

PUBLIC UTILITIES COMMISSION
505 Van Ness Avenue
San Francisco CA 94102-3298



Pacific Gas & Electric Company
ELC (Corp ID 39)
Status of Advice Letter 5829E
As of June 9, 2020

Subject: Tier 1 Advice Letter: Notification of Changes to Pacific Gas & Electric's Advice Letter 5498-E-A to Reflect Modifications Adopted in Decision 20-04-006

Division Assigned: Energy

Date Filed: 05-18-2020

Date to Calendar: 05-20-2020

Authorizing Documents: None

| | |
|------------------------|-------------------|
| Disposition: | Accepted |
| Effective Date: | 04-16-2020 |

Resolution Required: No

Resolution Number: None

Commission Meeting Date: None

CPUC Contact Information:

edtariffunit@cpuc.ca.gov

AL Certificate Contact Information:

Kimberly Loo

415-973-4587

pgetariffs@pge.com

PUBLIC UTILITIES COMMISSION
505 Van Ness Avenue
San Francisco CA 94102-3298



To: Energy Company Filing Advice Letter

From: Energy Division PAL Coordinator

Subject: Your Advice Letter Filing

The Energy Division of the California Public Utilities Commission has processed your recent Advice Letter (AL) filing and is returning an AL status certificate for your records.

The AL status certificate indicates:

- Advice Letter Number
- Name of Filer
- CPUC Corporate ID number of Filer
- Subject of Filing
- Date Filed
- Disposition of Filing (Accepted, Rejected, Withdrawn, etc.)
- Effective Date of Filing
- Other Miscellaneous Information (e.g., Resolution, if applicable, etc.)

The Energy Division has made no changes to your copy of the Advice Letter Filing; please review your Advice Letter Filing with the information contained in the AL status certificate, and update your Advice Letter and tariff records accordingly.

All inquiries to the California Public Utilities Commission on the status of your Advice Letter Filing will be answered by Energy Division staff based on the information contained in the Energy Division's PAL database from which the AL status certificate is generated. If you have any questions on this matter please contact the:

Energy Division's Tariff Unit by e-mail to
edtariffunit@cpuc.ca.gov

May 18, 2020

Advice 5829-E

(Pacific Gas and Electric Company ID U 39 E)

Public Utilities Commission of the State of California

**Subject: Tier 1 Advice Letter: Notification of Changes to Pacific Gas & Electric's
Advice Letter 5498-E-A to Reflect Modifications Adopted in Decision
20-04-006**

Purpose

As ordered by the California Public Utilities Commission (CPUC or Commission) pursuant to Ordering Paragraph (OP) 2 of Decision (D.) 20-04-006, Pacific Gas and Electric Company ("PG&E") hereby submits a redlined (Appendix A) and clean (Appendix B) Implementation Plan reflecting modifications adopted in D.20-04-006.

Background

This Advice Letter (AL) provides both the redlined and cleaned version of Pacific Gas & electric's (PG&E) AL 5498-E-A reflecting the modification adopted in D.20-04-006 to remove the income eligibility requirements from Allensworth. The redlined and cleaned versions of the Implementation Plan are provided to the Service List R.15-03-010 and PG&E's General Order 96-B service list.

Protests

*****Due to the COVID-19 pandemic and the shelter at home orders, PG&E is currently unable to receive protests or comments to this advice letter via U.S. mail or fax. Please submit protests or comments to this advice letter to EDTariffUnit@cpuc.ca.gov and PGETariffs@pge.com*****

Anyone wishing to protest this submittal may do so by letter sent via U.S. mail, facsimile or E-mail, no later than June 8, 2020, which is 21 days¹ after the date of this submittal. Protests must be submitted to:

¹ The 20-day protest period concludes on a weekend, therefore, PG&E is moving this date to the following business day.

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:

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

PG&E requests that this Tier 1 advice letter become effective concurrent with original Decision 20-04-006, which is April 16, 2020.

This submittal would not increase any current rate or charge, cause the withdrawal of service, or conflict with any rate schedule or rule.

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 R.15-03-010. 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:

- Attachment 1: PG&E San Joaquin Valley Disadvantaged Communities Electric Pilot Implementation Plan (Clean)
- Attachment 2: PG&E San Joaquin Valley Disadvantaged Communities Electric Pilot Implementation Plan (Redline)

cc: Service List R.15-03-010



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: Kimberly Loo

Phone #: (415)973-4587

E-mail: PGETariffs@pge.com

E-mail Disposition Notice to: KELM@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) #: 5829-E

Tier Designation: 1

Subject of AL: Tier 1 Advice Letter: Notification of Changes to Pacific Gas & Electric's Advice Letter 5498-E-A to Reflect Modifications Adopted in Decision 20-04-006

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.20-04-006

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: 4/16/20

No. of tariff sheets: 0

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: N/A

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
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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:

Clear Form

Attachment 1

PG&E San Joaquin Valley Disadvantaged Communities Electric Pilot Implementation Plan (Clean)

PG&E San Joaquin Valley Disadvantaged Communities Electric Pilot Implementation Plan

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PG&E SJV DAC Electric Pilots Overview

Introduction

This Implementation Plan Advice Letter describes how Pacific Gas and Electric Company (PG&E) plans to design and execute the electrification pilots in Allensworth, Cantua Creek, and Seville¹ that were approved in the California Public Utilities Commission's (CPUC or Commission) Decision (D.) 18-12-015 (the decision). That decision also approved electrification pilots in five other communities in PG&E electric territory (Alpaugh, Fairmead, Lanare, La Vina and Le Grand) but designated them to be administered by a third-party contractor.² Pursuant to D.18-12-015, that third party must file a similar Implementation Plan Advice Letter for those pilots within 60 days of their contract execution.

As stated in D.18-12-015, the Commission's intent in approving these pilots is to find affordable energy alternatives to propane and wood burning for disadvantaged communities in the San Joaquin Valley Disadvantaged Communities (SJV DAC). A detailed history of the legislative and procedural activity leading to these pilots is provided in the decision and not repeated here; however, PG&E does provide the Commission's stated goals and objectives for these pilots:³

- "The dual goal[s] of the pilots are to provide cleaner, more affordable energy options to propane and wood burning and gather real time data needed to assess the economic feasibility of extending affordable energy options to all listed SJV DACs"; and
- "The pilot objectives are as follows:
 - Gather inputs to assess cost-effectiveness and feasibility during Phase III;
 - Provide access to affordable energy options in participating pilot host communities;
 - Reduce household energy costs for participating pilot host customers;
 - Increase health, safety and air quality of participating host pilot communities;
 - Test approaches to efficiently implement interventions;
 - Assess potential scalability."

This implementation plan represents PG&E's best information and current plans; however, it is subject to change. One significant change would be triggered by Commission approval of a Southern California Gas Company (SoCalGas) pilot in Allensworth or Seville, as provided for in Ordering Paragraph (OP) 26 of D.18-12-015, instead of the currently-assumed electric pilot. As of the time of this filing SoCalGas has at least until March 19, 2019 to identify funding for pilots in one or both communities per Energy Division.⁴

Other changes are likely to arise in areas where the decision directs coordination with entities that have not been identified yet. For example, bulk purchasing is to be coordinated across all pilot administrators (PA), including the as-yet uncontracted third-party administrator; pilot evaluation research questions

¹ Referred to throughout as PG&E Electric Pilot Communities.

² Referred to throughout as third-party Electric Pilot Communities.

³ D.18-012-015 p. 10 (Note that page references are consistent with the version of D.18-12-015 served on December 20, 2019 appended to President Picker's Dissent. A later version has slightly different pagination). Referred to throughout as the decision or SJV DAC Pilots Decision.

⁴ Alice Stebbins, Executive Director of CPUC Energy Division, RE: Partial Granting of Request for Extension of Time for Southern California Gas Company to Comply with Ordering Paragraph 26 of Decision 18-12-015. February 15, 2019.

and metrics are to be coordinated with all PAs and the as-yet uncontracted Data Gathering Contractor. Including those entities in full alignment and coordination can't occur until they are under contract. The third-party PA is targeted to be under contract by June 30, 2019, while the data gathering consultant should be under contract considerably sooner.

Finally, changes may also arise from Commission and stakeholder feedback, learnings from the process of sourcing a Community Energy Navigator (CEN) and CEN Program Manager (CPM)⁵ and an implementation partner, feedback from pilot participants and improved information about their households, a re-scoping triggered by an anticipated budget shortfall,⁶ among other causes.

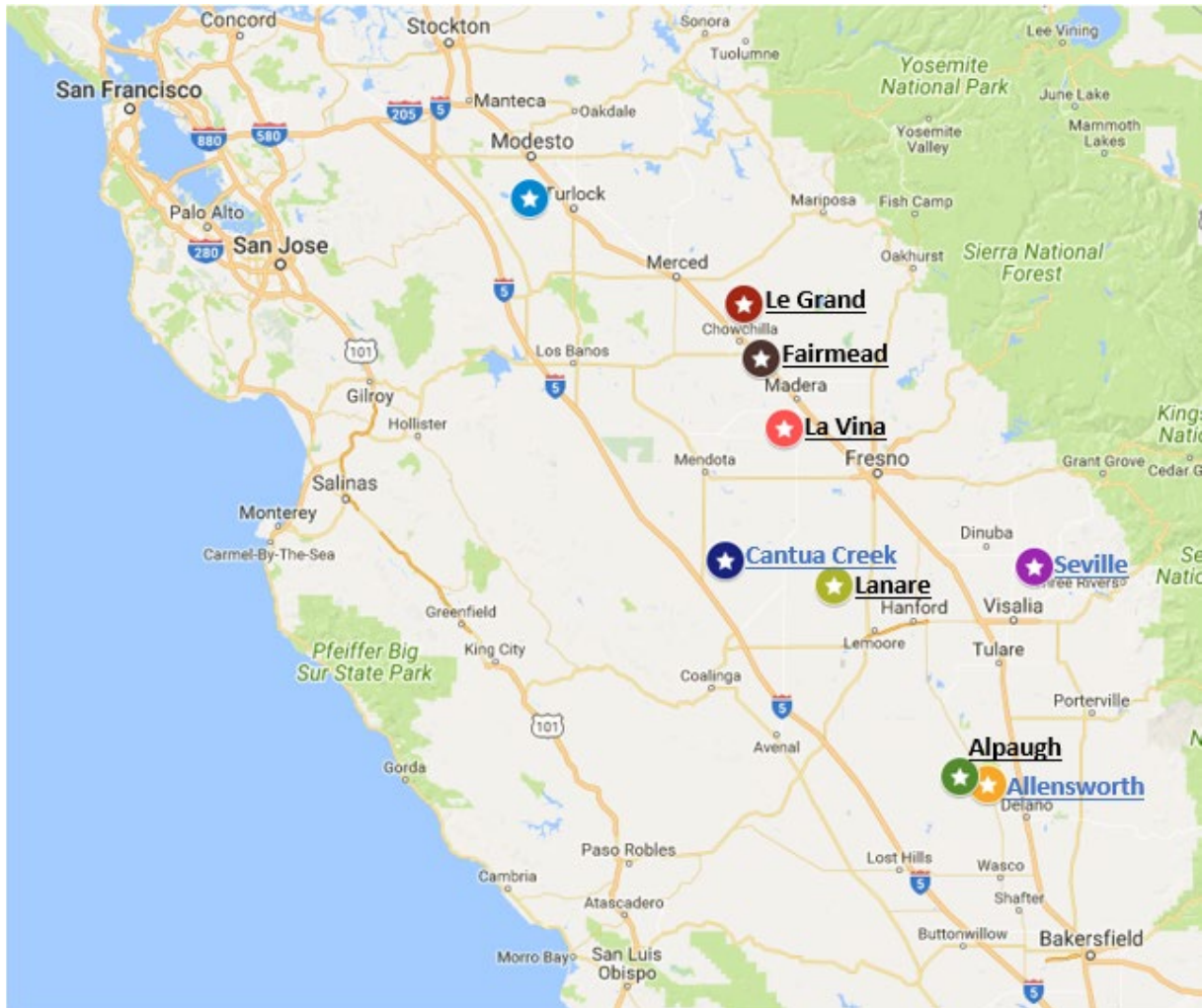
⁵ CEN is used throughout to refer to the individuals supporting community engagement in each community while the CPM is used throughout to refer to the entity selected to manage the CEN Program throughout all pilot communities.

⁶ *SJV DAC Pilots Decision*, p. 133.

Pilot Communities

The following figure provides the location of all SJV DAC pilot communities in PG&E territory with the names of the three PG&E-administered electric pilots shaded blue.

**FIGURE 1
PILOT COMMUNITIES**



The table below provides relevant demographic and household information for PG&E electric pilot communities.

TABLE 1
PG&E PILOT COMMUNITY DATA

| Community Data | Allensworth CDP | Cantua Creek CDP | Seville CDP |
|-------------------------------|-----------------|------------------|-------------|
| County | Tulare | Fresno | Tulare |
| Population* | 471 | 466 | 480 |
| Est. No. of Households (HH) | 113 | 116 | 102 |
| Single Family (SF) | 75 | 116 | 97 |
| Multifamily (MF) | 0 | 0 | 0 |
| Mobile Homes (MH) | 38 | 0 | 5 |
| Est. HH Without Gas | 113 | 116 | 102 |
| Est. Percent HH Without Gas | 100% | 100% | 100% |
| Est. No. of CARE Eligible HH | 77 | 87 | 78 |
| Est. Percent CARE Eligible HH | 68% | 75% | 77% |
| Median HH Annual Income* | \$ 29,091 | \$ 32,368 | \$ 23,000 |
| Est. Percent of HH Renting* | 42% | 51% | 46% |

*Information Gathered from the United States Census Bureau 2010 Demographic Profile

Major Tasks and Timeline

The primary activities of the pilot include:

- Replacement of wood and propane appliances with efficient electric appliances, specifically space conditioning appliances/systems, water heaters, cooking ranges and clothes dryers;
- Leveraging of existing programs, especially community solar programs, low-income discount programs and energy efficiency (EE) programs to support the efficient operation of pilot households and reduce energy cost;
- Gathering pilot community members and participants' data on energy cost, program enrollment and barriers, and other information; and
- Creation of a CEN program to build a network of local, knowledgeable and trusted energy experts to support the above pilot activities.

The timeline below provides a high-level timeline for the major activities under the pilot:

FIGURE 2
PG&E ELECTRIC PILOT TIMELINE

| Activity | Quarter | 2019 | | | | 2020 | | | | 2021 | | | | 2022 | | | | 2023 | | | | 2024 | | | | 2025 | | | | 2025 | | | |
|---|---------|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Planning, Sourcing Vendors, Building Processes and Systems | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Assessing Homes and Replacing Appliances | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leveraging Existing Programs, CEN Support | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pilot-Related Data Gathering, Monitoring, and Reporting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Final Reporting/Evaluation, Economic Feasibility Assessment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| |
|----------------|
| Key |
| Initialization |
| Implementation |
| Close Out |

A more detailed timeline, including phasing implementation or installation across customer segments or pilot communities will be developed in consultation with PG&E's Implementer and the CPM.

Program Management

PG&E's preliminary breakdown of major responsibilities of the key pilot team members is provided below consistent with the Decision;⁷ PG&E notes that this is subject to change, especially as detailed scopes-of-work are developed through the sourcing process:

- **Pilot Administrator (PA)**
 - Develop Pilot Forms and Procedures for:
 - Documentation of existing conditions;
 - Developing customer-specific scopes of work;
 - Procuring materials and appliances;
 - Quality control;
 - Developing survey forms and collecting, storing and transmitting Data in conjunction with the Data Gathering Consultant, CEN, Community-based Organizations (CBO) and Implementer(s);
 - Coordinating outreach with the CEN and CBOs; and
 - Develop Specifications for work and materials in partnership with CPM and Implementer;
 - General Program Management:
 - Communicating with and supporting Energy Division;

⁷ D.18-12-015, p. 53 for Program Administrator; pp. 82-83, 85 for CPM.

- Overseeing contractor compliance with program requirements and procedures;
- Develop implementation strategy/phasing/approach with CPM and Implementer;
- Scope and coordinate work of CEN and Implementer;
- Source Implementation Partner(s);
- Develop training specifications for CPM and Implementer in coordination with other Administrators;
- Develop and track overall project timeline;
- Train CENs on other programs administered by Administrator;
- Oversee development of customer-specific scopes of work;
- Inspect and control quality for all installations;
- Identify vendor safety requirements;
- Resolve issues, including escalated customer concerns;
- Track overall budget and monitor budget issues, including progress and trends relative to budget caps; and
- Process Vendor Invoices;
- Data Collection and Reporting:
 - Collect data from CPM and Implementer, including program operations, eligibility and enrollment information, job statuses, contractor compliance, invoices paid, metrics on training and local labor;
 - In coordination with other administrators, consultants and contractors, develop instruments, survey forms and protocols for collecting, storing and transmitting data beyond what is specified in Data Gathering track (e.g., local hiring data, and community-specific evaluation metrics); and
 - Provide quarterly and annual reports to the Commission and stakeholders;
- Conduct limited outreach outside of CPM responsibilities (e.g., community engagement prior to CPM engagement and outreach to local officials and government representatives in respective pilot counties); and
- Provide requirements for bulk purchases of appliances and ensure warranties on all improvements and installed appliances;
- **Pilot Implementer (PI)**
 - Train staff and contractors; ensure appropriate certifications;
 - Identify, source and coordinate necessary sub-contractors;
 - Source appliances and other materials per specifications and bulk purchasing requirements;
 - Conduct in-home assessments;
 - Develop customer-specific scopes of work and energy cost savings estimates;
 - Manage the permitting and installation of appliances and other associated measures or remediations, and removal of replaced appliances for proper recycling and/or disposal;
 - Provide contact information for and provide servicing and maintenance of installed technologies during and after the pilot;⁸
 - Manage any corrections to work done and warranty issues; and
 - Develop and adhere to Implementation Safety Plan;

⁸ *SJV DAC Pilots Decision*, p. 101.

- **CEN Program Manager**

- Develop a community engagement plan:
 - Identify engagement techniques, barriers and mitigations; staffing structure; cadence of engagements; partnerships, workforce engagement and coordination with Workforce Education and Training (WE&T) plans;
 - Including education on the importance of retaining propane and/or wood consumption, cost information, and existing program qualifications for enrollment; and
 - Tactics for following up with customers who may be ineligible or decline for any reason that may change over the course of the pilot program;
- Support development of eligibility, surveys and other pilot forms and procedures;
- Conduct or facilitate pre-pilot surveys and interviews;
- Work with Administrator to ensure consideration of community concerns, input and outcomes;
- Conduct community education and outreach at each stage of the pilot;
- Identify and facilitate access to additional local, state, federal and private sources for additional grants and loans, especially for remediation needs;
- Identify, train and maintain a network of CEN's and CBO's to:
 - Engage pilot community members in pilot by organizing and leading in-community meetings and home visits and providing assistance with the application process;
 - Collect and facilitate access to program resources such as relevant agencies and programs;
 - Assist and/or enroll customers in existing programs, especially available discount programs and selection of most appropriate rate:
 - Gather information about pilot community households, including propane consumption, cost data and existing appliances; and
 - Assist customers whose households requiring significant remediation and support them in identifying resources to be eligible to participate;
 - Support customers' adjustment to new appliances;
- Report to Administrator on CEN activities and metrics, including Monthly reports on remediation funding for quarterly substandard housing report leveraged outside of the pilot budget; and
- Assist pilot participants in understanding and adhering to owner-tenant agreement and monitor tenant protection issues.

Budget and Reporting

The following table summarizes the available incremental (i.e., non-leveraged program) budget for each community as provided in the decision.

TABLE 2
SJV DAC PILOT BUDGET

| | | PG&E Electric Pilot Communities | | | 3rd Party Electric Pilot Communities (Shown for completeness) | | | | | |
|-----|---|-------------------------------------|---------------------|--------------|---|-----------------|--------------|---------------|-----------------|--|
| Row | | ALLENS- WORTH CDP | CANTUA CREEK CDP | SEVILLE CDP | ALPAUGH CDP | FAIRMEAD CDP | LA VINA CDP | LANARE CDP | LE GRAND CDP | Notes |
| 1 | Estimated Number of Households Treated | 106 | 106 | 104 | 46 | 253 | 84 | 17 | 502 | Per D.18.12.015 Table 25 |
| 2 | Pilot Total | \$ 3,289,097 | \$ 3,100,912 | \$ 2,965,826 | \$ 1,574,332 | \$ 6,885,853 | \$ 2,563,252 | \$ 648,921 | \$ 13,241,656 | Per D.18.12.015 Table 24 |
| 3 | Est. Implementation - Non-Contingency (^) | \$ 2,120,000 | \$ 2,120,000 | \$ 2,080,000 | \$ 920,000 | \$ 5,060,000 | \$ 1,680,000 | \$ 340,000 | \$ 10,040,000 | Estimated as \$20,000 per household |
| 4 | Est. Implementation - Contingency | \$ 424,000 | \$ 424,000 | \$ 416,000 | \$ 184,000 | \$ 1,012,000 | \$ 336,000 | \$ 68,000 | \$ 2,008,000 | Estimated as \$4,000 per household on average. May not exceed \$5,000 for any one household per D.18-12-015 p. 98 |
| 5 | Estimated Program Administrator Budget (*) | \$ 745,097 | \$ 556,912 | \$ 469,826 | \$ 470,332 | \$ 813,853 | \$ 547,252 | \$ 240,921 | \$ 1,193,656 | Remainder of total minus contingency and non-contingency implementation. Includes EM&V activity and ME&O not conducted by the CPM |
| 6 | Bill Protection Credits | \$ 53,000 | \$ 53,000 | \$ 52,000 | \$ 23,000 | \$ 126,500 | \$ 42,000 | \$ 8,500 | \$ 251,000 | Per D.18.12.015 Table 24, calculated as number of households*\$500 |
| 7 | Community Energy Navigator Program (^) | \$ 142,000 | | | \$ 363,600 | | | | | Per D.18.12.015 Table 24 |
| 8 | Estimated Process Evaluation Consultant (*) | \$ 29,187 | | | \$ 83,313 | | | | | Per D.18.12.015, p. 171, this amount not to exceed \$250,000. The pending Joint IOU Cost Sharing Advice Letter (AL____) proposed to allocate 45% of this cost to PG&E, which is here allocated to each administrator in proportion to the number of households |
| 9 | Sum of Est. Non-contingency Programmatic Budget: | \$ 8,421,022 | | | \$ 22,203,927 | | | | | Sum of rows 3 and 5-8 |
| 10 | Sum of Administrative, ME&O, EM&V (*): | \$ 1,435,187 | | | \$ 4,054,913 | | | | | Sum of rows 5, 7 and 8 |
| 11 | Administrative, ME&O, EM&V as a percent of non-contingency implementation | 17% | | | 18% | | | | | Not to exceed 20% per D.18-12-015 page 145 |
| 12 | Economic Feasibility Consultant | Not considered part of pilot budget | | | | | | | | Not to exceed \$500,000 and allocated 1/3 to PG&E per D.18-12-015 p. 171 |

As noted earlier, the decision directs PAs to make every effort to control costs and to treat the forecast number of homes with the approved budgets; however, in the event that average costs trend significantly higher than forecast, the decision directs administrators to reduce the scope of work with guidance from the Commission staff.⁹ As described in the section on reporting, PG&E intends to provide quarterly reports on budget and average costs per household to ensure such re-scoping can occur in a way that avoids a sudden halt to work in any home or community as envisioned by the commission.

Customer Experience Roadmap

PG&E provides this proposed customer experience roadmap to provide a high-level map of the program from the participants' perspective; however, this element of the program may change as described earlier. A positive customer experience will be an integral part of successful pilot execution. PG&E has outlined a 3-phase customer experience roadmap that is illustrated in Figure 3 for: (1) outreach and enroll, (2) assessment and installation, and (3) post install evaluation.

FIGURE 3
CUSTOMER EXPERIENCE PHASES



Outreach and Enroll

Prior to initiation of CPM activity, PG&E intends to send an initial introductory communication to the community households identified within the pilot areas with information about the pilot and contact information. PG&E may conduct additional proactive outreach to encourage participation. Once a customer has contacted PG&E, a representative will speak with the customer to:

- Provide additional details about the pilot, existing programs and enrollment;
- Inquire about the customer's level of interest and availability;
- Request that the customer begins retaining propane and wood usage information (if available);
- Gather information on current household appliances and any planned upcoming renovations; and
- Provide information about next steps.

Information gathered during this initial outreach will be provided to the CEN/CPM to conduct further outreach, education and enrollment activity to:

⁹ *SJV DAC Pilots Decision*, p. 133.

- Provide detailed information about participation in the pilot including what to expect through the assessment and installation process;
- Educate the customer on existing programs such as ESA, Family Electric Rate Assistance (FERA), etc.;
- Assess existing program(s) enrollment eligibility;
- Facilitate customers' enrollment in existing programs per existing program enrollment processes where applicable;
- Gather additional household information in support of the pilot assessment and installation plans;
- Inform the customer regarding next steps, including any follow-up communication to confirm existing program enrollment (ESA, FERA, etc.) and to schedule the initial in-person household assessment; and
- Confirm the customer's understanding and readiness to participate in the pilot.

The CPM will regularly and frequently report to PG&E on engagement progress and issues and provide enrollment data.

Although the CEN will be the primary source of contact and coordination with the customer, PG&E intends to designate a representative as a resource to the customer to assist with inquiry and escalation management and to help guide the customer experience throughout the pilot.

Assessment and Installation

Coordination of assessment and installation activities will be essential to reduce redundancy, customer burden and minimize cost. Two major drivers of the complexity include the nature of the work to be done, which will require multiple trades and subcontractors, compounded with the need to leverage existing programs to the greatest extent possible. In scheduling assessments with the customer, the implementer may also have to coordinate with the CEN, the implementer for the pilot, and implementer(s) for leveraged programs. If the pilot implementer is not already a provider of services under a leveraged program, a separate approved provider under that leveraged program may be needed to ensure that those measures installed under the direct install program meet program guidelines.

The assessment will include a walkthrough of the household by the implementer(s) and include the CEN where needed or applicable. The implementer(s) will be assessing the home for general safety issues that may exist, remediation needs, installation of measures for the pilot and under existing programs.

Following the assessment, pilot and existing program implementers will provide a recommended installation plan and energy impact statement to the PA for review. A pre-installation visit will be scheduled with the customer to review all proposed work and receive customer approval for installation and supplemental or remediation work required. The customer approval will trigger the scheduling of the installation and required permit submission. Best efforts will be made to consolidate activities under one implementer, coordinate installations simultaneously between implementers and sub-contractors to minimize customer impact.

Finally, consistent with the decision, households with income levels consistent with California Alternate Rates for Energy (CARE) eligibility requirements will be prioritized in staging assessment and installation steps.¹⁰

Inspection and Survey

Upon completion of installation for the pilot and existing programs, household inspections will be performed by PG&E or its designate acting as PA to ensure all work was completed and in compliance with city, state, and federal regulations. Depending on the measures installed, local permitting agencies may also inspect the work. Additional detail on inspections is included in the section on Safety. Additionally, the CEN will be expected to schedule a post-installation follow up with the customer. A final participant survey will be utilized to help guide future program execution and reporting requirements, including customers' "willingness to pay" to inform potential co-pay requirements.¹¹ This survey may be administered by an independent consultant to ensure consistency and avoid conflicts of interest.

Customer Inquiry and Escalation Management

PG&E will be responsible for the intake and processing of customer inquiries and escalations not handled directly by the CEN. Introductory communications sent to customers will include a phone number and e-mail address enabling the customer to contact PG&E directly. Those inquiries will go to a voicemail or inbox monitored by a dedicated PG&E representative.

Routing customer inquiries and escalations through a dedicated PG&E representative will ensure timely response to questions about the pilot and enable consolidated inquiry tracking and will help drive visibility into recurring issues and questions. Escalating issues to program leadership will enable the team to proactively address process gaps or CEN performance issues.

Marketing, Education and Outreach

Approach

In coordination with the CEN, who has primary responsibility for customer engagement, PG&E plans to leverage its existing acquisition marketing materials and efforts for the programs that will be offered to pilot participants, which include the ESA Program, CARE/FERA, California Solar Initiative Thermal Program (CSI-Thermal), Medical Baseline and Bill Forecast Alerts. PG&E may develop new Disadvantaged Community (DAC)-specific marketing materials for Community Solar (CS)/Green Tariff (GT) and Moderate Income Direct Install programs. These materials will be delivered in partnership with the CEN.

Tactics and Channels

PG&E's multichannel approach may include direct mail, email, door-to-door canvassing, direct interaction at community events and churches. PG&E will explore earned media opportunities with local newspapers and potentially radio to provide overall awareness of the pilots prior to launching the one-to-one tactics. Given the small target audience, PG&E may need to assess the media access and

¹⁰ SJV DAC Pilots Decision, OP 14.

¹¹ D.18-12-015 p. 72.

consumption habits of the pilot communities to identify the most viable channels. Additionally, social media, particularly Facebook, may also be employed to target residents who have adequate internet access.

All communications will be bilingual in English and Spanish to ensure that non-English speaking customers are fully informed about the programs offered. Communications will include large print callouts describing the content and a phone number for more information. After enrolling in the programs, pilot participants will be incorporated into the ongoing communication streams for each program including welcome communications and recertification notifications, where applicable.

Continuous Monitoring and Optimization

PG&E may develop DAC-specific marketing collateral and presentations for, or in partnership with, the CEN to educate customers about the pilot and associated programs. PG&E will take a test and learn approach as the pilot progresses to add additional tactics or optimize existing ones. PG&E will also explore conducting qualitative and/or quantitative customer research in the pilot communities to measure the level of awareness of the pilots and the effectiveness of the messaging.

Vendor Sourcing

This section describes four major sourcing activities described in the Decision:

1. Pilot Implementation Partner (Implementer)
2. Bulk Purchasing of Appliances and Other Materials
3. Community Energy Navigator Program Manager
4. Process Evaluation Consultant

Since this implementation plan describes PG&E's activities associated with the three PG&E Electric Pilot communities and not the five third-party communities, this section does not detail the process of sourcing that third-party Program Administrator/Implementer; also not discussed is the Economic Feasibility Framework consultant sourcing described in D.18-12-015, since PG&E doesn't consider this work part of the pilot.

Pilot Implementation Partner

OP 15 directs PG&E, Southern California Edison Company (SCE) and SoCalGas to "conduct competitive requests for proposals to select one or more implementers, and other necessary third-party support, for their approved pilot projects."

The major responsibilities of the implementer, as described earlier in detail, is to schedule and do in-home assessments, develop customer-specific scopes of work and energy cost savings estimates, manage the permitting and installation of appliances and other associated measures or remediations, and to manage any corrections to work done or warranty concerns.

PG&E will administer the Request for Proposal (RFP) for an implementer for the PG&E Pilot Communities, and will make the selection of the winning offer or offers. PG&E intends to coordinate this RFP with the selection of the third-party Administrator/Implementer such that administrative

efficiencies can be maximized and bidder fatigue can be avoided. Per the Decision, PG&E is targeting a contract execution date of June 30, 2019.

Community Energy Navigator Program Manager

Per the decision, SCE will hire the CPM on behalf of all program administrators across the Investor-Owned Utilities (IOU) territories and Energy Division will make the final vendor decision. The decision also targets contract completion by June 30, 2019. PG&E will work with SCE, SoCalGas, and Energy Division to develop a scope of work that includes common fixed elements and utility-specific elements. As described in the joint IOU co-funding advice letter,¹² this will help ensure proper parsing of CPM tasks across each utility.

Bulk Purchasing of Appliances and Other Materials

The decision directs the IOUs to file a joint Tier 1 Bulk Purchasing Advice Letter 60 days from the approval of this implementation plan advice letter. That advice letter will describe:

- Requirements and strategies to leverage existing programs, including pricing and channels for measures currently offered under those programs;
- Coordination with existing distributors and manufacturers regarding electrification measures;
- Development of common measures and specifications to reduce discrepancies in the installation and operation of pilot measures;
- Any purchasing activity that will be shared across IOUs or program administrators, including possibly joint sourcing of CSI-Thermal partner(s);
- Activities to engage manufacturers and suppliers in the pilots, including warranty offerings, installation and maintenance training, and owner manuals and support that can be leveraged; and
- Specifications and warranties, including ESA warranty requirements as documented in the Weatherization Installation Standards Manual as provided in Appendix D.¹³

Appliance and Installation Warranties

Per the decision¹⁴, PG&E will provide extended manufacturer equipment warranties, as well as extended contractor installation warranties, for appliances installed through the pilot. The warranty periods for appliances provided through the pilot are summarized in Table 3 below. In addition, pilot participants who receive appliance replacements shall be provided contact information to request maintenance and servicing of installed equipment during the pilot project and for a minimum of five years from installation.

