

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE



May 23, 2019

Advice Letter 5477-E

Erik Jacobson
Director, Regulatory Relations
Pacific Gas and Electric Company
77 Beale Street, Mail Code B10C
P.O. Box 770000
San Francisco, CA 94177

SUBJECT: PG&E's Disadvantaged Communities Plan

Dear Mr. Jacobson:

Advice Letter 5477-E and supplemental 5477-E-A are effective as of June 6, 2019.

Sincerely,

A handwritten signature in cursive script that reads "Edward Randolph".

Edward Randolph
Deputy Executive Director for Energy and Climate Policy/
Director, Energy Division

May 7, 2019

Advice 5477-E-A

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

Subject: Supplemental: PG&E's Disadvantaged Communities Pilot Plan

Purpose

Pacific Gas and Electric Company (PG&E) hereby submits this supplemental Tier 2 advice letter to the California Public Utilities Commission (Commission or CPUC) pursuant to a request by the CPUC's Energy Division. The reason for the supplemental submittal stems from an expanded geographic boundary of South-Central Fresno adopted by the San Joaquin Valley Air District after the original DAC Pilot Plan was submitted on February 8, 2019. Specifically, new areas immediately to the west of highway 99 and highway 41 that fall into zip code 93706 were included in the new definition of the South-Central Fresno community.¹ Because there is fluidity in the designated geographic area, PG&E is also requesting that it be given flexibility to expand the pilot to other geographic areas if further expansion of the geographic footprint of the AB 617 South-Central Fresno community is adopted by the San Joaquin Valley Air District prior to the commencement of the DAC DR Pilot.

Background

Ordering Paragraph (OP) 11 of Decision (D.) 18-11-029 requires that no later than four months before the start of the pilot or 60 days after the issuance of this decision,² whichever is earlier, each of the three Investor Owned Utilities submit Tier 2 advice letters that include plans for their DAC Pilot. This plan must comply with the

¹ Assembly Bill (AB) 617 (C. Garcia, Chapter 136, Statutes of 2017), under the California Air Resources Board (CARB) established the Community Air Protection Program (CAPP). The Program's focus is to reduce exposure in communities most impacted by air pollution. A working group tasked with determining the impacted communities identified zip code 93706.

² D. 18-11-029 was adopted on November 20, 2018 and issued on December 10, 2018.

requirements listed in the Proposal³ and adopted by D. 18-11-029, including section 3.5.3 titled “Regulatory Process.”⁴ In compliance with OP 11, PG&E submitted Advice Letter 5477-E on February 8, 2019. Subsequently, the San Joaquin Valley Air District expanded the AB 617 definition of the South-Central Fresno community to include new areas immediately to the west of highway 99 and highway 41 that fall into zip code 93706. Thereafter, the Energy Division requested PG&E to update its original DAC Proposal with a supplemental advice letter to capture this additional zip code. Accordingly, the second page of the DAC Proposal (attached to this Advice Letter) has been updated to reflect the additional zip code along with footnote 4, which clarifies that “If the CAPP programs expands the geographic footprint of South-Central Fresno prior to commencement of the DAC DR Pilot, then PG&E requests flexibility to adjust zip codes accordingly.”

Protests

Anyone wishing to protest this submittal may do so by letter sent via U.S. mail, facsimile or E-mail, no later than May 17, 2019, which is 10 days after the date of this submittal. The shortened protest period was requested by the Energy Division.

Protests must be submitted to:

CPUC Energy Division
ED Tariff Unit
505 Van Ness Avenue, 4th Floor
San Francisco, California 94102

Facsimile: (415) 703-2200
E-mail: EDTariffUnit@cpuc.ca.gov

Copies of protests also should be mailed to the attention of the Director, Energy Division, Room 4004, at the address shown above.

The protest shall also be sent to PG&E either via E-mail or U.S. mail (and by facsimile, if possible) at the address shown below on the same date it is mailed or delivered to the Commission:

³ PG&E understands the reference to “Proposal” to be the Assigned Commissioner’s original straw proposal released on February 7, 2018, as updated. Subsequent to the original proposal, the CPUC held a workshop on February 15, 2018. Thereafter, on June 15, 2018, an ALJ Ruling was issued containing a series of questions on numerous topics, including DACs. PG&E along with other interested stakeholders filed responses and replies on July 20, 2018 and August 3, 2018, respectively.

⁴ The DAC Pilot Proposal addresses the ten criteria listed on pages 74-75 of the Decision.

