distribution and generation revenue shortfalls from the expanded pilots through the DRAM Balancing Account. CalCCA argued that the expanded pilots represent costs that benefit the grid for all customers and should be recovered

[90] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

[91] CPA's opening comments on the Staff Proposal filed on September 25, 2023.

[92] SCE's reply comments on the Staff Proposal filed on October 9, 2023.

from all customers. Further, CalCCA argued that its proposal would avoid dealing with PCIA vintage issues and would be more administratively efficient.[93]

We agree with SCE that the cost recovery should follow cost causation principles, and that any revenue shortfall associated with the generation portion of a customer's bill should be recovered accordingly. We also agree with CalCCA that the cost recovery process should avoid the complexities of the PCIA.

Expanded pilot implementation costs should be recovered through memorandum accounts that will be reviewed by the Commission's staff and parties to the applicable General Rate Case proceeding. Expanded pilot implementation costs include all expanded pilot costs other than shadow bill credits, meaning customer bill credits for the difference between a shadow bill and the customer's bill under the otherwise applicable tariff. A memorandum account will provide for appropriate levels of review of pilot implementation costs, which require additional scrutiny to ensure that the costs recorded by the utility are eligible for recovery in accordance with this decision and were not offset by non-ratepayer funds.

Expanded pilot implementation costs should be recovered from all bundled and unbundled customers. The pilots will benefit all ratepayers. Non-participating ratepayers will benefit from the system reliability contributions of the pilot and the learnings from the pilot evaluation reports. It will also be administratively less complicated to recover these costs from all ratepayers. A large portion of expanded pilot implementation costs are upfront costs, such as initial administrative and systems and technology costs, that would be difficult to attribute to bundled customers or CCA customers. A significant portion of the

[93] CalCCA's reply comments on the October Ruling filed on October 25, 2023.

ongoing costs are administrative costs that cannot be attributed to bundled or CCA customers.

It is not necessary to provide for additional scrutiny of shadow bill credits through the review of memorandum accounts. Accordingly, the two-way balancing account and Annual Electric True-up process proposed by PG&E is appropriate for recovery of any revenue shortfall associated with shadow bill credits.

In addition, the generation portion of shadow bill credits can be directly attributed to bundled customers or CCA customers. PG&E and SCE should recover revenue shortfalls attributable to the distribution component of the shadow bill credits for all participating customers and the generation component of the shadow bill credits for bundled customers through its two-way balancing accounts and annual electric true-up process.While we will not adopt CalCCA's proposal to recover revenue shortfalls attributable to the generation component of shadow bill credits for CCA customers from all bundled and unbundled customers, we agree with CalCCA that the cost recovery process for the expanded pilots should avoid the complexity of dealing with PCIA vintage issues. We will not adopt PG&E's proposal to recover the shadow bill credit revenue shortfall from departed load customers who left PG&E bundled service from the preceding six-month period in the last PCIA vintage year of the PABA.

It is reasonable to approve the following cost recovery process for PG&E's expanded pilots:

a. PG&E shall record all expanded pilot implementation costs in a subaccount of its existing DRTPMA and recover costs through a General Rate Case proceeding; and

b. PG&E shall track the distribution component of the shadow bill credits for all customers as a separate line-item of its existing DRAM Balancing Account, track the generation component of the shadow bill credits for bundled customers as a separate line-item of its existing Energy Resource Recovery Account (ERRA), and recover any revenue shortfalls through the Annual Electric True-up process.

It is reasonable to approve the following cost recovery process for SCE's expanded pilot:

a. SCE shall file a Tier 1 advice letter to create a new Dynamic Pricing Memorandum Account (DP Memorandum Account);

b. SCE shall record all expanded pilot implementation costs in the DP Memorandum Account and recover such costs through a General Rate Case proceeding; and

c. SCE shall track the distribution component of the shadow bill credits for all customers as a separate line item of its existing BRRBA-D, track the generation component of the shadow bill credits for bundled customers as a separate line-item of its existing BRRBA-G, and recover any revenue shortfalls through the Annual Year-End Consolidated Revenue Requirement and Rate Change process.

PG&E also raised concerns about how to implement cost recovery for CCA administration costs and ensure Commission oversight.[94] CalCCA replied that it is reasonable to require CCAs to comply with Commission oversight of expanded pilot administration if the Commission approves ratepayer funding for CCA participation. CalCCA noted that CCAs have experience with Commission oversight and administering ratepayer funds through the implementation of

[94] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

other programs, such as the Disadvantaged Community Green Tariff and Community Solar Green Tariff programs.[95]

This decision determined that PG&E and SCE will administer the expanded pilots in CCA service areas, with an exception for VCE to administer the PG&E Ag Pilot in its service area. In the PG&E Ag Pilot budget section above, this decision provided that VCE may file a Tier 2 advice letter to apply all modifications to the pilot authorized in this decision on May 1, 2024. Upon the approval of VCE's advice letter, PG&E shall track VCE's implementation costs in the DRTPMA.

7. Whether to Add New Customer Eligibility Rules to the Pilots

The Staff Proposal recommended adding the following types of customer eligibility rules to each expanded pilot program: (a) eligibility of behind-the-meter (BTM) storage systems, (b) eligibility of electric vehicle supply equipment (EVSE), and (c) dual participation with DR programs.

The Staff Proposal recommended allowing BTM storage systems, within the power levels established by a Rule 21 interconnection agreement, to participate in the expanded pilots. The Staff Proposal also recommended allowing EVSE to participate in the expanded pilots subject to the requirements in Attachment B. The Staff Proposal recommended allowing customers to limit their participation in the expanded pilots to an onsite BTM storage system or EVSE provided that (a) the customer (or authorized third-party) designates a suitable sub-meter as the basis for the settlement under the pilot's dynamic rate, where the sub-meter is embedded within the storage/EVSE system and directly measures the energy flows into/out of the system, and (b) the sub-metered

[95] CalCCA reply comments on the October Ruling filed on October 25, 2023.

system (storage or EVSE) does not respond to another signal in the excluded DR programs list below.