All measures installed through the ESA Program shall align with the minimum warranty requirements established for the ESA Program. The current ESA minimum warranty requirements are outlined in Appendix E.

¹² PG&E AL 4075-G/5494-E.

¹³ *SJV DAC Pilots Decision*, pp. 101-102, ESA Installation Standards Manual Appendix F warranty requirements are explicitly required for ESA measures.

¹⁴ *SJV DAC Pilots Decision*, pp. 102-104.

TABLE 3
APPLIANCE AND INSTALLATION WARRANTIES

| Appliance | Manufacturer's Equipment Warranty | Contractor's Installation Warranty | Additional Services |
|-------------------------------|---|---|--|
| Electric Cooktop | Duration of pilot or 2 yrs from install, whichever is greater | Duration of pilot or 2 yrs from install, whichever is greater | Contact information provided to pilot participants to request maintenance and servicing of appliances for 5 yrs from install |
| Electric Clothes Dryer | | | |
| Heat Pump Water Heater | Duration of pilot or 5 yrs from install, whichever is greater | Duration of pilot or 5 yrs from install, whichever is greater | |
| Heat Pump Space Heater/Cooler | | | |
| ESA Program Measures | See Appendix E | See Appendix E | ESA contractor contact information provided to participants for ESA measure warranty issues |

Process Evaluation Consultant

As described in D.18-12-015 OP 25, SoCalGas must administer a Process Evaluation Contractor RFP on behalf of all program administrators across the IOUs territories and Energy Division will make the final vendor decision. The decision also targets contract completion by April 30, 2019. In a letter to the Energy Division served on March 4, 2019 SoCalGas requested extending this date to April 30, 2021, since the administrators will all be known and the pilots will be in process.¹⁵ PG&E will work with SCE, SoCalGas, and Energy Division to develop a scope of work for this consultant at the appropriate time.

The consultant will develop and provide for stakeholder feedback a draft process evaluation plan, evaluate effectiveness of pilot processes, provide actionable recommendations for improvements and document barriers.¹⁶

Workforce Education and Training

The Pilot will have a positive impact on today's and tomorrow's energy workforce and will:

- Support future members of California's energy workforce who are currently in grades K-12 with EE curriculum and green career awareness;
- Support K-12 instructors who are teaching tomorrow's workforce by providing teachers with technical energy training materials and green careers information and resources;
- Leverage existing schools and workforce development organizations to deliver energy education and employment services;
- Employ local and regional contractors to perform appliance and home upgrades; and

¹⁵ Ronald van der Leeden, Request for Extension of April 30, 2019 Deadline to Select and Establish a Contract with the Process Evaluation Contractor Assessing the SJV DAC Pilot Projects, March 4, 2019.

¹⁶ *SJV DAC Pilots Decision*, p. 127.

- Upskill local contractors to not only deliver Pilot services, but also to conduct additional EE work beyond the Pilot scope and duration.

PG&E will require the implementer to identify and engage with local and regional workforce investment boards, CBOs (collectively workforce development organizations) that can deliver a range of services including, but not limited to:

- Identifying local and regional contractors and workers with experience in EE work for Pilot recruitment;
- Identifying local and regional contractors and workers with specific credentials and licensures for Pilot recruitment;
- Supporting implementation partner workforce in becoming more employable after the pilot through services including but not limited to interview methods support, resume writing support, etc.; and
- Supporting Pilot contractors and workers in seeking energy-related work after the Pilot.

As a result of supporting the Pilot, local and regional workforce development organizations will know of a pool of contractors and workers that have been trained on EE and that has worked on residential EE projects to call upon when the opportunity for additional EE work arises.

To the extent feasible, Program Implementers should leverage existing local and regional contractors that have residential EE experience through programs like ESA. Such contractors are not only familiar with the work that will be part of the Pilot effort but will also have a faster on-ramp for required training. These contractors can bring intricate knowledge of utility-customer programs and processes that will be valuable in successfully implementing the pilot.

PG&E also intends to leverage existing¹⁷ teacher guides, student workbooks and curriculum to engage local K-12 students and teachers and will coordinate with CEN to:

- Provide age-appropriate technical energy and environmental training materials to increase awareness of the benefits of EE and renewables;
- Provide information and resources to promote green jobs, green careers, and educational pathways toward those jobs and careers;
- Provide K-12 students' parents information about how to save energy at home through behavioral and technological changes; and
- Inform K-12 students, particularly those of working age, about local and regional workforce development organizations services.

Community Energy Navigator Training

The CEN training program will be an entirely new offering provided by PG&E and the CPM. The program will be tailored to the CEN role and deployed exclusively for the purpose of training CEN candidates. To the extent possible, PG&E will leverage components of existing training programs (e.g., ESA Energy Specialist Series, CARE Outreach Specialist, California Department of Community Services and Development Basic Weatherization) to manage development costs.

¹⁷ Visit www.pge.com/energenius to view those K-12 resources on energy efficiency, energy, and sustainability.

Topics to be included in the CEN training include, but are not limited to those identified in the table below.

TABLE 3
CEN TRAINING

| Program Onboarding | Leverage |
|----------------------------------|---|
| Pilot overview | New |
| Pilot goals | New |
| Customer journey | New |
| Policies, procedures and conduct | New |
| Customer satisfaction | ESA, CARE |
| Soft Skills | Leverage |
| Outreach | ESA, CARE |
| Customer engagement | ESA |
| Active listening | ESA |
| Customer needs assessment | ESA |
| Situational awareness | ESA |
| Hard Skills | Leverage |
| Enrollment forms/procedures | ESA, CARE, FERA, CSI-Thermal, DAC-CS, CS-GT, Rate Options-All-Electric Baseline, Medical Baseline, Budget Billing, Moderate Income Direct Install (MIDI), DAC-SASH, WatterSaver, Mobile Home Direct Install |
| Basic home assessment | ESA |
| Safety techniques and procedures | ESA |

The CEN will be the primary point of contact for pilot participants, and as such must demonstrate mastery of the program's customer journey. To this end, the training program will deploy the following techniques, in line with adult learning principles:

- New information will be presented first in self-paced formats;
- New information will be reinforced through instructor-led trainings, group exercises, and knowledge assessments;
- Candidates will be given the opportunity to practice applying new knowledge through interactive exercises, role-playing, and group discussion;
- Candidates will be tested through realistic scenarios requiring problem-solving techniques; and
- Reference material will be provided, which will assist in on-the-job performance (e.g., programs and services matrix, program qualification decision tree, etc.).

Where appropriate, PG&E will track participation and certify training requirements have been met.

Since CEN candidates are intended to be selected from within pilot communities, PG&E will offer convenient training options, such as live-online, or on demand, and will partner with local training

organizations or event centers to offer in-person training sessions within the pilot communities, or neighboring towns or counties. Where appropriate, PG&E may conduct train-the-trainer sessions for the CPM to deploy aspects of the training program locally or on-the-job.

Program Implementer Training

Through competitive solicitations, PG&E intends to select a program implementer that can deploy a workforce (i.e., existing and new workers, subcontractors, etc.) qualified to perform the installation work associated with pilot measures. The baseline knowledge, skills and experience required to safely and effectively install program measures will vary; however, most measures will require specific licenses and/or registrations be obtained prior to installation (See Appendix C).

PG&E will provide two types of training to the program implementer workforce: program onboarding and technical upskill. Program onboarding will orient all new implementer staff to the goals and requirements of the program. Onboarding will also emphasize the importance of situational awareness, customer satisfaction, and other soft skills deemed necessary by PG&E to successfully implement the pilots.

Program onboarding is anticipated to take between 1-2 days to complete and may be offered in any combination of the following formats: in-person, live-online (i.e., webcast), or on demand (i.e., web-based training). PG&E will offer in-person training at PG&E training facilities (e.g., Stockton Energy Training Center), or partner with local training organizations or event centers to offer in-person training sessions near the program implementer's base of operation.

Technical upskill training entails incremental EE training built upon a participant's existing knowledgebase. Training will not focus on the baseline knowledge, skills and abilities required to attain the licenses required to perform the work; rather, PG&E will provide training that integrates EE and safety principles into the participants' job functions related to pilot measures. For example, a qualified HVAC technician working for a contractor with a valid HVAC C-20 license will be provided training on optimal HVAC system sizing, taking into account the impact of advanced weatherization improvements on the home, rather than conventional square foot per ton sizing guidelines.

The implementer workforce will also receive training on program measure eligibility criteria, how to assess eligibility, and feasibility requirements, among others. With regard to program-specific safety concerns, PG&E will provide training where it is unreasonable to expect market actors to perform of their own volition, or train the implementer workforce to perform, key functions related to customer safety. For example, it is unlikely that any party other than PG&E would provide training on combustion appliance safety as a result of the installation of infiltration measures in a customer's home.

Technical upskill training will likely occur at one of PG&E's training centers where participants can take advantage of appliances and equipment within interactive labs. Training will range from classroom based (i.e., lecture, written exams) to hands-on exercises and practical exams.

PG&E will not provide workforce training on basic occupational health and safety, the requirements to attain licenses and registrations necessary for pilot measure installation, or how to install appliances according to manufacturer specifications. Implementers will be expected to meet these requirements prior to the start of installation.

Repair and Maintenance Network Staff

The pilot period provides a critical mass of projects over a compressed timeframe, offering a reasonable level of cost effectiveness for the installers. However, upon completion of the installation phase of the pilot, intermittent requests for repair and maintenance will be far less predictable. One-off repair and maintenance requests from hard-to-reach areas may not be served by contractors from the larger cities within the SJV (e.g., Modesto, Merced, Fresno, Tulare, Bakersfield), nor from more distant locations such as the Bay Area or Southern California due to travel-related opportunity costs. PG&E intends to address this potential service gap by engaging with Implementers, manufacturers and suppliers to cultivate a local workforce of qualified repair and maintenance technicians in and near the pilot communities.

To provide participants a direct connection to the pilot work occurring in their communities, each pilot training participant will receive supplemental material providing an overview of the pilots, a description of the work being conducted, careers related to the work, and suggested lines of progression to inspire participants to pursue careers related to the pilot work.

Risk Management

As part of a comprehensive risk management process, PG&E will identify a comprehensive set of risks to project success, to customers and contractors, and to PG&E. It will conduct a ranking exercise and develop controls and mitigations with an emphasis on high-ranking risks. The risk matrix will be developed collaboratively with vendors and updated as needed through the implementation process. Below, three key risk areas are described and mitigations are proposed: how to avoid unanticipated outcomes for participants, what to do in the event of substandard structures (i.e., remediation) and how to ensure contractor and participant safety.

Participant Unintended Outcomes

Three major unintended outcomes include participants experiencing higher energy cost as a result of pilot participation, participants experiencing higher housing costs as a result of pilot participation, and participants experiencing reduced reliability as a result of participation. Per the decision, PG&E and the IOUs will address these risks in specific filings:

- Concurrent with this filing, PG&E will file a Bill Protection advice letter addressing the risk of higher energy costs;
- Concurrent with this filing, SCE will file a Joint IOU Split Incentive advice letter addressing the risk of higher housing costs; and
- By June 17, 2019 PG&E and SCE will jointly hold a workshop and separately file Reliability advice letters addressing the risk of reduced reliability by converting to all-electric.

Depending on the final approved approaches addressing these risks, additions or changes to the proposed activities in this implementation plan may be appropriate.

Remediation of Substandard Homes

The Decision directs PAs to describe an approach to substandard housing in this implementation plan, including a description of home assessments and safety/siting plans, prioritization and identification of specific conditions that might preclude extensive in-home work.¹⁸

The ability to safely and effectively install the pilot measures may be limited in cases where a home is either not up to code or in disrepair for other reasons. During the second customer visit, when program implementers complete initial home assessments, each recommended measure will include a section detailing any known remediation that is required or anticipated complications to installation. The cost of any remediation work will be estimated by the program implementer and submitted for review along with customer-specific scope of work. (In the event the program implementer is unable to estimate the cost, decisions will be made on a case by case basis in consultation with the customer and the Administrator to determine how to proceed.)

The plan for all remediation work and expenditures will be included in the customer-specific scope of work for each home which is reviewed and approved by PG&E (acting as PA). PG&E will approve 100 percent of all repairs required for measures including leveraged program measures to ensure adherence to the remediation budget cap. A buffer may be maintained within existing remediation caps to accommodate any unplanned remediation work. Final remediation work and costs will need to be reported to the PA with the total remediation cost and work scope.

Prioritization of repairs will be made by first assessing the ESA-eligible measures. The ESA Program has established guidelines and budgets for making repairs required to enable installation of weatherization measures, to reduce infiltration, or to mitigate a hazardous condition. After applying all ESA funded repairs, additional pilot funds up to \$5,000 may be used to address remaining ESA and/or non-ESA pilot measures. The repairs will be prioritized in a manner aligned with the ESA Program as follows:

1. Repairs needed to mitigate immediate hazards (e.g., mitigation of Natural Gas Appliance Test (NGAT) failure);
2. Repairs needed to mitigate major infiltration sources (e.g., broken window); and
3. Repairs required to permit the installation of a measure.

In cases where there are enough funds to cover some but not all of the repairs required to permit the installation of a measure, the Program Administrator will work with the Program Implementer and Customer to make an assessment of the greatest impact repairs based on criteria of saving on lifetime energy costs. In the event that costs to enable measure installations is greater than the allowable amounts, the CEN will work with the customer to ensure they understand the issues which prevent them from receiving those measures. The CEN will provide customers with other potential options for remediation (e.g., via other assistance programs) and customers may be reconsidered to receive pilot measures if repairs can be made while the pilot is still active.

The prioritization of repairs may not reflect the order in which they are completed.

¹⁸ *SJV DAC Pilots Decision*, p. 98.

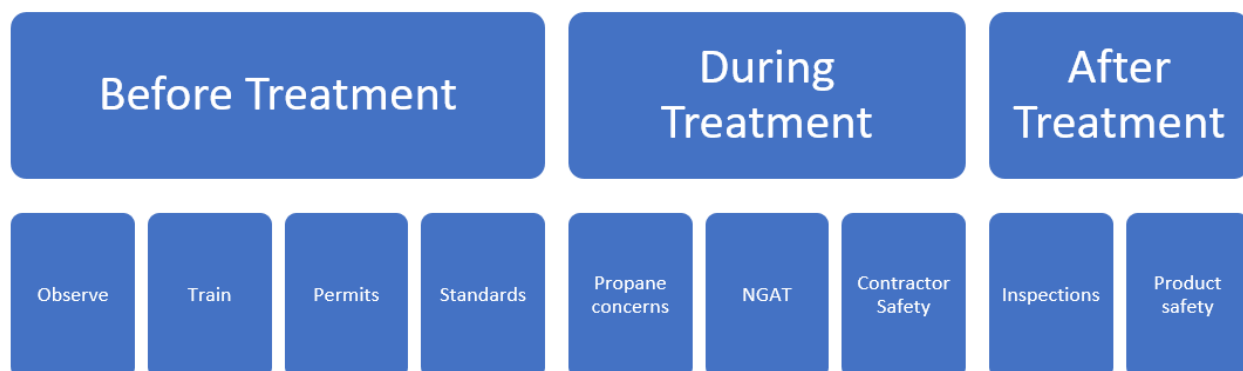
PI will report to PG&E all issues to inform mitigation planning. During the early installations, regular reviews between the PA and PI will support this identification of trends and protect pilot budget until a more structured framework is established.

Safety Plan

The safety of the public, employees and suppliers is PG&E’s highest priority. This section addresses the safety of San Joaquin Valley (SVJ) Residents, CENs, installers and other contractors who will be involved in the pilot before, during and after the treatment. PG&E’s third-party program implementer will produce their own safety implementation plan which will both leverage and reflect the measures described here.

This Safety Plan is inclusive of the protocols and procedures used within PG&E’s ESA Program, and builds upon them in areas that are specific to the pilot, such as special considerations related to propane usage.

**FIGURE 4
SAFETY PLAN ORGANIZATION**



Prior to Treatment

Safety considerations will be made at every point of the customer journey. Customers in the pilot population will receive an initial visit from a trained CEN. The CEN is hired to work directly with customers to engage them in the pilot and may be a local community member. The CEN will be provided with basic customer information prior to the first home visit. During this initial home visit, the CEN will look for and document any safety issues that may exist in the home. These will be limited to the “surface level” concerns such as a dog that could bite, or other easily identifiable issues. Any documented issues will be captured in the customer’s record and shared with all additional subsequent contractors prior to coming on site for the assessment visit. It will be during the assessment visit, when the weatherization specialist is on site, that a comprehensive look at safety issues will be completed and include issues such as combustion ventilation, outdated/unsafe electrical wiring, etc.

In the event that any safety issues are identified, the CEN will inform the customer immediately and provide written documentation to the CPM with the issue and next steps. Some safety measures may render a customer ineligible until it is remediated. CEN will also have basic training on emergency situations, such as a suspected gas leak.

Lead, Asbestos and Other Hazardous Materials

Prior to installing any new measures, the program implementer will assess whether the home has any lead, asbestos or other hazardous materials that would be exposed upon installation of new appliances or any other measures of the ESA Program. This means that all contracted installers must have established rules and regulations governing these materials, and staff that has completed required training and obtain licenses. The standards state that the contractors shall abide by the various laws and regulations regarding these specific hazards. If any hazardous materials are identified, the practices described in the California Installation Standards Manual (CISM) will be followed, along with any other applicable requirements. Identification of lead, asbestos or other hazardous materials may result in a home being ineligible for treatment in the pilot, and any remediation that is completed would contribute toward the remediation cap.

Permits

In order for any electrical work to be conducted, a permit from the appropriate entity (City, County, CA Department of Housing and Community Development) must be obtained. Documentation of the inspections and permit will be submitted to the PA before work is scheduled to begin. It is the responsibility of the Contractor Installer to ensure this is completed. The contract between the installer and the program administrator may include provisions for incentives or penalties with compliance.

Installation Standards

Installation standards are well-documented in the CISM. This is used for the ESA Program and is updated as needed to support new measures. To address the relative nascence of the electric appliances that will be included in this pilot, additional chapters of the CISM will be developed to guide best practices for safe installation of those measures. These materials will serve as a guide book for training new contractors. This may involve hiring an expert firm such as Richard Heath and Associates (RHA). Further detail will be provided in the Joint Bulk Purchasing Advice Letter described earlier.

During Treatment

Propane Related Safety

Program implementers will be required to provide all staff with special training to understand issues related to propane, propane systems, and propane appliances. Additional training and licensing may be coordinated for installers and CENs by propane suppliers and/or the agencies that support Combustion Appliance Safety training.¹⁹ CENs will support customers to maintain safety around existing propane systems with visual inspection and questions about how the customer interacts with their propane tank and appliances.

At the close of the pilot, customers may be given the option of reimbursement for the removal of a propane tank if it is done within 90 days of the final measure installation. This is to recognize the inherent safety risk associated with keeping a propane tank and to encourage customers to make a complete switch to electric appliances.

¹⁹ PG&E's Energy Training Center offers "Combustion Appliance Safety" training which Program Implementer contractors may be required to participate. Additional work is underway to identify Propane-specific requirements that may be included in the RFP for a Program Implementer.

Combustion Appliance Testing

Along with infiltration measures (e.g., gaskets, air sealing, etc.) that are installed under the pilot, a combustion appliance test will be conducted to ensure that there are no existing natural gas or propane leaks in the home, which changing the air flow in the home could make more harmful to residents. While traditional NGATs will be performed for any homes that have access to natural gas currently, customers who still have propane appliances can be tested in a similar fashion for propane leaks. This testing will not be needed for customers who remove all propane appliances prior to the infiltration measures.

Contractor Safety and Qualifications

PG&E's Contractor Safety Program²⁰ establishes the minimum requirements for contractor safety management, provides a Safety Plan template, lists already-registered and qualified contractors, and communicates PG&E's health and safety expectations for work performed on behalf of PG&E. All contractors (both prime and subcontractors) doing work on behalf of PG&E are required to meet PG&E's Contractor Safety requirements, which will be vetted during the sourcing process.

Contractors performing medium and high-risk work (which includes any work involving electrical or combustion-risk appliances) are required to be pre-qualified in ISNetworld (ISN). In ISN, Contractors are required to complete a safety, health and environment (SHE) questionnaire and provide SHE statistics, written safety programs and a programmatic safety plan.

PG&E will select contractors that are deemed to be the most qualified to complete the work of the Pilot, and additional training will be conducted for contractor staff as described earlier.

After Treatment

Inspections

PG&E will leverage its existing Central Inspection Program (CIP) to audit all new appliance installations. CIP exists to assure that Contractors install measures in accordance with program rules and standards and to assure contractor billing is accurate. PG&E may coordinate inspection scheduling with the CEN and Implementer to reduce customer burden. The CIP standard requires inspections within 30 days of installation. Finally, if a permit has been pulled, the permitting agency may send an inspector as well.

Product Safety

Selection of specific models of appliances will be made based on a number of criteria, with safety being at the top. In addition to being UL certified, a technical advisory group comprised of building electrification experts may be convened to inform practical and safety considerations of various appliance models.

Safe use of appliances by customers after installation will be supported through the CEN delivering education to customers via community demonstrations and home visits, and installer "leave-behind" materials in both English and Spanish.

²⁰ More information available here: https://www.pge.com/en_US/for-our-business-partners/purchasing-program/suppliers/suppliers.page.

Evaluation Plan

This section presents PG&E's proposed research plan for the impact evaluation of the pilots. The IOUs have also been directed by the Commission to conduct a joint pilot process evaluation to examine the design and delivery of the pilots. These pilot evaluations will be used along with the information gathered in the Data Gathering Track to inform the economic feasibility and community impact of extending affordable energy options to all SJV DACs.

Pilot evaluation will be complex with data being gathered by multiple parties: Track B Data Gathering Consultant, PAs, CEN/CPM, Pilot Implementers, leveraged program Implementers and Administrators, and Evaluation Consultant(s).

Potential Research Questions and Areas of Inquiry

1. What is the landscape of the pre-pilot home and equipment/appliance stock in the pilot communities? How do residents fuel their heating, water heating, cooking needs? Why?
2. What are the pre- and post-pilot levels of energy burden faced by households that rely on alternate fuel sources, such as wood, propane, diesel generators, or other fuels, for their heating, cooling, water heating, and cooking needs? What are key issues or drivers of the burden or hardship they experience?
3. What are residents' attitudes and desires associated with their pre-pilot fuel uses and potentially different ones (e.g., electricity or natural gas) to supplant use of propane, wood, diesel generators, or other fuels? How have residents' attitudes changed with electrification of their appliances and their electricity rate? What were the reasons for these customer preferences?
4. What non-energy benefits, including safety, health, and environmental, were provided through the adoption of electrification technologies?
5. What were the main barriers to customer participation? What were effective engagement strategies and best practices?

A list of the data elements to be collected, at a minimum, to support the pilot research questions is provided in Appendix F.

Impact Evaluation Plan

While the final research objectives are still under consideration, the basic research objectives for conducting the impact evaluation are:

1. Establish pre- and post-pilot conditions associated with customers in the pilot communities who did not have access to natural gas and relied on wood, propane, diesel, or other fuels (including those on all-electric rates) for residential energy use.
2. Determine weather-adjusted energy and bill impacts of the treatment, and identify any residual propane/wood usage and bills.
3. Report total number and combinations of measure installations. Assess bill savings and satisfaction for various combinations of measure installations.

4. Better understand other factors that may have driven or influenced the changes in energy usage and the decision to adopt electrification.

Proposed Pilot Evaluation Methodology

Detailed data collection will be required to evaluate the outcomes of the pilot. These data elements will be collected by partnering with Pilot contractors to collect household information at the time of the behind-the-meter (BTM) appliance conversion or home system upgrade work, as well as with third-party evaluators to collect pre- and post-pilot data. A list of the data elements to be collected is provided in Appendix F. Overall, PG&E plans to collect the following information either through the program implementer, utility or third-party data, or a program evaluator:

- **Number of Households Impacted:** PG&E plans to report four sets of household counts, including:
 - The number of households in community;
 - The subset of this population that was deemed eligible candidates for BTM appliance replacements in scope for each community;
 - The subset of this population that was deemed to have homes that could not be treated broken down by cause, including excessive cost of BTM upgrades, or customer or landlord refusal, as applicable; and
 - The subset of this population that is ultimately impacted.
- **Measures Undertaken:** PG&E will report the aggregate measures undertaken in the pilot. This data collection will also inform PG&E's understanding of customer preferences for appliances.
- **Energy Usage and Household Characteristics:** PG&E will collect data regarding baseline and post-pilot energy usage and household characteristics. Energy usage data will include, where natural gas is unavailable, household propane and wood usage and costs, as well as whether they are on an all-electric rate. PG&E will also collect a range of household demographic and building characteristics data for surveyed households in the community. At a minimum, the data collection elements will include those being captured as part of the Track B data gathering effort. PG&E will also attempt to collect information on any post-pilot residual propane or wood usage.
- **Total Pilot Costs:** PG&E will collect data on pilot implementation costs to gain a better understanding of grid impacts and associated costs, BTM costs associated with installation of electric appliances in scope for a community, and marketing, engagement and outreach costs, and co-pay quantities by income level, as applicable.

Proposed Pilot Evaluation Analysis

The evaluation will provide weather-adjusted energy consumption and bill impacts for each pilot community. These impacts are quantified by the change in energy usage and electricity bills, namely from the reduction or elimination of propane or wood usage and the additional electricity usage from installed appliances. All customers in a pilot community may be eligible to receive treatment, thus it is not possible to identify a control group and a pre/post evaluation must be used to calculate impacts. In this case, the energy costs in the form of energy bills (both for electric and propane/wood/other fuels) is collected for one year prior to intervention and one-year post intervention, in the form of electric bills. To estimate pre-treatment wood and propane usage, PG&E will utilize customer survey data as well as propane invoices provided by the customer where available. PG&E proposes to report on impacts that cover a period of at least one-year post-intervention in order to have data that covers all weather

conditions. To the extent it is possible to capture, PG&E will also seek to identify the quantity, if any, of post-treatment propane usage. In communities where the number of treated customers is quite small, the results will be more sensitive to random noise caused by unrelated factors, like changes in household size or composition. Since customers may have the option of opting out of these pilots, PG&E cannot guarantee a level of statistical precision because the total number of customers ultimately impacted will remain unknown until implementation is underway. Whatever the size of the participating population, PG&E will utilize appropriate evaluation best practices to separate the usage and bill impacts of these interventions from random noise or other unrelated factors like anomalous weather conditions.

Database Development

It will be necessary to develop a database format to store pilot project data that is sufficiently consistent across pilot teams and the SJV DAC Data Gathering Plan that data from these interrelated efforts can be later easily merged. Data captured will be consistent across pilot studies as well as the data gathering effort, which will require pilot and data gathering teams' coordination. The database will be made available to parties while ensuring compliance with relevant state and federal customer privacy laws and Commission customer privacy decisions.

Impact Evaluation Timeline

The project evaluation timeline is largely dependent on the completion of the pilot study. PG&E supports the decision's direction to report on impacts that cover a period of at least one-year post-intervention in order to have data that covers all weather conditions. Depending on the timeframe of these pilots, the Commission may choose to have one vendor conduct evaluations of all pilots in order to ensure consistency across studies. Including the one-year post-intervention data collection period, analysis, and reporting, a final evaluation report may be completed in 1.5-2 years following the end of the pilot study.

Process Evaluation

To supplement the pilot impact evaluation with qualitative insights around the administration of the program and the customer experience, PG&E, SoCalGas, and SCE plan to perform a joint process evaluation, per D.18-12-015. The study will be led by SoCalGas, and will be used to evaluate the way the program is being delivered and provide recommendations on how the key features of the delivery could better meet the goals of the program while also being cost-effective. The process evaluation will generally focus on the following topics:

- The effectiveness of the CEN Program approach in building a network of local, knowledgeable and trusted energy experts to support the pilot activities;
- How well the IOU PA/PI approach worked with regards to the implementation of the pilots, including the customer experience;
- The success of leveraging existing programs, especially community solar programs, low-income discount programs and EE programs to support the efficient operation of pilot households and reduce energy cost; and
- Customer barriers to adoption of electrification, and the extent to which customers' awareness, knowledge, and attitudes around electrification and EE changed as a result of the above approaches.

The scope of the process evaluation would be focused on topics that can yield the most constructive feedback on features of program delivery and their impacts on operations relative to their impact on the customer experience. Potential research tasks include:

- Interviews with program implementers, program administrators, and CENs;
- Interviews with other stakeholders;
- Interviews or surveys with participants to understand their experience, engagement, overall satisfaction, and impact on their day-to-day lives;
- Review of program related material and tools; and
- Observations of operations and review of procedures and workflow.

Process Evaluation Timeline

D.18-12-015 stipulates that the joint IOUs will establish a process evaluation cost-sharing methodology and that SoCalGas will have a contract in place for a process evaluation contractor by April 30, 2019. In order to develop a statement of work with sufficient detail to obtain viable and complete proposals from vendors, the pilot implementation plans should be well defined and in progress in the communities. Given that pilots will not begin until sometime late in 2019 and with the expected duration of the pilots, the joint IOUs plan to file a request for extension.

Coordination With Data Gathering Track

The pilots and subsequent pilot evaluations will be implemented on a concurrent but separate timeline as the Data Gathering Track. Data collected by pilot contractors in each of the pilot communities should be shared with the Data Gathering contractor, and, accordingly, data collected by the Data Gathering contractor in pilot communities should be conducted in close coordination with the pilot contractors. Universal data collection instruments and forms will be developed as part of the Data Gathering Track. This will enable efforts to coordinate resources and maximize the value of the data collection that occurs during both pilot implementation and Data Gathering in the greater SJV.

Leveraging Existing Programs

As described in D.18-12-015, the SJV DAC pilots must leverage and coordinate with many existing programs and rate options. Key among the leveraged programs are the direct-install programs (ESA, MIDI and Comprehensive Manufactured/Mobile Home Program) and solar programs (DAC-Green Tariff (DAC-GT) and Community Solar-Green Tariff (CS-GT), Single-Family Affordable Solar Housing (SASH), DAC-SASH, and CSI-Thermal). Key among the leveraged rate programs and options are CARE and FERA, All-Electric Baseline rates and Medical Baseline. Each is described below with coordination considerations identified.

The decision directs PG&E and other administrators to ensure that all measures installed in pilot communities which are currently available in other direct-install programs – ESA, MIDI and the Comprehensive Manufactured/Mobile Home Program – are funded by those programs and are installed at the currently-established rates, are installed according to those programs’ standards and policies and are ultimately counted toward the goals of those programs.²¹ Per the decision, a more detailed

²¹ *SJV DAC Pilots Decision*, pp. 90-91, inter alia.

description of the process by which these pilots will be integrated with those programs will be provided in the Bulk Purchasing Joint Tier 1 advice letter.²²

Finally, PG&E also includes a discussion of the newly approved AB 2868 smart water heater program, recently re-named WatterSaver!. The decision also directs PAs to explore whether the SB 1477 BUILD and/or TECH Initiatives can be leveraged to meet pilot goals.²³ At this time, PG&E does not find sufficient progress made in the associated proceeding to describe how these programs may be leveraged.²⁴

Direct Install Programs

Energy Savings Assistance Program

Program Overview: PG&E's ESA Program has offered home improvements at no cost to income-qualified customers in its 48 counties since 1983. The program is funded through the Public Purpose Charge collected from all ratepayers through PG&E bills. The ESA Program's objective is to assist customers in reducing their energy consumption and costs, while increasing their comfort, health and safety. The ESA Program utilizes a prescriptive, direct install approach to provide home weatherization, energy efficient appliances and energy education to income-qualified customers. The ESA Program is available to customers living in single-family, multifamily, and mobile homes, including homeowners and renters.

The eligibility requirements for ESA are the same as those for CARE: total customer household income must be equal to or be less than 200 percent of the Federal Poverty Guideline (FPG). Customers can qualify, regardless of their household income, if at least one household member participates in a public assistance program. Additionally, a home must be at least five years old.

Leveraging ESA in SJV DAC Pilots

Discrepancies between ESA eligibility guidelines and those approved for this pilot mean that not all households participating in the SJV DAC pilot will be eligible for ESA; however, available income data suggests that the majority will.²⁵ PG&E's data suggest many in the pilot communities have already accessed ESA.

The Decision requires the IOUs to fund existing ESA-eligible measures provided by the pilot from the ESA Program, count such households and measures toward ESA Program goals, and ensure such measures are installed according to ESA Installation Standards and other policies. However, to minimize complexity for contractors and participants, the Commission envisions a "behind-the-scenes" process whereby "installation of ESA-eligible measures as part of the pilot by contractors that are not currently on contract with the ESA program" who would then "bill" the ESA program for those measures. This

²² *SJV DAC Pilots Decision*, p. 120.

