

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



March 28, 2018

**Advice Letter 3943-G/5241-E**

Erik Jacobson  
Director, Regulatory Relations  
Pacific Gas and Electric Company  
77 Beale Street, Mail Code B13C  
P.O. Box 770000  
San Francisco, CA 94177

**SUBJECT: Energy Savings Assistance Multifamily Common Area Measure Initiative  
Advice Letter per Decision (D.) 17-12-009**

Dear Mr. Jacobson:

Advice Letter 3943-G/5241-E is effective as of March 31, 2018.

Sincerely,

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

Edward Randolph  
Director, Energy Division

March 1, 2018

**Advice 3943-G /5241-E**

(Pacific Gas and Electric Company ID U 39 M)

Public Utilities Commission of the State of California

**Subject: Energy Saving Assistance Multifamily Common Area Measure Initiative Advice Letter per Decision (D.) 17-12-009**

**Purpose**

This Tier 2 advice letter is filed in compliance with D. 17-12-009 (Attachment 1, Ordering Paragraph 66) that directs the investor-owned utilities (IOUs) to file an Energy Savings Assistance (ESA) Program Multifamily Common Area Measure Initiative implementation plan by Tier 2 Advice Letter on March 1, 2018.

**Background**

In D. 16-11-022, the California Public Utilities Commission (Commission or CPUC) adopted Energy Savings Assistance (ESA) and California Alternate Rates for Energy (CARE) programs and program budgets for 2017-2020. The IOUs filed a Joint Petition for Modification (PFM) of D.16-11-022 on March 24, 2017. The California Housing Partnership Corporation (CHPC), the Natural Resources Defense Council (NRDC), and the National Consumer Law Center (NCLC) filed a PFM on April 24, 2017. The Commission issued D. 17-12-009 in December 2017 to resolve the PFM issues. D.17-12-099, Attachment 1, modified D. 16-11-022, and directed the IOUs to file Multifamily (MF) Common Area Measure Initiative implementation plans by Tier 2 Advice Letter on March 1, 2018:

Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas & Electric Company and Southern California Gas Company (IOUs) shall file a Tier 2 Advice Letter outlining their respective implementation plans for their multi-family (MF) common area activities by March 1, 2018. Prior to submittal of the Advice Letter, the IOUs shall submit their draft implementation plans to the MF working group by January 15, 2018. The MF working group shall confer, and the MF working group facilitator shall summarize and circulate to the MF working group (which includes IOU members) areas of consensus among stakeholders, and identifying any areas discussed where there is not consensus

by January 30, 2018. By February 13, 2018, individual stakeholders may also submit separate recommendations to the MF working group addressing issues where there is not consensus. After making appropriate modifications, the IOUs shall submit the Advice Letter as described above.<sup>1</sup>

### **Discussion**

PG&E is pleased to submit its MF Common Area Measure Initiative implementation plan. Prior to submittal of this Advice Letter, PG&E worked with the MF Working Group (MFWG) to discuss and refine its MF Common Area Measure Initiative design in compliance with D.17-12-009 directives. PG&E submitted its draft implementation plan to the MFWG on January 16, 2018.<sup>2</sup> PG&E presented its plan to the MFWG at its quarterly meeting on January 26, 2018, where the MF working group conferred to identify and discuss areas of consensus and non-consensus. These discussions were summarized by the MF working group facilitator, and circulated to the MFWG on January 30, 2018, as directed by D.17-12-009. On February 13, 2018, the California Housing Partnership Corporation (CHPC), the Natural Resources Defense Council (NRDC), and the National Consumer Law Center (NCLC) jointly submitted recommendations to the MFWG to further address areas of disagreement. PG&E reviewed and addressed these recommendations as appropriate for inclusion in this implementation plan.

PG&E is committed to providing energy savings opportunities to help improve the quality of life for its low income customers residing in MF housing. PG&E will continue to work closely with Energy Division, the MFWG, and other interested stakeholders to refine its approach and to incorporate learnings and successful strategies as the MF Common Area Measure Initiative is implemented, and data is collected.

PG&E's MF Common Area Measure Initiative implementation plan is filed as Attachment 1.

### **Protest**

Anyone wishing to protest this filing may do so by letter sent via U.S. mail, facsimile or E-mail, no later than March 21, 2018, which is 20 days after the date of this filing. Protests must be submitted to:

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<sup>1</sup> D. 17-12-009, Attachment 1, Ordering Paragraph 66.