PG&E/Joint Parties supported inclusion of sub-metered EVSE but recommended excluding sub-metered behind-the-meter storage systems, arguing that there is no approved standalone rate for sub-metered behind-the-meter storage to compare for shadow billing purposes.[96] No party opposed the Staff Proposal's recommendations for BTM storage systems or EVSE eligibility or PG&E's recommended adjustment to these rules.

It is reasonable to allow customers with BTM storage systems, including sub-metered systems, to participate in the expanded pilots within the power levels established by a Rule 21 interconnection agreement, provided that PG&E may exclude sub-metered BTM storage systems from its expanded pilots. It is reasonable to allow customers with EVSE, including sub-metered systems, to participate in the pilot, subject to the rules in Attachment B.

The Staff Proposal recommended not allowing customers who participate in the following DR programs or tariffs to participate in the PG&E or SCE expanded pilots:

- Supply-side DR (DR) programs**:** utility DR programs and DR contracts counted for Resource Adequacy (except Base Interruptible Program (BIP) and Agricultural Pumping-Interruptible (AP-I)), DR Auction Mechanism (DRAM), and CCA-contracted DR resources counted for Resource Adequacy;
- Emergency Load Reduction Program (ELRP);
- Flex Market Pilot;
- PG&E's Day Ahead Hourly Real Time Pricing (DAHRTP);

[96] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

- Critical peak pricing tariffs (utility or CCA); and
- Event-based load-modifying programs or pilots operated by utilities or CCAs.

The Staff Proposal recommended that customers on other rates and in other programs, including the following, would be eligible for the pilots:

- TOU rates;
- Electrification rates;
- PG&E's Smart Rate tariffs;
- Net energy metering (NEM) tariff and net billing tariff (NBT); and
- BIP and AP-I Programs (customers enrolled in these programs are still required to meet their obligations under these programs while participating in the Expanded Pilots).

PG&E/Joint Parties recommended allowing dual participation in additional supply-side DR programs (Capacity Bidding Program, Smart AC, DRAM) and several event-based load modifying programs (Peak Day Pricing, Smart Rate, Emergency Load Reduction Pilot, and Demand Side Grid Support). PG&E expressed concerns about the proposed exclusions, asserting that it was unlikely that customers in DR programs would unenroll in order to participate in the expanded pilots. PG&E/Joint Parties recommended a working group to create rules to avoid double compensation and double counting.[97]

SCE similarly opposed exclusion of customers participating in DR programs from the SCE Extended Pilot, arguing that this exclusion would hinder participation and limit learnings from the pilot. SCE argued that dynamic pricing is not DR and is not a market product. SCE argued that there is no basis under

[97] PG&E/Joint Parties' opening comments on the Staff Proposal filed on September 25, 2023.

the Commission's DR dual participation rules for preventing participation in both DR programs and dynamic rates.[98]

CLECA strongly supported the Staff Proposal's recommendation to allow dual participation with BIP, an emergency DR program. CLECA argued that allowing BIP customers to participate in the pilots would encourage voluntary load shifts while maintaining the reliability benefits of a guaranteed contractual load drop through BIP under extreme conditions.[99]

VCE supported the Staff Proposal to allow dual-enrollment in BIP and AP-I, and also supported exclusion of customers enrolled in DR programs that qualify for Resource Adequacy and event-based load modifying programs. VCE argued that dual enrollment in a DR program that mimics high market prices could be redundant and cloud the analysis of program impact and complicate customer compensation. We clarify that BIP and AP-I qualify for Resource Adequacy.[100]

Cal Advocates argued that the Commission should determine how to prevent double-compensation and impacts on evaluation results before allowing dual participation in BIP and the expanded pilots. Cal Advocates noted that the Commission previously issued Resolution E-5267 to clarify compensation for customers who are enrolled in both ELRP and BIP, and asserted that a similar mechanism is not yet available for the demand flexibility pilots.[101] In reply comments, Cal Advocates recommended that the Commission authorize a working group process to develop dual participation rules to prevent double

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[98] SCE's opening comments on the Staff Proposal filed on September 25, 2023.

[99] CLECA's opening comments on the Staff Proposal filed on September 25, 2023.

[100] VCE's opening comments on the Staff Proposal filed on September 25, 2023.

[101] Cal Advocates' opening comments on the Staff Proposal filed on September 25, 2023.

compensation and ensure that pilot evaluation results accurately reflect the impacts of the pilots and not due to other programs which customers can currently participate in, such as BIP.[102]

CalCCA recommended clarifying how utilities and CCAs will coordinate to prevent dual enrollment in prohibited programs and how the utilities will isolate and evaluate the impact of dynamic rate pilots if dual enrollment is allowed.[103]

CEDMC/OhmConnect/Olivine supported dual enrollment in DR programs but also urged the Commission to establish safeguards around the sharing of customer DR compensation levels by third-party DR providers, arguing that this information is proprietary information connected to a DR provider's contract and pricing structures. These parties proposed to (a) create a firewall between the utility staff running the pilots and those involved in the utility's DR programs to ensure that third-party DR compensation is not shared between them, (b) restricting data sharing only to overall DR compensation, excluding any details around customer nomination, performance, or frequency of participation; and (c) only requiring DR providers to provide information on DR compensation if they can review that customers' bill data and determine that the shadow bill was low enough that bill credits are required.[104] Leapfrog similarly supported dual participation in DR programs while arguing for safeguards around third-party DR providers' proprietary data.[105]

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[102] Cal Advocates' reply comments on the Staff Proposal filed on October 9, 2023.

[103] CalCCA's opening comments on the Staff Proposal filed on September 25, 2023.