²³ *SJV DAC Pilots Decision*, pp. 127-128.

²⁴ Rulemaking 19-01-011 was Instituted on February 8, 2019; a joint-agency workshop related to the proceeding is scheduled for April 8, 2019 and an initial pre-hearing conference is scheduled for April 24, 2019 to be followed by a Scoping Memo.

²⁵ For example households newer than five years or with income levels above 200 percent of the FPG are eligible for pilot treatment but not eligible for ESA.

enables the Commission to direct that “a single contractor will install all electrification and weatherization measures (where feasible) in a given community....”²⁶

PG&E appreciates the intent to minimize complexity as coordinating with multiple contractors can be challenging. While ESA can result in multiple trade expertise to fully service the customer, the majority of customers receive measures from a single subcontractor, a weatherization specialist. Given the nature of the work to be completed under this pilot, PG&E anticipates multiple trades and sub-contractors will likely be required for the home improvements to be completed under this pilot. In the Joint IOU Bulk Purchasing Advice Letter (AL), PG&E will provide additional details on requirements for its Implementer and CPM to coordinate with the ESA Program such that this program can be fully leveraged and coordinated to minimize impact to the customer. Those requirements will also be reflected in the Implementer and CPM RFP.

In support of this coordination, the Decision does provide one timing-related ESA policy exemption so that ESA weatherization and water heating measures to be installed up to 90 days prior to installation of electric space conditioning and water appliances to avoid potential complexity of having to wait to install such measures until after appliance installation due to measure eligibility rules.²⁷ PG&E notes that other exemptions may be required and will also include those in the Joint IOU Bulk Purchasing Advice Letter.

Moderate Income Direct Install (MIDI) Program

Program Overview:

The MIDI Program offers no-cost energy assistance for PG&E residential customers. The MIDI Program is administered by PG&E and implemented by a third party, RHA. The program is available to qualified renters and homeowners living in single-family homes, multifamily dwellings and mobile homes. Participating customers receive energy and water conservation education, energy saving tips, referrals to other PG&E programs, and direct installation of eligible program measures. The MIDI Program is designed to help residential customers reduce their energy usage through no-cost direct install EE upgrades and helps customers:

- Understand their energy use
- Reduce energy consumption and demand
- Save money on utility bills
- Improve the comfort of their home

The customer must meet the following qualifications to be enrolled in the program:

- Must be a PG&E residential customer with either residential single or multifamily electric or gas rate schedules;
- Reside within PG&E service area;
- Housing must be a minimum of five years of age;
- Dwelling types include single-family, mobile homes and multi-unit dwellings;
- Must not have existing on-site self-generation (solar); and

²⁶ *SVJ DAC Pilots Decision*, pp. 122-123.

²⁷ *SVJ DAC Pilots Decision*, pp. 118-119.

- Must not be qualified for the ESA Program.

AND

- Must meet one of the four qualification criteria below:
 1. Meet MIDI income guidelines:

| Size of Household | Annual Income |
|-----------------------------|---------------|
| 1-2 | \$65,780 |
| 3 | \$83,120 |
| 4 | \$100,400 |
| 5 | \$117,680 |
| 6 | \$134,960 |
| Each Additional Person add: | \$17,280 |

Effective June 1, 2018 –May 31, 2019

2. Renter: Renters are qualified with a signed Program Participation Agreement
3. Language Spoken: Customer's primary language is a language other than English
4. County of Residence: Customer resides in one of the following counties:

| | | |
|-----------|-----------------|---------------|
| Alpine | Lake | Santa Barbara |
| Amador | Lassen | Shasta |
| Butte | Madera | Sierra |
| Calaveras | Mariposa | Siskiyou |
| Colusa | Mendocino | Stanislaus |
| Fresno | Merced | Trinity |
| Glenn | Monterey | Tehama |
| Humboldt | Nevada | Tulare |
| Kern | Plumas | Tuolumne |
| Kings | San Luis Obispo | |

Leveraging in SJV DAC Pilots

The Decision envisions a process whereby MIDI-eligible measures installed as part of this pilot are funded through MIDI and counted toward MIDI Program goals. Among MIDI measures, PG&E expects smart thermostat, water efficiency and LED lighting measures in particular to be leveraged in this pilot.

More extensive weatherization measures than those above such as air sealing and insulation would be undertaken outside of the MIDI Program for customers not eligible for ESA.

Comprehensive Manufactured/Mobile Home Program (CMHP)

Program Overview:

The Comprehensive Manufactured/Mobile Home Program (CMHP) offers a turnkey cost-effective solution that serves manufactured/mobile home owners and renters. This PG&E-administered third-party program offers whole house EE improvements as well as deeper retrofits through leveraging other programs and opportunities such as the PG&E ESA Program. The entire PG&E service territory served

with an emphasis on the Central Valley (Climate Zones 11,12, and 13) where residential energy use is greatest.

The intent of this program is to maximize energy savings with greater effectiveness by using the program implementer's (Synergy Companies) innovative program model that leverages all available programs through one program administrator for a more comprehensive service.

A customer must meet the following qualifications to be enrolled in the program:

- Must be a PG&E customer with either residential electric or gas rate schedules;
- Reside within PG&E service area;
- Housing must be a minimum of five years of age; and
- Dwelling types include manufactured or mobile homes.

Leveraging in SJV DAC Pilots

The Decision envisions a process whereby CMHP-eligible measures installed as part of this pilot are funded through MIDI and counted toward CMHP Program goals. Among CMHP measures, PG&E expects smart thermostat, water efficiency and LED lighting measures in particular to be leveraged in this pilot.

Other more extensive weatherization measures would be undertaken outside of the CMHP Program for customers not eligible for ESA.

Solar Programs

California Solar Initiative Thermal Program (CSI-Thermal)

Program Overview: The CSI-Thermal Program offers cash rebates of up to \$4,366 on solar water heating systems for single-family residential customers. Multifamily and Commercial properties qualify for rebates of up to \$800,000 on solar water heating systems and eligible solar pool heating systems qualify for rebates of up to \$500,000. Funding for the CSI-Thermal Program comes from ratepayers of PG&E, SCE, SoCalGas, and SDG&E. The rebate program is overseen by the CPUC as part of the California Solar Initiative.

Program Modifications: Pursuant to D.18-12-015²⁸ SoCalGas and PG&E filed and served a joint Tier 2 advice letter on February 8, 2019, for the SJV DAC pilot communities requesting revised single-family incentive to cover the total installation cost, a set-aside of \$4,652,700 for possible CSI-Thermal participants in PG&E and third-party Electric Pilot Communities, and other minor changes.²⁹

Customer Identification and Outreach: The decision directs program administrators to work with CSI-Thermal Administrators to offer CSI-Thermal where eligible and feasible and especially where heat pump water heaters (HPWH) are infeasible.³⁰ In their outreach to pilot community households, the CEN will include existing CSI-Thermal marketing material that has been tailored to pilot homeowners. Customers will be encouraged to enroll if CSI-Thermal is a possibility in order to reserve the funds for any potential CSI-Thermal participant as the CSI-Thermal Program approaches its sunset date as described in the aforementioned advice letter. CSI-Thermal outreach in Allensworth and Seville must be

²⁸ SJV DAC Pilots Decision, p. 112.

²⁹ PG&E AL 4067-G.

³⁰ SJV DAC Pilots Decision, p. 112 and 90.

coordinated between the CEN, PG&E and SoCalGas to ensure that customers directed to the appropriate CSI-Thermal Program administrator according to their water heating fuel. PG&E and SoCalGas have committed to this coordination in the attestation letter in Appendix A required per the Decision.

Disadvantaged Communities Green Tariff (DAC-GT) and Community Solar Green Tariff (CS-GT) Programs

Program Overview

On June 21, 2018, the Commission approved D.18-06-027, *Alternate Decision Adopting Alternatives to Promote Solar Distributed Generation in Disadvantaged Communities*, requiring each of the participating utilities to implement two new Green Tariff Programs for DACs,³¹ namely the DAC-GT and the CS-GT Programs. The DAC-GT Program will be available to residential customers who live in DACs and meet the income eligibility requirements for the CARE and FERA programs. The program has a participation cap of 70 megawatts (MW) for PG&E. The CS-GT Program is structured similarly to the DAC-GT program but is intended to drive more local, community-developed solar projects.³² Enrollment under the CS-GT Program is open to any residential customer located in DACs, but a minimum of 50 percent of project capacity must be subscribed by low-income customers. The program has a cap of 18 MW for PG&E. Both programs provide a 20 percent discount to participating customers compared to their otherwise applicable tariff. The programs are funded first through greenhouse gas (GHG) allowance revenues and if such funds are exhausted, the programs will be funded through public purpose program funds.

PG&E is currently working on the development and implementation of the DAC-GT and CS-GT Programs. On August 20, 2018, PG&E submitted Advice Letter 5362-E to “*Establish and Implement the Disadvantaged Communities Green Tariff (DAC-GT) Program Rate and the Community Solar Green Tariff (CS-GT) Program Rate*,” and on February 13, 2019, PG&E filed a supplemental Advice Letter 5362-E-A. Both advice letters are still pending Commission approval as of the writing of this advice letter.

The DAC-GT and CS-GT Programs offered to customers in SJV pilot communities will be the same as for the general DAC population and will follow the rules and requirements as proposed in Advice Letter 5362 with a few exceptions and modifications as described below.

Program Modifications

1. Leveraged Community Solar Programs in SJV Pilot Communities

D.18-12-015 requires PG&E to solicit CS-GT projects in the following SJV pilot communities: Allensworth, Cantua Creek, Seville, Alpaugh, Fairmead, Lanare, LeGrand. Until CS-GT projects are built and online to

³¹ “Disadvantaged communities” are defined, under D.18-06-027, as communities that are identified, by using CalEnviroScreen 3.0, as among the top 25 percent of communities statewide. In addition, 22 census tracts in the highest 5 percent of CalEnviroScreen’s Pollution Burden that do not have an overall CalEnviroScreen score because of unreliable socioeconomic or health data, are also designated as DACs. D.18-06-027 also highlighted that customers who live in the SJV Pilot Program communities are also eligible for the program even if their community is not among the top 25 percent DACs as defined by CalEnviroScreen. However, it should be noted that all selected SJV pilot communities are also DACs as defined in D.18-06-027.

³² Notably, the solar generation project supporting the program must be located within 5 miles of the participating customers’ community and the program requires demonstration of community involvement and interest, facilitated through a local “sponsor.”

offer solar electricity to pilot community customers, PG&E will seek to enroll all eligible pilot community residents in these communities onto the DAC-GT Program upon program launch.³³ Once the CS-GT projects come online and are available for customer enrollment, PG&E will transfer customers that are eligible for participation under these CS-GT projects over to those projects. SJV pilot community customers enrolled under DAC-GT that are not located within 40 miles of a CS-GT project will remain on the DAC-GT Program.

In the community of La Vina, PG&E will offer the DAC-GT and DAC-SASH (Single-Family Affordable Solar Housing)³⁴ programs to customers.

2. Solar Project Procurement

Per D.18-06-027, PG&E will run DAC-GT³⁵ and CS-GT solicitations twice a year, expected in the Spring and Fall of each year. CS-GT solicitations targeted at SJV pilot communities will be included in PG&E's program-wide RFPs.

PG&E is only able to include SJV targeted solicitations in their program-wide RFPs once this Implementation Advice Letter has been approved as the solicitation documents can only be finalized and filed for approval once all program rules have been approved by the Commission. Therefore, PG&E hereby proposes an update to the language proposed in Advice Letter 5362-E-A³⁶ in that SJV targeted CS-GT solicitation will be included in the program-wide RFPs with the next program-wide solicitation following approval of this Implementation Advice Letter.³⁷ This update should have no immediate customer impact as eligible customers will be enrolled in the DAC-GT Program until CS-GT resources come online. Furthermore, this will allow for the selection of the third-party PA/PI before the first SJV targeted solicitation will be run which in turn will allow this PA/PI to participate as a project developer in the targeted solicitations as indicated in the Decision.

3. Capacity Allocation/Reservation

Per D.18-12-015, a specific capacity allocation must be set aside for the SJV pilot communities under the CS-GT solicitations that should be based on the population of the pilot communities. There are 1,739 customers in the seven pilot communities that are directed to install CS-GT projects. The overall eligible population for the CS-GT Program is approximately 639,527, which leads to a percentage-based capacity allocation for the SJV pilot communities of 49 kilowatt (kW).³⁸

³³ Per the DAC-GT Program rules, customers must be eligible for the CARE and/or FERA Program to be eligible to enroll under DAC-GT, as well as meet all other program eligibility requirements.

³⁴ As described in D.18-06-027.

³⁵ As described in AL 5362-E, PG&E proposes to initially use underutilized resources from PG&E's Solar Choice Program to fulfill the customer load under the DAC-GT Program until such resources are nearing full subscription. Hence, it is expected that solicitations will initially be limited to the CS-GT Program.

³⁶ AL 5362-E-A, p. 5.

³⁷ Granted that there is sufficient time between the approval of the Implementation AL and the next filing of the CS-GT solicitation documents.

³⁸ 1739 over 639,527 customers is 0.272 percent. This percentage multiplied by the program cap of 18 MW equals 49 kW. This calculation does not consider any potential future CCA MW allocations.

This low capacity allocation is challenging for two main reasons – first and foremost, a solar project of 49 kW is expected to only serve approximately 14 customers,³⁹ a very small portion of the total SJV pilot community customers. Secondly, it will likely be challenging for developers to make the economics work if they are limited to develop solar projects of up to 49 kW.

PG&E proposes to interpret the capacity allocation as a capacity reservation, reserving a minimum of 49 kW of procurement under the CS-GT Program to SJV pilot communities. However, there is no maximum amount of capacity allocated to the SJV pilot communities under CS-GT. In other words, solar projects targeted at SJV pilot communities may participate in the targeted SJV CS-GT solicitations alongside the program-wide CS-GT solicitations as long as the program cap is not reached. As required in D.18-06-027 and reiterated in D.18-12-015, solar projects targeting SJV pilot communities will be prioritized in the solicitation process.⁴⁰

The resulting project capacity procured under the targeted SJV CS-GT solicitations will apply towards PG&E's program-wide CS-GT MW target.

4. Customer Eligibility and Enrollment

D.18-12-015 determined that for SJV pilot participants, the participating customer's community (defined by its census tract) must be located within 40 miles of the CS-GT solar project.⁴¹ The Decision also states that subscribers to the solar project may initially only include SJV pilot community customers and that general DAC customers may only enroll in the solar project procured under the targeted SJV CS-GT solicitations once pilot community participants un-enroll or capacity otherwise becomes available over the life of the project.⁴²

PG&E proposes to interpret this language to mean that solar developers may size a CS-GT project such that an appropriate capacity is dedicated to serving SJV pilot communities and that additional capacity may be included to meet demand in general DAC communities located within 5 miles of the project. This enables developers to take advantage of economies of scale in project development, prevents duplicative solar project development in one geographic area (one for SJV pilot participants and one for the general DAC population) and will likely also lead to a better customer experience (customers in neighboring communities will all enroll and support the same community solar project).

Once the CS-GT project targeting SJV pilot communities is developed, both SJV pilot community customers and general DAC customers that meet all program eligibility requirements can enroll under the project. However, SJV pilot community customers would be granted priority in the enrollment. In fact, as noted above, SJV customers may actually be defaulted onto a CS-GT project developed within their eligibility radius once it comes online.⁴³

It is also important to note that general DAC participants must adhere to all general CS-GT Program rules and requirements while SJV pilot participants are able to benefit from program exceptions. For

³⁹ Assuming a solar capacity factor of 20 percent and an average annual customer usage of 6000 kWhs.

⁴⁰ D.18-06-027, p. 82.

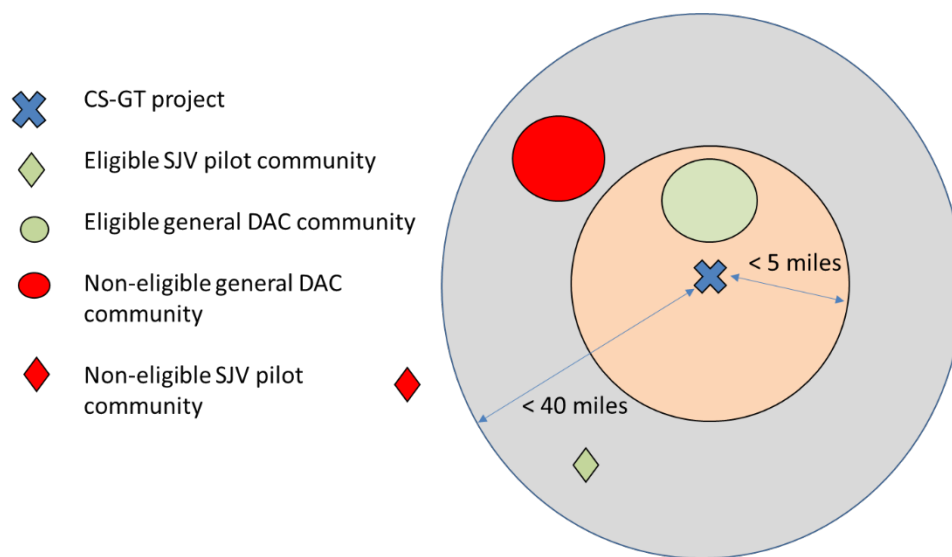
⁴¹ Instead of 5 miles for the CS-GT Program in general. See D.18-12-015, p. 106.

⁴² *SJV DAC Pilots Decision*, p. 107.

⁴³ It must also be noted that the requirement from D-18-06-027 still holds that a minimum of 50 percent of project capacity must be subscribed by low-income customers.

example, SJV pilot community customers could be located within 40 miles of the CS-GT solar project while customers located in DACs but not in a SJV pilot community must be located within 5 miles of the CS-GT solar project. The following graphic depicts this concept:

**FIGURE 5
CS-GT ELIGIBILITY DISTANCES**



5. Sponsor Eligibility

D.18-06-027 determined that CS-GT project sponsors⁴⁴ must be located within 5 miles of the project to be able to enroll under the CS-GT project and realize the benefits of the 20 percent discount like any other participating customer. As described above, D.18-12-015 expanded the locational requirement for participating customers to 40 miles but no mention was made in the Decision in regards to sponsor locational requirements.

PG&E finds it reasonable to require the same locational requirements for sponsors as for any other participating customer and hereby proposes that for the purposes of the SJV targeted CS-GT projects, the sponsor's community (defined by its census tract) must be located within 40 miles of the CS-GT solar project to be able to enroll under the program and benefit from the 20 percent bill discount. All other sponsor eligibility and enrollment requirements of the general CS-GT Program continue to apply.

⁴⁴ A project sponsor is a non-profit community-based organization, a local government (including CCAs) or a school that help recruit customers, conducts outreach for the program and facilitates job training and workforce development efforts.

DAC-SASH

DAC-SASH Program Overview:

The decision envisions leveraging DAC-SASH in La Vina, which is a third-party electric pilot community; however, it also states the intention that all single-family households participating in the pilot be encouraged to participate in either SASH or DAC-SASH.⁴⁵ PG&E intends to leverage SASH and DAC-SASH for all eligible households, especially households that are unable to receive electric appliances due to eligibility or remediation concerns, or do receive electric appliances but do not experience the expected level of bill savings. This is similar to the decision guidance to emphasize leveraging CSI-Thermal among pilot households not able to receive a heat pump water heater.

Modeled on the existing, successful SASH Program, DAC-SASH will provide up-front financial incentives for solar installation on homes owned by low income residents in DACs statewide. The program will allow for greater eligibility and help overcome barriers like lack of access to capital or credit. DAC-SASH will provide \$10 million in incentives annually through 2030, to be funded by utility GHG allowance revenues or public purpose program funds. Grid Alternatives has recently been selected by the CPUC to administer the DAC-SASH Program.⁴⁶

PG&E has engaged GRID Alternatives in initial discussions regarding coordination of this pilot with DAC-SASH and includes an attestation letter documenting their commitment⁴⁷ to coordination in Appendix G similar to that required for CSI-Thermal. For more information on DAC-SASH, please contact the program administrator, GRID Alternatives.

SASH

SASH Program Overview:

The Single-family Affordable Solar Homes (SASH) Program provides solar incentives on qualifying affordable single-family housing. The goals of the SASH Program are to:

- Decrease electricity usage by solar installation and reduce energy bills without increasing monthly expenses;
- Provide full and partial incentives for solar systems for low-income participants;
- Offer the power of solar and EE to homeowners;
- Decrease the expense of solar ownership with a higher incentive than the General CSI Program;
- Develop energy solutions that are environmentally and economically sustainable; and
- Provide job training and employment opportunities in the solar energy and EE sectors of the economy.

The SASH Program provides qualified low-income homeowners fixed, up front, capacity-based incentives to help offset the upfront cost of a solar electric system. Eligible applicants must:

- Receive electrical service from Pacific Gas & Electric (PG&E);
- Own and live in their home; and

⁴⁵ *SJV DAC Pilots Decision*, p. 112, inter alia.

⁴⁶ <https://www.solarpowerworldonline.com/2019/03/grid-alternatives-cpuc-solar-environmental-justice-program/>.

⁴⁷ *SJV DAC Pilots Decision*, p. 111.

- Have a household income that is 80 percent or below the area median income. Live in a home defined as “affordable housing” by California Public Utilities Code 2852.

PG&E has engaged GRID Alternatives in initial discussions regarding coordination of this pilot with SASH, and includes an attestation letter documenting their commitment⁴⁸ to coordination in Appendix G similar to that required for CSI-Thermal. For more information on SASH, please contact the program administrator, GRID Alternatives.

Rate Programs

California Alternate Rates for Energy (CARE) Program and Family Electric Rate Assistance (FERA) Program

Program Overview

The CARE Program provides a monthly discount of 20 percent or more on gas and electricity. The CARE Program annual gross household income guidelines are no greater than 200 percent of the of FPGs levels. The CARE Program is funded by non-participating ratepayers as part of a statutory “public purpose program surcharge” that appears on their monthly utility bills.⁴⁹

The FERA Program provides an 18 percent discount on electricity only to household of 3 or more persons. The FERA Program annual gross household incomes guidelines are between 200 percent and 250 percent of the of FPGs levels.

Customer Identification and Outreach

PG&E leverages its CPUC-approved Customer eligibility model (propensity model) to target eligible, non-enrolled, income qualified customers for the CARE and FERA Programs. The CARE and FERA Program outreach employs multiple strategies to reach qualified customers including direct mail outreach, bill inserts, radio ads, email and digital media marketing.

Enrollment

In accordance with CPUC guidance, customers can self-certify (and self-recertify) their eligibility for the CARE and FERA Program. Self-certification requires the customer to complete and sign the declaration at the bottom of the CARE/FERA enrollment form, which certifies that their household meets the program guidelines and the customer agrees to provide proof of qualification, if requested.

Once an application is approved, the CARE Program certification period is two years for non-fixed income households and four years for fixed income households while the FERA Program certification period is two years. At the end of the certification period, customers are notified by phone, email, and/or mail that they have 90 days to recertify their eligibility for the program.

All Electric Baseline

Program Overview:

⁴⁸ *SJV DAC Pilots Decision*, p. 111.

⁴⁹ California Public Utilities Code Section 382. All references to Code hereinafter refer to California Public Utilities Code.

Qualifying DAC SJV pilot participants will be placed on the all-electric version of their rate if their rate is one of the following: E1 - Tiered Rate Plan, E-TOU-A, E-TOU-C (Peak Pricing 4 p.m.–9 p.m. Every Day), or E6 – Time-of-Use Rate Plan. Customers are eligible for an all-electric baseline if they have permanently installed electric space heating (end-use code All-Electric (H)). End-Use Code All-Electric (H) provides a greater baseline allowance to account for increased energy needs from permanent electric space heating.

Baseline Allowance consists of a daily allotment of energy available at the lowest price, that provides a significant portion of the reasonable energy needs of the average residential customer. Baseline Allowance varies by Baseline Territory, heating source and the season (summer or winter). Baseline Territories are determined based geography and elevation.⁵⁰ Customers who have qualifying medical conditions may be eligible for a higher allowance through the Medical Baseline Program as described in that section below.

PG&E calculates baseline quantities for gas and electric service using actual usage in a baseline territory for the most recent four years and then sets the new baseline quantities as an average of these four years. Baseline allowances are recalculated and submitted to the CPUC for approval every three years. They may be adjusted on an annual basis if necessary. In accordance with the Public Utilities Code, each allowance must represent 50 to 60 percent of the gas or electricity needs of the average basic electric customer in summer and winter, and average all-electric customer in the summer, and 60 to 70 percent of the average all-electric or gas customer in the winter in each territory.

Leveraging All-Electric Baseline in SJV DAC Pilots

Participants will be eligible for all electric baseline following the installation of their electric space conditioning (heating and cooling) system. Installation reports will be provided by the Implementer to PG&E to ensure customers are switched to an all-electric baseline rate where applicable.

Once on the all-electric rate, the customer will receive a higher baseline allowance set to meet the average needs of customers with permanently installed electric space heating in that baseline territory. Baseline territory boundaries generally correspond with elevation lines or other drivers of heating and cooling needs. The counties included in the DAC SJV pilot and associated baseline territories are as follows:

⁵⁰ See PG&E Preliminary Statement Part A, for baseline territory descriptions.

TABLE 3
ELECTRIC BASELINE TERRITORIES

| Pilot City | County | PG&E Baseline Territory |
|----------------------------------|---------------|--|
| Allensworth, Alpaugh and Seville | Tulare | Under 1,000' – W 1,001'-3,500' – R 3,501'-6,500' - Y Over 6,500 - Z |
| Cantua Creek | Fresno | Under 3,500' – R 3,501'-6,500' – Y Over 6,500 - Z |
| Fairmead and La Vina | Madera | Under 4,000' – R 4,001'-6,500' – Y Over 6,500 - Z |
| Le Grand | Merced | All - R |

The following table indicates the electric baseline allowances for each baseline territory included in the pilot for the E1,⁵¹ E-TOU-A, and E-TOU-C rates. Quantities represent total daily baseline kilowatt hours (kWh) of electricity:⁵²

TABLE 4
ELECTRIC BASELINE kWh/DAY

| Baseline Territory | | Basic Electric | All Electric |
|---------------------------|--------|-----------------------|---------------------|
| R | Summer | 18.6 | 20.9 |
| | Winter | 11.3 | 28.1 |
| W | Summer | 20.2 | 23.6 |
| | Winter | 10.7 | 20.0 |
| Y | Summer | 11.0 | 12.6 |
| | Winter | 12.1 | 25.3 |
| Z | Summer | 6.2 | 7.0 |
| | Winter | 8.1 | 16.5 |

Medical Baseline

Program Overview:

PG&E's Medical Baseline Program (also known as Medical Baseline Allowance) is a financial assistance program for residential customers. It is not income based. If a full-time resident in the home has special energy needs due to certain qualifying medical conditions, they may qualify for an additional standard medical baseline allowance (approximately 500 kWh/year) in addition to their regular baseline quantity.

⁵¹ E1 baseline allowances change to match E-TOU-B and E-TOU-C in late 2019.

⁵² Formula to calculate baseline allowance for a complete billing cycle: Daily Amount x Number of Billing Days = Baseline Allowance for a Billing Cycle.

If the initial medical baseline allowance is found to be insufficient, customers may call and request an additional allowance.

WatterSaver! Program

Program Overview:

The WatterSaver! Program is currently pending CPUC approval in proceeding A.18-03-001. The program was proposed as part of PG&E's Assembly Bill 2868 proposal. At the time of writing, a proposed decision would approve PGE's proposed program.⁵³ In the submission, PG&E proposed a behind-the-meter (BTM) thermal storage program with a goal to reduce peak load by up to 5 MW by 2025 using smart electric water heaters and/or smart control devices.

This program will incentivize customers to replace existing propane-based and Electric Resistance Water Heaters with hybrid HPWH in single-family homes, multi-family homes, and small businesses, as well as provide a pay-for-performance incentive to operate electric water heaters during off-peak hours (late evening, early morning and afternoon). This program will encourage participants to reduce or eliminate hot water heater load during peak evening hours, effectively storing energy and using it to provide hot water when there is increased congestion on the grid. To administer the program through 2025, the proposal requested 6.3 million in funding.

Leveraging WatterSaver! in SJV DAC Pilots

In anticipation of commission approval of this proposed pilot, D.18-12-015 The SJV DAC pilot decision sets a target of installing 150 smart HPWH in PG&E service territory (i.e., both PG&E and 3P Electric Pilot Communities), and specifies the expectation that the HPWH be funded through the SJV DAC Pilot with dispatch architecture and devices funded out of the AB 2868 Program.⁵⁴ Compatibility with expected controls will be incorporated into PG&E's heat pump water heater specifications, and a future WatterSaver! implementation plan will detail additional coordination to identify ideal candidates within the PG&E Electric Pilot Communities.

Reporting

PG&E will follow the following reporting guidelines per D.18-12-015:

- Quarterly reporting of aggregated, anonymized pre/post bill impact data for all households that receive appliance upgrades will be filed and served and provided to the Low-Income Oversight Board and Disadvantaged Communities Advisory Group;⁵⁵
- Quarterly reporting on substandard housing remediation costs and needs in pilot community households,⁵⁶ including data from CPM on other funding sources,⁵⁷ and tracking of households prevented from participation due to remediation issues;

⁵³ Proposed decision of Administrative Law Judge Stevens in A.18-02-016 mailed February 26, 2019.

⁵⁴ D.18-12-015 OP 18 and p. 121.

⁵⁵ D.18-12-015 p. 78.

⁵⁶ D.18-012-015 p. 93 and 97.

⁵⁷ D.18-012-015 p. 93 and 83.

- Quarterly report on budget spend, average costs per household, and potential for exceeding budgets provided in the decision;
- Annual Pilot Progress Reports⁵⁸ (December 19) on overall program metrics such as households enrolled and treated, detailed budget report, and reliability complaints and issues affecting pilot communities, detailed leveraged programs and barriers report, summary of customer issues and complaints, and potential unanticipated outcomes;
- Attend and present at Commission-organized workshops during pilot implementation to summarize progress, lessons learned and implementation barriers;⁵⁹
- Final Project Evaluation, including impacts and benefits of various technologies provided⁶⁰
- WE&T-related reporting: Local hiring activities and results, work hours and types of work, workforce demographic and certification/licensing information;⁶¹
- 180-day Pilot Evaluation Report for PG&E-administered pilots to be served 180 days following PG&E's collection of one year's billing data for participating households in each PG&E Electric Pilot Community;⁶²
- Within 90 days of completion of implementation activities, file a Tier 1 advice letter documenting adherence to safety plan, describing issues encountered and summarizing methods to ensure retention of accurate records for purposes of maintenance and warranties;⁶³ and
- Final report, including final evaluation results, process evaluation results, lessons learned, potential unanticipated outcomes, etc.

⁵⁸ *SJV DAC Pilots Decision*, p. 129.

⁵⁹ *SJV DAC Pilots Decision*, pp. 129-130.

⁶⁰ *SJV DAC Pilots Decision*, p. 88.

⁶¹ *SJV DAC Pilots Decision*, p. 125.

⁶² *SJV DAC Pilots Decision*, p. 126.

⁶³ *SJV DAC Pilots Decision*, OP 12.

Appendix A: CSI-Thermal Attestation Letter: PG&E and SoCalGas

The Commission's "Decision Approving San Joaquin Valley Disadvantaged Communities Pilot Projects," Decision 18-12-015, requires investor-owned utilities coordinate on implementation of CSI Thermal Low-Income Programs. Pacific Gas and Electric Company (PG&E) and Southern California Gas Company (SoCalGas) attest:

1. SoCalGas and PG&E may conduct a joint sourcing activity to identify and select approved solar thermal vendors/installers.
2. In pilot communities that are located in both PG&E's electric service territory and in SoCalGas' service territory:
 - a. If PG&E administers an electric pilot in the community, PG&E, its contractors or Community Energy Navigators may identify pilot participants who are interested in and eligible for solar thermal that may have either electric, gas or propane water heaters. If electric or propane, solar thermal systems would be installed under PG&E's CSI Thermal program; if gas, PG&E or its contractors or Community Energy Navigators will refer the participant(s) to SoCalGas's CSI Thermal program.
 - b. If SoCalGas administers a gas pilot in the community, SoCalGas, its contractors or Community Energy Navigators may identify pilot participants who are interested in and eligible for solar thermal that may have either electric, gas or propane water heaters. If gas or propane, solar thermal systems would be installed under SoCalGas's CSI Thermal program; if electric, SoCalGas or its contractors or Community Energy Navigators will refer the participant(s) to PG&E's CSI Thermal program.