Erik Jacobson
Director, Regulatory Relations
c/o Megan Lawson
Pacific Gas and Electric Company
77 Beale Street, Mail Code B13U
P.O. Box 770000
San Francisco, California 94177

Facsimile: (415) 973-3582
E-mail: PGETariffs@pge.com

Any person (including individuals, groups, or organizations) may protest or respond to an advice letter (General Order 96-B, Section 7.4). The protest shall contain the following information: specification of the advice letter protested; grounds for the protest; supporting factual information or legal argument; name, telephone number, postal address, and (where appropriate) e-mail address of the protestant; and statement that the protest was sent to the utility no later than the day on which the protest was submitted to the reviewing Industry Division (General Order 96-B, Section 3.11).

Effective Date

Pursuant to OP 11 of D. 18-11-029, this advice letter is submitted with a Tier 2 designation, which is the same Tier designation as requested in Advice 5477-E. PG&E requests that this Tier 2 advice letter become effective on June 6, 2019, which is 30 calendar days after the date of submittal.

Notice

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list [and the parties on the service list for A.17-01-012 et al. Address changes to the General Order 96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter submittals can also be accessed electronically at: <http://www.pge.com/tariffs/>.

/S/

Erik Jacobson
Director, Regulatory Relations

Attachments

cc: Service List A.17-01-012 et al.



ADVICE LETTER SUMMARY

ENERGY UTILITY



MUST BE COMPLETED BY UTILITY (Attach additional pages as needed)

Company name/CPUC Utility No.: Pacific Gas and Electric Company (ID U39E)

Utility type:

- ELC GAS WATER
 PLC HEAT

Contact Person: Yvonne Yang

Phone #: (415)973-2094

E-mail: PGETariffs@pge.com

E-mail Disposition Notice to: Yvonne.Yang@pge.com

EXPLANATION OF UTILITY TYPE

ELC = Electric GAS = Gas WATER = Water
 PLC = Pipeline HEAT = Heat

(Date Submitted / Received Stamp by CPUC)

Advice Letter (AL) #: 5477-E-A

Tier Designation: 2

Subject of AL: Supplemental: PG&E's Disadvantaged Communities Pilot Plan

Keywords (choose from CPUC listing): Compliance

AL Type: Monthly Quarterly Annual One-Time Other:

If AL submitted in compliance with a Commission order, indicate relevant Decision/Resolution #: D.18-11-029

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: No

Summarize differences between the AL and the prior withdrawn or rejected AL:

Confidential treatment requested? Yes No

If yes, specification of confidential information:

Confidential information will be made available to appropriate parties who execute a nondisclosure agreement. Name and contact information to request nondisclosure agreement/ access to confidential information:

Resolution required? Yes No

Requested effective date: 6/6/19

No. of tariff sheets: N/A

Estimated system annual revenue effect (%): N/A

Estimated system average rate effect (%): N/A

When rates are affected by AL, include attachment in AL showing average rate effects on customer classes (residential, small commercial, large C/I, agricultural, lighting).

Tariff schedules affected:

Service affected and changes proposed¹: N/A

Pending advice letters that revise the same tariff sheets: N/A

¹Discuss in AL if more space is needed.

Protests and all other correspondence regarding this AL are due no later than 20 days after the date of this submittal, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, CA 94102
Email: EDTariffUnit@cpuc.ca.gov

Name: Erik Jacobson, c/o Megan Lawson
Title: Director, Regulatory Relations
Utility Name: Pacific Gas and Electric Company
Address: 77 Beale Street, Mail Code B13U
City: San Francisco, CA 94177
State: California Zip: 94177
Telephone (xxx) xxx-xxxx: (415)973-2093
Facsimile (xxx) xxx-xxxx: (415)973-3582
Email: PGETariffs@pge.com

Name:
Title:
Utility Name:
Address:
City:
State: District of Columbia Zip:
Telephone (xxx) xxx-xxxx:
Facsimile (xxx) xxx-xxxx:
Email:

Advice 5477-E-A
May 7, 2019

Attachment 1

Disadvantaged Communities Demand Response Pilot Proposal

Disadvantaged Communities Demand Response Pilot Proposal

Pacific Gas and Electric Company & Olivine

May 7, 2019

Background

D. 18-11-029 or the Decision (issued December 10, 2018) ordered the IOUs to each submit a Tier II Advice letter within 60-days after the issuance of this Decision (by February 8, 2019) proposing a demand response (DR) pilot focused on providing direct economic benefits to disadvantaged communities (DACs). Total funding for the DAC DR Pilots over the period 2019-2022 is \$2.5 million across the three IOUs with PG&E allocated \$1.0 million with 10% of the budget dedicated to EM&V.¹

The Decision defines DACs as census tracts that score above 75th percentile using the CalEnviroScreen tool plus an additional 22 census tracts that score in the highest five percent of CalEnviroScreen's pollution burden, but do not have an overall CalEnviroScreen score because of unreliable socioeconomic or health data.²

The Decision provides for the use of zip codes or census tracts in targeting for the purposes of this pilot and provides support for marketing and outreach efforts to increase enrollment and participation in DACs, while learning more about the target population and the residents' ability to respond to DR events.