[104] CEDMC/OhmConnect/Olivine's reply comments on the Staff Proposal filed on October 9, 2023.

[105] Leapfrog's reply comments on the Staff Proposal filed on October 9, 2023.

We acknowledge that prohibiting dual participation in DR programs may reduce participation in the expanded pilots and limit their potential to meet the 50-MW enrollment targets for each pilot. However, allowing dual participation before developing adequate mechanisms to ensure accurate load impact measurement, evaluation, and attribution for each program would not be in the interests of ratepayers and would undermine the value of the pilot evaluation.

Creating sufficient rules for dual participation of customers in supply-side DR programs and contracts would require more time for consideration and would prevent an expedited roll out of the expanded pilots. Similarly, considering safeguards for third-party DR compensation data privacy would require additional time and slow down implementation of the expanded pilots.

Party comments indicate that it would be too difficult and time consuming to resolve dual participation issues for BIP, AP-I, and customers aggregated by third-party DR providers in time for the expanded pilots to start in June 2024.

We agree with parties that it would be beneficial to have a working group to examine double compensation, attribution, and third-party DR compensation data privacy issues raised by parties. However, there is not sufficient time to complete a working group process before these expanded pilots begin. The Commission may create a process to address these issues in Phase 2 of this proceeding or in another proceeding to promote widespread enrollment in demand flexibility rates.

At this time, we will prohibit dual-participation in the expanded pilots and all supply-side DR resources (economic or emergency), including all DR programs and contracts counted toward resource adequacy, DRAM, Flex Market Pilot, DAHRTP, and other event-based load-modifying programs or pilots operated by the utilities or CCAs.

It is reasonable to allow dual-participation in the expanded pilots and the following tariffs and programs: Critical Peak Pricing, electrification rates, TOU rates, NEM and NBT, and ELRP Subgroup A. This decision does not modify the Commission's existing DR dual participation rules.

SCE and PG&E shall jointly host a public workshop to discuss their proposed methods for addressing the following dual participation issues: (a) preventing double-compensation for customers who are dual-enrolled in the expanded pilots and DR programs or tariffs, (b) working with CCAs to prevent dual enrollment in excluded DR programs, and (c) accounting for dual-participation when evaluating the impact of the expanded pilots. The Commission's staff will attend the public workshop. PG&E and SCE shall also invite staff from the CEC and the California Independent System Operator (CAISO) to the public workshop and coordinate with them on their joint proposal on dual participation.[106]

SCE and PG&E shall each include in its Tier 2 pilot implementation advice letter, due within 60 days of the effective date of this decision, a joint utility proposal for addressing these dual participation issues.

[106] In opening comments on the proposed decision, PG&E claimed that coordination with SCE on leading this workshop discussion regarding processes to prevent inappropriate dual participation raises the risk of antitrust problems. We agree with Cal Advocates' assertion in reply comments that such a workshop does not create inherent risk of anticompetitive impacts. Given that the Commission's staff will ultimately decide what dual participation processes to approve, neither leading a public workshop nor submitting a joint advice letter will constitute an "agreement" within that triggers antitrust analysis.

8. Evaluation

The mid-term evaluation reports for the existing pilots are due on December 31, 2023, and the final evaluation reports for the existing pilots are due by March 1, 2025.

The Staff Proposal recommended that mid-term evaluations for each of the expanded pilots should be released by December 31, 2025, and a final evaluation should be released by March 1, 2028.

The Staff Proposal recommended maintaining the following existing pilot evaluation elements for the extended and expanded pilots:

- The response of customer loads to prices, to evaluate the efficacy of the dynamic pilot rate to shift customer exports into peak hours;
- The monthly bill impacts of the pilot dynamic rate in comparison to a customer's otherwise applicable tariff;
- 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; and
- 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.

CLECA commented that the Commission should try to maintain data integrity when evaluating the existing pilots and the expanded pilots.[107]

[107] CLECA's opening comments on the Staff Proposal filed on September 25, 2023.

It is appropriate to separately consider the impacts of the existing pilots and the expanded pilots. This decision will not modify the deadlines or requirements for the existing pilots.

Cal Advocates commented that the Commission should require PG&E to include a revenue over- and under-collection study in its M&E plan, noting that D.22-08-002 included such a study requirement for the DAHRTP.[108] This comment supports the Staff Proposal's recommendation above.

As discussed above, CEJA urged the Commission to ensure that the pilots provide benefits to ESJ communities without authorizing unreasonably high budgets for the pilots. PG&E responded to CEJA's comments by proposing to consider the impact of the pilot on ESJ communities in the evaluation and to measure the impact of the pilots on greenhouse gas emissions and air emissions with particular consideration of ESJ communities.[109]

The measurement and evaluation plan for each of the expanded pilots should (a) measure participation of the pilot in ESJ communities, (b) measure shadow bill credits delivered to customers in ESJ communities, (c) estimate the impact of the expanded pilot on greenhouse gas emissions and other emissions with particular consideration of ESJ communities, and (d) report on lessons learned about how dynamic rates and associated programs can be designed to provide benefits to ESJ communities.

As discussed in the SCE pilot budget section above, SCE agreed with CEJA's recommendation to compare its expanded pilot results with a TOU comparison group.[110] The measurement and evaluation plan for SCE's expanded

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[108] Cal Advocates' reply comments on the Staff Proposal filed on October 9, 2023.

[109] PG&E's reply comments on the Staff Proposal filed on October 9, 2023.

[110] SCE's detailed budget information filed on October 13, 2023.

pilot should explain how the evaluation will compare residential customer and small business pilot results with a comparison group of similar customers on TOU rates with previously installed technologies that enable load shifting.