I declare that this letter is accurate and true to the best of my knowledge.

PG&E Representative: Ron Moreno, CSI Thermal Program Manager


Signature

3-12-19
Date

I declare that this letter is accurate and true to the best of my knowledge

SoCalGas Representative: Mike Landau, CSI Thermal Program Manager


Signature

3-11-19
Date

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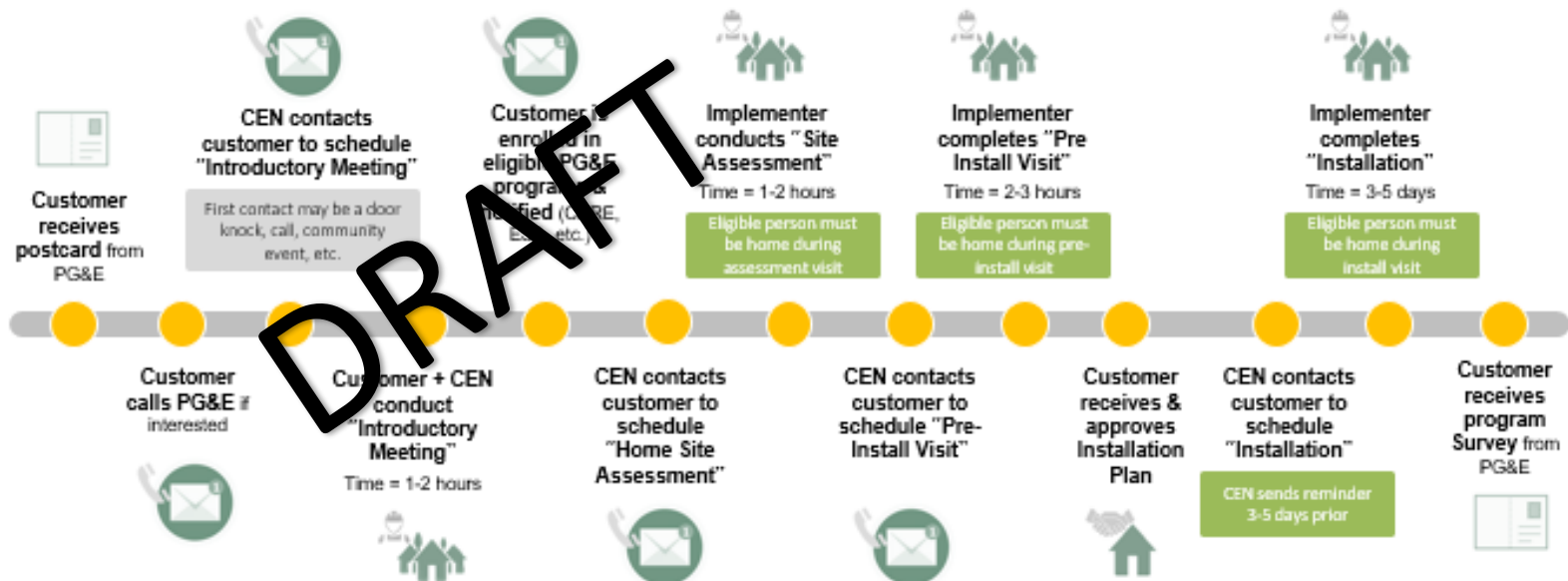




PG&E Customer Engagement

DRAFT FOR DISCUSSION

SAN JOAQUIN VALLEY ELECTRIFICATION PILOT



Appendix C: Additional Workforce Education and Training Information

Recommended License and/or Registration to Install Pilot Measures

| Measure | Recommended License and/or Registration |
|--|---|
| Hot Water Appliances | |
| Heat Pump Water Heater (Including grid responsive and hybrid types) | C-20, or C-36 |
| Solar Hot Water System | |
| Electric Resistance Water Heater | C-36 |
| Space Conditioning | |
| Heat Pump Space Heater (Including central split or multi-zone system) | C-20 |
| Mini-Split Ductless System | |
| Central Split System with Ducting (Including grid responsive type) | C-20 |
| | |
| Other Appliances | |
| Standard Electric Range | EAR (BHGS) |
| Energy Star Electric Dryer | |
| Ceramic-top Electric Range | |
| Induction Electric Range | |
| Weatherization | |
| Various Measures | B, C-2, or D-65 |
| Electrical Upgrades | |
| Various Measures | C-10 |

Selection of California License Types

| License and/or Registration Details | |
|--|---|
| Class “B” | General Building Contractor |
| Class “C” | Specialty Contractor (see below for selection of relevant Class “C” licenses) |
| C-2 | Insulation and Acoustical Contractor |
| C-10 | Electrical Contractor |
| C-20 | Warm-Air Heating, Ventilating and Air-Conditioning Contractor |
| C-36 | Plumbing Contractor |
| C-61 “D” Subcategories | Limited Specialty Classifications Subcategorized by “D” Class |
| D-65 | Weatherization and Energy Conservation |
| <i>Source: California Contractors State Licensing Board, Description of Classifications (2015), available at http://www.cslb.ca.gov/Resources/GuidesAndPublications/DescriptionOfClassifications.pdf</i> | |
| EAR (BHGS) | Electronic and Appliance Repair (California Bureau of Household Goods and Services) |
| <i>Source: California Bureau of Household Goods and Services (2016), https://bhgs.dca.ca.gov/</i> | |

Sample of Existing and Relevant WE&T Training Programs by Format and Topic

| Existing WE&T Training | Format | Relevant Topics |
|---|----------------|--|
| Introductory | | |
| Electric Heat Pumps for Domestic Space and Water Heating: Applications and Considerations | Instructor led | HPWH (including hybrid), HPSH, Mini-split Ductless Systems |
| Heat Pumps: Residential Applications and Comparison with Solar Energy Systems | Instructor led | HPWH, Hybrid HPWH,** Grid-responsive HPWH** |
| Solar Water Heating Systems | Instructor led | Solar Hot Water |
| CSD Basic Weatherization* | Instructor led | Weatherization measures |

| | | |
|---|----------------|--|
| ESA Energy Specialist* | Instructor led | Energy Star Electric Dryers |
| Air-Sealing for an Efficient New Home | On Demand | Weatherization (air sealing) |
| Basics of Solar Electric Systems | On Demand | PV Systems |
| Building Science Fundamentals Series | On Demand | Weatherization, energy efficiency, interactive effects |
| Energy Math | On Demand | Basic mathematics applied to energy efficiency |
| Best Practices in Residential Water Heating | On Demand | Hot Water Systems |
| CSI Solar Thermal Program Contractor Workshop | On Demand | Solar Hot Water |
| Intermediate | | |
| HVAC Residential Quality Installation Series | On Demand | HVAC Systems and Sizing |
| ESA Weatherization Specialist Core* | Instructor led | Weatherization measures |
| Advanced | | |
| ESA Advanced Weatherization Specialist* | Instructor led | Weatherization measures |
| ESA Natural Gas Appliance Testing* | Instructor led | Combustion Safety |
| Combustion Appliance Safety* | Instructor led | Combustion Safety |

Appendix D: PG&E ESA Installation Standards Manual Appendix F (Minimum Warranty Requirements)

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Appendix E: Minimum Warranty Requirements

1.0 INTRODUCTION

- 1.1 This appendix lists warranty requirements, in accordance with state-wide policy, for each measure installed in the ESA Program. These are *minimum* requirements. Each individual utility may have more stringent warranty requirements.
- 1.2 Warranty Categories/Types
 1. Warranty requirements are divided into two categories:
 - a. Contractor Warranty and
 - b. Manufacturer Warranty.
 2. Each category is subdivided into two types:
 - a. Materials and
 - b. Labor.
- 1.3 Warranty Time Periods
 1. Time periods are stated in years, unless identified as being in days (e.g., "90 days").
 2. The appearance of "n/a" in a field indicates that there is no warranty requirement for that category.
 3. The appearance of "---" in a field indicates that, for that type of coverage, there is no warranty requirement.
- 1.4 Repair/Replacement: Within some fields, there is a time period for a unit that is repaired, indicated by "(Repair)," and a different time period for a unit that is replaced, indicated by "(Replacement)."
- 1.5 Component Type: Within some fields, the type of component for which the warranty period applies is indicated in parentheses. For example, for Sec. 12, Window Replacement:
 1. "(IGU)" means the warranty period applies only to the insulated glazing unit (IGU).
 2. "(Other)" means the warranty period applies to all other components of the window.

2.0 MINIMUM WARRANTY REQUIREMENTS PER MEASURE

| IS Section No. | IS Measure | Contractor Warranty | | Manufacturer Warranty | |
|----------------|--|---------------------|-------|---------------------------------|-------|
| | | Materials | Labor | Materials | Labor |
| 1 | Caulking | 1 | 1 | 10 | n/a |
| 2 | Weatherstripping | 1 | 1 | 3 | n/a |
| 3 | Attic Insulation | 1 | 1 | 1 | n/a |
| 4 | Central A/C Tune-Up | 1 | 1 | 1 | n/a |
| 5 | Water Heater Tank Insulation | 1 | 1 | 1 | n/a |
| 6 | Water Heater Pipe Insulation | 1 | 1 | 1 | n/a |
| 7 | Cover Plate Gaskets | 1 | 1 | 1 | n/a |
| 8 | Energy-Saver Showerheads and Faucet Aerators | 1 | 1 | 3 (showerheads) 1 (aerators) | n/a |
| 9 | Evaporative Cooler and A/C Vent Covers | 1 | 1 | 1 | n/a |
| 10 | Duct Testing and Sealing | 1 | 1 | 1 | n/a |
| 11 | Exterior Door Replacement | 1 | 1 | 1 | n/a |

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| IS Section No. | IS Measure | Contractor Warranty | | Manufacturer Warranty | |
|----------------|--|-------------------------------------|-------------------------------------|-------------------------------------|-------|
| | | Materials | Labor | Materials | Labor |
| 12 | Window Replacement | 1 | 1 | 10 (IGU) 3 (Other) | n/a |
| 13 | Glass Replacement | 1 | 1 | 1 | n/a |
| 14 | LED Screw-Based Bulbs | 1 | 1 | 1 | n/a |
| 15 | LED Fixtures | 1 | 1 | 1 | n/a |
| 16 | Window/Wall Evaporative Cooler Installation | 1 | 1 | 5 (Pan) 1 (Other) | n/a |
| 17 | Refrigerator Replacement | 1 | 1 | 1 | n/a |
| 18 | Natural Gas Central Forced Air Heating System Repair and Replacement | 1 (Replacement) 90 days (Repair) | 1 (Replacement) 90 days (Repair) | 5 (Compressor) 90 days (Other) | n/a |
| 19 | Natural Gas Wall and Floor Furnace Repair and Replacement | 1 (Replacement) 90 days (Repair) | 1 (Replacement) 90 days (Repair) | 1 (Replacement) 90 days (Repair) | n/a |
| 20 | LED Night Lights | 1 | 1 | 1 | n/a |
| 21 | Central High-Efficiency A/C and Heat Pump Replacement | 1 | 1 | 5 (Compressor) 1 (Other) | n/a |
| 22 | Window/Wall A/C and Heat Pump Replacement | 1 | 1 | 5 (Compressor) 1 (Other) | n/a |
| 23 | Natural Gas Storage Water Heater Replacement | 1 | 1 | 5 (Tank) 1 (Other) | n/a |
| 24 | Natural Gas Appliance Testing (NGAT) | n/a | n/a | n/a | n/a |
| 25 | Microwave Ovens | 1 | 1 | 1 | n/a |
| 26 | Furnace Cleaning and Tune-up | n/a | 90 days | n/a | n/a |
| 27 | Thermostatic Shower Valves | 1 | 1 | 1 | n/a |
| 28 | High-Efficiency Clothes Washers | 1 | 1 | 1 | n/a |
| 29 | Forced Air Unit (FAU) Standing Pilot Light Conversion | 90 days | 90 days | 90 days | n/a |
| 30 | Energy-Efficient Variable Speed Pool Pump Replacement | 1 | 1 | 1 | n/a |
| 31 | Natural Gas Water Heater Repair | 90 days | 90 days | 90 days | n/a |
| 32 | Smart Fan Delay/Efficient Fan Controller | 1 | 1 | 1 | n/a |
| 33 | Tier 1 Smart Power Strips | 1 | 1 | 1 | n/a |
| 34 | Vacancy Sensor Switches | 1 | 1 | 1 | n/a |
| 35 | LED Torchiere Replacement | 1 | 1 | 1 | n/a |
| 36 | Tier 2 Audio-Visual Advanced Power Strips | 1 | 1 | 1 | n/a |
| 37 | LED Downlight Retrofit Kits | 1 | 1 | 1 | n/a |

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California Installation Standards
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Appendix F: Minimum Warranty Requirements

| IS Section No. | IS Measure | Contractor Warranty | | Manufacturer Warranty | |
|----------------------|---|---------------------|-------|--------------------------|-------|
| | | Materials | Labor | Materials | Labor |
| 38 | Thermostatic Tub Spout/Tub Diverter | 1 | 1 | 1 | n/a |
| 39 | Prescriptive Duct Sealing | 1 | 1 | 1 | n/a |
| 40 | Heat Pump Water Heaters | 1 | 1 | 1 | n/a |
| 14 | Thread-Based CFLs (archived measure) | 1 | 1 | 1 | n/a |
| 15 | Hard-Wired CFFs (archived measure) | 1 | 1 | 1 | n/a |
| 35 | Fluorescent Torchiere Lamp Replacement (archived measure) | 1 | 1 | 1 | n/a |

Appendix F: Evaluation Data Elements

| Primary Desired Outcomes/Objectives and Data Elements | |
|---|---|
| 1 | Ensure Equitable Access to Affordable Energy Options to Communities and Households |
| | Number of options provided and short description |
| | Number and percent of households choosing each option |
| | Household participating per option |
| | Households declined per option |
| | Households unwilling per option |
| | What percentages opted in to pilot after initial outreach |
| | What percentages opted out of pilot after initial outreach |
| | What percentage opted in after assessment |
| | What percentage opted out after assessment |
| | Customer understanding of changes to rate and usage |
| 2 | Reduce Energy Burden of Participating Households |
| | Cost per household |
| | Pre- and post-pilot energy costs |
| | Electric |
| | Propane/oil/wood |
| 3,4,5,6 | Non-Energy Benefits - General/Health/Safety/Environmental |
| | Pre-existing health conditions |
| | Number of emergency room visits |
| | How often residents are ill |
| | Air temperature comfort |
| | Reduction in fires |
| | Reduction in burns |
| | Pre- and post-pilot outdoor air quality measurements (flue gas emissions) |
| | Pre- and post-pilot indoor air quality measurements (PM2.5) |
| | Greenhouse gas emissions impacts |
| 7 | Non-Energy Benefits - Local Hire and/or Workforce Development |
| | Number or percentage of local residents hire to support pilots |
| | Customer requested job opportunities e.g., service and maintenance |
| | Community requested job opportunities |
| | What were successes of local hire |
| | What were limitations of local hire |
| | What are best practices for local hire development |
| | What are best practices for local workforce development |
| 8 | Non-Energy Benefits - Reliability |
| | Electrical Outages |
| 9 | Appropriately Minimize Rate and Bill Impacts for Non-Participating Customers |
| | Non Pilot ratepayer changes - outside of DAC communities |

| | |
|-----------|--|
| | Non Pilot ratepayer changes - inside of DAC communities |
| | Total costs to implement pilots |
| | Cost to participating customers - specific to rate and bill impacts |
| | What impact do vary levels of electric rate subsidies have on customer participation rates |
| | Minimum project size to achieve economies of scale and thus to reduce costs |
| | How many measures installed vs. amount spent per participating households |
| | HH conditions/remediation amount spent per participating households |
| | <i>Cost reductions were achieved:</i> |
| | Bulk purchasing |
| | leverage of existing programs |
| 10 | Effective Engagement Strategies and Appropriate Flow of Benefits to Landlords and Tenants |
| | Outreach received |
| | Informed on Pilot options |
| | Customer satisfaction with their pilot experience |
| | What proportion of landlords agreed to participate in the pilots |
| | Strategies least and most successful in securing landlord participation |
| | Landlord engagement |
| | Landlord WTP - % participate/not |
| | Customer WTP - % participate/not |
| 11 | Minimize Residual Wood and Propane Use |
| | Baseline use of propane/wood combustion |
| | Residual use of propane/wood combustion |
| | Percentage of households retained propane or wood-burning equipment per option |
| | Percentage of households report using these residual energy sources monthly or more after pilot per option |
| 12 | Participant Options & Customer Preferences for Electrification |
| | Why was option(s) chosen |
| | Customers' bill savings affected by the intensity of the home retrofit |
| | How do bill savings compare to overall program cost across different "packages/options" |
| | Rate changes |
| | Are customers differentially interested in the different packages? |
| | Incentives to electrify, such as an in-community solar option, an out-of community solar option, electric bill discounts, etc.? |
| | What portion of the community will adopt new technologies and whether this will change over time |
| | Interest in new technology/likelihood of customer to adopt new technology |
| 13 | Identify Barriers to Customer Participation and Options to Mitigate |
| | Customer barriers: Language, immigration status, structural condition of home, ownership, time investment vs. pilot benefits, availability |
| | What aspects of the process will be/were most challenging for customers |
| | Landlord WTP - barriers |
| | Pilot implementers and/or participating contractors barriers: customer availability, language, multi program coordination |
| 14 | Best Practices to Provide Below-Code and/or Structurally-Unsound homes with Affordable Energy Options |

| | |
|-----------|---|
| | Approaches to reduce energy burden in homes with many code violations |
| | What alternative funding sources or programs were offered |
| | What alternative funding sources or programs where leveraged were applicable |
| 15 | Improve Understanding of the Impact of Electric Rate Structures on Energy Burden and Affordability |
| | Pre- and post-pilot usage data |
| | Cost (rate comparisons) pre- and post-pilot e.g., CARE vs non-CARE customer |
| | Were bill protections necessary to keep bills affordable to participants |
| 16 | Advance Technical Understanding of Challenges of Scaling Options to All SJV DACs |
| | Number of households requiring wiring, service panels, smart meter upgrades |
| 17 | Identify Effective Community Outreach Approaches |
| | Number of survey responses per community |
| | Townhall participation per community |
| | Pilot enrollment through CEN/CBO |
| | Total pilot participants (post install/project totals) |
| | Participation because of pilot outreach or community/neighbor |
| 18 | Improve Understanding of SJV DAC Household Energy Behaviors |
| | How much do customers use the various appliances pre- and post-pilot |
| | Satisfaction with the new appliances |
| | Was appropriate education provided to support required behavioral changes for heat pump technology |
| | Did behavioral change post install |
| 19 | Identify General Learnings |
| | Administration, assessment & installation - invested time to execute |
| | Who benefited the most, e.g., owner, tenant, future tenant |
| | Unsafe conditions that restricted participation or installation (e.g. unsafe working conditions) |
| 20 | Identify Household Demographics & Home Conditions |
| | Size of home (sq foot) |
| | Type of home |
| | # in household |
| | Ownership status |
| | Appliances used |
| | Non-gas appliances |
| | Upgrades needed |
| | Property Feasibility – pass or fail |

Appendix G: GRID Alternatives Attestation Letter

The Commission's "Decision Approving San Joaquin Valley Disadvantaged Communities Pilot Projects," Decision 18-12-015, requires investor-owned utilities to coordinate on the implementation of the Single-Family Affordable Solar Homes Program (SASH) and the SASH for Disadvantaged Communities (DAC-SASH) Program. Pacific Gas and Electric Company (PG&E) and GRID Alternatives attest:

1. In pilot communities that are located in PG&E's electric service territory:
 - a. When PG&E administers an electrification pilot in the community, PG&E, its contractors or Community Energy Navigators may identify pilot participants who are interested in and eligible for SASH and/or DAC-SASH. If eligible, PG&E, its contractors or Community Energy Navigators will refer the participant(s) to the SASH and/or DAC-SASH programs.
 - b. If GRID Alternatives administers an electrification pilot in the community, its contractors or Community Energy Navigators may identify pilot participants who are interested in and eligible for SASH and/or DAC-SASH. If eligible, GRID Alternatives, its contractors or Community Energy Navigators will refer the participant(s) to the SASH and/or DAC-SASH programs.

I declare that this letter is accurate and true to the best of my knowledge.

PG&E Representative: Andrew Ace, SASH Program Manager

/s/ Andrew Ace

3/15/2019

Signature

Date

I declare that this letter is accurate and true to the best of my knowledge

GRID Alternatives Representative: Elise Hunter, Policy & Regulatory Affairs Director,
representing SASH and DAC-SASH Program Administration

/s/ Elise Hunter

3/14/19

Signature

Date

Appendix H: Compliance Matrix

| Requirement Category | Requirement | Requirement Detail | Decision Section & Page | Related Ordering Paragraph | PG&E Implementation Plan Section |
|---|--|--|--|----------------------------|--|
| Overall | All must file implementation plan | Each of the IOU PAs shall file Tier 2 Pilot Implementation Plan Advice Letters within 90 days from issuance of this decision, detailing their specific pilot project plans, timelines, and the multiple other elements as directed in this decision (including safety plan, workforce components, and leveraging of existing programs). The third-party PA/PI shall file a Tier 2 Pilot Implementation Plan Advice Letter within 60 days of the date of contract execution. | Section 8 (Pilot Administrative Structure) Pg 54 | 11 | N/A |
| So Cal Gas pursuing Allensworth and Seville | PG&E should not include in PIP if SoCalGas does pursue. | If this Notice is filed within 60 days, PG&E shall not include the community(ies) in its Pilot Implementation Plan Advice Letter. | Section 10 (Approved Pilots and Budgets) Pg 60 | n/a | Program Overview, Introduction |
| Safety of residents/ participants | PA's must include a final safety plan in the PIP | We further direct PAs to include in their Tier 2 Pilot Implementation Plan Advice Letters details containing a final Safety Plan. The Safety Plan shall at minimum describe the workforce qualifications and certifications that will be required to implement the project, all potential permits required, and how the PAs and subcontractors will respond to specific types of health and safety issues in homes. | 11.8 (Safety Plan) Pg 91 | 11b | Risk Management, Safety Plan |
| Reporting/ Safety | PA's must report on safety at the end of the pilot | Within 90 days of completion of pilot implementation activities, the PAs shall each file another Tier 1 Advice Letter that documents adherence to the Safety Plan, describes all health and safety issues encountered, and summarizes methods taken to ensure retention of accurate records for purposes of equipment | 11.8 (Safety Plan) Pg 91 | 11b | Reporting |
| Remediation of substandard housing | PA's must include a section on remediation in the implementation plan | The IOUs and the CEP Team all indicated that some homes would need remediation in order to be served by the pilot. A number of parties, including Greenlining and the Pilot Team, emphasize the need for some remediation activities to accommodate the poorest and most vulnerable communities participating in the pilot, as these are precisely the households that AB 2672 seeks to serve. ¹²³ This section provides guidance on addressing the issue of substandard housing. We also recognize that additional information on this topic is needed and direct that it be included in the Pilot Implementation Plan Advice Letter . Based on comments on the PD, we direct the PAs to file quarterly reports on remediation costs and needs in the pilot community households and direct the CEN effort to support a more thorough assessment of grant and loan opportunities to fund remediation costs. As determined necessary, the assigned Commissioner or ALJs will convene an additional workshop on approaches to substandard housing in 2019. | 11.9 (Substandard Housing) Pg 92 | 11h | Risk Management, Remediation of Substandard Homes; Reporting |
| Remediation of substandard housing | PA's must include these 3 specific aspects of approaches to substandard housing in the implementation plan | We direct PAs to more fully describe their approach to substandard housing in their Pilot Implementation Plan Advice Letters, which shall include a description of: <ul style="list-style-type: none"> ☐ home assessments and home safety/siting plans; ☐ prioritization; and ☐ identification of specific conditions that will preclude extensive in-home work. As determined necessary, the assigned ALJs and/or Commissioner will convene an additional workshop on this topic in 2019. | 11.9 (Substandard Housing) Pg 98 | 11h | Risk Management, Remediation of Substandard Homes |

| Requirement Category | Requirement | Requirement Detail | Decision Section & Page | Related Ordering Paragraph | PG&E Implementation Plan Section |
|------------------------------------|--|--|--|----------------------------|--|
| WE&T | PA's must implement approaches described by CEP Team and PG&E's proposals in all 11 communities. | We approve implementation of both the CEP Team's and PG&E's proposed workforce training approaches in all eleven approved pilot communities. We direct the PAs to implement these approaches in all pilot communities and to coordinate on implementation of workforce training activities to take advantage of efficiencies and to streamline the pilots' engagement with local institutions. We direct the IOU PAs and the third-party PA/PI to include these workforce development components in their Tier 2 Pilot Implementation Plan Advice Letters. | 11.10 (Workforce Training, Education and Development) Pg 100 | 11c | Workforce Education & Training |
| WE&T | PA's must coordinate implementation of workforce training with local institutions | The workforce development components in the Tier 2 Pilot Implementation Plan Advice Letters must provide details on how pilot-funded workforce development efforts meet the pilots' immediate job demands and must provide realistic projections of the local construction, energy efficiency and energy retrofit labor needs at the conclusion of pilot activities. To the extent feasible, pilot-related workforce development efforts in these communities should focus on a sustainable pipeline of workers and jobs, rather than provide training (and employment expectations) for jobs that may not persist beyond the tenure of the pilots. This information will provide a direct benefit to the local communities and help us consider a local hire approach in Phase III of this proceeding. Section 15 provides additional guidance on pilot data gathering related to workforce development. | | 11c | Workforce Education & Training |
| WE&T | PA's must unclude workforce development plans in PIP | | | 11c | Workforce Education & Training |
| WE&T | PIP must provide details on how pilot funded efforts meet pilots' immediate job demands and must provide realistic projections of the local construction, energy efficiency and energy retrofit labor needs at the conclusion of pilot activities. | | | 11c | Workforce Education & Training |
| Appliance Warranties | As an appendix to the PIP, we need to show how we will document the warranties | We find these recommendations to be non-controversial and they are approved. It is reasonable to require warranties on all appliances and technologies installed as part of the pilot. We direct PAs to provide warranties on all installed appliances as outlined by SCE. In addition, we direct all PAs to provide five-year equipment and installation warranties on all heat pump technologies and to provide contact information for pilot households to request maintenance and servicing of installed equipment during the pilot project and for a minimum of five years from installation. Warranties on ESA Program measures should align with the Minimum Warranty Requirements that have been established for the ESA Program and documented in the ESA Program's Weatherization Installation Standards (WIS) Manual Appendix F as these have been found to be successful. We direct the PA to document the warranty specifics for any installed measures in alignment with this direction and the ESA Program WIS manual. This documentation should be attached as an Appendix to the PA's Tier 2 Pilot Implementation Plan Advice Letters. | 11.11 (appliance warranties) pg 102 | 11e | Vendor Sourcing, Bulk Purchasing of Appliances and Other Materials; Appendix D |
| Bulk Purchasing | 60 days after PIP is filed, we need to file AL on this. | We direct the pilot PAs to collaborate with the IOUs to determine where existing material supply chains can be leveraged for the pilots and where new pilot-specific material supply chains need to be developed, with the option to bulk purchase. We direct SoCalGas, SCE, and PG&E to coordinate with their existing distributors and/or manufacturers regarding the measures outlined in Section 11.7, and to include the third-party PA/PI in this coordination as much as possible, while preserving confidential information as necessary. Where bulk purchasing already occurs (for example, for measures already provided by ESA) the IOUs should extend these pricing arrangements to the pilot. We include SoCalGas in this activity, as including this utility may provide additional economies of scale to support the bulk purchasing of weatherization measures which are largely fuel agnostic. It is also appropriate to include the third-party PA/PI in bulk purchasing arrangements in order to ensure similar benefits are extended to pilots administered by the third-party. To document these bulkpurchasing efforts, we direct the IOUs to file a Joint Tier 1 Information Only advice letter 60 days after the approval of the Tier 2 Pilot Implementation Plan filings containing details on the pilot bulk purchasing efforts. The IOUs may submit confidential versions with secured pricing, vendor/distributor and other market sensitive details directly with Energy Division. | 11.12 (Bulk Purchasing) pg. 103 | 15(f) | Vendor Sourcing, Bulk Purchasing of Appliances and Other Materials; Appendix D |
| Leveraging Existing Solar Programs | Must describe how we will coordinate with DAC-SASH program | In addition to the targeted focus for La Vina, it is also reasonable to encourage leveraging both DAC-SASH and SASH in the pilot communities more broadly. It is our intention that all single-family households participating in the pilots be encouraged to participate in either SASH or DAC-SASH program. By this, we intend simply for all PAs to coordinate with the DAC-SASH and SASH programs to attempt to leverage the program where feasible. In their Tier 2 Pilot Implementation Plan Advice Letters, PG&E, SCE and the third-party PA/PI are directed to include details on the coordination of their electrification work with the DAC-SASH and SASH Programs. These plans shall, at minimum describe coordination plans with and commitments from the DAC-SASH and SASH administrators. | 12.1 (DAC-SASH) pg 110-111 | 11d, 11f | Leveraging Existing Programs, Solar Programs; Appendix G |

| Requirement Category | Requirement | Requirement Detail | Decision Section & Page | Related Ordering Paragraph | PG&E Implementation Plan Section |
|--|--|---|--|----------------------------|--|
| Leveraging existing Solar Programs | Must describe how we will coordinate with CSI Thermal low income program | SCE, SoCalGas and PG&E, and the third-party PA/PI, are directed to include in their Tier 2 Pilot Implementation Plan Advice Letters details on the coordination of each PA's work with the appropriate CSI Thermal Low-Income Program . In addition, the Tier 2 Pilot Implementation Plan Advice Letter filings must include a co-signed attestation from the appropriate IOUs' CSI-Thermal Program as an attachment that documents this coordination. | 12.2 (CSI-Solar Thermal) pg 112 | 11d, 11g | Leveraging Existing Programs, Solar Programs; Appendix A |
| Pilot Data Gathering, Evaluation and Reporting | 1. Must include "pilot objectives, research questions and metrics" in PIP. Can be included in updated Evaluation Plan. 2. Must follow the example provided in appendix A. | We direct the PAs to coordinate to develop updated pilot objectives, research questions and metrics that are as consistent as possible across all PAs and all approved pilots and to include these in their Pilot Implementation Plan Advice Letter as part of or alongside their updated Pilot Evaluation Plans . When updating these factors, the PAs shall start from the objectives, research questions and metrics included in their approved pilot proposals and those provided in this decision. The PAs shall in their Pilot Implementation Plans clearly present these elements based on the example provided in Appendix A , which provides an initial template to clearly map pilot objectives, to research questions, and finally, to reporting metrics. The purpose of the Pilot Evaluation Plans to be included in the Pilot Implementation Plans is for each PA to set forth its specific plans to collect and analyze pilot data to assess pilot effectiveness against its approved objectives, research questions and metrics. | Section 15 (Pilot Data Gathering, Evaluation and Reporting) ; pg 125 | 11i | Evaluation Plan; Appendix F |
| Pilot Data Gathering, Evaluation and Reporting | Must include updated evaluation plan in the Advice Letter (PIP). | We clarify here and in Section 15 that PAs are directed to independently evaluate the effectiveness of their pilot projects and shall include updated Pilot Evaluation Plans in their Pilot Implementation Plan advice letters . PAs shall collect pre- and post- implementation data as part of their approved pilots, analyze this data and evaluate the effectiveness of their approved pilot projects as set forth in their pilot proposals and modified by this decision. We direct PAs to utilize their proposed EMV& budget for this task and/or, particularly if this has not been specified, to allocate up to four percent of their total approved budget for this task. The process evaluation authorized in Section 15 is additional to each PA's own direct analysis of pilot effectiveness, as assessed against their adopted pilot objectives, research questions and metrics. | Section 19 (comments on the PD) pg. 146 | 11i | Evaluation Plan; Appendix F |
| Overall | Must write an implementation plan within 90 days. | 11. We direct the third-party pilot administrator/implementer within 60 days of contract execution, and Pacific Gas and Electric Company, Southern California Edison, and Southern California Gas Company within 90 days of the issuance of this decision, to file Tier 2 Pilot Implementation Plan Advice Letters containing: (a) Pilot project budgets and specific pilot project plans, timelines, and other pilot components as directed in this decision; (b) A Safety and Risk Management Plan; (c) Workforce development and workforce, education and training plans; (d) A description of the coordination methods that will be used to leverage existing program budgets; (e) Appliance warranty information, including the specifics of warranties for measures to be installed; (f) Details on the coordination of their electrification work with the Disadvantaged Communities Solar on Affordable Single-Family Homes Program; (g) Details on the coordination of pilot implementation with the California Solar Initiative Solar Thermal Program; (h) Details on approaches to substandard housing; and (i) Updated pilot project objectives, research questions and metrics, in accordance with this decision. | OP 11 | | N/A |
| Verification of quality and Completeness across PA/PIs | All PAs will develop processes for verifying the quality and completeness of work performed by participating contractors | PG&E, SCE and SoCalGas, and the third-party electrification PA/PI will be responsible for ensuring that all pilot participants, including applicants approved to receive services and subcontractors that provide those services, meet all program requirements. All PAs will develop processes for verifying the quality and completeness of work performed by participating contractors and shall be responsible for the development and management of the pilot, including but not limited to the following activities. 1. Development of Pilot Procedures, including: a. The documentation of existing household conditions; b. Developing electrification/installation scopes of work; c. Procuring materiel and appliances via IOU bulk purchasing agreements; d. Installing, or subcontracting the installation of measures per the implementation plan ; e. Performing quality control/quality assurance inspections; f. Development of data collection methods, digital forms, and databases in conjunction with the Data Gathering Consultant authorized in Phase II Track BData Gathering, D.18-08-019; and g. Outreach coordination with the CEN and CBOs as specified in Section 11.3. | Section 8 (Pilot Administrative Structure) Pg 53 | n/a | Program Management |

Attachment 2

PG&E San Joaquin Valley Disadvantaged Communities Electric Pilot Implementation Plan (Redline)

PG&E San Joaquin Valley Disadvantaged Communities Electric Pilot Implementation Plan

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PG&E SJV DAC Electric Pilots Overview

Introduction

This Implementation Plan Advice Letter describes how Pacific Gas and Electric Company (PG&E) plans to design and execute the electrification pilots in Allensworth, Cantua Creek, and Seville¹ that were approved in the California Public Utilities Commission's (CPUC or Commission) Decision (D.) 18-12-015 (the decision). That decision also approved electrification pilots in five other communities in PG&E electric territory (Alpaugh, Fairmead, Lanare, La Vina and Le Grand) but designated them to be administered by a third-party contractor.² Pursuant to D.18-12-015, that third party must file a similar Implementation Plan Advice Letter for those pilots within 60 days of their contract execution.