<sup>2</sup> January 15, 2018 was a legal holiday.

CPUC Energy Division  
ED Tariff Unit  
505 Van Ness Avenue, 4<sup>th</sup> 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 2 advice filing become effective on regular notice, March 31, 2018 which is 30 calendar days after the date of filing.

### **Notice**

In accordance with General Order 96-B, Section IV, a copy of this advice letter is being sent electronically and via U.S. mail to parties shown on the attached list and the parties on the service list for A.14-11-007 et al. Address changes to the General Order

96-B service list should be directed to PG&E at email address PGETariffs@pge.com. For changes to any other service list, please contact the Commission's Process Office at (415) 703-2021 or at Process\_Office@cpuc.ca.gov. Send all electronic approvals to PGETariffs@pge.com. Advice letter filings can also be accessed electronically at: <http://www.pge.com/tariffs/>.

\_\_\_\_\_/S/

Erik Jacobson  
Director, Regulatory Relations

**Attachment**

Attachment 1 – Pacific Gas and Electric Company, Energy Savings Assistance (ESA) , Multifamily Common Area Measures (CAM), Initiative Implementation Plan (Adopted for ESA Initiative)

cc: Service List A.14-11-007 et al

# CALIFORNIA PUBLIC UTILITIES COMMISSION

## ADVICE LETTER FILING SUMMARY ENERGY UTILITY

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

Company name/CPUC Utility No. **Pacific Gas and Electric Company (ID U39 M)**

Utility type:

ELC

GAS

PLC

HEAT

WATER

Contact Person: Yvonne Yang

Phone #: (415) 973-2094

E-mail: Yvonne.Yang@pge.com and PGETariffs@pge.com

EXPLANATION OF UTILITY TYPE

(Date Filed/ Received Stamp by CPUC)

ELC = Electric

GAS = Gas

PLC = Pipeline

HEAT = Heat

WATER = Water

Advice Letter (AL) #: **3943-G/5241-E**

**Tier: 2**

Subject of AL: **Energy Saving Assistance Multifamily Common Area Measure Initiative Advice Letter per Decision (D.) 17-12-009**

Keywords (choose from CPUC listing): Compliance

AL filing type:  Monthly  Quarterly  Annual  One-Time  Other \_\_\_\_\_

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #: D.17-12-009

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: \_\_\_\_\_

Is AL requesting confidential treatment? If so, what information is the utility seeking confidential treatment for: No

Confidential information will be made available to those who have executed a nondisclosure agreement: N/A

Name(s) and contact information of the person(s) who will provide the nondisclosure agreement and access to the confidential information: \_\_\_\_\_

Resolution Required?  Yes  No

Requested effective date: **March 31, 2018**

No. of tariff sheets: N/A

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

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

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

Tariff schedules affected: N/A

Service affected and changes proposed: N/A

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

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

**California Public Utilities Commission**

**Energy Division**

**EDTariffUnit**

**505 Van Ness Ave., 4<sup>th</sup> Flr.**

**San Francisco, CA 94102**

**E-mail: EDTariffUnit@cpuc.ca.gov**

**Pacific Gas and Electric Company**

**Attn: Erik Jacobson**

**Director, Regulatory Relations**

**c/o Megan Lawson**

**77 Beale Street, Mail Code B13U**

**P.O. Box 770000**

**San Francisco, CA 94177**

**E-mail: PGETariffs@pge.com**

Advice 3943-G/5241-E  
March 1, 2018

**Attachment 1**

Pacific Gas and Electric Company, Energy Savings Assistance (ESA),  
Multifamily Common Area Measures (CAM),  
Initiative Implementation Plan (Adopted for ESA Initiative)

# Pacific Gas and Electric Company Energy Savings Assistance (ESA) Multifamily Common Area Measures (CAM) Initiative<sup>1</sup> Implementation Plan (Adopted for ESA Initiative)

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<sup>1</sup> This document describes only PG&E's plans for Common Area Measures as set forth in requirements from D. 16-11-022 and D. 17-12-009. Other Utility Programs such as PG&E's Multifamily Upgrade Program (MUP) or resident-focused treatment programs such as Energy Savings Assistance (ESA) will not be described in this document.

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The following information will be uploaded to EEstats, to create a separate webpage for this initiative through an online database platform.