It is reasonable to adopt the following expanded pilot evaluation provisions:

a. PG&E and SCE shall each either (i) conduct a request for proposals to hire an independent evaluation contractor or (ii) expand the contract with the current independent evaluation contractor for its existing pilot authorized by D.21-12-015 to meet the evaluation requirements of this decision;

b. PG&E and SCE shall each consult with the Energy Division's staff to select an independent evaluation contractor, if applicable, and to develop the evaluation plan for the expanded pilots;

c. The mid-term evaluation reports for the expanded pilots shall be due on August 1, 2026;

d. The final evaluation reports for the expanded pilots shall be due on March 1, 2028;

e. PG&E and SCE shall each work with the Commission's Energy Division and the evaluation contractor to develop a measurement and evaluation plan for its expanded pilots; and

f. The measurement and evaluation plan of each expanded pilot shall include the items in Attachment C.

9. Whether Other Modifications are Necessary

Several parties proposed to modify the rate design of the VCE Ag Pilot for the expanded pilots in PG&E's service territory. Modifying an existing pilot is not in the scope of Phase 1 of this proceeding. Accordingly, this decision does not modify the rate designs of the VCE Ag Pilot or the SCE Dynamic Rate Pilot authorized in D.21-12-015.

CEJA and CforAT expressed concerns that shadow billing would not provide sufficient bill protection for residential customers or assist with affordability concerns.[111] PG&E replied that customers cannot be required to pay higher bills due to the nature of shadow billing; the most customers will pay under the pilots is what they would pay under their otherwise applicable tariff, and the customers will receive an incentive payments once a year as a bill credit. Further, PG&E and SCE each asserted that shadow billing is necessary to enable rapid implementation of the pilots in time to support near-term summer reliability.[112] We agree that shadow billing sufficiently protects participating residential customers and is necessary to expedite implementation of the pilots. This decision does not modify the shadow billing provisions authorized by D.21-12-015.

SCE commented that the Commission should delay SCE's obligation to file rate design applications to comply with the CEC's Amended Load Management Standards if the Commission approves a three-year extension of the SCE Dynamic Rate Pilot. SCE argued that a pilot extension would delay pilot results and would warrant a delay of SCE's obligations to propose rate designs to comply with the Amended Load Management Standards.[113] UCAN disagreed and urged the Commission to clarify that extension of demand flexibility pilots cannot be used as an excuse to delay implementation of rates that comply with the Amended Load Management Standards.[114]

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[111] CEJA's and CforAT's opening comments on the Staff Proposal filed on September 25, 2023.

[112] PG&E's and SCE's reply comments on the Staff Proposal filed on October 9, 2023.

[113] SCE's reply comments on the October Ruling filed on October 25, 2023.

[114] UCAN's reply comments on the October Ruling filed on October 25, 2023.

Utility and CCA obligations to offer optional dynamic rates to its electric customers by the deadlines in the CEC's Amended Load Management Standards are not dependent on prior implementation of dynamic rate pilots or the assessment of pilot results. The upcoming Phase 1 Track B decision on the working group proposals will provide sufficient guidance for utility applications for dynamic rates that meet the requirements of the Amended Load Management Standards. This decision does not modify any deadlines for a utility to file applications for rates that comply with the Amended Load Management Standards.

10. Summary of Public Comment

Rule 1.18 of the Commission's Rules of Practice and Procedure (Rules) allows any member of the public to submit written comment in any Commission proceeding using the "Public Comment" tab of the online Docket Card for that proceeding on the Commission's website. Rule 1.18(b) requires that relevant written comment submitted in a proceeding be summarized in the final decision issued in that proceeding. There are no relevant public comments on the Docket Card of this proceeding.

11. Comments on Proposed Decision

The proposed decision of ALJ Stephanie Wang in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3. Comments were filed on January 5, 2024 by CalCCA, CEJA, CLECA, CforAT, Cal Advocates, Gridtractor Inc., Joint Demand Management Parties (CEDMC, Leapfrog Power, Inc., and OhmConnect, Inc.), PG&E, SCE, VCE, and VGIC. Reply comments were filed on January 12, 2024 by Cal Advocates, CalCCA, CLECA, Gridtractor Inc., PG&E, Olivine, Inc., SCE, VGIC, and VCE.

Joint Demand Management Parties, Gridtractor Inc., PG&E, and SCE urged the Commission to increase the budgets for the pilots or remove requirements for PG&E and SCE to meet certain enrollment levels to access a portion of the funding for the pilots. These parties argued that the budget restrictions of the proposed decision would hamper the success of the pilots.

This decision maintains the budget provisions of the proposed decision. The budget provisions were designed to balance our interest in scaling up the summer reliability dynamic rates pilots and ensuring that the amount of ratepayer funds spent on the expanded pilots is reasonable on a per kW-yr basis. Some parties argued that dynamic rates pilots should not be subject to the same cost scrutiny as demand response programs. However, we envision the expanded pilots as a key opportunity to test not only whether dynamic rates can provide system reliability benefits, but also to test whether dynamic rates can be scaled up and provide these benefits at an affordable cost.

This decision provides a mechanism for modifying the budget restrictions if the necessary. The proposed decision required PG&E and SCE to file a Tier 3 advice letter to propose modifications if any of the expanded pilots do enroll five megawatts by February 1, 2026. In response to parties' concerns about the budget restrictions hampering pilot success, this decision was revised to change this deadline from February 1, 2026 to August 1, 2025.

In opening comments, VCE urged the Commission to expand the list of eligible rate schedules for the PG&E Ag Pilot to legacy and split week agricultural rate schedules, arguing that a large portion of its agricultural customers would not be eligible to participate in the expanded pilot without modifications to the decision. VCE also filed a motion on January 2, 2024, and an amended motion on January 4, 2024, to reopen the record to add data about VCE agricultural customers' enrollment in various rate schedules. PG&E responded to the VCE motion on January 5, 2024 noting that (a) the proposed decision had typographical errors in the list of eligible rate schedules for the PG&E Ag Pilot, (b) agricultural customers of VCE who are enrolled in an ineligible rate schedule can participate in the pilot by enrolling in an eligible rate schedule, and (c) the Commission should not include legacy or split week agricultural rates in the pilot to avoid sending inconsistent rate signals to pilot participants. This decision has been revised to correct the typographical errors in the list of eligible rate schedules for the PG&E Ag Pilot.