As stated in D.18-12-015, the Commission's intent in approving these pilots is to find affordable energy alternatives to propane and wood burning for disadvantaged communities in the San Joaquin Valley Disadvantaged Communities (SJV DAC). A detailed history of the legislative and procedural activity leading to these pilots is provided in the decision and not repeated here; however, PG&E does provide the Commission's stated goals and objectives for these pilots:³

- "The dual goal[s] of the pilots are to provide cleaner, more affordable energy options to propane and wood burning and gather real time data needed to assess the economic feasibility of extending affordable energy options to all listed SJV DACs"; and
- "The pilot objectives are as follows:
 - Gather inputs to assess cost-effectiveness and feasibility during Phase III;
 - Provide access to affordable energy options in participating pilot host communities;
 - Reduce household energy costs for participating pilot host customers;
 - Increase health, safety and air quality of participating host pilot communities;
 - Test approaches to efficiently implement interventions;
 - Assess potential scalability."

This implementation plan represents PG&E's best information and current plans; however, it is subject to change. One significant change would be triggered by Commission approval of a Southern California Gas Company (SoCalGas) pilot in Allensworth or Seville, as provided for in Ordering Paragraph (OP) 26 of D.18-12-015, instead of the currently-assumed electric pilot. As of the time of this filing SoCalGas has at least until March 19, 2019 to identify funding for pilots in one or both communities per Energy Division.⁴

Other changes are likely to arise in areas where the decision directs coordination with entities that have not been identified yet. For example, bulk purchasing is to be coordinated across all pilot administrators (PA), including the as-yet uncontracted third-party administrator; pilot evaluation research questions

¹ Referred to throughout as PG&E Electric Pilot Communities.

² Referred to throughout as third-party Electric Pilot Communities.

³ D.18-012-015 p. 10 (Note that page references are consistent with the version of D.18-12-015 served on December 20, 2019 appended to President Picker's Dissent. A later version has slightly different pagination). Referred to throughout as the decision or SJV DAC Pilots Decision.

⁴ Alice Stebbins, Executive Director of CPUC Energy Division, RE: Partial Granting of Request for Extension of Time for Southern California Gas Company to Comply with Ordering Paragraph 26 of Decision 18-12-015. February 15, 2019.

and metrics are to be coordinated with all PAs and the as-yet uncontracted Data Gathering Contractor. Including those entities in full alignment and coordination can't occur until they are under contract. The third-party PA is targeted to be under contract by June 30, 2019, while the data gathering consultant should be under contract considerably sooner.

Finally, changes may also arise from Commission and stakeholder feedback, learnings from the process of sourcing a Community Energy Navigator (CEN) and CEN Program Manager (CPM)⁵ and an implementation partner, feedback from pilot participants and improved information about their households, a re-scoping triggered by an anticipated budget shortfall,⁶ among other causes.

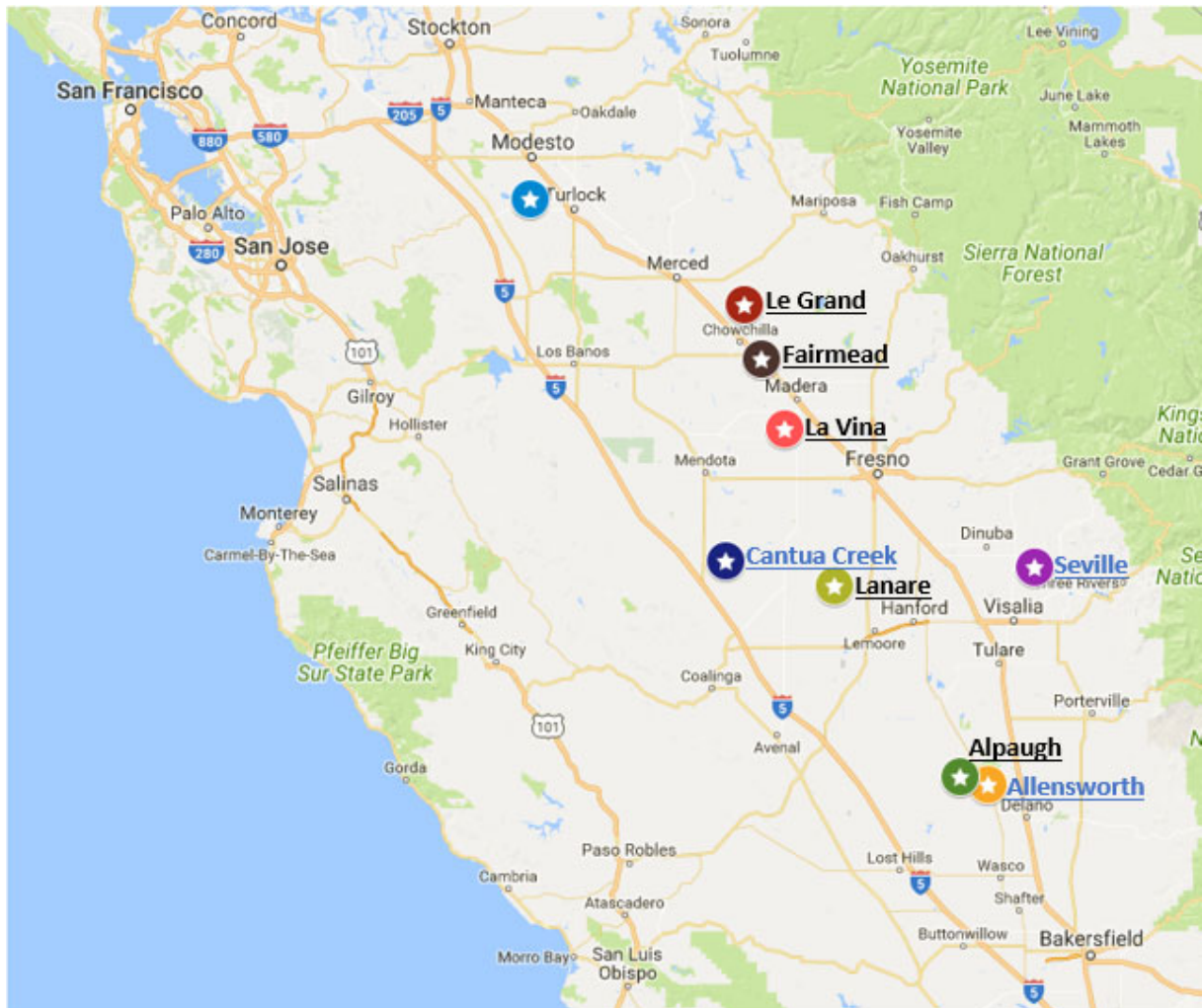
⁵ CEN is used throughout to refer to the individuals supporting community engagement in each community while the CPM is used throughout to refer to the entity selected to manage the CEN Program throughout all pilot communities.

⁶ *SJV DAC Pilots Decision*, p. 133.

Pilot Communities

The following figure provides the location of all SJV DAC pilot communities in PG&E territory with the names of the three PG&E-administered electric pilots shaded blue.

**FIGURE 1
PILOT COMMUNITIES**



The table below provides relevant demographic and household information for PG&E electric pilot communities.

TABLE 1
PG&E PILOT COMMUNITY DATA

| Community Data | Allensworth CDP | Cantua Creek CDP | Seville CDP |
|-------------------------------|-----------------|------------------|-------------|
| County | Tulare | Fresno | Tulare |
| Population* | 471 | 466 | 480 |
| Est. No. of Households (HH) | 113 | 116 | 102 |
| Single Family (SF) | 75 | 116 | 97 |
| Multifamily (MF) | 0 | 0 | 0 |
| Mobile Homes (MH) | 38 | 0 | 5 |
| Est. HH Without Gas | 113 | 116 | 102 |
| Est. Percent HH Without Gas | 100% | 100% | 100% |
| Est. No. of CARE Eligible HH | 77 | 87 | 78 |
| Est. Percent CARE Eligible HH | 68% | 75% | 77% |
| Median HH Annual Income * | \$ 29,091 | \$ 32,368 | \$ 23,000 |
| Est. Percent of HH Renting* | 42% | 51% | 46% |

*Information Gathered from the United States Census Bureau 2010 Demographic Profile

Major Tasks and Timeline

The primary activities of the pilot include:

- Replacement of wood and propane appliances with efficient electric appliances, specifically space conditioning appliances/systems, water heaters, cooking ranges and clothes dryers;
- Leveraging of existing programs, especially community solar programs, low-income discount programs and energy efficiency (EE) programs to support the efficient operation of pilot households and reduce energy cost;
- Gathering pilot community members and participants' data on energy cost, program enrollment and barriers, and other information; and
- Creation of a CEN program to build a network of local, knowledgeable and trusted energy experts to support the above pilot activities.

The timeline below provides a high-level timeline for the major activities under the pilot:

FIGURE 2
PG&E ELECTRIC PILOT TIMELINE

| Activity | Quarter | 2019 | | | | 2020 | | | | 2021 | | | | 2022 | | | | 2023 | | | | 2024 | | | | 2025 | | | | 2025 | | | |
|---|---------|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|------|---|---|---|
| | | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
| Planning, Sourcing Vendors, Building Processes and Systems | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Assessing Homes and Replacing Appliances | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Leveraging Existing Programs, CEN Support | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Pilot-Related Data Gathering, Monitoring, and Reporting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Final Reporting/Evaluation, Economic Feasibility Assessment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| |
|----------------|
| Key |
| Initialization |
| Implementation |
| Close Out |

A more detailed timeline, including phasing implementation or installation across customer segments or pilot communities will be developed in consultation with PG&E's Implementer and the CPM.

Program Management

PG&E's preliminary breakdown of major responsibilities of the key pilot team members is provided below consistent with the Decision;⁷ PG&E notes that this is subject to change, especially as detailed scopes-of-work are developed through the sourcing process:

- **Pilot Administrator (PA)**
 - Develop Pilot Forms and Procedures for:
 - Documentation of existing conditions;
 - Developing customer-specific scopes of work;
 - Procuring materials and appliances;
 - Quality control;
 - Developing survey forms and collecting, storing and transmitting Data in conjunction with the Data Gathering Consultant, CEN, Community-based Organizations (CBO) and Implementer(s);
 - Coordinating outreach with the CEN and CBOs; and
 - Develop Specifications for work and materials in partnership with CPM and Implementer;
 - General Program Management:
 - Communicating with and supporting Energy Division;

⁷ D.18-12-015, p. 53 for Program Administrator; pp. 82-83, 85 for CPM.

- Overseeing contractor compliance with program requirements and procedures;
- Develop implementation strategy/phasing/approach with CPM and Implementer;
- Scope and coordinate work of CEN and Implementer;
- Source Implementation Partner(s);
- Develop training specifications for CPM and Implementer in coordination with other Administrators;
- Develop and track overall project timeline;
- Train CENs on other programs administered by Administrator;
- Oversee development of customer-specific scopes of work;
- Inspect and control quality for all installations;
- Identify vendor safety requirements;
- Resolve issues, including escalated customer concerns;
- Track overall budget and monitor budget issues, including progress and trends relative to budget caps; and
- Process Vendor Invoices;
- Data Collection and Reporting:
 - Collect data from CPM and Implementer, including program operations, eligibility and enrollment information, job statuses, contractor compliance, invoices paid, metrics on training and local labor;
 - In coordination with other administrators, consultants and contractors, develop instruments, survey forms and protocols for collecting, storing and transmitting data beyond what is specified in Data Gathering track (e.g., local hiring data, and community-specific evaluation metrics); and
 - Provide quarterly and annual reports to the Commission and stakeholders;
- Conduct limited outreach outside of CPM responsibilities (e.g., community engagement prior to CPM engagement and outreach to local officials and government representatives in respective pilot counties); and
- Provide requirements for bulk purchases of appliances and ensure warranties on all improvements and installed appliances;
- **Pilot Implementer (PI)**
 - Train staff and contractors; ensure appropriate certifications;
 - Identify, source and coordinate necessary sub-contractors;
 - Source appliances and other materials per specifications and bulk purchasing requirements;
 - Conduct in-home assessments;
 - Develop customer-specific scopes of work and energy cost savings estimates;
 - Manage the permitting and installation of appliances and other associated measures or remediations, and removal of replaced appliances for proper recycling and/or disposal;
 - Provide contact information for and provide servicing and maintenance of installed technologies during and after the pilot;⁸
 - Manage any corrections to work done and warranty issues; and
 - Develop and adhere to Implementation Safety Plan;

⁸ *SJV DAC Pilots Decision*, p. 101.

- **CEN Program Manager**

- Develop a community engagement plan:
 - Identify engagement techniques, barriers and mitigations; staffing structure; cadence of engagements; partnerships, workforce engagement and coordination with Workforce Education and Training (WE&T) plans;
 - Including education on the importance of retaining propane and/or wood consumption, cost information, and existing program qualifications for enrollment; and
 - Tactics for following up with customers who may be ineligible or decline for any reason that may change over the course of the pilot program;
- Support development of eligibility, surveys and other pilot forms and procedures;
- Conduct or facilitate pre-pilot surveys and interviews;
- Work with Administrator to ensure consideration of community concerns, input and outcomes;
- Conduct community education and outreach at each stage of the pilot;
- Identify and facilitate access to additional local, state, federal and private sources for additional grants and loans, especially for remediation needs;
- Identify, train and maintain a network of CEN's and CBO's to:
 - Engage pilot community members in pilot by organizing and leading in-community meetings and home visits and providing assistance with the application process;
 - Collect and facilitate access to program resources such as relevant agencies and programs;
 - Assist and/or enroll customers in existing programs, especially available discount programs and selection of most appropriate rate:
 - Gather information about pilot community households, including propane consumption, cost data and existing appliances; and
 - Assist customers whose households requiring significant remediation and support them in identifying resources to be eligible to participate;
 - Support customers' adjustment to new appliances;
- Report to Administrator on CEN activities and metrics, including Monthly reports on remediation funding for quarterly substandard housing report leveraged outside of the pilot budget; and
- Assist pilot participants in understanding and adhering to owner-tenant agreement and monitor tenant protection issues.

Budget and Reporting

The following table summarizes the available incremental (i.e., non-leveraged program) budget for each community as provided in the decision.

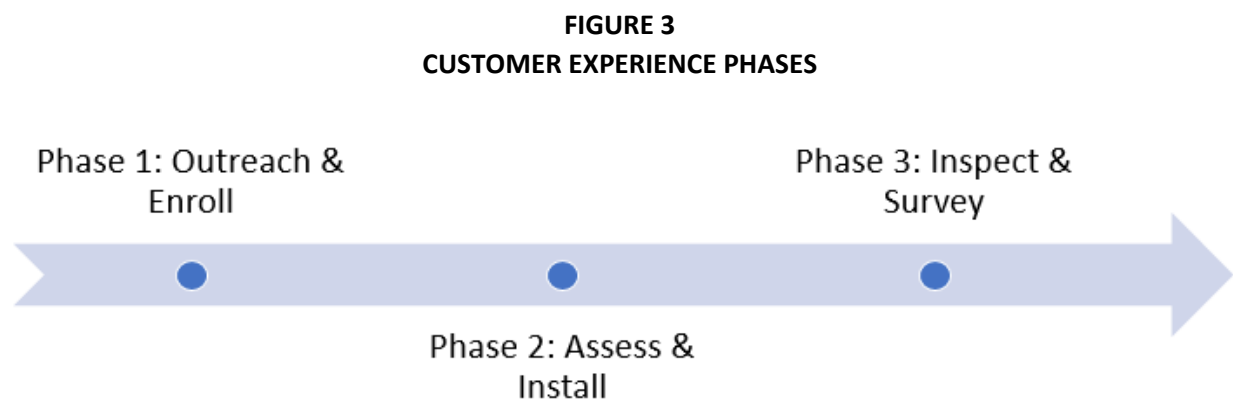
TABLE 2
SJV DAC PILOT BUDGET

| | | PG&E Electric Pilot Communities | | | 3rd Party Electric Pilot Communities (Shown for completeness) | | | | | |
|-----|---|-------------------------------------|---------------------|--------------|---|-----------------|--------------|---------------|-----------------|--|
| Row | | ALLENS- WORTH CDP | CANTUA CREEK CDP | SEVILLE CDP | ALPAUGH CDP | FAIRMEAD CDP | LA VINA CDP | LANARE CDP | LE GRAND CDP | Notes |
| 1 | Estimated Number of Households Treated | 106 | 106 | 104 | 46 | 253 | 84 | 17 | 502 | Per D.18.12.015 Table 25 |
| 2 | Pilot Total | \$ 3,289,097 | \$ 3,100,912 | \$ 2,965,826 | \$ 1,574,332 | \$ 6,885,853 | \$ 2,563,252 | \$ 648,921 | \$ 13,241,656 | Per D.18.12.015 Table 24 |
| 3 | Est. Implementation - Non-Contingency (^) | \$ 2,120,000 | \$ 2,120,000 | \$ 2,080,000 | \$ 920,000 | \$ 5,060,000 | \$ 1,680,000 | \$ 340,000 | \$ 10,040,000 | Estimated as \$20,000 per household |
| 4 | Est. Implementation - Contingency | \$ 424,000 | \$ 424,000 | \$ 416,000 | \$ 184,000 | \$ 1,012,000 | \$ 336,000 | \$ 68,000 | \$ 2,008,000 | Estimated as \$4,000 per household on average. May not exceed \$5,000 for any one household per D.18-12-015 p. 98 |
| 5 | Estimated Program Administrator Budget (*) | \$ 745,097 | \$ 556,912 | \$ 469,826 | \$ 470,332 | \$ 813,853 | \$ 547,252 | \$ 240,921 | \$ 1,193,656 | Remainder of total minus contingency and non-contingency implementation. Includes EM&V activity and ME&O not conducted by the CPM |
| 6 | Bill Protection Credits | \$ 53,000 | \$ 53,000 | \$ 52,000 | \$ 23,000 | \$ 126,500 | \$ 42,000 | \$ 8,500 | \$ 251,000 | Per D.18.12.015 Table 24, calculated as number of households*\$500 |
| 7 | Community Energy Navigator Program (^) | \$ 142,000 | | | \$ 363,600 | | | | | Per D.18.12.015 Table 24 |
| 8 | Estimated Process Evaluation Consultant (*) | \$ 29,187 | | | \$ 83,313 | | | | | Per D.18.12.015, p. 171, this amount not to exceed \$250,000. The pending Joint IOU Cost Sharing Advice Letter (AL____) proposed to allocate 45% of this cost to PG&E, which is here allocated to each administrator in proportion to the number of households |
| 9 | Sum of Est. Non-contingency Programmatic Budget: | \$ 8,421,022 | | | \$ 22,203,927 | | | | | Sum of rows 3 and 5-8 |
| 10 | Sum of Administrative, ME&O, EM&V (*): | \$ 1,435,187 | | | \$ 4,054,913 | | | | | Sum of rows 5, 7 and 8 |
| 11 | Administrative, ME&O, EM&V as a percent of non-contingency implementation | 17% | | | 18% | | | | | Not to exceed 20% per D.18-12-015 page 145 |
| 12 | Economic Feasibility Consultant | Not considered part of pilot budget | | | | | | | | Not to exceed \$500,000 and allocated 1/3 to PG&E per D.18-12-015 p. 171 |

As noted earlier, the decision directs PAs to make every effort to control costs and to treat the forecast number of homes with the approved budgets; however, in the event that average costs trend significantly higher than forecast, the decision directs administrators to reduce the scope of work with guidance from the Commission staff.⁹ As described in the section on reporting, PG&E intends to provide quarterly reports on budget and average costs per household to ensure such re-scoping can occur in a way that avoids a sudden halt to work in any home or community as envisioned by the commission.

Customer Experience Roadmap

PG&E provides this proposed customer experience roadmap to provide a high-level map of the program from the participants' perspective; however, this element of the program may change as described earlier. A positive customer experience will be an integral part of successful pilot execution. PG&E has outlined a 3-phase customer experience roadmap that is illustrated in Figure 3 for: (1) outreach and enroll, (2) assessment and installation, and (3) post install evaluation.



Outreach and Enroll

Prior to initiation of CPM activity, PG&E intends to send an initial introductory communication to the community households identified within the pilot areas with information about the pilot and contact information. PG&E may conduct additional proactive outreach to encourage participation. Once a customer has contacted PG&E, a representative will speak with the customer to:

- Provide additional details about the pilot, existing programs and enrollment;
- Inquire about the customer's level of interest and availability;
- Request that the customer begins retaining propane and wood usage information (if available);
- Gather information on current household appliances and any planned upcoming renovations; and
- Provide information about next steps.

Information gathered during this initial outreach will be provided to the CEN/CPM to conduct further outreach, education and enrollment activity to:

⁹ *SJV DAC Pilots Decision*, p. 133.

- Provide detailed information about participation in the pilot including what to expect through the assessment and installation process;
- ~~Assess pilot eligibility using the Energy Savings Assistance (ESA) self-certification approach, as applicable;⁴⁰~~
- Educate the customer on existing programs such as ESA, Family Electric Rate Assistance (FERA), etc.;
- Assess existing program(s) enrollment eligibility;
- Facilitate customers' enrollment in existing programs per existing program enrollment processes where applicable;
- Gather additional household information in support of the pilot assessment and installation plans;
- Inform the customer regarding next steps, including any follow-up communication to confirm existing program enrollment (ESA, FERA, etc.) and to schedule the initial in-person household assessment; and
- Confirm the customer's understanding and readiness to participate in the pilot.

The CPM will regularly and frequently report to PG&E on engagement progress and issues and provide enrollment data.

Although the CEN will be the primary source of contact and coordination with the customer, PG&E intends to designate a representative as a resource to the customer to assist with inquiry and escalation management and to help guide the customer experience throughout the pilot.

Assessment and Installation

Coordination of assessment and installation activities will be essential to reduce redundancy, customer burden and minimize cost. Two major drivers of the complexity include the nature of the work to be done, which will require multiple trades and subcontractors, compounded with the need to leverage existing programs to the greatest extent possible. In scheduling assessments with the customer, the implementer may also have to coordinate with the CEN, the implementer for the pilot, and implementer(s) for leveraged programs. If the pilot implementer is not already a provider of services under a leveraged program, a separate approved provider under that leveraged program may be needed to ensure that those measures installed under the direct install program meet program guidelines.

The assessment will include a walkthrough of the household by the implementer(s) and include the CEN where needed or applicable. The implementer(s) will be assessing the home for general safety issues that may exist, remediation needs, installation of measures for the pilot and under existing programs.

Following the assessment, pilot and existing program implementers will provide a recommended installation plan and energy impact statement to the PA for review. A pre-installation visit will be scheduled with the customer to review all proposed work and receive customer approval for installation and supplemental or remediation work required. The customer approval will trigger the scheduling of the installation and required permit submission. Best efforts will be made to consolidate activities

⁴⁰ ~~Per D.18-12-015, pp. 71-73, eligibility in Allensworth is limited to households with incomes up to 400 percent of the Federal Poverty Guideline with priority for households with incomes up to 250 percent. These customers may self-certify incomes. All households in Cantua Creek and Seville are eligible to participate.~~

under one implementer, coordinate installations simultaneously between implementers and sub-contractors to minimize customer impact.

Finally, consistent with the decision, households with income levels consistent with California Alternate Rates for Energy (CARE) eligibility requirements will be prioritized in staging assessment and installation steps.¹¹

Inspection and Survey

Upon completion of installation for the pilot and existing programs, household inspections will be performed by PG&E or its designate acting as PA to ensure all work was completed and in compliance with city, state, and federal regulations. Depending on the measures installed, local permitting agencies may also inspect the work. Additional detail on inspections is included in the section on Safety. Additionally, the CEN will be expected to schedule a post-installation follow up with the customer. A final participant survey will be utilized to help guide future program execution and reporting requirements, including customers' "willingness to pay" to inform potential co-pay requirements.¹² This survey may be administered by an independent consultant to ensure consistency and avoid conflicts of interest.

Customer Inquiry and Escalation Management

PG&E will be responsible for the intake and processing of customer inquiries and escalations not handled directly by the CEN. Introductory communications sent to customers will include a phone number and e-mail address enabling the customer to contact PG&E directly. Those inquiries will go to a voicemail or inbox monitored by a dedicated PG&E representative.

Routing customer inquiries and escalations through a dedicated PG&E representative will ensure timely response to questions about the pilot and enable consolidated inquiry tracking and will help drive visibility into recurring issues and questions. Escalating issues to program leadership will enable the team to proactively address process gaps or CEN performance issues.

Marketing, Education and Outreach

Approach

In coordination with the CEN, who has primary responsibility for customer engagement, PG&E plans to leverage its existing acquisition marketing materials and efforts for the programs that will be offered to pilot participants, which include the ESA Program, CARE/FERA, California Solar Initiative Thermal Program (CSI-Thermal), Medical Baseline and Bill Forecast Alerts. PG&E may develop new Disadvantaged Community (DAC)-specific marketing materials for Community Solar (CS)/Green Tariff (GT) and Moderate Income Direct Install programs. These materials will be delivered in partnership with the CEN.

Tactics and Channels

PG&E's multichannel approach may include direct mail, email, door-to-door canvassing, direct interaction at community events and churches. PG&E will explore earned media opportunities with

¹¹ *SJV DAC Pilots Decision*, OP 14.

¹² D.18-12-015 p. 72.

local newspapers and potentially radio to provide overall awareness of the pilots prior to launching the one-to-one tactics. Given the small target audience, PG&E may need to assess the media access and consumption habits of the pilot communities to identify the most viable channels. Additionally, social media, particularly Facebook, may also be employed to target residents who have adequate internet access.

All communications will be bilingual in English and Spanish to ensure that non-English speaking customers are fully informed about the programs offered. Communications will include large print callouts describing the content and a phone number for more information. After enrolling in the programs, pilot participants will be incorporated into the ongoing communication streams for each program including welcome communications and recertification notifications, where applicable.

Continuous Monitoring and Optimization

PG&E may develop DAC-specific marketing collateral and presentations for, or in partnership with, the CEN to educate customers about the pilot and associated programs. PG&E will take a test and learn approach as the pilot progresses to add additional tactics or optimize existing ones. PG&E will also explore conducting qualitative and/or quantitative customer research in the pilot communities to measure the level of awareness of the pilots and the effectiveness of the messaging.

Vendor Sourcing

This section describes four major sourcing activities described in the Decision:

1. Pilot Implementation Partner (Implementer)
2. Bulk Purchasing of Appliances and Other Materials
3. Community Energy Navigator Program Manager
4. Process Evaluation Consultant

Since this implementation plan describes PG&E's activities associated with the three PG&E Electric Pilot communities and not the five third-party communities, this section does not detail the process of sourcing that third-party Program Administrator/Implementer; also not discussed is the Economic Feasibility Framework consultant sourcing described in D.18-12-015, since PG&E doesn't consider this work part of the pilot.

Pilot Implementation Partner

OP 15 directs PG&E, Southern California Edison Company (SCE) and SoCalGas to "conduct competitive requests for proposals to select one or more implementers, and other necessary third-party support, for their approved pilot projects."

The major responsibilities of the implementer, as described earlier in detail, is to schedule and do in-home assessments, develop customer-specific scopes of work and energy cost savings estimates, manage the permitting and installation of appliances and other associated measures or remediations, and to manage any corrections to work done or warranty concerns.

PG&E will administer the Request for Proposal (RFP) for an implementer for the PG&E Pilot Communities, and will make the selection of the winning offer or offers. PG&E intends to coordinate

this RFP with the selection of the third-party Administrator/Implementer such that administrative efficiencies can be maximized and bidder fatigue can be avoided. Per the Decision, PG&E is targeting a contract execution date of June 30, 2019.

Community Energy Navigator Program Manager

Per the decision, SCE will hire the CPM on behalf of all program administrators across the Investor-Owned Utilities (IOU) territories and Energy Division will make the final vendor decision. The decision also targets contract completion by June 30, 2019. PG&E will work with SCE, SoCalGas, and Energy Division to develop a scope of work that includes common fixed elements and utility-specific elements. As described in the joint IOU co-funding advice letter,¹³ this will help ensure proper parsing of CPM tasks across each utility.

Bulk Purchasing of Appliances and Other Materials

The decision directs the IOUs to file a joint Tier 1 Bulk Purchasing Advice Letter 60 days from the approval of this implementation plan advice letter. That advice letter will describe:

- Requirements and strategies to leverage existing programs, including pricing and channels for measures currently offered under those programs;
- Coordination with existing distributors and manufacturers regarding electrification measures;
- Development of common measures and specifications to reduce discrepancies in the installation and operation of pilot measures;
- Any purchasing activity that will be shared across IOUs or program administrators, including possibly joint sourcing of CSI-Thermal partner(s);
- Activities to engage manufacturers and suppliers in the pilots, including warranty offerings, installation and maintenance training, and owner manuals and support that can be leveraged; and
- Specifications and warranties, including ESA warranty requirements as documented in the Weatherization Installation Standards Manual as provided in Appendix D.¹⁴

Appliance and Installation Warranties

Per the decision¹⁵, PG&E will provide extended manufacturer equipment warranties, as well as extended contractor installation warranties, for appliances installed through the pilot. The warranty periods for appliances provided through the pilot are summarized in Table 3 below. In addition, pilot participants who receive appliance replacements shall be provided contact information to request maintenance and servicing of installed equipment during the pilot project and for a minimum of five years from installation.

All measures installed through the ESA Program shall align with the minimum warranty requirements established for the ESA Program. The current ESA minimum warranty requirements are outlined in Appendix E.

¹³ PG&E AL 4075-G/5494-E.

¹⁴ *SJV DAC Pilots Decision*, pp. 101-102, ESA Installation Standards Manual Appendix F warranty requirements are explicitly required for ESA measures.

¹⁵ *SJV DAC Pilots Decision*, pp. 102-104.

TABLE 3
APPLIANCE AND INSTALLATION WARRANTIES

| Appliance | Manufacturer's Equipment Warranty | Contractor's Installation Warranty | Additional Services |
|-------------------------------|---|---|--|
| Electric Cooktop | Duration of pilot or 2 yrs from install, whichever is greater | Duration of pilot or 2 yrs from install, whichever is greater | Contact information provided to pilot participants to request maintenance and servicing of appliances for 5 yrs from install |
| Electric Clothes Dryer | | | |
| Heat Pump Water Heater | Duration of pilot or 5 yrs from install, whichever is greater | Duration of pilot or 5 yrs from install, whichever is greater | |
| Heat Pump Space Heater/Cooler | | | |
| ESA Program Measures | See Appendix E | See Appendix E | ESA contractor contact information provided to participants for ESA measure warranty issues |

Process Evaluation Consultant

As described in D.18-12-015 OP 25, SoCalGas must administer a Process Evaluation Contractor RFP on behalf of all program administrators across the IOUs territories and Energy Division will make the final vendor decision. The decision also targets contract completion by April 30, 2019. In a letter to the Energy Division served on March 4, 2019 SoCalGas requested extending this date to April 30, 2021, since the administrators will all be known and the pilots will be in process.¹⁶ PG&E will work with SCE, SoCalGas, and Energy Division to develop a scope of work for this consultant at the appropriate time.