This Pilot Proposal outlines how PG&E and its partner, Olivine, plan to implement the DAC Pilot in the 2018-2022 DR Program cycle.

¹ Decision 17-12-003, Ordering Paragraph 58.

² D.18-11-029, p. 62. Link: <https://oehha.ca.gov/media/downloads/calenviroscreen/factsheet/ces30factsheetfinal.pdf>

Pilot Target Location

Using the methodology Olivine developed that was adopted under D. 18-11-029, this pilot would target census tracts in zip codes that qualify as DACs within a 10-mile radius of the Malaga natural gas fired peaking plant in south Fresno³. The pilot will include customers residing in zip codes: 93701, 93702, 93703, 93721, 93725, 93706 and 93728, which fully encompasses south-central Fresno community selected for the Community Air Protection Program under Assembly Bill (AB) 617.⁴ Geographically this community is bounded by Golden State Boulevard to the west, McKinley Avenue to the north, Chestnut Avenue to the east, and includes the small community of Malaga at the southern tip of the boundary.

The census tracts in these zip codes are DACs that fall within a 10-mile radius of the Malaga natural gas fired peaking plant in south Fresno. These DACs have some of the highest environmental justice (EJ) percentile rankings in the State. The average overall CalEnviroScreen Score and Population Characteristics for the area values are both above the 97th percentile. Of the approximately 25,000 residential households within this target area, approximately 75% are California Alternative Rates for Energy (CARE)⁵ eligible.

Pilot Strategy

During hot summer afternoons the Malaga powerplant can be dispatched to meet high energy demand in the greater Fresno area⁶. Distribution lines serving South Central Fresno can also experience high loading conditions during these same periods.

This Pilot intends to target 2,500 residential customers within a 10-mile radius of the Malaga power generation plant. Using a statistically relevant sample size near

³ The Malaga Power Plant is a 96 MW gas fired peaking plant located in south Fresno.

⁴ AB 617 called for the California Air Resources Board (CARB) to establish the Community Air Protection Program (CAPP). This Program's focus is to reduce exposure in communities most impacted by air pollution. If the CAPP program expands the geographic footprint of South-Central Fresno prior to the commencement of the DAC DR Pilot, then PG&E requests flexibility to adjust zip codes accordingly.

⁵ CARE provides for discounted rates based on income eligibility.

Link: <https://www.pge.com/care/>

⁶ All communities in the Pilot area fall into the Fresno sub-Load-Aggregation-Point (subLAP) as currently defined by the CAISO.

a gas fired peaking plant will provide insights for future program designs that are applicable and scalable for use in similarly situated households throughout the Central Valley area (approximately 500,000 households).

The Pilot will collect demographic, psychographic and energy usage data in order to evaluate the willingness and ability of residents within this community to participate in DR either by reducing or shifting load in response to both grid and environmental signals. At scale these types of DR actions could materially reduce the need for dispatch and cycling of peaking plants and reduce high loading on distribution lines potentially extending the life of that equipment.

Marketing and outreach efforts to increase understanding and engagement in DR programs will be tested to better understand how to access diverse and hard to reach populations within the targeted community, how to overcome challenges and barriers to participation, and ways to provide additional value to both participating and non-participating residents by leveraging other demand side management program options available.

The following areas will be explored during the study period.

- **Awareness and Willingness to Participate:** What is the current level of awareness of DR program availability and understanding of how DR programs create value for customers and the community? What is the current level of interest in participating in demand response programs? If possible compare responses of DAC households to non-DAC households.
- **Energy Use and Ability to Participate:** How do the different DAC households use energy in their homes? How well can DAC households respond to and participate in DR programs? If the population is large enough, we intend to compare usage and responses by households in and outside of DACs.
- **Outreach:** What are the best methods to reach different types of households in DACs, including those that are hard to reach?
- **Messaging:** What kind of messaging resonate best with households?
- **Benefits:** What kinds of DR incentives and program offerings will be of greatest value to DAC households and benefit them the most?

Theory of Pilot Intervention

The Pilot leverages and expands on Olivine's recently completed Community Energy Initiative (CEI) based in Richmond, CA. The CEI was a limited study (50 participants) that provided incentives for survey participation:

- How and when do individuals use energy in their homes?
- Can a household reduce energy when requested?
- Will households participate in DR programs?
- Are there observed differences between households in DACs and those not in DACs but proximate to DACs?
- What are important concerns of households for their communities?
- Do carbon emissions fit into those concerns and to what extent?
- What methods and approaches for outreach are most successful?
- How much facility do households have with technology?

Mobile application tools were developed to provide awareness for energy usage and messaging capabilities for load reduction through behavioral demand response.