We deny VCE's motion to reopen the record and will not include legacy or split week agricultural rate schedules in the pilot. Agricultural customers on legacy and split week rates are eligible for the pilot and may participate in the pilot by switching to an eligible rate. We note that the budget for the PG&E Ag Fit pilot includes considerable customer technology incentives to incent participation. Further, as previously noted in this decision, and emphasized in certain party comments on the proposed decision, allowing customers to stay on rates that are inconsistent with the pilot signals could result in higher monthly bills in the short term, since shadow bill credits will be provided only once per year.

VCE also requested clarification that PG&E's budgets for systems and technology costs and customer technology integration incentives include such costs for VCE customers participating in the PG&E Ag Pilot. This decision has been clarified accordingly.

PG&E requested a clarification that the PG&E Ag Pilot should be allowed to use similar (rather than the same) systems and technology solutions as the

VCE Ag Pilot for agricultural customers. This decision has been revised accordingly.

PG&E, Gridtractor Inc., and VGIC each commented that customers on electric vehicle charging rate schedules BEV-1 and BEV-2, which are eligible for the DAHRTP pilot, should be allowed to participate in a PG&E expanded pilot. PG&E has noted its intent to request a pause of the DAHRTP pilot when PG&E Expanded Pilot 2 is approved. Cal Advocates opposed addition of these rate schedules, arguing that there is no record to support inclusion of these rate schedules. Cal Advocates noted that PG&E and Gridtractor Inc. previously proposed to exclude the BEV schedules from PG&E Expanded Pilot 2. No party previously advocated for PG&E Expanded Pilot 2 to include rate schedules BEV-1 or BEV-2. For these reasons, we will not add these rate schedules to PG&E Expanded Pilot 2 at this time.

PG&E commented that it wanted flexibility to work directly with customers rather than be required to prioritize working with ASPs. This decision has been revised to give PG&E this flexibility.

PG&E and VCE commented that the Commission should clarify whether the VCE Ag Pilot should continue to recover costs through the DR Emerging Technologies program in accordance with D.21-12-015. This decision was revised to clarify that it does not change the cost recovery provisions of D.21-12-015 for the VCE Ag Pilot or the SCE Dynamic Rates Pilot.

PG&E commented that it needs authority to commence spending of the expanded pilot budgets on the effective date of this decision to enable it to commence the expanded pilots by June 1, 2024. This decision was revised accordingly.

PG&E requested clarification about whether it may seek recovery of expanded pilot implementation costs recorded in memorandum accounts in a separate application. This decision was revised to clarify that PG&E must recover pilot implementation costs in a General Rate Case proceeding.

PG&E and SCE asked to track shadow bill credits in existing balancing accounts as a separate line-item rather than requiring the creation of new subaccounts. This decision has been revised accordingly.

PG&E, VCE, and SCE requested that the Commission maintain the existing evaluation report deadlines for the pilots authorized by D.21-12-015, which were incorporated into existing pilot evaluation plans and agreements with evaluation contractors. The decision was revised to make this change.

Cal Advocates argued that the Commission should add contracting requirements and clear responsibilities between CCAs and the utilities. The decision provides for VCE to file an advice letter to propose its responsibilities and conditions for administering the PG&E Ag Pilot in its service area. In reply comments, PG&E noted that there will be a contract between PG&E and VCE for responsibilities, costs, and invoice approval. PG&E argued that no additional contracting requirements or delineation of responsibilities is needed for other CCAs that participate in the pilot because those CCAs will receive a per kW-yr enrollment incentive rather than administrative costs. We agree that no additional contracting requirements are needed for CCAs to receive enrollment incentives. Instead, we expect PG&E and SCE to include the CCA enrollment incentive implementation processes in their advice letters for implementing the pilots.

PG&E raised concerns that coordinating a workshop and proposal for dual participation in the pilots and demand response programs could violate antitrust rules. We clarify that this decision orders PG&E and SCE to coordinate a public workshop, and jointly develop proposed procedures and processes to address dual participation for consideration by the Commission in their advice letters. The filing of a joint proposal for Commission consideration consistent with this decision will not violate antitrust rules.Commission staff will attend the public workshop. PG&E and SCE shall also invite staff from the CEC and the California Independent System Operator (CAISO) to the public workshop and coordinate with them on their joint proposal on dual participation.

In response to SCE's comments, this decision was also revised to correct typographical errors in Conclusion of Law 21 and Ordering Paragraph 2(c).

12. Assignment of Proceeding

President Alice Reynolds is the assigned Commissioner and Stephanie Wang is the assigned Administrative Law Judge and Presiding Officer in this proceeding.

Findings of Fact

1. There is constrained availability in resource adequacy supply and persistent delays in the development of resource adequacy projects.

2. The VCE Ag Pilot launched on May 1, 2022 and is scheduled to conclude on December 31, 2024.

3. The VCE Ag Pilot showed promising results as a near-term solution to support system reliability.

4. The VCE Ag Pilot had six customer participants representing 3.1 MW of enrolled load as of September 14, 2023.

5. The following rate schedules represent approximately 92% of agricultural service agreements in PG&E's service territory: AG-A1, AG-A2, AG-B, and AG-C.

6. The risk that an E-ELEC customer that opts to participate in the PG&E Expanded Pilot 2 will receive higher monthly customer bills due to following the PG&E Expanded Pilot 2 price signals is minimal.

7. The estimated average cost per MW-yr of load shifting was $144 per kW-yr for a representative sample of PG&E's and SCE's DR programs for 2023-2027.