The consultant will develop and provide for stakeholder feedback a draft process evaluation plan, evaluate effectiveness of pilot processes, provide actionable recommendations for improvements and document barriers.¹⁷

Workforce Education and Training

The Pilot will have a positive impact on today's and tomorrow's energy workforce and will:

- Support future members of California's energy workforce who are currently in grades K-12 with EE curriculum and green career awareness;
- Support K-12 instructors who are teaching tomorrow's workforce by providing teachers with technical energy training materials and green careers information and resources;
- Leverage existing schools and workforce development organizations to deliver energy education and employment services;
- Employ local and regional contractors to perform appliance and home upgrades; and

¹⁶ Ronald van der Leeden, Request for Extension of April 30, 2019 Deadline to Select and Establish a Contract with the Process Evaluation Contractor Assessing the SJV DAC Pilot Projects, March 4, 2019.

¹⁷ *SJV DAC Pilots Decision*, p. 127.

- Upskill local contractors to not only deliver Pilot services, but also to conduct additional EE work beyond the Pilot scope and duration.

PG&E will require the implementer to identify and engage with local and regional workforce investment boards, CBOs (collectively workforce development organizations) that can deliver a range of services including, but not limited to:

- Identifying local and regional contractors and workers with experience in EE work for Pilot recruitment;
- Identifying local and regional contractors and workers with specific credentials and licensures for Pilot recruitment;
- Supporting implementation partner workforce in becoming more employable after the pilot through services including but not limited to interview methods support, resume writing support, etc.; and
- Supporting Pilot contractors and workers in seeking energy-related work after the Pilot.

As a result of supporting the Pilot, local and regional workforce development organizations will know of a pool of contractors and workers that have been trained on EE and that has worked on residential EE projects to call upon when the opportunity for additional EE work arises.

To the extent feasible, Program Implementers should leverage existing local and regional contractors that have residential EE experience through programs like ESA. Such contractors are not only familiar with the work that will be part of the Pilot effort but will also have a faster on-ramp for required training. These contractors can bring intricate knowledge of utility-customer programs and processes that will be valuable in successfully implementing the pilot.

PG&E also intends to leverage existing¹⁸ teacher guides, student workbooks and curriculum to engage local K-12 students and teachers and will coordinate with CEN to:

- Provide age-appropriate technical energy and environmental training materials to increase awareness of the benefits of EE and renewables;
- Provide information and resources to promote green jobs, green careers, and educational pathways toward those jobs and careers;
- Provide K-12 students' parents information about how to save energy at home through behavioral and technological changes; and
- Inform K-12 students, particularly those of working age, about local and regional workforce development organizations services.

Community Energy Navigator Training

The CEN training program will be an entirely new offering provided by PG&E and the CPM. The program will be tailored to the CEN role and deployed exclusively for the purpose of training CEN candidates. To the extent possible, PG&E will leverage components of existing training programs (e.g., ESA Energy Specialist Series, CARE Outreach Specialist, California Department of Community Services and Development Basic Weatherization) to manage development costs.

¹⁸ Visit www.pge.com/energenius to view those K-12 resources on energy efficiency, energy, and sustainability.

Topics to be included in the CEN training include, but are not limited to those identified in the table below.

TABLE 3
CEN TRAINING

| Program Onboarding | Leverage |
|----------------------------------|---|
| Pilot overview | New |
| Pilot goals | New |
| Customer journey | New |
| Policies, procedures and conduct | New |
| Customer satisfaction | ESA, CARE |
| Soft Skills | Leverage |
| Outreach | ESA, CARE |
| Customer engagement | ESA |
| Active listening | ESA |
| Customer needs assessment | ESA |
| Situational awareness | ESA |
| Hard Skills | Leverage |
| Enrollment forms/procedures | ESA, CARE, FERA, CSI-Thermal, DAC-CS, CS-GT, Rate Options-All-Electric Baseline, Medical Baseline, Budget Billing, Moderate Income Direct Install (MIDI), DAC-SASH, WatterSaver, Mobile Home Direct Install |
| Basic home assessment | ESA |
| Safety techniques and procedures | ESA |

The CEN will be the primary point of contact for pilot participants, and as such must demonstrate mastery of the program's customer journey. To this end, the training program will deploy the following techniques, in line with adult learning principles:

- New information will be presented first in self-paced formats;
- New information will be reinforced through instructor-led trainings, group exercises, and knowledge assessments;
- Candidates will be given the opportunity to practice applying new knowledge through interactive exercises, role-playing, and group discussion;
- Candidates will be tested through realistic scenarios requiring problem-solving techniques; and
- Reference material will be provided, which will assist in on-the-job performance (e.g., programs and services matrix, program qualification decision tree, etc.).

Where appropriate, PG&E will track participation and certify training requirements have been met.

Since CEN candidates are intended to be selected from within pilot communities, PG&E will offer convenient training options, such as live-online, or on demand, and will partner with local training

organizations or event centers to offer in-person training sessions within the pilot communities, or neighboring towns or counties. Where appropriate, PG&E may conduct train-the-trainer sessions for the CPM to deploy aspects of the training program locally or on-the-job.

Program Implementer Training

Through competitive solicitations, PG&E intends to select a program implementer that can deploy a workforce (i.e., existing and new workers, subcontractors, etc.) qualified to perform the installation work associated with pilot measures. The baseline knowledge, skills and experience required to safely and effectively install program measures will vary; however, most measures will require specific licenses and/or registrations be obtained prior to installation (See Appendix C).

PG&E will provide two types of training to the program implementer workforce: program onboarding and technical upskill. Program onboarding will orient all new implementer staff to the goals and requirements of the program. Onboarding will also emphasize the importance of situational awareness, customer satisfaction, and other soft skills deemed necessary by PG&E to successfully implement the pilots.

Program onboarding is anticipated to take between 1-2 days to complete and may be offered in any combination of the following formats: in-person, live-online (i.e., webcast), or on demand (i.e., web-based training). PG&E will offer in-person training at PG&E training facilities (e.g., Stockton Energy Training Center), or partner with local training organizations or event centers to offer in-person training sessions near the program implementer's base of operation.

Technical upskill training entails incremental EE training built upon a participant's existing knowledgebase. Training will not focus on the baseline knowledge, skills and abilities required to attain the licenses required to perform the work; rather, PG&E will provide training that integrates EE and safety principles into the participants' job functions related to pilot measures. For example, a qualified HVAC technician working for a contractor with a valid HVAC C-20 license will be provided training on optimal HVAC system sizing, taking into account the impact of advanced weatherization improvements on the home, rather than conventional square foot per ton sizing guidelines.

The implementer workforce will also receive training on program measure eligibility criteria, how to assess eligibility, and feasibility requirements, among others. With regard to program-specific safety concerns, PG&E will provide training where it is unreasonable to expect market actors to perform of their own volition, or train the implementer workforce to perform, key functions related to customer safety. For example, it is unlikely that any party other than PG&E would provide training on combustion appliance safety as a result of the installation of infiltration measures in a customer's home.

Technical upskill training will likely occur at one of PG&E's training centers where participants can take advantage of appliances and equipment within interactive labs. Training will range from classroom based (i.e., lecture, written exams) to hands-on exercises and practical exams.

PG&E will not provide workforce training on basic occupational health and safety, the requirements to attain licenses and registrations necessary for pilot measure installation, or how to install appliances according to manufacturer specifications. Implementers will be expected to meet these requirements prior to the start of installation.

Repair and Maintenance Network Staff

The pilot period provides a critical mass of projects over a compressed timeframe, offering a reasonable level of cost effectiveness for the installers. However, upon completion of the installation phase of the pilot, intermittent requests for repair and maintenance will be far less predictable. One-off repair and maintenance requests from hard-to-reach areas may not be served by contractors from the larger cities within the SJV (e.g., Modesto, Merced, Fresno, Tulare, Bakersfield), nor from more distant locations such as the Bay Area or Southern California due to travel-related opportunity costs. PG&E intends to address this potential service gap by engaging with Implementers, manufacturers and suppliers to cultivate a local workforce of qualified repair and maintenance technicians in and near the pilot communities.

To provide participants a direct connection to the pilot work occurring in their communities, each pilot training participant will receive supplemental material providing an overview of the pilots, a description of the work being conducted, careers related to the work, and suggested lines of progression to inspire participants to pursue careers related to the pilot work.

Risk Management

As part of a comprehensive risk management process, PG&E will identify a comprehensive set of risks to project success, to customers and contractors, and to PG&E. It will conduct a ranking exercise and develop controls and mitigations with an emphasis on high-ranking risks. The risk matrix will be developed collaboratively with vendors and updated as needed through the implementation process. Below, three key risk areas are described and mitigations are proposed: how to avoid unanticipated outcomes for participants, what to do in the event of substandard structures (i.e., remediation) and how to ensure contractor and participant safety.

Participant Unintended Outcomes

Three major unintended outcomes include participants experiencing higher energy cost as a result of pilot participation, participants experiencing higher housing costs as a result of pilot participation, and participants experiencing reduced reliability as a result of participation. Per the decision, PG&E and the IOUs will address these risks in specific filings:

- Concurrent with this filing, PG&E will file a Bill Protection advice letter addressing the risk of higher energy costs;
- Concurrent with this filing, SCE will file a Joint IOU Split Incentive advice letter addressing the risk of higher housing costs; and
- By June 17, 2019 PG&E and SCE will jointly hold a workshop and separately file Reliability advice letters addressing the risk of reduced reliability by converting to all-electric.

Depending on the final approved approaches addressing these risks, additions or changes to the proposed activities in this implementation plan may be appropriate.

Remediation of Substandard Homes

The Decision directs PAs to describe an approach to substandard housing in this implementation plan, including a description of home assessments and safety/siting plans, prioritization and identification of specific conditions that might preclude extensive in-home work.¹⁹

The ability to safely and effectively install the pilot measures may be limited in cases where a home is either not up to code or in disrepair for other reasons. During the second customer visit, when program implementers complete initial home assessments, each recommended measure will include a section detailing any known remediation that is required or anticipated complications to installation. The cost of any remediation work will be estimated by the program implementer and submitted for review along with customer-specific scope of work. (In the event the program implementer is unable to estimate the cost, decisions will be made on a case by case basis in consultation with the customer and the Administrator to determine how to proceed.)

The plan for all remediation work and expenditures will be included in the customer-specific scope of work for each home which is reviewed and approved by PG&E (acting as PA). PG&E will approve 100 percent of all repairs required for measures including leveraged program measures to ensure adherence to the remediation budget cap. A buffer may be maintained within existing remediation caps to accommodate any unplanned remediation work. Final remediation work and costs will need to be reported to the PA with the total remediation cost and work scope.

Prioritization of repairs will be made by first assessing the ESA-eligible measures. The ESA Program has established guidelines and budgets for making repairs required to enable installation of weatherization measures, to reduce infiltration, or to mitigate a hazardous condition. After applying all ESA funded repairs, additional pilot funds up to \$5,000 may be used to address remaining ESA and/or non-ESA pilot measures. The repairs will be prioritized in a manner aligned with the ESA Program as follows:

1. Repairs needed to mitigate immediate hazards (e.g., mitigation of Natural Gas Appliance Test (NGAT) failure);
2. Repairs needed to mitigate major infiltration sources (e.g., broken window); and
3. Repairs required to permit the installation of a measure.

In cases where there are enough funds to cover some but not all of the repairs required to permit the installation of a measure, the Program Administrator will work with the Program Implementer and Customer to make an assessment of the greatest impact repairs based on criteria of saving on lifetime energy costs. In the event that costs to enable measure installations is greater than the allowable amounts, the CEN will work with the customer to ensure they understand the issues which prevent them from receiving those measures. The CEN will provide customers with other potential options for remediation (e.g., via other assistance programs) and customers may be reconsidered to receive pilot measures if repairs can be made while the pilot is still active.

The prioritization of repairs may not reflect the order in which they are completed.

¹⁹ *SJV DAC Pilots Decision*, p. 98.

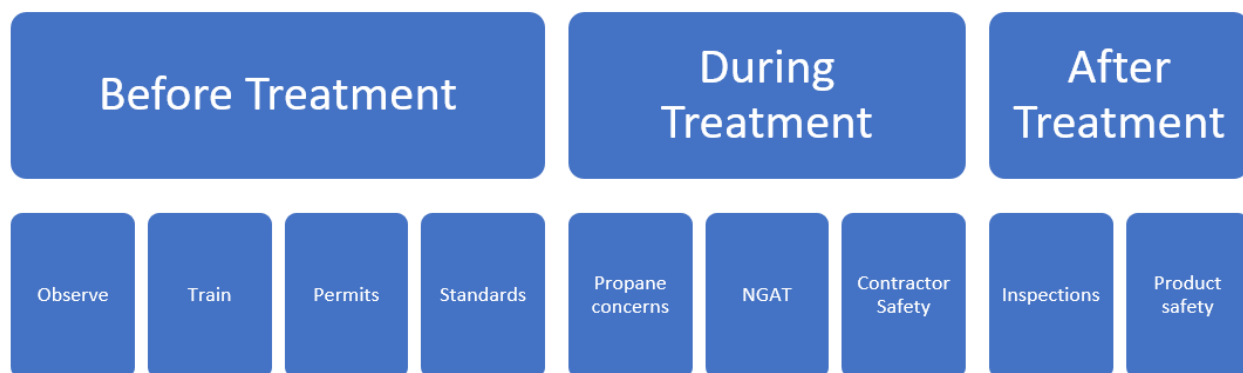
PI will report to PG&E all issues to inform mitigation planning. During the early installations, regular reviews between the PA and PI will support this identification of trends and protect pilot budget until a more structured framework is established.

Safety Plan

The safety of the public, employees and suppliers is PG&E’s highest priority. This section addresses the safety of San Joaquin Valley (SVJ) Residents, CENs, installers and other contractors who will be involved in the pilot before, during and after the treatment. PG&E’s third-party program implementer will produce their own safety implementation plan which will both leverage and reflect the measures described here.

This Safety Plan is inclusive of the protocols and procedures used within PG&E’s ESA Program, and builds upon them in areas that are specific to the pilot, such as special considerations related to propane usage.

**FIGURE 4
SAFETY PLAN ORGANIZATION**



Prior to Treatment

Safety considerations will be made at every point of the customer journey. Customers in the pilot population will receive an initial visit from a trained CEN. The CEN is hired to work directly with customers to engage them in the pilot and may be a local community member. The CEN will be provided with basic customer information prior to the first home visit. During this initial home visit, the CEN will look for and document any safety issues that may exist in the home. These will be limited to the “surface level” concerns such as a dog that could bite, or other easily identifiable issues. Any documented issues will be captured in the customer’s record and shared with all additional subsequent contractors prior to coming on site for the assessment visit. It will be during the assessment visit, when the weatherization specialist is on site, that a comprehensive look at safety issues will be completed and include issues such as combustion ventilation, outdated/unsafe electrical wiring, etc.

In the event that any safety issues are identified, the CEN will inform the customer immediately and provide written documentation to the CPM with the issue and next steps. Some safety measures may render a customer ineligible until it is remediated. CEN will also have basic training on emergency situations, such as a suspected gas leak.

Lead, Asbestos and Other Hazardous Materials

Prior to installing any new measures, the program implementer will assess whether the home has any lead, asbestos or other hazardous materials that would be exposed upon installation of new appliances or any other measures of the ESA Program. This means that all contracted installers must have established rules and regulations governing these materials, and staff that has completed required training and obtain licenses. The standards state that the contractors shall abide by the various laws and regulations regarding these specific hazards. If any hazardous materials are identified, the practices described in the California Installation Standards Manual (CISM) will be followed, along with any other applicable requirements. Identification of lead, asbestos or other hazardous materials may result in a home being ineligible for treatment in the pilot, and any remediation that is completed would contribute toward the remediation cap.

Permits

In order for any electrical work to be conducted, a permit from the appropriate entity (City, County, CA Department of Housing and Community Development) must be obtained. Documentation of the inspections and permit will be submitted to the PA before work is scheduled to begin. It is the responsibility of the Contractor Installer to ensure this is completed. The contract between the installer and the program administrator may include provisions for incentives or penalties with compliance.

Installation Standards

Installation standards are well-documented in the CISM. This is used for the ESA Program and is updated as needed to support new measures. To address the relative nascence of the electric appliances that will be included in this pilot, additional chapters of the CISM will be developed to guide best practices for safe installation of those measures. These materials will serve as a guide book for training new contractors. This may involve hiring an expert firm such as Richard Heath and Associates (RHA). Further detail will be provided in the Joint Bulk Purchasing Advice Letter described earlier.

During Treatment

Propane Related Safety

Program implementers will be required to provide all staff with special training to understand issues related to propane, propane systems, and propane appliances. Additional training and licensing may be coordinated for installers and CENs by propane suppliers and/or the agencies that support Combustion Appliance Safety training.²⁰ CENs will support customers to maintain safety around existing propane systems with visual inspection and questions about how the customer interacts with their propane tank and appliances.

At the close of the pilot, customers may be given the option of reimbursement for the removal of a propane tank if it is done within 90 days of the final measure installation. This is to recognize the inherent safety risk associated with keeping a propane tank and to encourage customers to make a complete switch to electric appliances.

²⁰ PG&E's Energy Training Center offers "Combustion Appliance Safety" training which Program Implementer contractors may be required to participate. Additional work is underway to identify Propane-specific requirements that may be included in the RFP for a Program Implementer.

Combustion Appliance Testing

Along with infiltration measures (e.g., gaskets, air sealing, etc.) that are installed under the pilot, a combustion appliance test will be conducted to ensure that there are no existing natural gas or propane leaks in the home, which changing the air flow in the home could make more harmful to residents. While traditional NGATs will be performed for any homes that have access to natural gas currently, customers who still have propane appliances can be tested in a similar fashion for propane leaks. This testing will not be needed for customers who remove all propane appliances prior to the infiltration measures.

Contractor Safety and Qualifications

PG&E's Contractor Safety Program²¹ establishes the minimum requirements for contractor safety management, provides a Safety Plan template, lists already-registered and qualified contractors, and communicates PG&E's health and safety expectations for work performed on behalf of PG&E. All contractors (both prime and subcontractors) doing work on behalf of PG&E are required to meet PG&E's Contractor Safety requirements, which will be vetted during the sourcing process.

Contractors performing medium and high-risk work (which includes any work involving electrical or combustion-risk appliances) are required to be pre-qualified in ISNetworld (ISN). In ISN, Contractors are required to complete a safety, health and environment (SHE) questionnaire and provide SHE statistics, written safety programs and a programmatic safety plan.

PG&E will select contractors that are deemed to be the most qualified to complete the work of the Pilot, and additional training will be conducted for contractor staff as described earlier.

After Treatment

Inspections

PG&E will leverage its existing Central Inspection Program (CIP) to audit all new appliance installations. CIP exists to assure that Contractors install measures in accordance with program rules and standards and to assure contractor billing is accurate. PG&E may coordinate inspection scheduling with the CEN and Implementer to reduce customer burden. The CIP standard requires inspections within 30 days of installation. Finally, if a permit has been pulled, the permitting agency may send an inspector as well.

Product Safety

Selection of specific models of appliances will be made based on a number of criteria, with safety being at the top. In addition to being UL certified, a technical advisory group comprised of building electrification experts may be convened to inform practical and safety considerations of various appliance models.

Safe use of appliances by customers after installation will be supported through the CEN delivering education to customers via community demonstrations and home visits, and installer "leave-behind" materials in both English and Spanish.

²¹ More information available here: https://www.pge.com/en_US/for-our-business-partners/purchasing-program/suppliers/suppliers.page.

Evaluation Plan

This section presents PG&E's proposed research plan for the impact evaluation of the pilots. The IOUs have also been directed by the Commission to conduct a joint pilot process evaluation to examine the design and delivery of the pilots. These pilot evaluations will be used along with the information gathered in the Data Gathering Track to inform the economic feasibility and community impact of extending affordable energy options to all SJV DACs.

Pilot evaluation will be complex with data being gathered by multiple parties: Track B Data Gathering Consultant, PAs, CEN/CPM, Pilot Implementers, leveraged program Implementers and Administrators, and Evaluation Consultant(s).

Potential Research Questions and Areas of Inquiry

1. What is the landscape of the pre-pilot home and equipment/appliance stock in the pilot communities? How do residents fuel their heating, water heating, cooking needs? Why?
2. What are the pre- and post-pilot levels of energy burden faced by households that rely on alternate fuel sources, such as wood, propane, diesel generators, or other fuels, for their heating, cooling, water heating, and cooking needs? What are key issues or drivers of the burden or hardship they experience?
3. What are residents' attitudes and desires associated with their pre-pilot fuel uses and potentially different ones (e.g., electricity or natural gas) to supplant use of propane, wood, diesel generators, or other fuels? How have residents' attitudes changed with electrification of their appliances and their electricity rate? What were the reasons for these customer preferences?
4. What non-energy benefits, including safety, health, and environmental, were provided through the adoption of electrification technologies?
5. What were the main barriers to customer participation? What were effective engagement strategies and best practices?

A list of the data elements to be collected, at a minimum, to support the pilot research questions is provided in Appendix F.

Impact Evaluation Plan

While the final research objectives are still under consideration, the basic research objectives for conducting the impact evaluation are:

1. Establish pre- and post-pilot conditions associated with customers in the pilot communities who did not have access to natural gas and relied on wood, propane, diesel, or other fuels (including those on all-electric rates) for residential energy use.
2. Determine weather-adjusted energy and bill impacts of the treatment, and identify any residual propane/wood usage and bills.
3. Report total number and combinations of measure installations. Assess bill savings and satisfaction for various combinations of measure installations.

4. Better understand other factors that may have driven or influenced the changes in energy usage and the decision to adopt electrification.

Proposed Pilot Evaluation Methodology

Detailed data collection will be required to evaluate the outcomes of the pilot. These data elements will be collected by partnering with Pilot contractors to collect household information at the time of the behind-the-meter (BTM) appliance conversion or home system upgrade work, as well as with third-party evaluators to collect pre- and post-pilot data. A list of the data elements to be collected is provided in Appendix F. Overall, PG&E plans to collect the following information either through the program implementer, utility or third-party data, or a program evaluator:

- **Number of Households Impacted:** PG&E plans to report four sets of household counts, including:
 - The number of households in community;
 - The subset of this population that was deemed eligible candidates for BTM appliance replacements in scope for each community;
 - The subset of this population that was deemed to have homes that could not be treated broken down by cause, including excessive cost of BTM upgrades, or customer or landlord refusal, as applicable; and
 - The subset of this population that is ultimately impacted.
- **Measures Undertaken:** PG&E will report the aggregate measures undertaken in the pilot. This data collection will also inform PG&E's understanding of customer preferences for appliances.
- **Energy Usage and Household Characteristics:** PG&E will collect data regarding baseline and post-pilot energy usage and household characteristics. Energy usage data will include, where natural gas is unavailable, household propane and wood usage and costs, as well as whether they are on an all-electric rate. PG&E will also collect a range of household demographic and building characteristics data for surveyed households in the community. At a minimum, the data collection elements will include those being captured as part of the Track B data gathering effort. PG&E will also attempt to collect information on any post-pilot residual propane or wood usage.
- **Total Pilot Costs:** PG&E will collect data on pilot implementation costs to gain a better understanding of grid impacts and associated costs, BTM costs associated with installation of electric appliances in scope for a community, and marketing, engagement and outreach costs, and co-pay quantities by income level, as applicable.

Proposed Pilot Evaluation Analysis

The evaluation will provide weather-adjusted energy consumption and bill impacts for each pilot community. These impacts are quantified by the change in energy usage and electricity bills, namely from the reduction or elimination of propane or wood usage and the additional electricity usage from installed appliances. All customers in a pilot community may be eligible to receive treatment, thus it is not possible to identify a control group and a pre/post evaluation must be used to calculate impacts. In this case, the energy costs in the form of energy bills (both for electric and propane/wood/other fuels) is collected for one year prior to intervention and one-year post intervention, in the form of electric bills. To estimate pre-treatment wood and propane usage, PG&E will utilize customer survey data as well as propane invoices provided by the customer where available. PG&E proposes to report on impacts that cover a period of at least one-year post-intervention in order to have data that covers all weather

conditions. To the extent it is possible to capture, PG&E will also seek to identify the quantity, if any, of post-treatment propane usage. In communities where the number of treated customers is quite small, the results will be more sensitive to random noise caused by unrelated factors, like changes in household size or composition. Since customers may have the option of opting out of these pilots, PG&E cannot guarantee a level of statistical precision because the total number of customers ultimately impacted will remain unknown until implementation is underway. Whatever the size of the participating population, PG&E will utilize appropriate evaluation best practices to separate the usage and bill impacts of these interventions from random noise or other unrelated factors like anomalous weather conditions.

Database Development

It will be necessary to develop a database format to store pilot project data that is sufficiently consistent across pilot teams and the SJV DAC Data Gathering Plan that data from these interrelated efforts can be later easily merged. Data captured will be consistent across pilot studies as well as the data gathering effort, which will require pilot and data gathering teams' coordination. The database will be made available to parties while ensuring compliance with relevant state and federal customer privacy laws and Commission customer privacy decisions.

Impact Evaluation Timeline

The project evaluation timeline is largely dependent on the completion of the pilot study. PG&E supports the decision's direction to report on impacts that cover a period of at least one-year post-intervention in order to have data that covers all weather conditions. Depending on the timeframe of these pilots, the Commission may choose to have one vendor conduct evaluations of all pilots in order to ensure consistency across studies. Including the one-year post-intervention data collection period, analysis, and reporting, a final evaluation report may be completed in 1.5-2 years following the end of the pilot study.

Process Evaluation

To supplement the pilot impact evaluation with qualitative insights around the administration of the program and the customer experience, PG&E, SoCalGas, and SCE plan to perform a joint process evaluation, per D.18-12-015. The study will be led by SoCalGas, and will be used to evaluate the way the program is being delivered and provide recommendations on how the key features of the delivery could better meet the goals of the program while also being cost-effective. The process evaluation will generally focus on the following topics:

- The effectiveness of the CEN Program approach in building a network of local, knowledgeable and trusted energy experts to support the pilot activities;
- How well the IOU PA/PI approach worked with regards to the implementation of the pilots, including the customer experience;
- The success of leveraging existing programs, especially community solar programs, low-income discount programs and EE programs to support the efficient operation of pilot households and reduce energy cost; and
- Customer barriers to adoption of electrification, and the extent to which customers' awareness, knowledge, and attitudes around electrification and EE changed as a result of the above approaches.

The scope of the process evaluation would be focused on topics that can yield the most constructive feedback on features of program delivery and their impacts on operations relative to their impact on the customer experience. Potential research tasks include:

- Interviews with program implementers, program administrators, and CENs;
- Interviews with other stakeholders;
- Interviews or surveys with participants to understand their experience, engagement, overall satisfaction, and impact on their day-to-day lives;
- Review of program related material and tools; and
- Observations of operations and review of procedures and workflow.

Process Evaluation Timeline

D.18-12-015 stipulates that the joint IOUs will establish a process evaluation cost-sharing methodology and that SoCalGas will have a contract in place for a process evaluation contractor by April 30, 2019. In order to develop a statement of work with sufficient detail to obtain viable and complete proposals from vendors, the pilot implementation plans should be well defined and in progress in the communities. Given that pilots will not begin until sometime late in 2019 and with the expected duration of the pilots, the joint IOUs plan to file a request for extension.

Coordination With Data Gathering Track

The pilots and subsequent pilot evaluations will be implemented on a concurrent but separate timeline as the Data Gathering Track. Data collected by pilot contractors in each of the pilot communities should be shared with the Data Gathering contractor, and, accordingly, data collected by the Data Gathering contractor in pilot communities should be conducted in close coordination with the pilot contractors. Universal data collection instruments and forms will be developed as part of the Data Gathering Track. This will enable efforts to coordinate resources and maximize the value of the data collection that occurs during both pilot implementation and Data Gathering in the greater SJV.

Leveraging Existing Programs

As described in D.18-12-015, the SJV DAC pilots must leverage and coordinate with many existing programs and rate options. Key among the leveraged programs are the direct-install programs (ESA, MIDI and Comprehensive Manufactured/Mobile Home Program) and solar programs (DAC-Green Tariff (DAC-GT) and Community Solar-Green Tariff (CS-GT), Single-Family Affordable Solar Housing (SASH), DAC-SASH, and CSI-Thermal). Key among the leveraged rate programs and options are CARE and FERA, All-Electric Baseline rates and Medical Baseline. Each is described below with coordination considerations identified.

The decision directs PG&E and other administrators to ensure that all measures installed in pilot communities which are currently available in other direct-install programs – ESA, MIDI and the Comprehensive Manufactured/Mobile Home Program – are funded by those programs and are installed at the currently-established rates, are installed according to those programs’ standards and policies and are ultimately counted toward the goals of those programs.²² Per the decision, a more detailed

²² *SJV DAC Pilots Decision*, pp. 90-91, inter alia.

description of the process by which these pilots will be integrated with those programs will be provided in the Bulk Purchasing Joint Tier 1 advice letter.²³

Finally, PG&E also includes a discussion of the newly approved AB 2868 smart water heater program, recently re-named WatterSaver!. The decision also directs PAs to explore whether the SB 1477 BUILD and/or TECH Initiatives can be leveraged to meet pilot goals.²⁴ At this time, PG&E does not find sufficient progress made in the associated proceeding to describe how these programs may be leveraged.²⁵

Direct Install Programs

Energy Savings Assistance Program

Program Overview: PG&E's ESA Program has offered home improvements at no cost to income-qualified customers in its 48 counties since 1983. The program is funded through the Public Purpose Charge collected from all ratepayers through PG&E bills. The ESA Program's objective is to assist customers in reducing their energy consumption and costs, while increasing their comfort, health and safety. The ESA Program utilizes a prescriptive, direct install approach to provide home weatherization, energy efficient appliances and energy education to income-qualified customers. The ESA Program is available to customers living in single-family, multifamily, and mobile homes, including homeowners and renters.

The eligibility requirements for ESA are the same as those for CARE: total customer household income must be equal to or be less than 200 percent of the Federal Poverty Guideline (FPG). Customers can qualify, regardless of their household income, if at least one household member participates in a public assistance program. Additionally, a home must be at least five years old.

Leveraging ESA in SJV DAC Pilots

Discrepancies between ESA eligibility guidelines and those approved for this pilot mean that not all households participating in the SJV DAC pilot will be eligible for ESA; however, available income data suggests that the majority will.²⁶ PG&E's data suggest many in the pilot communities have already accessed ESA.

The Decision requires the IOUs to fund existing ESA-eligible measures provided by the pilot from the ESA Program, count such households and measures toward ESA Program goals, and ensure such measures are installed according to ESA Installation Standards and other policies. However, to minimize complexity for contractors and participants, the Commission envisions a "behind-the-scenes" process whereby "installation of ESA-eligible measures as part of the pilot by contractors that are not currently on contract with the ESA program" who would then "bill" the ESA program for those measures. This

²³ *SJV DAC Pilots Decision*, p. 120.

²⁴ *SJV DAC Pilots Decision*, pp. 127-128.

²⁵ Rulemaking 19-01-011 was Instituted on February 8, 2019; a joint-agency workshop related to the proceeding is scheduled for April 8, 2019 and an initial pre-hearing conference is scheduled for April 24, 2019 to be followed by a Scoping Memo.

²⁶ For example households newer than five years or with income levels ~~between-above~~ 200 percent ~~and 400 percent~~ of the FPG ~~in Allensworth~~ are eligible for pilot treatment but not eligible for ESA.

enables the Commission to direct that “a single contractor will install all electrification and weatherization measures (where feasible) in a given community....”²⁷

PG&E appreciates the intent to minimize complexity as coordinating with multiple contractors can be challenging. While ESA can result in multiple trade expertise to fully service the customer, the majority of customers receive measures from a single subcontractor, a weatherization specialist. Given the nature of the work to be completed under this pilot, PG&E anticipates multiple trades and sub-contractors will likely be required for the home improvements to be completed under this pilot. In the Joint IOU Bulk Purchasing Advice Letter (AL), PG&E will provide additional details on requirements for its Implementer and CPM to coordinate with the ESA Program such that this program can be fully leveraged and coordinated to minimize impact to the customer. Those requirements will also be reflected in the Implementer and CPM RFP.