### 1. Program Budget and Savings Information

EE Stats implementation plan platform will generate summary views of the following information, based on application tables that the PAs upload to EE Stats.

#### 1. Initiative Name:

PG&E Energy Savings Assistance (ESA) Multifamily Common Areas Measures (CAM) Initiative

#### 2. Budget Table:

**TABLE 1: TOTAL EXPENDITURES OVER THREE YEARS (2018 through 2020)\***

Activity	Total Administrative Cost	Total Direct Implementation (non-incentive Customer Services)	Direct Implementation (Incentives and Rebates)	Total Compliance Budget
Spend	\$3,600,000	\$7,200,000	\$25,200,000	\$36,000,000

Year	2017	2018	2019	2020
Total Spend	\$N/A	\$1,650,000	\$11,350,000	\$23,000,000

*\*Cost estimates are based on historical data from PG&E Energy Efficiency Residential Multifamily Upgrade Program (MUP) and are subject to change. The budget details included in this PIP are within the requirements as set forth by D16-11-02 and no additional funds are being requested.*

#### 3. Cost Effectiveness (TRC) Approach:

To Be Determined

#### 4. Type of Implementer (Core, third party or Partnership):

Third party

#### 5. Market Sector (including multi-family, low income, etc.):

Low Income Multifamily

#### 6. Intervention Strategies (Upstream, downstream, midstream, direct install, non-resource, finance, etc.):

Downstream Hybrid: Customized and Deemed Approaches for savings claims

## 2. Implementation Plan Narrative

*Provide the following narrative description:*

### 1. Program Description:

*Describe the program, its rationale, and objectives*

The Energy Savings Assistance (ESA) Multifamily Common Area Measures (CAM) is a new initiative serving deed-restricted, multifamily, affordable housing properties. The CAM initiative within the established ESA program will allow multifamily property owners to improve the energy efficiency of their existing multifamily properties, while bringing these same benefits to their low-income residents (also known as tenants). The intent of CAM is to serve the existing multifamily property common area facilities by assessing opportunities throughout the whole building, including all energy end-uses at the property such as envelope, domestic hot water, heating and cooling, lighting, appliances, plug loads, and miscellaneous loads.

Specifically, CAM will focus on property facilities such as community and laundry rooms, hallways and corridors, building shell, central heating, cooling, and water heating systems, and outdoor amenities (e.g., pools and outdoor, landscaping, and parking). Common area measures will be covered at 100% of the cost by ESA unspent funds. CAM will serve small, medium, and large multifamily properties across the PG&E territory. The cost-coverage and targeting structure will be assessed as part of on-going continuous program improvement efforts.

To identify energy savings opportunities and confirm existing conditions, CAM will conduct an energy assessment of each property participating in the program. The level of assessment will vary based on property type, upgrades desired by property owner, and potential energy savings opportunities.

Existing assessments or audits may be leveraged if they were conducted by a different program with comparable auditing criteria such as PG&E's EE Residential Program Multifamily Upgrade Program (MUP) or California Department of Community Services and Development Low Income Weatherization Program for Multifamily Properties (CSD LIWP-LMF). Other audits will be evaluated on a case-by-case basis. At a minimum, the existing assessment must meet broader ESA program requirements and must be no more than three years old.

CAM will provide comprehensive technical assistance to property owners and their contractors. The level of technical assistance will depend on the savings opportunity and property needs. It may include energy assessments, energy modeling, scope of work and measure specification development, installation performance guidelines, utility benchmarking assistance, contractor selection services, and field verification. The exact level of technical assistance support will be detailed in a final CAM manual upon launch.

## 2. Integration

The success of CAM relies on integration with PG&E's EE Residential Multifamily Upgrade Program (MUP), ESA in-unit, and Multifamily Single Point of Contact (MF SPOC). Information on how these initiatives will be leveraged by CAM is provided below.

### A. Integration with PG&E's Multifamily Upgrade Program (MUP):

PG&E is utilizing the existing MUP program to offer CAM. Aspects of MUP that will be adopted by CAM include: MUP's operational framework (policies and procedures, contractor database, savings calculation methodology) and database of projects and customer relationships in the multifamily space. CAM will leverage MUP savings claim methodology including approved modeling software for customized projects and work papers for deemed measures. PG&E will use the existing MUP framework to target deed-restricted, low income multifamily property owners through CAM.