8. Most of the PG&E expanded pilot program administration costs will vary based on pilot enrollment levels.

9. The SCE Dynamic Rates Pilot will study how price-responsive pilot projects can enhance system reliability between May 1, 2022 and December 31, 2024.

10. Only a few SCE Dynamic Rate Pilot participants began shadow billing in September 2023.

11. The SCE Expanded Pilot is similar to the PG&E Expanded Pilot 2 for the purpose of considering program administration costs.

Conclusions of Law

1. It is reasonable to authorize the PG&E Ag Pilot without a cap on enrollment.

2. It is reasonable for the PG&E Ag Pilot to conclude on December 31, 2027.

3. It is reasonable to allow bundled and unbundled agricultural customers on rate schedules AG-A1, AG-A2, AG-B, and AG-C to participate in the PG&E Ag Pilot for any end-use.

4. It is reasonable for PG&E to offer the PG&E Expanded Pilot 2 to commercial, industrial, and residential customers enrolled in the following rates: B-6, B-10, B-19, B-20, E-ELEC, and EV2-A, provided that PG&E shall not simultaneously offer both the DAHRTP rate and the PG&E Expanded Pilot 2 to customers on a given rate schedule.

5. It is reasonable to adopt an enrollment target of 50 MW of shiftable load for each of the PG&E expanded pilots.

6. It is reasonable to adopt a minimum enrollment level of 10 MW of shiftable load for each expanded PG&E pilot.

7. If PG&E does not enroll at least five MW of shiftable load in each of its expanded pilots by August 1, 2025, then PG&E should file a Tier 3 advice letter by October 1, 2025 to propose modifications to its implementation plan for the pilot to ensure that it will meet the minimum enrollment level before the pilot concludes.

8. It is reasonable to authorize funding for PG&E to administer each of the expanded pilots and provide incentives to CCAs for participating in the pilots, with an exception for the PG&E Ag Pilot in VCE's service area.

9. PG&E should develop an ME&O strategy for the PG&E Expanded Pilot 2 that will result in a lower cost per kilowatt enrolled in the pilot.

10. PG&E and SCE should each propose a plan for conducting ME&O to potential pilot participants in ESJ communities in its Tier 2 advice letter for implementing the expanded pilots.

11. It is reasonable to use the estimated costs per kW-yr of load shifting for DR programs as a benchmark for establishing budgets for dynamic rates programs.

12. It is reasonable to adopt the following budget provisions for program administration costs for the PG&E Ag Pilot:

(a) PG&E shall have an upfront budget of $1,500,000 for program administration costs;

(b) If enrollment for the pilot reaches 12.5 MW, PG&E shall have an additional budget of $1,250,000 for program administration costs;

(c) If enrollment for the pilot reaches 25 MW, PG&E shall have an additional budget of $1,250,000 for program administration costs;

(d) If enrollment for the pilot reaches 37.5 MW, PG&E shall have an additional budget of $1,250,000 for program administration costs;

(e) PG&E shall file a Tier 1 advice letter to notify the Commission when pilot enrollment reaches 12.5 MW, 25 MW, or 37.5 MW;

(f) VCE shall have an upfront budget of $372,500 for program administration costs;

(g) If enrollment for the pilot in VCE's service territory reaches 2.5 MW, VCE shall have an additional budget of $372,500 for program administration costs; and

(h) CCAs, other than VCE, shall receive an incentive of $20 per unbundled kW-yr enrolled in the pilot in its service territory, subject to a $1,800,000 cap for all CCA incentives for the pilot.

13. It is reasonable to adopt the following budget provisions for program administration costs for the PG&E Expanded Pilot 2:

(a) PG&E shall have an upfront budget of $2,000,000 for program administration costs;

(b) If enrollment for the pilot reaches 12.5 MW, PG&E shall have an additional budget of $1,700,000 for program administration costs;

(c) If enrollment for the pilot reaches 25 MW, PG&E shall have an additional budget of $1,700,000 for program administration costs;

(d) If enrollment for the pilot reaches 37.5 MW, PG&E shall have an additional budget of $1,700,000 for program administration costs;

(e) PG&E shall file a Tier 1 advice letter to notify the Commission when pilot enrollment reaches 12.5 MW, 25 MW, or 37.5 MW; and

(f) CCAs shall receive an incentive of $20 per unbundled kW-yr enrolled in the pilot in its service territory, subject to a $1,800,000 cap for all CCA incentives for the pilot.

14. PG&E's Expanded Pilot 2 should prioritize commercial, industrial, and residential customers that previously adopted technologies that enable responses to a dynamic price signal.

15. It is reasonable for the PG&E Ag Pilot to continue to use the same or similar systems and technology solutions as the VCE Ag Pilot for agricultural customers.

16. It is reasonable to approve the systems and technology costs for the PG&E expanded pilots in Attachment A.

17. The systems and technology budget and the customer integration incentive budgets for the PG&E Ag Pilot should include such costs for VCE customers that participate in the PG&E Ag Pilot.

18. PG&E's pilot implementation advice letter should include proposals for (a) the dollar amount of customer integration incentives to provide on a per kW basis during each year of the PG&E Ag Pilot for each proposed customer end-use, (b) the dollar amount of customer technology integration costs on a per kW basis during each year of the PG&E Expanded Pilot 2 for each proposed customer end-use, and (c) how the kW-magnitude of customers will be assessed for each proposed end-use.

19. It is reasonable to approve a pilot duration for the SCE Expanded Pilot that concludes on December 31, 2027.

20. It is reasonable to (a) direct SCE to allow one CCA to commence enrollment of customers in the SCE Expanded Pilot by June 1, 2024, and (b) require SCE to allow customers of any CCA to participate in the SCE Expanded Pilot beginning on June 1, 2025, provided that the CCA files a Tier 1

advice letter by March 1, 2025 confirming that it will support pilot enrollment beginning on June 1, 2025.