In support of this coordination, the Decision does provide one timing-related ESA policy exemption so that ESA weatherization and water heating measures to be installed up to 90 days prior to installation of electric space conditioning and water appliances to avoid potential complexity of having to wait to install such measures until after appliance installation due to measure eligibility rules.²⁸ PG&E notes that other exemptions may be required and will also include those in the Joint IOU Bulk Purchasing Advice Letter.

Moderate Income Direct Install (MIDI) Program

Program Overview:

The MIDI Program offers no-cost energy assistance for PG&E residential customers. The MIDI Program is administered by PG&E and implemented by a third party, RHA. The program is available to qualified renters and homeowners living in single-family homes, multifamily dwellings and mobile homes. Participating customers receive energy and water conservation education, energy saving tips, referrals to other PG&E programs, and direct installation of eligible program measures. The MIDI Program is designed to help residential customers reduce their energy usage through no-cost direct install EE upgrades and helps customers:

- Understand their energy use
- Reduce energy consumption and demand
- Save money on utility bills
- Improve the comfort of their home

The customer must meet the following qualifications to be enrolled in the program:

- Must be a PG&E residential customer with either residential single or multifamily electric or gas rate schedules;
- Reside within PG&E service area;
- Housing must be a minimum of five years of age;
- Dwelling types include single-family, mobile homes and multi-unit dwellings;
- Must not have existing on-site self-generation (solar); and

²⁷ *SVJ DAC Pilots Decision*, pp. 122-123.

²⁸ *SVJ DAC Pilots Decision*, pp. 118-119.

- Must not be qualified for the ESA Program.

AND

- Must meet one of the four qualification criteria below:
 1. Meet MIDI income guidelines:

| Size of Household | Annual Income |
|-----------------------------|---------------|
| 1-2 | \$65,780 |
| 3 | \$83,120 |
| 4 | \$100,400 |
| 5 | \$117,680 |
| 6 | \$134,960 |
| Each Additional Person add: | \$17,280 |

Effective June 1, 2018 –May 31, 2019

2. Renter: Renters are qualified with a signed Program Participation Agreement
3. Language Spoken: Customer's primary language is a language other than English
4. County of Residence: Customer resides in one of the following counties:

| | | |
|-----------|-----------------|---------------|
| Alpine | Lake | Santa Barbara |
| Amador | Lassen | Shasta |
| Butte | Madera | Sierra |
| Calaveras | Mariposa | Siskiyou |
| Colusa | Mendocino | Stanislaus |
| Fresno | Merced | Trinity |
| Glenn | Monterey | Tehama |
| Humboldt | Nevada | Tulare |
| Kern | Plumas | Tuolumne |
| Kings | San Luis Obispo | |

Leveraging in SJV DAC Pilots

The Decision envisions a process whereby MIDI-eligible measures installed as part of this pilot are funded through MIDI and counted toward MIDI Program goals. Among MIDI measures, PG&E expects smart thermostat, water efficiency and LED lighting measures in particular to be leveraged in this pilot.

More extensive weatherization measures than those above such as air sealing and insulation would be undertaken outside of the MIDI Program for customers not eligible for ESA.

Comprehensive Manufactured/Mobile Home Program (CMHP)

Program Overview:

The Comprehensive Manufactured/Mobile Home Program (CMHP) offers a turnkey cost-effective solution that serves manufactured/mobile home owners and renters. This PG&E-administered third-party program offers whole house EE improvements as well as deeper retrofits through leveraging other programs and opportunities such as the PG&E ESA Program. The entire PG&E service territory served

with an emphasis on the Central Valley (Climate Zones 11,12, and 13) where residential energy use is greatest.

The intent of this program is to maximize energy savings with greater effectiveness by using the program implementer's (Synergy Companies) innovative program model that leverages all available programs through one program administrator for a more comprehensive service.

A customer must meet the following qualifications to be enrolled in the program:

- Must be a PG&E customer with either residential electric or gas rate schedules;
- Reside within PG&E service area;
- Housing must be a minimum of five years of age; and
- Dwelling types include manufactured or mobile homes.

Leveraging in SJV DAC Pilots

The Decision envisions a process whereby CMHP-eligible measures installed as part of this pilot are funded through MIDI and counted toward CMHP Program goals. Among CMHP measures, PG&E expects smart thermostat, water efficiency and LED lighting measures in particular to be leveraged in this pilot.

Other more extensive weatherization measures would be undertaken outside of the CMHP Program for customers not eligible for ESA.

Solar Programs

California Solar Initiative Thermal Program (CSI-Thermal)

Program Overview: The CSI-Thermal Program offers cash rebates of up to \$4,366 on solar water heating systems for single-family residential customers. Multifamily and Commercial properties qualify for rebates of up to \$800,000 on solar water heating systems and eligible solar pool heating systems qualify for rebates of up to \$500,000. Funding for the CSI-Thermal Program comes from ratepayers of PG&E, SCE, SoCalGas, and SDG&E. The rebate program is overseen by the CPUC as part of the California Solar Initiative.

Program Modifications: Pursuant to D.18-12-015²⁹ SoCalGas and PG&E filed and served a joint Tier 2 advice letter on February 8, 2019, for the SJV DAC pilot communities requesting revised single-family incentive to cover the total installation cost, a set-aside of \$4,652,700 for possible CSI-Thermal participants in PG&E and third-party Electric Pilot Communities, and other minor changes.³⁰

Customer Identification and Outreach: The decision directs program administrators to work with CSI-Thermal Administrators to offer CSI-Thermal where eligible and feasible and especially where heat pump water heaters (HPWH) are infeasible.³¹ In their outreach to pilot community households, the CEN will include existing CSI-Thermal marketing material that has been tailored to pilot homeowners. Customers will be encouraged to enroll if CSI-Thermal is a possibility in order to reserve the funds for any potential CSI-Thermal participant as the CSI-Thermal Program approaches its sunset date as described in the aforementioned advice letter. CSI-Thermal outreach in Allensworth and Seville must be

²⁹ *SJV DAC Pilots Decision*, p. 112.

³⁰ PG&E AL 4067-G.

³¹ *SJV DAC Pilots Decision*, p. 112 and 90.

coordinated between the CEN, PG&E and SoCalGas to ensure that customers directed to the appropriate CSI-Thermal Program administrator according to their water heating fuel. PG&E and SoCalGas have committed to this coordination in the attestation letter in Appendix A required per the Decision.

Disadvantaged Communities Green Tariff (DAC-GT) and Community Solar Green Tariff (CS-GT) Programs

Program Overview

On June 21, 2018, the Commission approved D.18-06-027, *Alternate Decision Adopting Alternatives to Promote Solar Distributed Generation in Disadvantaged Communities*, requiring each of the participating utilities to implement two new Green Tariff Programs for DACs,³² namely the DAC-GT and the CS-GT Programs. The DAC-GT Program will be available to residential customers who live in DACs and meet the income eligibility requirements for the CARE and FERA programs. The program has a participation cap of 70 megawatts (MW) for PG&E. The CS-GT Program is structured similarly to the DAC-GT program but is intended to drive more local, community-developed solar projects.³³ Enrollment under the CS-GT Program is open to any residential customer located in DACs, but a minimum of 50 percent of project capacity must be subscribed by low-income customers. The program has a cap of 18 MW for PG&E. Both programs provide a 20 percent discount to participating customers compared to their otherwise applicable tariff. The programs are funded first through greenhouse gas (GHG) allowance revenues and if such funds are exhausted, the programs will be funded through public purpose program funds.

PG&E is currently working on the development and implementation of the DAC-GT and CS-GT Programs. On August 20, 2018, PG&E submitted Advice Letter 5362-E to “*Establish and Implement the Disadvantaged Communities Green Tariff (DAC-GT) Program Rate and the Community Solar Green Tariff (CS-GT) Program Rate*,” and on February 13, 2019, PG&E filed a supplemental Advice Letter 5362-E-A. Both advice letters are still pending Commission approval as of the writing of this advice letter.

The DAC-GT and CS-GT Programs offered to customers in SJV pilot communities will be the same as for the general DAC population and will follow the rules and requirements as proposed in Advice Letter 5362 with a few exceptions and modifications as described below.

Program Modifications

1. Leveraged Community Solar Programs in SJV Pilot Communities

D.18-12-015 requires PG&E to solicit CS-GT projects in the following SJV pilot communities: Allensworth, Cantua Creek, Seville, Alpaugh, Fairmead, Lanare, LeGrand. Until CS-GT projects are built and online to

³² “Disadvantaged communities” are defined, under D.18-06-027, as communities that are identified, by using CalEnviroScreen 3.0, as among the top 25 percent of communities statewide. In addition, 22 census tracts in the highest 5 percent of CalEnviroScreen’s Pollution Burden that do not have an overall CalEnviroScreen score because of unreliable socioeconomic or health data, are also designated as DACs. D.18-06-027 also highlighted that customers who live in the SJV Pilot Program communities are also eligible for the program even if their community is not among the top 25 percent DACs as defined by CalEnviroScreen. However, it should be noted that all selected SJV pilot communities are also DACs as defined in D.18-06-027.

³³ Notably, the solar generation project supporting the program must be located within 5 miles of the participating customers’ community and the program requires demonstration of community involvement and interest, facilitated through a local “sponsor.”

offer solar electricity to pilot community customers, PG&E will seek to enroll all eligible pilot community residents in these communities onto the DAC-GT Program upon program launch.³⁴ Once the CS-GT projects come online and are available for customer enrollment, PG&E will transfer customers that are eligible for participation under these CS-GT projects over to those projects. SJV pilot community customers enrolled under DAC-GT that are not located within 40 miles of a CS-GT project will remain on the DAC-GT Program.

In the community of La Vina, PG&E will offer the DAC-GT and DAC-SASH (Single-Family Affordable Solar Housing)³⁵ programs to customers.

2. Solar Project Procurement

Per D.18-06-027, PG&E will run DAC-GT³⁶ and CS-GT solicitations twice a year, expected in the Spring and Fall of each year. CS-GT solicitations targeted at SJV pilot communities will be included in PG&E's program-wide RFPs.

PG&E is only able to include SJV targeted solicitations in their program-wide RFPs once this Implementation Advice Letter has been approved as the solicitation documents can only be finalized and filed for approval once all program rules have been approved by the Commission. Therefore, PG&E hereby proposes an update to the language proposed in Advice Letter 5362-E-A³⁷ in that SJV targeted CS-GT solicitation will be included in the program-wide RFPs with the next program-wide solicitation following approval of this Implementation Advice Letter.³⁸ This update should have no immediate customer impact as eligible customers will be enrolled in the DAC-GT Program until CS-GT resources come online. Furthermore, this will allow for the selection of the third-party PA/PI before the first SJV targeted solicitation will be run which in turn will allow this PA/PI to participate as a project developer in the targeted solicitations as indicated in the Decision.

3. Capacity Allocation/Reservation

Per D.18-12-015, a specific capacity allocation must be set aside for the SJV pilot communities under the CS-GT solicitations that should be based on the population of the pilot communities. There are 1,739 customers in the seven pilot communities that are directed to install CS-GT projects. The overall eligible population for the CS-GT Program is approximately 639,527, which leads to a percentage-based capacity allocation for the SJV pilot communities of 49 kilowatt (kW).³⁹

³⁴ Per the DAC-GT Program rules, customers must be eligible for the CARE and/or FERA Program to be eligible to enroll under DAC-GT, as well as meet all other program eligibility requirements.

³⁵ As described in D.18-06-027.

³⁶ As described in AL 5362-E, PG&E proposes to initially use underutilized resources from PG&E's Solar Choice Program to fulfill the customer load under the DAC-GT Program until such resources are nearing full subscription. Hence, it is expected that solicitations will initially be limited to the CS-GT Program.

³⁷ AL 5362-E-A, p. 5.

³⁸ Granted that there is sufficient time between the approval of the Implementation AL and the next filing of the CS-GT solicitation documents.

³⁹ 1739 over 639,527 customers is 0.272 percent. This percentage multiplied by the program cap of 18 MW equals 49 kW. This calculation does not consider any potential future CCA MW allocations.

This low capacity allocation is challenging for two main reasons – first and foremost, a solar project of 49 kW is expected to only serve approximately 14 customers,⁴⁰ a very small portion of the total SJV pilot community customers. Secondly, it will likely be challenging for developers to make the economics work if they are limited to develop solar projects of up to 49 kW.

PG&E proposes to interpret the capacity allocation as a capacity reservation, reserving a minimum of 49 kW of procurement under the CS-GT Program to SJV pilot communities. However, there is no maximum amount of capacity allocated to the SJV pilot communities under CS-GT. In other words, solar projects targeted at SJV pilot communities may participate in the targeted SJV CS-GT solicitations alongside the program-wide CS-GT solicitations as long as the program cap is not reached. As required in D.18-06-027 and reiterated in D.18-12-015, solar projects targeting SJV pilot communities will be prioritized in the solicitation process.⁴¹

The resulting project capacity procured under the targeted SJV CS-GT solicitations will apply towards PG&E's program-wide CS-GT MW target.

4. Customer Eligibility and Enrollment

D.18-12-015 determined that for SJV pilot participants, the participating customer's community (defined by its census tract) must be located within 40 miles of the CS-GT solar project.⁴² The Decision also states that subscribers to the solar project may initially only include SJV pilot community customers and that general DAC customers may only enroll in the solar project procured under the targeted SJV CS-GT solicitations once pilot community participants un-enroll or capacity otherwise becomes available over the life of the project.⁴³

PG&E proposes to interpret this language to mean that solar developers may size a CS-GT project such that an appropriate capacity is dedicated to serving SJV pilot communities and that additional capacity may be included to meet demand in general DAC communities located within 5 miles of the project. This enables developers to take advantage of economies of scale in project development, prevents duplicative solar project development in one geographic area (one for SJV pilot participants and one for the general DAC population) and will likely also lead to a better customer experience (customers in neighboring communities will all enroll and support the same community solar project).

Once the CS-GT project targeting SJV pilot communities is developed, both SJV pilot community customers and general DAC customers that meet all program eligibility requirements can enroll under the project. However, SJV pilot community customers would be granted priority in the enrollment. In fact, as noted above, SJV customers may actually be defaulted onto a CS-GT project developed within their eligibility radius once it comes online.⁴⁴

It is also important to note that general DAC participants must adhere to all general CS-GT Program rules and requirements while SJV pilot participants are able to benefit from program exceptions. For

⁴⁰ Assuming a solar capacity factor of 20 percent and an average annual customer usage of 6000 kWhs.

⁴¹ D.18-06-027, p. 82.

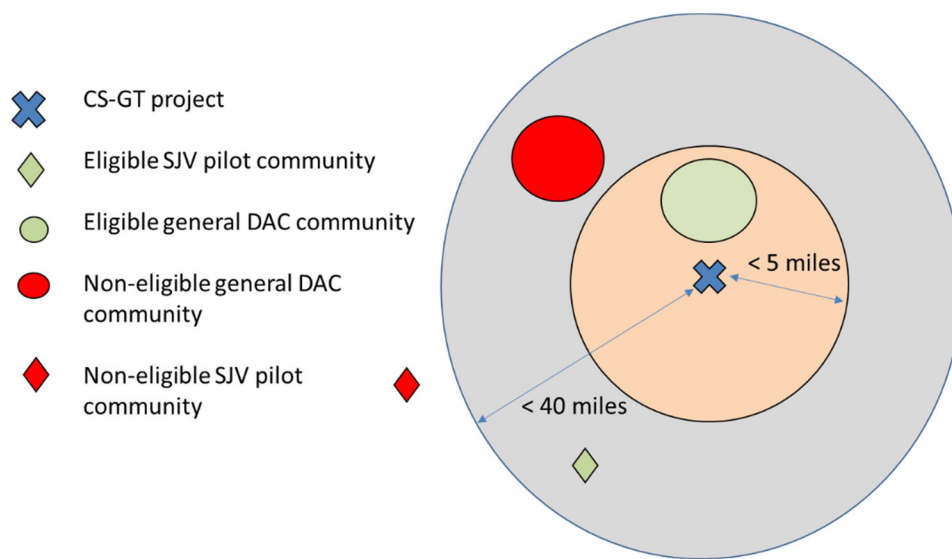
⁴² Instead of 5 miles for the CS-GT Program in general. See D.18-12-015, p. 106.

⁴³ *SJV DAC Pilots Decision*, p. 107.

⁴⁴ It must also be noted that the requirement from D-18-06-027 still holds that a minimum of 50 percent of project capacity must be subscribed by low-income customers.

example, SJV pilot community customers could be located within 40 miles of the CS-GT solar project while customers located in DACs but not in a SJV pilot community must be located within 5 miles of the CS-GT solar project. The following graphic depicts this concept:

**FIGURE 5
CS-GT ELIGIBILITY DISTANCES**



5. Sponsor Eligibility

D.18-06-027 determined that CS-GT project sponsors⁴⁵ must be located within 5 miles of the project to be able to enroll under the CS-GT project and realize the benefits of the 20 percent discount like any other participating customer. As described above, D.18-12-015 expanded the locational requirement for participating customers to 40 miles but no mention was made in the Decision in regards to sponsor locational requirements.

PG&E finds it reasonable to require the same locational requirements for sponsors as for any other participating customer and hereby proposes that for the purposes of the SJV targeted CS-GT projects, the sponsor's community (defined by its census tract) must be located within 40 miles of the CS-GT solar project to be able to enroll under the program and benefit from the 20 percent bill discount. All other sponsor eligibility and enrollment requirements of the general CS-GT Program continue to apply.

⁴⁵ A project sponsor is a non-profit community-based organization, a local government (including CCAs) or a school that help recruit customers, conducts outreach for the program and facilitates job training and workforce development efforts.

DAC-SASH

DAC-SASH Program Overview:

The decision envisions leveraging DAC-SASH in La Vina, which is a third-party electric pilot community; however, it also states the intention that all single-family households participating in the pilot be encouraged to participate in either SASH or DAC-SASH.⁴⁶ PG&E intends to leverage SASH and DAC-SASH for all eligible households, especially households that are unable to receive electric appliances due to eligibility or remediation concerns, or do receive electric appliances but do not experience the expected level of bill savings. This is similar to the decision guidance to emphasize leveraging CSI-Thermal among pilot households not able to receive a heat pump water heater.

Modeled on the existing, successful SASH Program, DAC-SASH will provide up-front financial incentives for solar installation on homes owned by low income residents in DACs statewide. The program will allow for greater eligibility and help overcome barriers like lack of access to capital or credit. DAC-SASH will provide \$10 million in incentives annually through 2030, to be funded by utility GHG allowance revenues or public purpose program funds. Grid Alternatives has recently been selected by the CPUC to administer the DAC-SASH Program.⁴⁷

PG&E has engaged GRID Alternatives in initial discussions regarding coordination of this pilot with DAC-SASH and includes an attestation letter documenting their commitment⁴⁸ to coordination in Appendix G similar to that required for CSI-Thermal. For more information on DAC-SASH, please contact the program administrator, GRID Alternatives.

SASH

SASH Program Overview:

The Single-family Affordable Solar Homes (SASH) Program provides solar incentives on qualifying affordable single-family housing. The goals of the SASH Program are to:

- Decrease electricity usage by solar installation and reduce energy bills without increasing monthly expenses;
- Provide full and partial incentives for solar systems for low-income participants;
- Offer the power of solar and EE to homeowners;
- Decrease the expense of solar ownership with a higher incentive than the General CSI Program;
- Develop energy solutions that are environmentally and economically sustainable; and
- Provide job training and employment opportunities in the solar energy and EE sectors of the economy.

The SASH Program provides qualified low-income homeowners fixed, up front, capacity-based incentives to help offset the upfront cost of a solar electric system. Eligible applicants must:

- Receive electrical service from Pacific Gas & Electric (PG&E);
- Own and live in their home; and

⁴⁶ *SVJ DAC Pilots Decision*, p. 112, inter alia.

⁴⁷ <https://www.solarpowerworldonline.com/2019/03/grid-alternatives-cpuc-solar-environmental-justice-program/>.

⁴⁸ *SVJ DAC Pilots Decision*, p. 111.

- Have a household income that is 80 percent or below the area median income. Live in a home defined as “affordable housing” by California Public Utilities Code 2852.

PG&E has engaged GRID Alternatives in initial discussions regarding coordination of this pilot with SASH, and includes an attestation letter documenting their commitment⁴⁹ to coordination in Appendix G similar to that required for CSI-Thermal. For more information on SASH, please contact the program administrator, GRID Alternatives.

Rate Programs

California Alternate Rates for Energy (CARE) Program and Family Electric Rate Assistance (FERA) Program

Program Overview

The CARE Program provides a monthly discount of 20 percent or more on gas and electricity. The CARE Program annual gross household income guidelines are no greater than 200 percent of the of FPGs levels. The CARE Program is funded by non-participating ratepayers as part of a statutory “public purpose program surcharge” that appears on their monthly utility bills.⁵⁰

The FERA Program provides an 18 percent discount on electricity only to household of 3 or more persons. The FERA Program annual gross household incomes guidelines are between 200 percent and 250 percent of the of FPGs levels.

Customer Identification and Outreach

PG&E leverages its CPUC-approved Customer eligibility model (propensity model) to target eligible, non-enrolled, income qualified customers for the CARE and FERA Programs. The CARE and FERA Program outreach employs multiple strategies to reach qualified customers including direct mail outreach, bill inserts, radio ads, email and digital media marketing.

Enrollment

In accordance with CPUC guidance, customers can self-certify (and self-recertify) their eligibility for the CARE and FERA Program. Self-certification requires the customer to complete and sign the declaration at the bottom of the CARE/FERA enrollment form, which certifies that their household meets the program guidelines and the customer agrees to provide proof of qualification, if requested.

Once an application is approved, the CARE Program certification period is two years for non-fixed income households and four years for fixed income households while the FERA Program certification period is two years. At the end of the certification period, customers are notified by phone, email, and/or mail that they have 90 days to recertify their eligibility for the program.

All Electric Baseline

Program Overview:

⁴⁹ *SJV DAC Pilots Decision*, p. 111.

⁵⁰ California Public Utilities Code Section 382. All references to Code hereinafter refer to California Public Utilities Code.

Qualifying DAC SJV pilot participants will be placed on the all-electric version of their rate if their rate is one of the following: E1 - Tiered Rate Plan, E-TOU-A, E-TOU-C (Peak Pricing 4 p.m.–9 p.m. Every Day), or E6 – Time-of-Use Rate Plan. Customers are eligible for an all-electric baseline if they have permanently installed electric space heating (end-use code All-Electric (H)). End-Use Code All-Electric (H) provides a greater baseline allowance to account for increased energy needs from permanent electric space heating.

Baseline Allowance consists of a daily allotment of energy available at the lowest price, that provides a significant portion of the reasonable energy needs of the average residential customer. Baseline Allowance varies by Baseline Territory, heating source and the season (summer or winter). Baseline Territories are determined based geography and elevation.⁵¹ Customers who have qualifying medical conditions may be eligible for a higher allowance through the Medical Baseline Program as described in that section below.

PG&E calculates baseline quantities for gas and electric service using actual usage in a baseline territory for the most recent four years and then sets the new baseline quantities as an average of these four years. Baseline allowances are recalculated and submitted to the CPUC for approval every three years. They may be adjusted on an annual basis if necessary. In accordance with the Public Utilities Code, each allowance must represent 50 to 60 percent of the gas or electricity needs of the average basic electric customer in summer and winter, and average all-electric customer in the summer, and 60 to 70 percent of the average all-electric or gas customer in the winter in each territory.

Leveraging All-Electric Baseline in SJV DAC Pilots

Participants will be eligible for all electric baseline following the installation of their electric space conditioning (heating and cooling) system. Installation reports will be provided by the Implementer to PG&E to ensure customers are switched to an all-electric baseline rate where applicable.

Once on the all-electric rate, the customer will receive a higher baseline allowance set to meet the average needs of customers with permanently installed electric space heating in that baseline territory. Baseline territory boundaries generally correspond with elevation lines or other drivers of heating and cooling needs. The counties included in the DAC SJV pilot and associated baseline territories are as follows:

⁵¹ See PG&E Preliminary Statement Part A, for baseline territory descriptions.

TABLE 3
ELECTRIC BASELINE TERRITORIES

| Pilot City | County | PG&E Baseline Territory |
|----------------------------------|---------------|--|
| Allensworth, Alpaugh and Seville | Tulare | Under 1,000' – W 1,001'-3,500' – R 3,501'-6,500' - Y Over 6,500 - Z |
| Cantua Creek | Fresno | Under 3,500' – R 3,501'-6,500' – Y Over 6,500 - Z |
| Fairmead and La Vina | Madera | Under 4,000' – R 4,001'-6,500' – Y Over 6,500 - Z |
| Le Grand | Merced | All - R |

The following table indicates the electric baseline allowances for each baseline territory included in the pilot for the E1,⁵² E-TOU-A, and E-TOU-C rates. Quantities represent total daily baseline kilowatt hours (kWh) of electricity:⁵³

TABLE 4
ELECTRIC BASELINE kWh/DAY

| Baseline Territory | | Basic Electric | All Electric |
|---------------------------|--------|-----------------------|---------------------|
| R | Summer | 18.6 | 20.9 |
| | Winter | 11.3 | 28.1 |
| W | Summer | 20.2 | 23.6 |
| | Winter | 10.7 | 20.0 |
| Y | Summer | 11.0 | 12.6 |
| | Winter | 12.1 | 25.3 |
| Z | Summer | 6.2 | 7.0 |
| | Winter | 8.1 | 16.5 |

Medical Baseline

Program Overview:

PG&E's Medical Baseline Program (also known as Medical Baseline Allowance) is a financial assistance program for residential customers. It is not income based. If a full-time resident in the home has special energy needs due to certain qualifying medical conditions, they may qualify for an additional standard medical baseline allowance (approximately 500 kWh/year) in addition to their regular baseline quantity.

⁵² E1 baseline allowances change to match E-TOU-B and E-TOU-C in late 2019.

⁵³ Formula to calculate baseline allowance for a complete billing cycle: Daily Amount x Number of Billing Days = Baseline Allowance for a Billing Cycle.

If the initial medical baseline allowance is found to be insufficient, customers may call and request an additional allowance.

WatterSaver! Program

Program Overview:

The WatterSaver! Program is currently pending CPUC approval in proceeding A.18-03-001. The program was proposed as part of PG&E's Assembly Bill 2868 proposal. At the time of writing, a proposed decision would approve PGE's proposed program.⁵⁴ In the submission, PG&E proposed a behind-the-meter (BTM) thermal storage program with a goal to reduce peak load by up to 5 MW by 2025 using smart electric water heaters and/or smart control devices.

This program will incentivize customers to replace existing propane-based and Electric Resistance Water Heaters with hybrid HPWH in single-family homes, multi-family homes, and small businesses, as well as provide a pay-for-performance incentive to operate electric water heaters during off-peak hours (late evening, early morning and afternoon). This program will encourage participants to reduce or eliminate hot water heater load during peak evening hours, effectively storing energy and using it to provide hot water when there is increased congestion on the grid. To administer the program through 2025, the proposal requested 6.3 million in funding.

Leveraging WatterSaver! in SJV DAC Pilots

In anticipation of commission approval of this proposed pilot, D.18-12-015 The SJV DAC pilot decision sets a target of installing 150 smart HPWH in PG&E service territory (i.e., both PG&E and 3P Electric Pilot Communities), and specifies the expectation that the HPWH be funded through the SJV DAC Pilot with dispatch architecture and devices funded out of the AB 2868 Program.⁵⁵ Compatibility with expected controls will be incorporated into PG&E's heat pump water heater specifications, and a future WatterSaver! implementation plan will detail additional coordination to identify ideal candidates within the PG&E Electric Pilot Communities.

Reporting

PG&E will follow the following reporting guidelines per D.18-12-015:

- Quarterly reporting of aggregated, anonymized pre/post bill impact data for all households that receive appliance upgrades will be filed and served and provided to the Low-Income Oversight Board and Disadvantaged Communities Advisory Group;⁵⁶
- Quarterly reporting on substandard housing remediation costs and needs in pilot community households,⁵⁷ including data from CPM on other funding sources,⁵⁸ and tracking of households prevented from participation due to remediation issues;

⁵⁴ Proposed decision of Administrative Law Judge Stevens in A.18-02-016 mailed February 26, 2019.

⁵⁵ D.18-12-015 OP 18 and p. 121.

⁵⁶ D.18-12-015 p. 78.

⁵⁷ D.18-012-015 p. 93 and 97.

⁵⁸ D.18-012-015 p. 93 and 83.

- Quarterly report on budget spend, average costs per household, and potential for exceeding budgets provided in the decision;
- Annual Pilot Progress Reports⁵⁹ (December 19) on overall program metrics such as households enrolled and treated, detailed budget report, and reliability complaints and issues affecting pilot communities, detailed leveraged programs and barriers report, summary of customer issues and complaints, and potential unanticipated outcomes;
- Attend and present at Commission-organized workshops during pilot implementation to summarize progress, lessons learned and implementation barriers;⁶⁰
- Final Project Evaluation, including impacts and benefits of various technologies provided⁶¹
- WE&T-related reporting: Local hiring activities and results, work hours and types of work, workforce demographic and certification/licensing information;⁶²
- 180-day Pilot Evaluation Report for PG&E-administered pilots to be served 180 days following PG&E's collection of one year's billing data for participating households in each PG&E Electric Pilot Community;⁶³
- Within 90 days of completion of implementation activities, file a Tier 1 advice letter documenting adherence to safety plan, describing issues encountered and summarizing methods to ensure retention of accurate records for purposes of maintenance and warranties,⁶⁴ and
- Final report, including final evaluation results, process evaluation results, lessons learned, potential unanticipated outcomes, etc.

⁵⁹ *SJV DAC Pilots Decision*, p. 129.

⁶⁰ *SJV DAC Pilots Decision*, pp. 129-130.

⁶¹ *SJV DAC Pilots Decision*, p. 88.

⁶² *SJV DAC Pilots Decision*, p. 125.

⁶³ *SJV DAC Pilots Decision*, p. 126.

⁶⁴ *SJV DAC Pilots Decision*, OP 12.

Appendix A: CSI-Thermal Attestation Letter: PG&E and SoCalGas

The Commission's "Decision Approving San Joaquin Valley Disadvantaged Communities Pilot Projects," Decision 18-12-015, requires investor-owned utilities coordinate on implementation of CSI Thermal Low-Income Programs. Pacific Gas and Electric Company (PG&E) and Southern California Gas Company (SoCalGas) attest:

1. SoCalGas and PG&E may conduct a joint sourcing activity to identify and select approved solar thermal vendors/installers.
2. In pilot communities that are located in both PG&E's electric service territory and in SoCalGas' service territory:
 - a. If PG&E administers an electric pilot in the community, PG&E, its contractors or Community Energy Navigators may identify pilot participants who are interested in and eligible for solar thermal that may have either electric, gas or propane water heaters. If electric or propane, solar thermal systems would be installed under PG&E's CSI Thermal program; if gas, PG&E or its contractors or Community Energy Navigators will refer the participant(s) to SoCalGas's CSI Thermal program.
 - b. If SoCalGas administers a gas pilot in the community, SoCalGas, its contractors or Community Energy Navigators may identify pilot participants who are interested in and eligible for solar thermal that may have either electric, gas or propane water heaters. If gas or propane, solar thermal systems would be installed under SoCalGas's CSI Thermal program; if electric, SoCalGas or its contractors or Community Energy Navigators will refer the participant(s) to PG&E's CSI Thermal program.

I declare that this letter is accurate and true to the best of my knowledge.