Outreach and Enrollment: The Pilot intends to leverage and expand the study in Richmond within the targeted zip codes in Fresno. As was the case in Richmond social media and community organizations will be used for outreach. In Fresno, partnerships will be formed with local community-based organizations to reach the diverse populations. Marketing and educational materials will be developed in the population's native language (e.g. Spanish) beginning in the last quarter of 2019. In addition to social media and community organizations, PG&E and Olivine will attempt to engage one or more Energy Savings Assistance program contractors as well as one or more San Joaquin Valley Pilot Community Energy Navigator located in the south-central Fresno area.⁷ Training on the Pilot program design and use of the Olivine on-line application will be rolled out in the

⁷ These entities provide services and are both well-known and trusted in the community. Therefore, their participation would be useful in the recruitment effort.

first quarter of 2020 to support community awareness, outreach and initial enrollment efforts.

Participants will be provided access to an existing easy-to-use mobile app and website, as was used in Olivine's CEI in Richmond, to support customer engagement and education throughout the pilot and to facilitate communications, collection of surveys and other direct participant information. In order to provide for as many customers as possible there will be both behavioral as well as automated technology enabled options offered and enrollment processes will include online capabilities to provide for near real-time validation of customer eligibility. The formal enrollment period is expected to end by the summer of 2020 DR event season and to include initial surveys and assessments.

Demand Response Testing: During the Pilot there will be study period for both home energy summer peak shaving and winter/spring load shifting⁸ to analyze the capabilities of the population to provide both load reduction as well as shift consumption into periods of excess renewable supply.

The summer of 2020 is planned to be peak shaving event study season. Late afternoon and early evening hours will be used for DR events targeting high value times when the Malaga power station may be dispatched and/or PG&E substations may have high loading. The effectiveness of varying triggers such as grid need, pricing, and air quality will be tested. Market price signals as well as forecasts of potential dispatch of the Malaga power-plant will be used.

⁸ In the context of the Pilot, a load shift event may consist of the customer being informed that clean energy is abundant during certain periods. The customer will have discretion over how to respond to this information. For example, providing information that shifting use of electric clothes drying from a rainy Friday evening to sunny Saturday morning on certain days during the winter and spring will result in significantly lower GHGs and other air emissions related to that use of energy. If a market integrated load shift product that customers can participate in is approved during the timeframe of the Pilot, PG&E and Olivine will assess whether such product can be reasonable integrated into the Pilot design.

Similarly, during the winter months of 2020-2021, home energy excess supply will be studied focusing on the capabilities of the participants to shift load usage to match available renewable energy supply.⁹

Up to ten (10) DR events will be targeted for each study season and incentives will be paid for both specific events as well as consistent performance and participation in surveys. The Pilot will include the measurement and evaluation activities to determine the value of the capabilities to the targeted pilot location as well as broader generalizations at scale, responses to differing triggers and impacts from the measured performance.

Market Integration

The Pilot operations will leverage the existing capabilities and infrastructure already deployed by Olivine in other PG&E pilot programs, including the Supply Side II (SSP II) and Excess Supply (XSP) DR Pilot.¹⁰ One or both of these existing pilots will serve as the mechanism for integration of the DAC DR Pilot into the CAISO wholesale market.

Amount and Form of Economic Benefits

The Pilot intends to provide 50% of the budget monies directly to participants within the Community. Participants will receive direct incentives for providing responses to surveys and for participating in DR events. Participants are expected to have the opportunity to earn up to \$250 (subject to change in final pilot design) in direct incentives through some combination of initial Pilot survey completion, participation in Pilot peak shaving and load shifting events, and completion of the final Pilot survey.

Through energy monitoring, awareness and education, participants may have the opportunity to save energy and reduce their energy bills. Eligible participants will

⁹ Due to higher levels of renewables especially solar generation, California can experience times of over-supply of generation especially during non-summer months. This is sometimes referred to as the “belly of duck curve.” Link: <https://www.nrel.gov/docs/fy16osti/65023.pdf>

¹⁰ Olivine’s webpage provides an overview of the Supply Side II Pilot and Excess Supply Pilot

Link (SSP II): <https://olivineinc.com/services/our-work/ssp/>

Link (XSP): <https://olivineinc.com/services/our-work/xsp/>

also receive free technology installation and support to reduce their energy usage and to leverage other available Demand Side program options and incentives.

Pilot Analysis and Assessment Including Cost-Effectiveness

As these DAC DR Pilots are first of their kind, PG&E and Olivine will work with stakeholders and Energy Division Staff to develop a plan for quantitative and qualitative evaluation of the Pilot, including assessment of program design and delivery, customer experience, load impacts, environmental impacts and cost-effectiveness. PG&E and Olivine will develop key performance indicators and will report out annually and at the end of the pilot in a fashion similar to the current SSP-II and XSP Pilots. These key performance indicators will be reflective of customer benefits including safety, reliability affordability, awareness and access. Additionally, consistent with guidance provided in D. 18-11-029, key performance indicators will be developed and reported reflecting air quality improvements related to the pilot.