21. It is reasonable to require SCE to offer the SCE Expanded Pilot to existing and new participants in SCE's Charge Ready Program.

22. It is reasonable to adopt an enrollment target of 50 MW of shiftable load and a minimum enrollment level of 10 MW of shiftable load for the SCE Expanded Pilot.

23. If SCE does not enroll at least five MW of shiftable load in the SCE Expanded Pilot by August 1, 2025, then it should file a Tier 3 advice letter by October 1, 2025 to propose modifications to its pilot implementation plan to ensure that it will meet the minimum enrollment level before the pilot concludes.

24. It is reasonable to adopt the implementation budget for the SCE Expanded Pilot in Attachment A.

25. It is reasonable to adopt the following program administration budget provisions for the SCE Expanded Pilot:

(a) SCE shall have an upfront budget of $2,000,000 for program administration costs;

(b) If enrollment for the pilot reaches 12.5 MW, SCE shall have an additional budget of $1,700,000 for program administration costs;

(c) If enrollment for the pilot reaches 25 MW, SCE shall have an additional budget of $1,700,000 for program administration costs;

(d) If enrollment for the pilot reaches 37.5 MW, SCE shall have an additional budget of $1,700,000 program administration costs;

(e) SCE shall file a Tier 1 advice letter to notify the Commission when pilot enrollment reaches 12.5 MW, 25 MW, or 37.5 MW; and

(f) CCAs shall receive an incentive of $20 per unbundled kW-yr enrolled in the pilot in its service territory, subject to a $1,800,000 cap for all CCA incentives for the pilot.

26. It is reasonable to approve the systems and technology budget for the SCE Expanded Pilot in Attachment A.

27. SCE's pilot implementation advice letter should include proposals for (a) the dollar amount of customer technology integration costs on a per kW basis during each year of the pilot for each proposed customer end-use, and (b) how the kW-magnitude of customers will be assessed for each proposed end-use.

28. It is reasonable for SCE and VCE to begin to spend funds from the expanded pilot budgets authorized in this decision on the date of the disposition of their respective Tier 2 advice letter to implement the expanded pilots.

29. It is reasonable for PG&E to begin to spend funds from the expanded pilot budgets authorized in this decision on the effective date of this decision.

30. Any CCA in PG&E's service territory may file a Tier 1 advice letter by March 1, 2025 to notify the Commission that it will commence enrollment in the PG&E Ag Pilot or the PG&E Expanded Pilot 2 by June 1, 2025.

31. It is reasonable to approve the following cost recovery process for PG&E's expanded pilots:

(a) PG&E shall record all expanded pilot implementation costs in a subaccount of its existing DRTPMA and recover such costs through a General Rate Case proceeding; and

(b) PG&E shall track the distribution component of the shadow bill credits for all customers as a separate line-item of its existing DRAM Balancing Account, track the generation component of the shadow bill credits for bundled customers as a separate line-item of its existing ERRA, and recover any revenue shortfalls through the Annual Year-End Consolidated Revenue Requirement and Rate Change process.

32. It is reasonable to approve the following cost recovery process for SCE's expanded pilot:

(a) SCE shall file a Tier 1 advice letter to create a new DP Memorandum Account;

(b) SCE shall record all expanded pilot implementation costs in the DP Memorandum Account and recover such costs through a General Rate Case proceeding; and

(c) SCE shall track the distribution component of the shadow bill credits for all customers as a separate line-item of its existing BRRBA-D, track the generation component of the shadow bill credits for bundled customers as a separate line-item of its existing BRRBA-G, and recover any revenue shortfalls through the Annual Electric True-up process.

33. Upon the approval of the advice letter filed by VCE in accordance with this decision, PG&E should track VCE's implementation costs in the DRTPMA.

34. It is reasonable to prohibit dual-participation in the expanded pilots and all supply-side DR resources (economic or emergency), including all DR programs and contracts counted toward resource adequacy, DRAM, Flex Market Pilot, DAHRTP, and other event-based load-modifying programs or pilots operated by the utilities or CCAs except as explicitly permitted by this decision.

35. It is reasonable to allow dual-participation in the expanded pilots and the following tariffs and programs: Critical Peak Pricing, electrification rates, TOU rates, NEM and NBT, and ELRP Subgroup A.

36. SCE and PG&E should jointly host a workshop to discuss their joint proposal for addressing the following dual participation issues: (a) preventing double-compensation for customers who are dual-enrolled in the expanded pilots and DR programs or tariffs, (b) working with CCAs to prevent dual enrollment in excluded DR programs, and (c) accounting for dual-participation

when evaluating the impact of the expanded pilots. PG&E and SCE should invite staff from the CEC and CAISO to the public workshop and coordinate with them on their joint proposal on dual participation.

37. It is reasonable to adopt the following expanded pilot evaluation provisions:

(a) PG&E and SCE shall each either (i) conduct a request for proposals to hire an independent evaluation contractor or (ii) expand the contract with the current independent evaluation contractor for its existing pilot authorized by D.21-12-015 to meet the evaluation requirements of this decision;

(b) PG&E and SCE shall each consult with the Energy Division's staff to select an independent evaluation contractor, if applicable, and to develop the evaluation plan for the expanded pilots;

(c) The mid-term evaluation reports for the expanded pilots shall be due on August 1, 2026;

(d) The final evaluation reports for the expanded pilots shall be due on March 1, 2028;

(e) PG&E and SCE shall each work with the Commission's Energy Division and the evaluation contractor to develop a measurement and evaluation plan for its expanded pilots; and

(f) The measurement and evaluation plan of each expanded pilot shall include the items in Attachment C.

38. VCE should be allowed to file a Tier 2 advice letter within 60 days of the effective date of this decision to apply all modifications to the dynamic rate agricultural pilot authorized in this decision on May 1, 2024.