PG&E Representative: Ron Moreno, CSI Thermal Program Manager


Signature

3-12-19
Date

I declare that this letter is accurate and true to the best of my knowledge

SoCalGas Representative: Mike Landau, CSI Thermal Program Manager


Signature

3-11-19
Date

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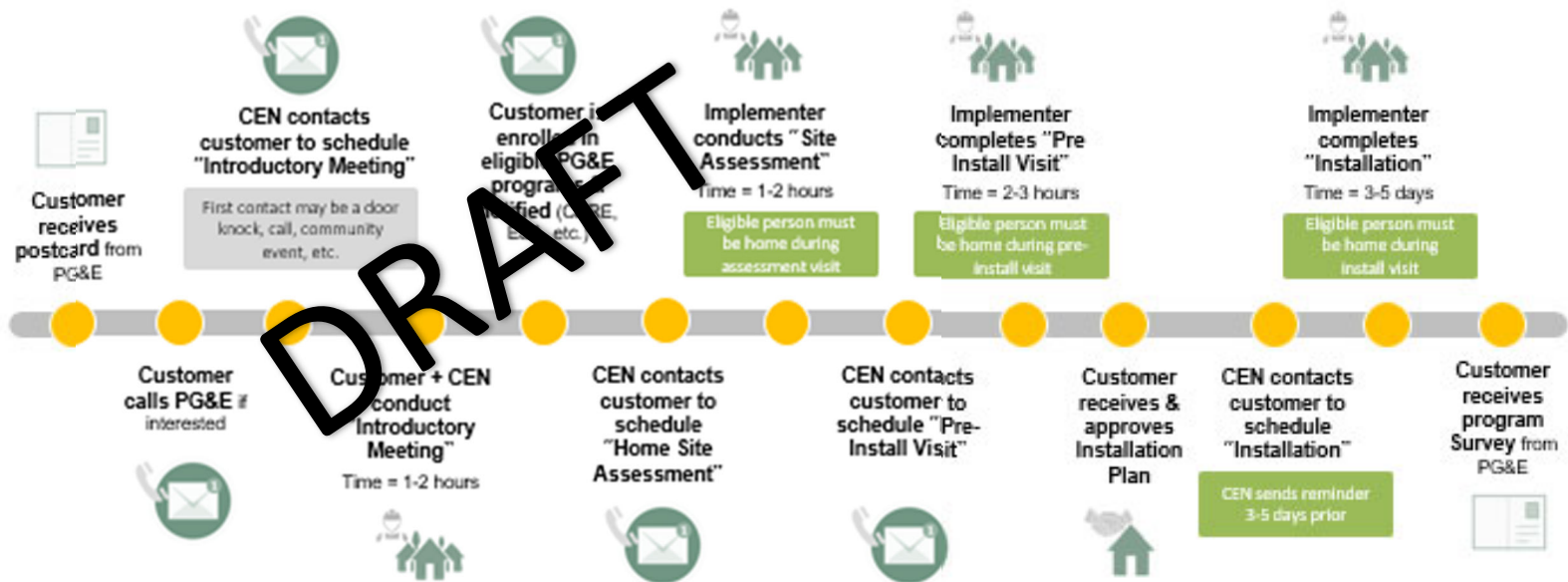




PG&E Customer Engagement

DRAFT FOR DISCUSSION

SAN JOAQUIN VALLEY ELECTRIFICATION PILOT



Appendix C: Additional Workforce Education and Training Information

Recommended License and/or Registration to Install Pilot Measures

| Measure | Recommended License and/or Registration |
|--|---|
| Hot Water Appliances | |
| Heat Pump Water Heater (Including grid responsive and hybrid types) | C-20, or C-36 |
| Solar Hot Water System | |
| Electric Resistance Water Heater | C-36 |
| Space Conditioning | |
| Heat Pump Space Heater (Including central split or multi-zone system) | C-20 |
| Mini-Split Ductless System | |
| Central Split System with Ducting (Including grid responsive type) | C-20 |
| | |
| Other Appliances | |
| Standard Electric Range | EAR (BHGS) |
| Energy Star Electric Dryer | |
| Ceramic-top Electric Range | |
| Induction Electric Range | |
| Weatherization | |
| Various Measures | B, C-2, or D-65 |
| Electrical Upgrades | |
| Various Measures | C-10 |

Selection of California License Types

| License and/or Registration Details | |
|--|---|
| Class "B" | General Building Contractor |
| Class "C" | Specialty Contractor (see below for selection of relevant Class "C" licenses) |
| C-2 | Insulation and Acoustical Contractor |
| C-10 | Electrical Contractor |
| C-20 | Warm-Air Heating, Ventilating and Air-Conditioning Contractor |
| C-36 | Plumbing Contractor |
| C-61 "D" Subcategories | Limited Specialty Classifications Subcategorized by "D" Class |
| D-65 | Weatherization and Energy Conservation |
| <i>Source: California Contractors State Licensing Board, Description of Classifications (2015), available at http://www.cslb.ca.gov/Resources/GuidesAndPublications/DescriptionOfClassifications.pdf</i> | |
| EAR (BHGS) | Electronic and Appliance Repair (California Bureau of Household Goods and Services) |
| <i>Source: California Bureau of Household Goods and Services (2016), https://bhgs.dca.ca.gov/</i> | |

Sample of Existing and Relevant WE&T Training Programs by Format and Topic

| Existing WE&T Training | Format | Relevant Topics |
|---|----------------|--|
| Introductory | | |
| Electric Heat Pumps for Domestic Space and Water Heating: Applications and Considerations | Instructor led | HPWH (including hybrid), HPSH, Mini-split Ductless Systems |
| Heat Pumps: Residential Applications and Comparison with Solar Energy Systems | Instructor led | HPWH, Hybrid HPWH,** Grid-responsive HPWH** |
| Solar Water Heating Systems | Instructor led | Solar Hot Water |
| CSD Basic Weatherization* | Instructor led | Weatherization measures |

| | | |
|---|----------------|--|
| ESA Energy Specialist* | Instructor led | Energy Star Electric Dryers |
| Air-Sealing for an Efficient New Home | On Demand | Weatherization (air sealing) |
| Basics of Solar Electric Systems | On Demand | PV Systems |
| Building Science Fundamentals Series | On Demand | Weatherization, energy efficiency, interactive effects |
| Energy Math | On Demand | Basic mathematics applied to energy efficiency |
| Best Practices in Residential Water Heating | On Demand | Hot Water Systems |
| CSI Solar Thermal Program Contractor Workshop | On Demand | Solar Hot Water |
| Intermediate | | |
| HVAC Residential Quality Installation Series | On Demand | HVAC Systems and Sizing |
| ESA Weatherization Specialist Core* | Instructor led | Weatherization measures |
| Advanced | | |
| ESA Advanced Weatherization Specialist* | Instructor led | Weatherization measures |
| ESA Natural Gas Appliance Testing* | Instructor led | Combustion Safety |
| Combustion Appliance Safety* | Instructor led | Combustion Safety |

Appendix D: PG&E ESA Installation Standards Manual Appendix F (Minimum Warranty Requirements)

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Appendix E: Minimum Warranty Requirements

1.0 INTRODUCTION

- 1.1 This appendix lists warranty requirements, in accordance with state-wide policy, for each measure installed in the ESA Program. These are *minimum* requirements. Each individual utility may have more stringent warranty requirements.
- 1.2 Warranty Categories/Types
 1. Warranty requirements are divided into two categories:
 - a. Contractor Warranty and
 - b. Manufacturer Warranty.
 2. Each category is subdivided into two types:
 - a. Materials and
 - b. Labor.
- 1.3 Warranty Time Periods
 1. Time periods are stated in years, unless identified as being in days (e.g., "90 days").
 2. The appearance of "n/a" in a field indicates that there is no warranty requirement for that category.
 3. The appearance of "---" in a field indicates that, for that type of coverage, there is no warranty requirement.
- 1.4 Repair/Replacement: Within some fields, there is a time period for a unit that is repaired, indicated by "(Repair)," and a different time period for a unit that is replaced, indicated by "(Replacement)."
- 1.5 Component Type: Within some fields, the type of component for which the warranty period applies is indicated in parentheses. For example, for Sec. 12, Window Replacement:
 1. "(IGU)" means the warranty period applies only to the insulated glazing unit (IGU).
 2. "(Other)" means the warranty period applies to all other components of the window.

2.0 MINIMUM WARRANTY REQUIREMENTS PER MEASURE

| IS Section No. | IS Measure | Contractor Warranty | | Manufacturer Warranty | |
|----------------|--|---------------------|-------|---------------------------------|-------|
| | | Materials | Labor | Materials | Labor |
| 1 | Caulking | 1 | 1 | 10 | n/a |
| 2 | Weatherstripping | 1 | 1 | 3 | n/a |
| 3 | Attic Insulation | 1 | 1 | 1 | n/a |
| 4 | Central A/C Tune-Up | 1 | 1 | 1 | n/a |
| 5 | Water Heater Tank Insulation | 1 | 1 | 1 | n/a |
| 6 | Water Heater Pipe Insulation | 1 | 1 | 1 | n/a |
| 7 | Cover Plate Gaskets | 1 | 1 | 1 | n/a |
| 8 | Energy-Saver Showerheads and Faucet Aerators | 1 | 1 | 3 (showerheads) 1 (aerators) | n/a |
| 9 | Evaporative Cooler and A/C Vent Covers | 1 | 1 | 1 | n/a |
| 10 | Duct Testing and Sealing | 1 | 1 | 1 | n/a |
| 11 | Exterior Door Replacement | 1 | 1 | 1 | n/a |

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| IS Section No. | IS Measure | Contractor Warranty | | Manufacturer Warranty | |
|----------------|--|-------------------------------------|-------------------------------------|-------------------------------------|-------|
| | | Materials | Labor | Materials | Labor |
| 12 | Window Replacement | 1 | 1 | 10 (IGU) 3 (Other) | n/a |
| 13 | Glass Replacement | 1 | 1 | 1 | n/a |
| 14 | LED Screw-Based Bulbs | 1 | 1 | 1 | n/a |
| 15 | LED Fixtures | 1 | 1 | 1 | n/a |
| 16 | Window/Wall Evaporative Cooler Installation | 1 | 1 | 5 (Pan) 1 (Other) | n/a |
| 17 | Refrigerator Replacement | 1 | 1 | 1 | n/a |
| 18 | Natural Gas Central Forced Air Heating System Repair and Replacement | 1 (Replacement) 90 days (Repair) | 1 (Replacement) 90 days (Repair) | 5 (Compressor) 90 days (Other) | n/a |
| 19 | Natural Gas Wall and Floor Furnace Repair and Replacement | 1 (Replacement) 90 days (Repair) | 1 (Replacement) 90 days (Repair) | 1 (Replacement) 90 days (Repair) | n/a |
| 20 | LED Night Lights | 1 | 1 | 1 | n/a |
| 21 | Central High-Efficiency A/C and Heat Pump Replacement | 1 | 1 | 5 (Compressor) 1 (Other) | n/a |
| 22 | Window/Wall A/C and Heat Pump Replacement | 1 | 1 | 5 (Compressor) 1 (Other) | n/a |
| 23 | Natural Gas Storage Water Heater Replacement | 1 | 1 | 5 (Tank) 1 (Other) | n/a |
| 24 | Natural Gas Appliance Testing (NGAT) | n/a | n/a | n/a | n/a |
| 25 | Microwave Ovens | 1 | 1 | 1 | n/a |
| 26 | Furnace Cleaning and Tune-up | n/a | 90 days | n/a | n/a |
| 27 | Thermostatic Shower Valves | 1 | 1 | 1 | n/a |
| 28 | High-Efficiency Clothes Washers | 1 | 1 | 1 | n/a |
| 29 | Forced Air Unit (FAU) Standing Pilot Light Conversion | 90 days | 90 days | 90 days | n/a |
| 30 | Energy-Efficient Variable Speed Pool Pump Replacement | 1 | 1 | 1 | n/a |
| 31 | Natural Gas Water Heater Repair | 90 days | 90 days | 90 days | n/a |
| 32 | Smart Fan Delay/Efficient Fan Controller | 1 | 1 | 1 | n/a |
| 33 | Tier 1 Smart Power Strips | 1 | 1 | 1 | n/a |
| 34 | Vacancy Sensor Switches | 1 | 1 | 1 | n/a |
| 35 | LED Torchiera Replacement | 1 | 1 | 1 | n/a |
| 36 | Tier 2 Audio-Visual Advanced Power Strips | 1 | 1 | 1 | n/a |
| 37 | LED Downlight Retrofit Kits | 1 | 1 | 1 | n/a |

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Appendix F: Minimum Warranty Requirements

| IS Section No. | IS Measure | Contractor Warranty | | Manufacturer Warranty | |
|----------------------|---|---------------------|-------|--------------------------|-------|
| | | Materials | Labor | Materials | Labor |
| 38 | Thermostatic Tub Spout/Tub Diverter | 1 | 1 | 1 | n/a |
| 39 | Prescriptive Duct Sealing | 1 | 1 | 1 | n/a |
| 40 | Heat Pump Water Heaters | 1 | 1 | 1 | n/a |
| 14 | Thread-Based CFLs (archived measure) | 1 | 1 | 1 | n/a |
| 15 | Hard-Wired CFFs (archived measure) | 1 | 1 | 1 | n/a |
| 35 | Fluorescent Torchiere Lamp Replacement (archived measure) | 1 | 1 | 1 | n/a |

Appendix F: Evaluation Data Elements

| Primary Desired Outcomes/Objectives and Data Elements | |
|---|---|
| 1 | Ensure Equitable Access to Affordable Energy Options to Communities and Households |
| | Number of options provided and short description |
| | Number and percent of households choosing each option |
| | Household participating per option |
| | Households declined per option |
| | Households unwilling per option |
| | What percentages opted in to pilot after initial outreach |
| | What percentages opted out of pilot after initial outreach |
| | What percentage opted in after assessment |
| | What percentage opted out after assessment |
| | Customer understanding of changes to rate and usage |
| 2 | Reduce Energy Burden of Participating Households |
| | Cost per household |
| | Pre- and post-pilot energy costs |
| | Electric |
| | Propane/oil/wood |
| 3,4,5,6 | Non-Energy Benefits - General/Health/Safety/Environmental |
| | Pre-existing health conditions |
| | Number of emergency room visits |
| | How often residents are ill |
| | Air temperature comfort |
| | Reduction in fires |
| | Reduction in burns |
| | Pre- and post-pilot outdoor air quality measurements (flue gas emissions) |
| | Pre- and post-pilot indoor air quality measurements (PM2.5) |
| | Greenhouse gas emissions impacts |
| 7 | Non-Energy Benefits - Local Hire and/or Workforce Development |
| | Number or percentage of local residents hire to support pilots |
| | Customer requested job opportunities e.g., service and maintenance |
| | Community requested job opportunities |
| | What were successes of local hire |
| | What were limitations of local hire |
| | What are best practices for local hire development |
| | What are best practices for local workforce development |
| 8 | Non-Energy Benefits - Reliability |
| | Electrical Outages |
| 9 | Appropriately Minimize Rate and Bill Impacts for Non-Participating Customers |
| | Non Pilot ratepayer changes - outside of DAC communities |

| | |
|-----------|--|
| | Non Pilot ratepayer changes - inside of DAC communities |
| | Total costs to implement pilots |
| | Cost to participating customers - specific to rate and bill impacts |
| | What impact do vary levels of electric rate subsidies have on customer participation rates |
| | Minimum project size to achieve economies of scale and thus to reduce costs |
| | How many measures installed vs. amount spent per participating households |
| | HH conditions/remediation amount spent per participating households |
| | <i>Cost reductions were achieved:</i> |
| | Bulk purchasing |
| | leverage of existing programs |
| 10 | Effective Engagement Strategies and Appropriate Flow of Benefits to Landlords and Tenants |
| | Outreach received |
| | Informed on Pilot options |
| | Customer satisfaction with their pilot experience |
| | What proportion of landlords agreed to participate in the pilots |
| | Strategies least and most successful in securing landlord participation |
| | Landlord engagement |
| | Landlord WTP - % participate/not |
| | Customer WTP - % participate/not |
| 11 | Minimize Residual Wood and Propane Use |
| | Baseline use of propane/wood combustion |
| | Residual use of propane/wood combustion |
| | Percentage of households retained propane or wood-burning equipment per option |
| | Percentage of households report using these residual energy sources monthly or more after pilot per option |
| 12 | Participant Options & Customer Preferences for Electrification |
| | Why was option(s) chosen |
| | Customers' bill savings affected by the intensity of the home retrofit |
| | How do bill savings compare to overall program cost across different "packages/options" |
| | Rate changes |
| | Are customers differentially interested in the different packages? |
| | Incentives to electrify, such as an in-community solar option, an out-of community solar option, electric bill discounts, etc.? |
| | What portion of the community will adopt new technologies and whether this will change over time |
| | Interest in new technology/likelihood of customer to adopt new technology |
| 13 | Identify Barriers to Customer Participation and Options to Mitigate |
| | Customer barriers: Language, immigration status, structural condition of home, ownership, time investment vs. pilot benefits, availability |
| | What aspects of the process will be/were most challenging for customers |
| | Landlord WTP - barriers |
| | Pilot implementers and/or participating contractors barriers: customer availability, language, multi program coordination |
| 14 | Best Practices to Provide Below-Code and/or Structurally-Unsound homes with Affordable Energy Options |

| | |
|-----------|---|
| | Approaches to reduce energy burden in homes with many code violations |
| | What alternative funding sources or programs were offered |
| | What alternative funding sources or programs where leveraged were applicable |
| 15 | Improve Understanding of the Impact of Electric Rate Structures on Energy Burden and Affordability |
| | Pre- and post-pilot usage data |
| | Cost (rate comparisons) pre- and post-pilot e.g., CARE vs non-CARE customer |
| | Were bill protections necessary to keep bills affordable to participants |
| 16 | Advance Technical Understanding of Challenges of Scaling Options to All SJV DACs |
| | Number of households requiring wiring, service panels, smart meter upgrades |
| 17 | Identify Effective Community Outreach Approaches |
| | Number of survey responses per community |
| | Townhall participation per community |
| | Pilot enrollment through CEN/CBO |
| | Total pilot participants (post install/project totals) |
| | Participation because of pilot outreach or community/neighbor |
| 18 | Improve Understanding of SJV DAC Household Energy Behaviors |
| | How much do customers use the various appliances pre- and post-pilot |
| | Satisfaction with the new appliances |
| | Was appropriate education provided to support required behavioral changes for heat pump technology |
| | Did behavioral change post install |
| 19 | Identify General Learnings |
| | Administration, assessment & installation - invested time to execute |
| | Who benefited the most, e.g., owner, tenant, future tenant |
| | Unsafe conditions that restricted participation or installation (e.g. unsafe working conditions) |
| 20 | Identify Household Demographics & Home Conditions |
| | Size of home (sq foot) |
| | Type of home |
| | # in household |
| | Ownership status |
| | Appliances used |
| | Non-gas appliances |
| | Upgrades needed |
| | Property Feasibility – pass or fail |

Appendix G: GRID Alternatives Attestation Letter

The Commission's "Decision Approving San Joaquin Valley Disadvantaged Communities Pilot Projects," Decision 18-12-015, requires investor-owned utilities to coordinate on the implementation of the Single-Family Affordable Solar Homes Program (SASH) and the SASH for Disadvantaged Communities (DAC-SASH) Program. Pacific Gas and Electric Company (PG&E) and GRID Alternatives attest:

1. In pilot communities that are located in PG&E's electric service territory:
 - a. When PG&E administers an electrification pilot in the community, PG&E, its contractors or Community Energy Navigators may identify pilot participants who are interested in and eligible for SASH and/or DAC-SASH. If eligible, PG&E, its contractors or Community Energy Navigators will refer the participant(s) to the SASH and/or DAC-SASH programs.
 - b. If GRID Alternatives administers an electrification pilot in the community, its contractors or Community Energy Navigators may identify pilot participants who are interested in and eligible for SASH and/or DAC-SASH. If eligible, GRID Alternatives, its contractors or Community Energy Navigators will refer the participant(s) to the SASH and/or DAC-SASH programs.

I declare that this letter is accurate and true to the best of my knowledge.

PG&E Representative: Andrew Ace, SASH Program Manager

/s/ Andrew Ace

3/15/2019

Signature

Date

I declare that this letter is accurate and true to the best of my knowledge

GRID Alternatives Representative: Elise Hunter, Policy & Regulatory Affairs Director,
representing SASH and DAC-SASH Program Administration

/s/ Elise Hunter

3/14/19

Signature

Date

Appendix H: Compliance Matrix

| Requirement | | | Decision Section & Page | Related Ordering Paragraph | PG&E Implementation Plan Section |
|---|--|---|--|----------------------------|--|
| Category | Requirement | Requirement Detail | | | |
| Overall | All must file implementation plan | Each of the IOU PAs shall file Tier 2 Pilot Implementation Plan Advice Letters within 90 days from issuance of this decision, detailing their specific pilot project plans, timelines, and the multiple other elements as directed in this decision (including safety plan, workforce components, and leveraging of existing programs). The third-party PA/PI shall file a Tier 2 Pilot Implementation Plan Advice Letter within 60 days of the date of contract execution. | Section 8 (Pilot Administrative Structure) Pg 54 | 11 | N/A |
| So Cal Gas pursuing Allensworth and Seville | PG&E should not include in PIP if SoCalGas does pursue. | If this Notice is filed within 60 days, PG&E shall not include the community(ies) in its Pilot Implementation Plan Advice Letter. | Section 10 (Approved Pilots and Budgets) Pg 60 | n/a | Program Overview, Introduction |
| Safety of residents/ participants | PA's must include a final safety plan in the PIP | We further direct PAs to include in their Tier 2 Pilot Implementation Plan Advice Letters details containing a final Safety Plan. The Safety Plan shall at minimum describe the workforce qualifications and certifications that will be required to implement the project, all potential permits required, and how the PAs and subcontractors will respond to specific types of health and safety issues in homes. | 11.8 (Safety Plan) Pg 91 | 11b | Risk Management, Safety Plan |
| Reporting/ Safety | PA's must report on safety at the end of the pilot | Within 90 days of completion of pilot implementation activities, the PAs shall each file another Tier 1 Advice Letter that documents adherence to the Safety Plan, describes all health and safety issues encountered, and summarizes methods taken to ensure retention of accurate records for purposes of equipment | 11.8 (Safety Plan) Pg 91 | 11b | Reporting |
| Remediation of substandard housing | PA's must include a section on remediation in the implementation plan | The IOUs and the CEP Team all indicated that some homes would need remediation in order to be served by the pilot. A number of parties, including Greenlining and the Pilot Team, emphasize the need for some remediation activities to accommodate the poorest and most vulnerable communities participating in the pilot, as these are precisely the households that AB 2672 seeks to serve. ¹²³ This section provides guidance on addressing the issue of substandard housing. We also recognize that additional information on this topic is needed and direct that it be included in the Pilot Implementation Plan Advice Letter. Based on comments on the PD, we direct the PAs to file quarterly reports on remediation costs and needs in the pilot community households and direct the CEN effort to support a more thorough assessment of grant and loan opportunities to fund remediation costs. As determined necessary, the assigned Commissioner or ALJs will convene an additional workshop on approaches to substandard housing in 2019. | 11.9 (Substandard Housing) Pg 92 | 11h | Risk Management, Remediation of Substandard Homes; Reporting |
| Remediation of substandard housing | PA's must include these 3 specific aspects of approaches to substandard housing in the implementation plan | We direct PAs to more fully describe their approach to substandard housing in their Pilot Implementation Plan Advice Letters, which shall include a description of: <ul style="list-style-type: none"> ☐ home assessments and home safety/siting plans; ☐ prioritization; and ☐ identification of specific conditions that will preclude extensive in-home work. As determined necessary, the assigned ALJs and/or Commissioner will convene an additional workshop on this topic in 2019. | 11.9 (Substandard Housing) Pg 98 | 11h | Risk Management, Remediation of Substandard Homes |

| Requirement | | | Decision Section & Page | Related Ordering Paragraph | PG&E Implementation Plan Section |
|------------------------------------|--|--|--|----------------------------|--|
| Category | Requirement | Requirement Detail | | | |
| WE&T | PA's must implement approaches described by CEP Team and PG&E's proposals in all 11 communities. | We approve implementation of both the CEP Team's and PG&E's proposed workforce training approaches in all eleven approved pilot communities. We direct the PAs to implement these approaches in all pilot communities and to coordinate on implementation of workforce training activities to take advantage of efficiencies and to streamline the pilots' engagement with local institutions. We direct the IOU PAs and the third-party PA/PI to include these workforce development components in their Tier 2 Pilot Implementation Plan Advice Letters. | 11.10 (Workforce Training, Education and Development) Pg 100 | 11c | Workforce Education & Training |
| WE&T | PA's must coordinate implementation of workforce training with local institutions | The workforce development components in the Tier 2 Pilot Implementation Plan Advice Letters must provide details on how pilot-funded workforce development efforts meet the pilots' immediate job demands and must provide realistic projections of the local construction, energy efficiency and energy retrofit labor needs at the conclusion of pilot activities. To the extent feasible, pilot-related workforce development efforts in these communities should focus on a sustainable pipeline of workers and jobs, rather than provide training (and employment expectations) for jobs that may not persist beyond the tenure of the pilots. This information will provide a direct benefit to the local communities and help us consider a local hire approach in Phase III of this proceeding. Section 15 provides additional guidance on pilot data gathering related to workforce development. | | 11c | Workforce Education & Training |
| WE&T | PA's must unclude workforce development plans in PIP | | | 11c | Workforce Education & Training |
| WE&T | PIP must provide details on how pilot funded efforts meet pilots' immediate job demands and must provide realistic projections of the local construction, energy efficiency and energy retrofit labor needs at the conclusion of pilot activities. | | | 11c | Workforce Education & Training |
| Appliance Warranties | As an appendix to the PIP, we need to show how we will document the warranties | We find these recommendations to be non-controversial and they are approved. It is reasonable to require warranties on all appliances and technologies installed as part of the pilot. We direct PAs to provide warranties on all installed appliances as outlined by SCE. In addition, we direct all PAs to provide five-year equipment and installation warranties on all heat pump technologies and to provide contact information for pilot households to request maintenance and servicing of installed equipment during the pilot project and for a minimum of five years from installation. Warranties on ESA Program measures should align with the Minimum Warranty Requirements that have been established for the ESA Program and documented in the ESA Program's Weatherization Installation Standards (WIS) Manual Appendix F as these have been found to be successful. We direct the PA to document the warranty specifics for any installed measures in alignment with this direction and the ESA Program WIS manual. This documentation should be attached as an Appendix to the PA's Tier 2 Pilot Implementation Plan Advice Letters. | 11.11 (appliance warranties) pg 102 | 11e | Vendor Sourcing, Bulk Purchasing of Appliances and Other Materials; Appendix D |
| Bulk Purchasing | 60 days after PIP is filed, we need to file AL on this. | We direct the pilot PAs to collaborate with the IOUs to determine where existing material supply chains can be leveraged for the pilots and where new pilot-specific material supply chains need to be developed, with the option to bulk purchase. We direct SoCalGas, SCE, and PG&E to coordinate with their existing distributors and/or manufacturers regarding the measures outlined in Section 11.7, and to include the third-party PA/PI in this coordination as much as possible, while preserving confidential information as necessary. Where bulk purchasing already occurs (for example, for measures already provided by ESA) the IOUs should extend these pricing arrangements to the pilot. We include SoCalGas in this activity, as including this utility may provide additional economies of scale to support the bulk purchasing of weatherization measures which are largely fuel agnostic. It is also appropriate to include the third-party PA/PI in bulk purchasing arrangements in order to ensure similar benefits are extended to pilots administered by the third-party. To document these bulkpurchasing efforts, we direct the IOUs to file a Joint Tier 1 Information Only advice letter 60 days after the approval of the Tier 2 Pilot Implementation Plan filings containing details on the pilot bulk purchasing efforts. The IOUs may submit confidential versions with secured pricing, vendor/distributor and other market sensitive details directly with Energy Division. | 11.12 (Bulk Purchasing) pg. 103 | 15(f) | Vendor Sourcing, Bulk Purchasing of Appliances and Other Materials; Appendix D |
| Leveraging existing Solar Programs | Must describe how we will coordinate with DAC-SASH program | In addition to the targeted focus for La Vina, it is also reasonable to encourage leveraging both DAC-SASH and SASH in the pilot communities more broadly. It is our intention that all single-family households participating in the pilots be encouraged to participate in either SASH or DAC-SASH program. By this, we intend simply for all PAs to coordinate with the DAC-SASH and SASH programs to attempt to leverage the program where feasible. In their Tier 2 Pilot Implementation Plan Advice Letters, PG&E, SCE and the third-party PA/PI are directed to include details on the coordination of their electrification work with the DAC-SASH and SASH Programs. These plans shall, at minimum describe coordination plans with and commitments from the DAC-SASH and SASH administrators. | 12.1 (DAC-SASH) pg 110-111 | 11d, 11f | Leveraging Existing Programs, Solar Programs; Appendix G |

| Requirement Category | Requirement | Requirement Detail | Decision Section & Page | Related Ordering Paragraph | PG&E Implementation Plan Section |
|--|--|---|--|----------------------------|--|
| Leveraging existing Solar Programs | Must describe how we will coordinate with CSI Thermal low income program | SCE, SoCalGas and PG&E, and the third-party PA/PI, are directed to include in their Tier 2 Pilot Implementation Plan Advice Letters details on the coordination of each PA's work with the appropriate CSI Thermal Low-Income Program . In addition, the Tier 2 Pilot Implementation Plan Advice Letter filings must include a co-signed attestation from the appropriate IOUs' CSI-Thermal Program as an attachment that documents this coordination. | 12.2 (CSI-Solar Thermal) pg 112 | 11d, 11g | Leveraging Existing Programs, Solar Programs; Appendix A |
| Pilot Data Gathering, Evaluation and Reporting | 1. Must include "pilot objectives, research questions and metrics" in PIP. Can be included in updated Evaluation Plan. 2. Must follow the example provided in appendix A. | We direct the PAs to coordinate to develop updated pilot objectives, research questions and metrics that are as consistent as possible across all PAs and all approved pilots and to include these in their Pilot Implementation Plan Advice Letter as part of or alongside their updated Pilot Evaluation Plans . When updating these factors, the PAs shall start from the objectives, research questions and metrics included in their approved pilot proposals and those provided in this decision. The PAs shall in their Pilot Implementation Plans clearly present these elements based on the example provided in Appendix A , which provides an initial template to clearly map pilot objectives, to research questions, and finally, to reporting metrics. The purpose of the Pilot Evaluation Plans to be included in the Pilot Implementation Plans is for each PA to set forth its specific plans to collect and analyze pilot data to assess pilot effectiveness against its approved objectives, research questions and metrics. | Section 15 (Pilot Data Gathering, Evaluation and Reporting) ; pg 125 | 11i | Evaluation Plan; Appendix F |
| Pilot Data Gathering, Evaluation and Reporting | Must include updated evaluation plan in the Advice Letter (PIP). | We clarify here and in Section 15 that PAs are directed to independently evaluate the effectiveness of their pilot projects and shall include updated Pilot Evaluation Plans in their Pilot Implementation Plan advice letters . PAs shall collect pre- and post- implementation data as part of their approved pilots, analyze this data and evaluate the effectiveness of their approved pilot projects as set forth in their pilot proposals and modified by this decision. We direct PAs to utilize their proposed EMV& budget for this task and/or, particularly if this has not been specified, to allocate up to four percent of their total approved budget for this task. The process evaluation authorized in Section 15 is additional to each PA's own direct analysis of pilot effectiveness, as assessed against their adopted pilot objectives, research questions and metrics. | Section 19 (comments on the PD) pg. 146 | 11i | Evaluation Plan; Appendix F |
| Overall | Must write an implementation plan within 90 days. | 11. We direct the third-party pilot administrator/implementer within 60 days of contract execution, and Pacific Gas and Electric Company, Southern California Edison, and Southern California Gas Company within 90 days of the issuance of this decision, to file Tier 2 Pilot Implementation Plan Advice Letters containing: (a) Pilot project budgets and specific pilot project plans, timelines, and other pilot components as directed in this decision; (b) A Safety and Risk Management Plan; (c) Workforce development and workforce, education and training plans; (d) A description of the coordination methods that will be used to leverage existing program budgets; (e) Appliance warranty information, including the specifics of warranties for measures to be installed; (f) Details on the coordination of their electrification work with the Disadvantaged Communities Solar on Affordable Single-Family Homes Program; (g) Details on the coordination of pilot implementation with the California Solar Initiative Solar Thermal Program; (h) Details on approaches to substandard housing; and (i) Updated pilot project objectives, research questions and metrics, in accordance with this decision. | OP 11 | | N/A |
| Verification of quality and Completeness across PA/PIs | All PAs will develop processes for verifying the quality and completeness of work performed by participating contractors | PG&E, SCE and SoCalGas, and the third-party electrification PA/PI will be responsible for ensuring that all pilot participants, including applicants approved to receive services and subcontractors that provide those services, meet all program requirements. All PAs will develop processes for verifying the quality and completeness of work performed by participating contractors and shall be responsible for the development and management of the pilot, including but not limited to the following activities. 1. Development of Pilot Procedures, including: a. The documentation of existing household conditions; b. Developing electrification/installation scopes of work; c. Procuring materiel and appliances via IOU bulk purchasing agreements; d. Installing, or subcontracting the installation of measures per the implementation plan ; e. Performing quality control/quality assurance inspections; f. Development of data collection methods, digital forms, and databases in conjunction with the Data Gathering Consultant authorized in Phase II Track BData Gathering, D.18-08-019; and g. Outreach coordination with the CEN and CBOs as specified in Section 11.3. | Section 8 (Pilot Administrative Structure) Pg 53 | n/a | Program Management |

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

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