Consumer Protection

No customer will be charged any fee for participating in the Pilot nor will there be any penalty for exiting the Pilot once enrolled. For low income customers participating in the Pilot no out-of-pocket payment will be required to receive demand response automation equipment, such as smart plugs or smart thermostats beyond redemption of “points” earned through Pilot participation. Furthermore, Pilot test events will be structured in a way that will attempt to either reduce energy consumption (peak shaving) or reduce energy costs (load shifting) or both.

Coordination with Other IOU’s

PG&E’s lead on the DAC DR Pilot did reach out to both SCE and SDG&E leads to discuss opportunities for collaboration and to ensure that PG&E was not duplicating the learnings that either SCE or SDG&E were planning from their DAC DR Pilot design.

Disadvantaged Community Advisory Group (DACAG)

On January 25, 2019 the DAC Pilot proposal was presented to the DACAG at its meeting in Fresno. Feedback from the DACAG was incorporated into this proposal. During that meeting plans for coordination were discussed to update the DACAG at least annually through the pilot lifecycle and the DACAG will consider forming a subgroup to coordinate more frequently with the DAC DR pilot.

Justification for Choice of Third-Party

PG&E has chosen to partner with Olivine for this Pilot based on Olivine's wealth of knowledge related to demand response program and platform design including all aspect of CAISO market integration. In addition, Olivine has recently completed the Richmond Community Energy Initiative which allows this Pilot to extend and leverage Olivine's learnings from that work as well as leverage the on-line application that Olivine built for that earlier study. Finally, the partnership between PG&E and Olivine allows this Pilot to leverage platforms that Olivine has already developed for PG&E's existing SSP II and XSP Pilots.

Customer Data Sharing

Customer data for this pilot would fall under Rule 27 addressing primary purpose use. PG&E's existing Master Service Agreement with Olivine includes provisions on confidentiality and data security regarding the handling of confidential information and PG&E Data from PG&E or its customers. This is consistent with the process established for the two existing pilots (SSP II and XSP) for which Olivine serves as the primary contractor and PG&E as the pilot administrator.

Additional Supporting Information

The remaining pages provide addition information, including the proposed schedule for the pilot, a proposed illustrative budget and the proposed roles and responsibilities between PG&E and Olivine.

Proposed Schedule for Pilot

<u>Q1 2019</u> – Submit Tier II Advice Letter	<u>Q2 2019</u> – Tier II Advice Letter Approved	<u>Q3 2019</u> – Finalize scope of work and contract provisions with Olivine	<u>Q4 2019</u> – Identify Fresno area community organizations and plan social media outreach
<u>Q1 2020</u> – Begin outreach through community organizations and social media. Train contractors on DAC DR Pilot design and Olivine on-line application	<u>Q2 2020</u> – Open season for enrolling customers into the Pilot. Completion of initial pilot participation surveys. Participating customers earn first pilot rewards.	<u>Q3 2020</u> – Peak shaving event season with up to 10 peak shaving events of 1-2 hours during early evening hours. Participating customers earn peak shaving event awards.	<u>Q4 2020</u> – Begin load shifting event season with up to 5 load shifting events of 1-2 hours duration on weekends during periods of excess renewable generation. Participating customers earn load shift event awards.
<u>Q1 2021</u> – Continue load shifting event season with up to 5 additional load shifting events.	<u>Q2 2021</u> – Post event season survey. Participants who engaged in 5 or more peak shaving and/or 5 or more load shifting events can earn additional rewards for completing post event season survey	<u>Q3 2021</u> – Olivine compiles survey and event season data and publishes DAC DR Pilot Final Report.	<u>Q4 2021</u> – Learnings from DAC DR Pilot are incorporated into PG&E’s post-2022 program design and funding application (to be filed in November 2021).

Proposed Illustrative Budget for Pilot

Budget Category	2019	2020	2021
Incentives		\$250,000	\$250,000
Marketing	\$75,000	\$75,000	
Administration	\$50,000	\$100,000	\$100,000
EM&V		\$25,000	\$75,000
Total	\$125,000	\$450,000	\$425,000
Total for three years of pilot			\$1,000,000

Proposed Roles and Responsibilities for Pilot

PG&E

- Pilot Administrator
- Pilot Design Review & Approval
- Pilot Material Review & Approval
- Participant Eligibility Review & Approval
- Pilot Assessment Review & Approval



Olivine

- Development of Pilot Material
- Participant Recruitment and Enrollment
- Pre and Post Survey Administration
- Event Notification
- Customer Care
- Nomination Management
- Award and Dispatch
- Settlements & Reporting