One key difference between CAM and MUP is the CAM implementer will conduct audits and provide technical assistance with in-house staff for initial implementation to ensure quality and consistency. The implementer may consider delegating these tasks to an approved list of auditors as MUP currently does once CAM is considered a fully operational initiative.

### B. Integration with ESA In-Unit:

CAM will be offered to property owners for common areas in tandem with ESA in-unit services for all eligible tenants to promote whole building treatment.

For improvements within the residents' living spaces (such as in-unit appliances and lighting), the CAM implementer will coordinate with the ESA in-unit direct install program implementer(s) to offer ESA measures and services including enhanced energy education to all eligible tenants wanting to participate. The CAM implementer and the ESA implementer will coordinate to ensure a seamless delivery of services and minimal tenant disruption. For all in-unit services including measure installations, the existing ESA model will be utilized, whereby treatment is exclusively provided by ESA-certified contractors.

In order to be eligible to receive common area treatment, the property owner must agree to ESA in-unit treatment for all willing tenants that are eligible to participate. This requirement will be deemed as being met if the tenant was treated with ESA (or a similar weatherization program, such as LIWP) within the last five years. PG&E will request property owners to provide insight as to why eligible units opted-out. PG&E will assess this requirement during implementation and consider additional requirements or exceptions in future program changes. While an owner may not waive tenant treatment and qualify for CAM, the owner may initiate or commit to work for both units and common areas at the same time.

### C. Integration with Multifamily Single Point of Contact (SPOC):

The SPOC is available to facilitate the multifamily property owners' participation in other qualifying, program resources and funding opportunities as applicable, including: PG&E energy efficiency programs such as MUP, On-Bill Financing (OBF), Middle Income Direct Install (MIDI), other regional programs such as CSD's LIWP program.

SPOC will direct property owners to qualifying programs to access IOU and other state and regional funding sources. In addition, the SPOC may assist as needed with coordination between the programs and contractors serving the property to support as seamless and efficient of a process for the property owner and residents, as possible.

SPOC contact information will be made publicly available on PG&E's MUP website, as well as a PG&E-endorsed, SPOC-specific webpage.

### 3. Program Delivery and Customer Services:

*Describe how the energy efficiency program will deliver savings (upstream, downstream, direct install, etc.) how it will reach customers and the services that the program will provide. Describe all services and tools that are provided.*

To deliver downstream energy savings in multifamily common areas, CAM will conduct the following program delivery and customer services:

**Outreach:** CAM will educate the multifamily affordable housing market on common area measures through regular communications, newsletters, webinars, industry event sponsorship and attendance, industry partnerships, and direct outreach. CAM will conduct outreach to publicly available lists of low-income deed-restricted properties through federal, state, and regional sources such as: projects that applied for four percent and nine percent TCAC funding<sup>2</sup>, the Housing and Community Development (HCD) Affordable Housing Rental Directory, California Housing Finance Agency (CalHFA) Apartment Rental Information lists, U.S. Department of Housing and Urban Development (HUD) Affordable Apartment Search, and U.S. Department of Agriculture (USDA) Rural Development Multi-Family Housing Rentals list. CAM will outreach to TCAC, and the CSD LIWP-Large Multifamily (LMF) program, among other entities. In addition, the CAM implementer will participate in TCAC workshops and other affordable housing workshops and conferences to identify potential participants for CAM.

**Affordability Qualification and Screening:** Appropriate affordability documentation will be collected by the CAM implementer to verify that at least 65 percent of residents qualify under the ESA affordability definition (200 percent of Federal Poverty Line, FPL). Documentation will be coordinated with other programs (such as CSD LIWP-LMF) where applicable. Receipt of the

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<sup>2</sup> Congress created the federal Low Income Housing Tax Credit Program in 1986. It replaced traditional housing tax incentives, such as accelerated depreciation, with a tax credit that enables low-income housing sponsors and developers to raise project equity through the sale of tax benefits to investors. Two types of federal tax credits are available and are generally referred to as nine percent (9%) and four percent (4%) credits. These terms refer to the approximate percentage of a project's "qualified basis" a taxpayer may deduct from their annual federal tax liability in each of ten years. (See "How Credit Amounts are Calculated below). <http://www.treasurer.ca.gov/ctcac/program.pdf>

agreements, percent of qualifying residents, and number of years left of affordability restrictions on the regulatory agreement or deed will be documented.