39. It is reasonable to deny VCE's amended motion to reopen the record filed on January 4, 2024.

O R D E R

IT IS ORDERED that:

1. Pacific Gas and Electric Company shall file a Tier 2 advice letter within 60 days of the effective date of this decision to propose an implementation plan for expanding the dynamic rate pilot authorized in Decision 21-12-015 into two pilots that will commence enrollment on June 1, 2024 in accordance with this decision. The advice letter shall include (a) an implementation strategy for achieving the 50-megawatt enrollment target for each pilot, and (b) a joint proposal with Southern California Edison Company for addressing dual participation issues and a description of how the proposal addresses input from the dual participation workshop.

2. Southern California Edison Company shall file a Tier 2 advice letter within 60 days of the effective date of this decision to propose an implementation plan to expand the dynamic rate pilot authorized in Decision 21-12-015 and to apply all modifications to the pilot authorized in this decision on June 1, 2024. The advice letter shall (a) include an implementation strategy for achieving the 50-megawatt enrollment target for the pilot, (b) propose which CCA customers will initially be permitted to enroll in the SCE Expanded Pilot, and (c) propose jointly with Pacific Gas and Electric Company how to address dual participation issues and input from the dual participation workshop.

3. Valley Clean Energy Alliance’s amended motion to reopen the record filed on January 4, 2024 is denied.

4. Rulemaking 22-07-005 remains open.

This order is effective today.

Dated January 25, 2024, at Sacramento, California.

ALICE REYNOLDS
President
GENEVIEVE SHIROMA
DARCIE L. HOUCK
JOHN REYNOLDS
KAREN DOUGLAS
Commissioners

ATTACHMENT A

Adopted Implementation Budgets for the Expanded Pilots

Attachment A

Adopted Implementation Budgets for the Expanded Pilots

Table A-1: Implementation Budget for the PG&E Ag Pilot

Category	Description	Upfront Budget	Variable Budget
Program administration costs	ME&O, vendor costs, utility labor, and evaluation costs	$1,500,000	$3,750,000 (1/3 available at 12.5 MW, 25 MW, and 37.5 MW enrollment)
Systems and technology costs	Vendor fees for user interface and automation control system, price engine, and shadow billing	$5,700,000	$0
VCE administration	VCE's program administration costs	$372,500	$372,500 (Available at 2.5 MW enrollment)
CCA incentives[1]	$20 per kW-yr enrolled in CCA service area	$0	$1,800,000
Customer technology incentives	Automation incentives for customers	$0	$8,000,000
Subtotals		$7,572,500	$13,922,500
Total implementation budget for 50 MW = $21,495,000			

[1] CCA incentives are paid to a CCA once per 12-month period, prorated, based on the aggregate kilowatts enrolled in the applicable expanded pilot in their service area.

Table A-2: Implementation Budget for the PG&E Expanded Pilot 2

Category	Description	Upfront Budget	Variable Budget
Program administration costs	ME&O, vendor costs, utility labor, and evaluation costs	$2,000,000	$5,100,000 (1/3 available at 12.5 MW, 25 MW, and 37.5 MW enrollment)
Systems and technology costs	Vendor fees for customer tools, pricing engine, rate modeling, and billing	$2,700,000	$0
CCA incentives	$20 per kW-yr enrolled for to support CCA participation in the pilot	$0	$1,800,000
Customer technology integration	ASP technology integration and automation with pilot price signal	$0	$3,600,000
Subtotals		$4,700,000	$10,500,000
Total implementation budget = $15,200,000			

Table A-3: Implementation Budget for the SCE Expanded Pilot

Category	Description	Upfront Budget	Variable Budget
Program administration costs	SCE's program administration labor, ME&O, and evaluation costs	$2,000,000	$5,100,000 (1/3 available at 12.5 MW, 25 MW, and 37.5 MW enrollment)
Systems and technology costs	Vendor fees for customer tools, pricing engine, rate modeling, and billing	$4,750,000	
Customer technology integration costs	ASP third party contracts technology integration, software services, customer site management	$0	$3,600,000
CCA incentives	$20 per kW-yr enrolled in CCA service area	$0	$1,800,000
Subtotals		$6,750,000	$10,500,000
Total implementation budget for 50 MW = $17,250,000			

(END OF ATTACHMENT A)

ATTACHMENT B

EVSE Pilot Eligibility Requirements

Attachment B

EVSE Pilot Eligibility Requirements

Any direct current (DC) vehicle-to-grid (V2G) EVSE that has UL 1741 certification (but not UL 1741 SA certification), any subsequent UL 1741 supplement certification required in Rule 21, or Smart Inverter Working Group-recommended smart inverter functions may interconnect initially for the purpose of participating in the expanded pilots, subject to all other Rule 21 interconnection requirements.

PG&E or SCE may request the termination of this interconnection pathway via Tier 2 advice letter after 2024 if the market has developed to provide multiple V2G capable EVSEs that meet the full smart inverter certification standards required in Rule 21. Termination of this pathway would not affect previously interconnected EVSE, which may continue to operate parallel to the grid as per their interconnection agreement.

An EVSE meter, or EVSE sub-meter if the EVSE is taking service through the host site meter, may be used as the basis for settlement under the expanded pilot's dynamic rate. The EVSE sub-meter must meet applicable standards established by the Commission if adopted.

Only during participation in the expanded pilots, the customer (or the customer's authorized third party) is permitted to virtually aggregate separately metered EVSE that have a Rule 21 interconnection agreement with other load and generation (if any) at an electrically contiguous host site to allow export from the EVSE to reduce the host site's load and export from such aggregation up to the sum of the net export allowed by any available Rule 21 interconnection agreements of the EVSE site and the host site. Two sites are considered electrically contiguous when they have electric service derived from the same utility distribution transformer secondary and there are no devices on the utility distribution system that can interrupt power flow to only one site.

(END OF ATTACHMENT B)

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;

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)