Advice 5477-E-A
May 7, 2019

Attachment 2

Disadvantaged Communities Demand Response Pilot Proposal (Redline Version)

Disadvantaged Communities Demand Response Pilot Proposal

Pacific Gas and Electric Company & Olivine

February 8 ~~May 7~~, 2019

Background

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Pilot Target Location

Using the methodology Olivine developed that was adopted under D. 18-11-029, this pilot would target census tracts in zip codes that qualify as DACs within a 10-mile radius of the Malaga natural gas fired peaking plant in south Fresno³. The pilot will include customers residing in zip codes: 93701, 93702, 93703, 93721, 93725, 93706 and 93728, which fully encompasses south-central Fresno community selected for the Community Air Protection Program under Assembly Bill (AB) 617.⁴ Geographically this community is bounded by Golden State Boulevard to the west, McKinley Avenue to the north, Chestnut Avenue to the east, and includes the small community of Malaga at the southern tip of the boundary.

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Pilot Strategy

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The Pilot will collect demographic, psychographic and energy usage data in order to evaluate the willingness and ability of residents within this community to participate in DR either by reducing or shifting load in response to both grid and environmental signals. At scale these types of DR actions could materially reduce the need for dispatch and cycling of peaking plants and reduce high loading on distribution lines potentially extending the life of that equipment.

Marketing and outreach efforts to increase understanding and engagement in DR programs will be tested to better understand how to access diverse and hard to reach populations within the targeted community, how to overcome challenges and barriers to participation, and ways to provide additional value to both participating and non-participating residents by leveraging other demand side management program options available.

The following areas will be explored during the study period.

- **Awareness and Willingness to Participate:** What is the current level of awareness of DR program availability and understanding of how DR programs create value for customers and the community? What is the current level of interest in participating in demand response programs? If possible compare responses of DAC households to non-DAC households.
- **Energy Use and Ability to Participate:** How do the different DAC households use energy in their homes? How well can DAC households respond to and participate in DR programs? If the population is large enough, we intend to compare usage and responses by households in and outside of DACs.
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- How and when do individuals use energy in their homes?
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Mobile application tools were developed to provide awareness for energy usage and messaging capabilities for load reduction through behavioral demand response.

Outreach and Enrollment: The Pilot intends to leverage and expand the study in Richmond within the targeted zip codes in Fresno. As was the case in Richmond social media and community organizations will be used for outreach. In Fresno, partnerships will be formed with local community-based organizations to reach the diverse populations. Marketing and educational materials will be developed in the population’s native language (e.g. Spanish) beginning in the last quarter of 2019. In addition to social media and community organizations, PG&E and Olivine will attempt to engage one or more Energy Savings Assistance program contractors as well as one or more San Joaquin Valley Pilot Community Energy

Navigator located in the south-central Fresno area.⁷ Training on the Pilot program design and use of the Olivine on-line application will be rolled out in the first quarter of 2020 to support community awareness, outreach and initial enrollment efforts.

Participants will be provided access to an existing easy-to-use mobile app and website, as was used in Olivine's CEI in Richmond, to support customer engagement and education throughout the pilot and to facilitate communications, collection of surveys and other direct participant information. In order to provide for as many customers as possible there will be both behavioral as well as automated technology enabled options offered and enrollment processes will include online capabilities to provide for near real-time validation of customer eligibility. The formal enrollment period is expected to end by the summer of 2020 DR event season and to include initial surveys and assessments.

Demand Response Testing: During the Pilot there will be study period for both home energy summer peak shaving and winter/spring load shifting⁸ to analyze the capabilities of the population to provide both load reduction as well as shift consumption into periods of excess renewable supply.

The summer of 2020 is planned to be peak shaving event study season. Late afternoon and early evening hours will be used for DR events targeting high value times when the Malaga power station may be dispatched and/or PG&E substations may have high loading. The effectiveness of varying triggers such as grid need, pricing, and air quality will be tested. Market price signals as well as forecasts of potential dispatch of the Malaga power-plant will be used.

⁷ These entities provide services and are both well-known and trusted in the community. Therefore, their participation would be useful in the recruitment effort.

⁸ In the context of the Pilot, a load shift event may consist of the customer being informed that clean energy is abundant during certain periods. The customer will have discretion over how to respond to this information. For example, providing information that shifting use of electric clothes drying from a rainy Friday evening to sunny Saturday morning on certain days during the winter and spring will result in significantly lower GHGs and other air emissions related to that use of energy. If a market integrated load shift product that customers can participate in is approved during the timeframe of the Pilot, PG&E and Olivine will assess whether such product can be reasonable integrated into the Pilot design.