**Energy Audit Delivery, Technical Assistance, and Benchmarking:** Energy audits, technical assistance, and benchmarking will be tailored to individual property needs and will be delivered by the CAM implementer. CAM will leverage infrastructure from PG&E's existing Multifamily Upgrade Program (MUP) including its participating installation contractors (unless the property owner has a preferred contractor that meets program qualifications, which the CAM implementer will add to the participating contractor list on a rolling basis if requirements are met), technical guidelines (audit, modeling, verification), and benchmarking procedures.

The CAM implementer will provide comprehensive technical assistance to property owners and their contractors throughout the project lifecycle from start to finish. The level of technical assistance will depend on the savings opportunity and property needs and could include energy assessments, energy modeling, scope of work and measure specification development, installation performance guidelines, utility benchmarking assistance, contractor selection services, and field verification. The scope of technical assistance that will be provided will be finalized in a manual upon launch of CAM.

After prospective properties have passed initial qualification screening for eligibility, the level of audit will be tailored to the property and owner needs (from basic assessments to comprehensive audits). For example, if the property is considering substantial envelope and central system replacement or is undergoing a tax credit resyndication, the property could receive an in-depth ASHRAE Level II energy audit of common areas (i.e. to align with TCAC requirements). The CAM initiative will engage property owners during tax credit resyndication or at other points of financial exchange such as buying or selling, as this is an ideal time to execute comprehensive whole property improvements. By contrast, if the property is primarily interested in lighter touch measures such as lighting and small appliance replacements and has already replaced major central systems in recent years, the property could receive a more basic audit.

For large-scale projects and measures without associated work papers, CAM will utilize whole-building energy modeling (using EnergyPro's Non-Residential module) to determine the energy savings potential above existing conditions. Where feasible, the CAM implementer will verify pre- and post-installation energy usage using utility benchmarking and the EPA's Energy Star Portfolio Manager benchmarking tool as this is currently the process in MUP. To validate energy savings using benchmarking, the implementer will collect at least 12-months of utility usage data before and after the CAM improvements have occurred. To obtain this data, the CAM implementer will coordinate with the property owner to register the participating property through PG&E's AB-802 compliant benchmarking portal, which provides aggregated utility usage data to eligible multifamily properties with five or more meters.

For TCAC or CSD LIWP-LMF participants, the implementer will coordinate audit efforts where possible to minimize duplicate effort.

**Measure Installation Oversight:** The CAM implementer will coordinate with contractors performing measure installation in multifamily common areas.<sup>3</sup> The implementer will regularly screen contractors' insurance, certifications, and licenses for listing on an online program directory. Additionally, the implementer will schedule regular progress meetings with the project team (including contractors) at key project milestones (project kick-off, pre-construction meeting, mid-construction meeting, etc.) to review program requirements, approved measure specifications and installation progress. As the program develops, performance specifications and installation best practice guidance for common area measures will be identified by leveraging tools already created through the PG&E Multifamily Upgrade Program.

For all installation work, owners may select a participating contractor from a program provided list including MUP contractors as well as ESA contractors that have undergone MUP certification, or may select their own contractor. If an owner selects their own contractor to complete the installation, this contractor will need to agree to applicable program terms and conditions, including: demonstrate they have necessary professional licenses to perform the agreed upon work, supply proof of appropriate insurance, among other requirements identified in the CAM manual.

For all in-unit work, PG&E will utilize the existing ESA model for measure installation and oversight. In addition, only ESA-certified contractors will be permitted to perform in-unit treatment (i.e. in-unit installations).

**Scope of Work and Field Quality Control:** The implementer will work with the property owner and contractor (and energy consultant, where applicable) to refine the common area measures scope of work for each property. Measure refinement will include defining the measures to be installed including quantity, specification, installation schedule, and post-installation field verification. The CAM implementer will select recommended measures as a result of opportunities defined through the field audit as well as based on property owner or contractor/consultant identified desired upgrades.

The final set of measures identified to be funded through the CAM offering will depend on cost-effectiveness due to the CAM offering covering 100 percent of installation costs. The CAM implementer will define these cost-effectiveness criteria prior to public launch and will refine these criteria based on lessons learned from actual CAM participants. The implementer will work with the building owner to adopt the greatest scope of the recommended audit as possible with the building owner. If for any reason the building owner chooses to forego part of the audit recommendations, the implementer will document in the CAM database measures not selected by property owner and why the owner opted not to install the measures (i.e., missed opportunities). The implementer will conduct field quality control on a defined portion of projects (to be defined in the CAM manual); field quality control is a site inspection that verifies that the measures agreed upon by the owner and contractor were installed at or above the agreed upon efficiency specifications and that the appropriate permits were pulled. The implementer will adjust the field quality control percentages based on the complexity of the project and the inspection results of each contractor. All projects will

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<sup>3</sup> All in-unit work will be conducted by the general ESA program under standard ESA operating procedures and sponsored with ESA funds.

be required to submit close-out documentation prior to receiving payment from PG&E. Close-out documentation will include detailed, itemized invoices, permits, measure specification sheets, photos, as well as other documentation as communicated by PG&E and the implementer.

#### 4. Program Design and Best Practices:

*Describe how the program meets the market barriers in the relevant market sector/end use. Describe why the program approach constitutes “best practices” or reflects “lessons learned”. Provide references where available.*

PG&E is leveraging the MUP model, design and infrastructure including policies and procedures, contractor database, savings calculation methodology, and existing, historic market relationships and expertise in the multifamily space. MUP has supported multifamily building owners, contractors and their energy consultants on completing whole property energy efficiency improvements (including residential units, common areas, and exterior facilities) since 2014. Based on PG&E's Multifamily Upgrade Program (MUP), CAM will leverage:

- Outreach to and relationships with affordable housing owners. Since inception, over half of the properties that participated in MUP are deed-restricted multifamily, including publicly owned housing authority properties and private housing managed by non-profit and for-profit entities.
- Contractor and consultant partnerships already solidified in the multifamily market and with PG&E Residential Energy Efficiency Programs
- Lead nurturing and project tracking capabilities
- Approved savings methodology for deep energy retrofits through the use of building energy simulation.
- Vetted policies and procedures applicable to project intake, analysis, modeling, quality assurance, etc. for multifamily retrofit projects.
- Program design based on:
  - Alignment with market procedures for comprehensive retrofits, including coordination with LIWP and TCAC, to maximize project resources and achieve deeper savings
  - Best practices and lessons learned from multifamily stakeholder groups including Tax Credit Allocation Committee (TCAC) Sustainable Building Method committee, Energy Upgrade California multifamily statewide IOU and Regional Energy Network program stakeholders, the Home Energy Retrofit Coordinating Committee (HERCC), ACEEE multifamily program design best practices, and the Energy Efficiency for All affordable multifamily coalition

PG&E's common area measures initiative was designed leveraging components of affordable multifamily market program best practices<sup>4</sup>. The initiative will continually evolve, assess effectiveness of program design, eligibility criteria, and participation process, and take market

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<sup>4</sup> CAM design took into consideration best practices from PG&E's experience running multifamily programs such as PG&E Multifamily Upgrade Program as well as best practices identified by NRDC (NRDC, Program Design Guide: Energy Efficiency Programs in Multifamily Affordable Housing, 2015), ACEEE and other stakeholders.

feedback and lessons learned into consideration. To encourage this feedback loop to occur formally through the Multifamily Working Group and informally from the multifamily stakeholders through PG&E, the funding for CAM will be broken up into phases. After each phase, the program will assess results allowing the program to revisit requirements and design. For a more detailed description of phases, see **Section 3.4 Supporting Documents: Quantitative Program Targets**.

Key design elements of PG&E's Common Area Measures are highlighted below:

- A. Operate CAM in an iterative fashion to collect & analyze data, integrate feedback, and evolve:** CAM will aim to serve a diverse set of customers to gather data on all types of properties (ranging in small, medium, and large multifamily properties, # of units, age, end uses, region, demographics etc.). For example, to reach rural properties, CAM will coordinate with USDA's list of rural housing rentals. PG&E will collect data on property ownership, energy savings, costs, cost effectiveness, stakeholder (including Multifamily Working Group Participant) feedback, and participant satisfaction to inform future program iterations.
- B. Focus value to directly benefit low income residents:** residents will benefit from safer living conditions, improved common area spaces and amenities, and potential cost-savings from property owners' operating cost reductions. Through property owners' participation in CAM, residents will be provided the opportunity and encouraged to participate in ESA, thereby extending the ESA benefits to as many low income residents as possible.
- C. Capturing all cost-effective energy efficiency savings:** With the exception of routine maintenance and replacement upon failure, most deed-restricted multifamily properties undergo a major retrofit only once every 15-30 years (for example, at time of tax credit refinance through the Tax Credit Allocation Committee)<sup>5</sup>. If all end-uses at the site are not addressed at that time, it is unlikely they will be addressed for many years (if at all). Therefore it is important that when a deed-restricted owner seeks to undergo a refinance that all possible energy improvements are explored. To facilitate informing deed-restricted owners that apply for financing about ESA and specifically CAM, the CAM implementer will actively participate in select TCAC workshops and conduct direct outreach to TCAC applicants. The CAM implementer will continuously strive to align its requirements with those of TCAC and other affordable housing financing programs, advocating for alignment and process streamlining, wherever possible. CAM will address a wide range of improvement measures, ranging from building envelope improvement to appliance replacement, leveraging ESA in-unit, LIWP, and other programs within PG&E's portfolio to allow for improvements across the whole property (i.e. a whole-building approach). CAM will strive to serve all eligible property owners regardless of the size of project scope.
- D. Improve access to energy usage information:** CAM will connect property owners to energy usage data, benchmarking properties through PG&E's AB 802 utility benchmarking portal, where feasible. The benchmarking report will also connect property owners to a wide range of program incentives and services, both within PG&E's portfolio of programs as well as other regional

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<sup>5</sup> Multifamily Home Energy Retrofit Coordinating Committee (HERCC), HERCC Recommendations Report, 2015, page 11 ([www.multifamilygreen.org/wp-content/uploads/2011/02/MF-HERCC-Report\\_January2015\\_FINAL.pdf](http://www.multifamilygreen.org/wp-content/uploads/2011/02/MF-HERCC-Report_January2015_FINAL.pdf))

programs such as the Low Income Weatherization Program (LIWP), regional local government programs, and regional water district programs.

- E. Build partnerships with key local market participants:** The multifamily deed-restricted sector is a tight-knit community that places a high level of value on collaboration, advocacy, and best practice exchange. Therefore, the CAM implementer will frequently engage directly with funders, membership organizations that advocate on low-income property owners' behalf, and from peers (other deed-restricted property owners) in order to be most effective in running and continually improving CAM. It is also important that the programs dedicated to the deed-restricted sector align their requirements to prevent duplicated efforts or missed opportunities. The CAM implementer will collaborate with programs such as TCAC and CSD LIWP with the goal of streamlining participation between multiple programs wherever possible, and allowing property owners to leverage funding from multiple funding sources. The CAM implementer will attend affordable housing conferences and events where deed-restricted owners, managers, and contractors converge to discuss affordable housing advocacy and policy issues. The intent of engagement with key local market participants is to educate the affordable housing stakeholders on CAM and present results and benefits to-date.
- F. Help owners finance efficiency projects:** Deed-restricted properties typically have a number of funding sources embedded in each property, this makes it challenging to take on additional debt at a property for improvements that are not considered routine maintenance or identified as high priority through a federally mandated property needs assessment. In instances where sufficient operating budget is available to make important improvements, it is not always possible to access these operating reserves without explicit approval from the regulatory agency (such as HUD) as well as the multiple private investors associated with the property. Therefore, gap-funding is often needed to complete all desired improvements. CAM will cover qualified projects at 100% and pass projects to SPOC if they don't qualify for CAM or ESA in unit. SPOC will work with On-Bill Financing (OBF), On-Bill Repayment, and other IOU programs to bridge the gap for improvements not covered through CAM or ESA in-unit programs.
- G. Provide robust quality assurance and technical assistance:** Many deed-restricted multifamily property owners are staff and resource constrained and cannot always afford to have an in-house technical expert or energy manager, therefore, the more that programs can provide turn-key support and technical assistance to overcome this challenge, the more successful the program can be in realizing deep energy savings. As much as possible, CAM will tailor the technical assistance activity to the owner needs, providing varying levels of technical support depending on the technical expertise of the project team and the availability of existing energy audit reports. At a minimum, CAM will work with the project team to document common area improvement opportunities, completing a site visit to assess existing conditions and upgrade opportunities, as needed. For properties that need additional assistance such as an investment grade audit, contractor selection, or measure specification development, CAM will work with the property owner to help define these needs and to determine the level of service the CAM implementer may provide in these areas. PG&E will monitor spending in technical assistance at the end of each funding phase as described in **Section 3.4 Quantitative Program Targets** and communicate with owners prior to making any changes to technical service offerings. CAM will

conduct quality assurance activities on all projects including: verifying existing conditions through an energy audit, completing a desktop review of the proposed scope of work and recommending improvements to this scope.