Similarly, during the winter months of 2020-2021, home energy excess supply will be studied focusing on the capabilities of the participants to shift load usage to match available renewable energy supply.⁹

Up to ten (10) DR events will be targeted for each study season and incentives will be paid for both specific events as well as consistent performance and participation in surveys. The Pilot will include the measurement and evaluation activities to determine the value of the capabilities to the targeted pilot location as well as broader generalizations at scale, responses to differing triggers and impacts from the measured performance.

Market Integration

The Pilot operations will leverage the existing capabilities and infrastructure already deployed by Olivine in other PG&E pilot programs, including the Supply Side II (SSP II) and Excess Supply (XSP) DR Pilot.¹⁰ One or both of these existing pilots will serve as the mechanism for integration of the DAC DR Pilot into the CAISO wholesale market.

Amount and Form of Economic Benefits

The Pilot intends to provide 50% of the budget monies directly to participants within the Community. Participants will receive direct incentives for providing responses to surveys and for participating in DR events. Participants are expected to have the opportunity to earn up to \$250 (subject to change in final pilot design) in direct incentives through some combination of initial Pilot survey completion, participation in Pilot peak shaving and load shifting events, and completion of the final Pilot survey.

Through energy monitoring, awareness and education, participants may have the opportunity to save energy and reduce their energy bills. Eligible participants will

⁹ Due to higher levels of renewables especially solar generation, California can experience times of over-supply of generation especially during non-summer months. This is sometimes referred to as the “belly of duck curve.” Link: <https://www.nrel.gov/docs/fy16osti/65023.pdf>

¹⁰ Olivine’s webpage provides an overview of the Supply Side II Pilot and Excess Supply Pilot

Link (SSP II): <https://olivineinc.com/services/our-work/ssp/>

Link (XSP): <https://olivineinc.com/services/our-work/xsp/>

also receive free technology installation and support to reduce their energy usage and to leverage other available Demand Side program options and incentives.

Pilot Analysis and Assessment Including Cost-Effectiveness

As these DAC DR Pilots are first of their kind, PG&E and Olivine will work with stakeholders and Energy Division Staff to develop a plan for quantitative and qualitative evaluation of the Pilot, including assessment of program design and delivery, customer experience, load impacts, environmental impacts and cost-effectiveness. PG&E and Olivine will develop key performance indicators and will report out annually and at the end of the pilot in a fashion similar to the current SSP-II and XSP Pilots. These key performance indicators will be reflective of customer benefits including safety, reliability affordability, awareness and access. Additionally, consistent with guidance provided in D. 18-11-029, key performance indicators will be developed and reported reflecting air quality improvements related to the pilot.

Consumer Protection

No customer will be charged any fee for participating in the Pilot nor will there be any penalty for exiting the Pilot once enrolled. For low income customers participating in the Pilot no out-of-pocket payment will be required to receive demand response automation equipment, such as smart plugs or smart thermostats beyond redemption of “points” earned through Pilot participation. Furthermore, Pilot test events will be structured in a way that will attempt to either reduce energy consumption (peak shaving) or reduce energy costs (load shifting) or both.

Coordination with Other IOU’s

PG&E’s lead on the DAC DR Pilot did reach out to both SCE and SDG&E leads to discuss opportunities for collaboration and to ensure that PG&E was not duplicating the learnings that either SCE or SDG&E were planning from their DAC DR Pilot design.

Disadvantaged Community Advisory Group (DACAG)

On January 25, 2019 the DAC Pilot proposal was presented to the DACAG at its meeting in Fresno. Feedback from the DACAG was incorporated into this proposal. During that meeting plans for coordination were discussed to update the DACAG at least annually through the pilot lifecycle and the DACAG will consider forming a subgroup to coordinate more frequently with the DAC DR pilot.

Justification for Choice of Third-Party

PG&E has chosen to partner with Olivine for this Pilot based on Olivine's wealth of knowledge related to demand response program and platform design including all aspect of CAISO market integration. In addition, Olivine has recently completed the Richmond Community Energy Initiative which allows this Pilot to extend and leverage Olivine's learnings from that work as well as leverage the on-line application that Olivine built for that earlier study. Finally, the partnership between PG&E and Olivine allows this Pilot to leverage platforms that Olivine has already developed for PG&E's existing SSP II and XSP Pilots.

Customer Data Sharing

Customer data for this pilot would fall under Rule 27 addressing primary purpose use. PG&E's existing Master Service Agreement with Olivine includes provisions on confidentiality and data security regarding the handling of confidential information and PG&E Data from PG&E or its customers. This is consistent with the process established for the two existing pilots (SSP II and XSP) for which Olivine serves as the primary contractor and PG&E as the pilot administrator.

Additional Supporting Information

The remaining pages provide addition information, including the proposed schedule for the pilot, a proposed illustrative budget and the proposed roles and responsibilities between PG&E and Olivine.

Proposed Schedule for Pilot

<u>Q1 2019</u> – Submit Tier II Advice Letter	<u>Q2 2019</u> – Tier II Advice Letter Approved	<u>Q3 2019</u> – Finalize scope of work and contract provisions with Olivine	<u>Q4 2019</u> – Identify Fresno area community organizations and plan social media outreach
<u>Q1 2020</u> – Begin outreach through community organizations and social media. Train contractors on DAC DR Pilot design and Olivine on-line application	<u>Q2 2020</u> – Open season for enrolling customers into the Pilot. Completion of initial pilot participation surveys. Participating customers earn first pilot rewards.	<u>Q3 2020</u> – Peak shaving event season with up to 10 peak shaving events of 1-2 hours during early evening hours. Participating customers earn peak shaving event awards.	<u>Q4 2020</u> – Begin load shifting event season with up to 5 load shifting events of 1-2 hours duration on weekends during periods of excess renewable generation. Participating customers earn load shift event awards.
<u>Q1 2021</u> – Continue load shifting event season with up to 5 additional load shifting events.	<u>Q2 2021</u> – Post event season survey. Participants who engaged in 5 or more peak shaving and/or 5 or more load shifting events can earn additional rewards for completing post event season survey	<u>Q3 2021</u> – Olivine compiles survey and event season data and publishes DAC DR Pilot Final Report.	<u>Q4 2021</u> – Learnings from DAC DR Pilot are incorporated into PG&E’s post-2022 program design and funding application (to be filed in November 2021).

Proposed Illustrative Budget for Pilot

Budget Category	2019	2020	2021
Incentives		\$250,000	\$250,000
Marketing	\$75,000	\$75,000	
Administration	\$50,000	\$100,000	\$100,000
EM&V		\$25,000	\$75,000
Total	\$125,000	\$450,000	\$425,000
Total for three years of pilot			\$1,000,000

Proposed Roles and Responsibilities for Pilot

PG&E

Pilot Administrator
Pilot Design Review & Approval
Pilot Material Review & Approval
Participant Eligibility Review & Approval
Pilot Assessment Review & Approval



Olivine

Development of Pilot Material
Participant Recruitment and Enrollment
Pre and Post Survey Administration
Event Notification
Customer Care
Nomination Management
Award and Dispatch
Settlements & Reporting

**PG&E Gas and Electric
Advice Filing List
General Order 96-B, Section IV**

AT&T	Downey & Brand	Pioneer Community Energy
Albion Power Company	East Bay Community Energy	Praxair
Alcantar & Kahl LLP	Ellison Schneider & Harris LLP	Regulatory & Cogeneration Service, Inc.
	Energy Management Service	SCD Energy Solutions
Alta Power Group, LLC	Evaluation + Strategy for Social	
Anderson & Poole	Innovation	
	GenOn Energy, Inc.	SCE
Atlas ReFuel	Goodin, MacBride, Squeri, Schlotz &	SDG&E and SoCalGas
BART	Ritchie	
	Green Charge Networks	SPURR
Barkovich & Yap, Inc.	Green Power Institute	San Francisco Water Power and Sewer
P.C. CalCom Solar	Hanna & Morton	Seattle City Light
California Cotton Ginners & Growers Assn	ICF	Sempra Utilities
California Energy Commission	International Power Technology	Southern California Edison Company
California Public Utilities Commission	Intestate Gas Services, Inc.	Southern California Gas Company
California State Association of Counties	Kelly Group	Spark Energy
Calpine	Ken Bohn Consulting	Sun Light & Power
	Keyes & Fox LLP	Sunshine Design
Cameron-Daniel, P.C.	Leviton Manufacturing Co., Inc.	Tecogen, Inc.
Casner, Steve	Linde	TerraVerde Renewable Partners
Cenergy Power	Los Angeles County Integrated Waste	Tiger Natural Gas, Inc.
Center for Biological Diversity	Management Task Force	
City of Palo Alto	Los Angeles Dept of Water & Power	TransCanada
	MRW & Associates	Troutman Sanders LLP
City of San Jose	Manatt Phelps Phillips	Utility Cost Management
Clean Power Research	Marin Energy Authority	Utility Power Solutions
Coast Economic Consulting	McKenzie & Associates	Utility Specialists
Commercial Energy		
County of Tehama - Department of Public	Modesto Irrigation District	Verizon
Works	Morgan Stanley	Water and Energy Consulting
Crossborder Energy	NLine Energy, Inc.	Wellhead Electric Company
Crown Road Energy, LLC	NRG Solar	Western Manufactured Housing
Davis Wright Tremaine LLP		Communities Association (WMA)
Day Carter Murphy	Office of Ratepayer Advocates	Yep Energy
	OnGrid Solar	
Dept of General Services	Pacific Gas and Electric Company	
Don Pickett & Associates, Inc.		
Douglass & Liddell		