- H. **Allow owners to select installation contractors:** Multifamily properties operate like a traditional business, meaning that owners frequently have a preferred list of contractors that are on-call to support their ongoing maintenance needs or are competitively selected to implement a more comprehensive retrofit. These same contractors are trusted by the owner to deliver quality installations and to know the owners preferred make, model, and efficiency of the commonly replaced appliances. In public housing, the Public Housing Authorities are required to complete a lengthy procurement process prior to completing improvements and often are required to complete work following fair labor practices. As such, CAM will allow the owner to select their own contractor who meets MUP requirements, select a contractor from a program approved list for common area measures, and/or engage the ESA in-unit contractor who meets MUP requirements, providing flexibility depending on the owner needs and scope.

#### 5. Cost Effectiveness (Total Resource Cost - TRC) Approach:

PG&E intends to use CAM funds for deep energy savings, while stretching benefits across as many properties and customers as possible. PG&E will monitor the cost effectiveness of the initial, full-cost coverage initiative, at the project and CAM portfolio levels, in order to inform potential future program design and customer eligibility criteria. If certain cost effectiveness criteria becomes a clear mandate for the program, then, PG&E may modify customer and measure eligibility criteria to include:

1. **Existing condition minimums.** These requirements may be defined by equipment type, fuel type, and/or vintage. Examples include a building with central water heating system or incandescent lighting.
2. **Customer-type.** For example, CAM participation may be limited to common area meters using significant kWh/month prior to program participation, or to deed-restricted properties with specific common area onsite support services (such as commercial kitchens, computer labs, etc.)
3. **Minimum TRC.** For each project, the CAM implementer will use energy assessment and building energy simulation tools (such as EnergyPro non-residential module) to maximize the upgrade scope of work while remaining above the TRC threshold set for each participating project. Where possible, the CAM implementer will validate simulated savings through actual usage monitoring (using the EPA Portfolio Manager tool). CAM will define which tool(s) are approved for building simulation as well as the version of the tool in the manual.
4. **Owner-copay.** For individual measures or a package of measures which do not meet cost-effectiveness criteria, CAM will consider requiring a co-pay. This would allow a project to be bought down in order to stay within the cost-effectiveness limits set for the program. PG&E understand that the current ESA decision requires that CAM cover the full cost of improvements and that therefore a co-pay is a longer-term consideration.

### 6. EM&V Approach:

*Describe any process evaluation or other evaluation efforts that the Program Administrator (PA) will undertake. Identify the evaluation needs that the PA must build.*

The evaluation process that all the IOUs will follow has yet to be determined. However, the CAM implementer will coordinate early and often with the PG&E and CPUC evaluation teams to ensure that the program is well prepared for future evaluation requirements and efforts.

### 7. Pilot/s:

(not applicable at this time)

### 8. Additional information:

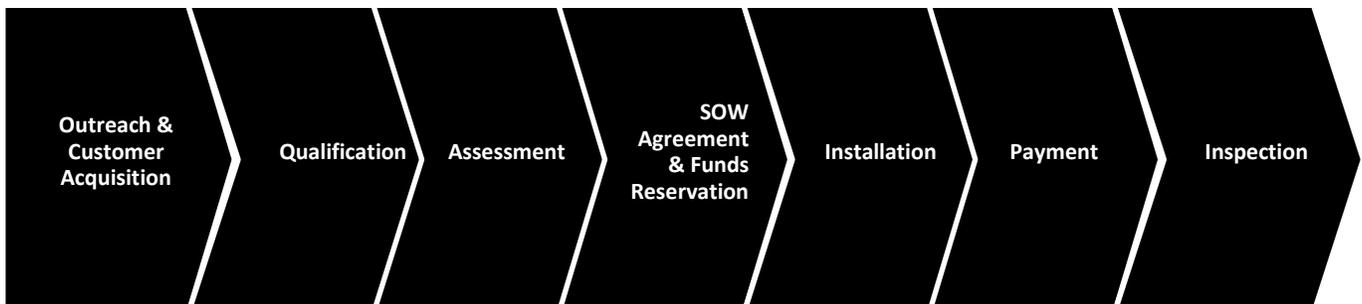
*Include here additional information as required by Commission decision or ruling (As applicable. Indicate decision or ruling and page numbers)*

N/A

## 3. Supporting Sections:

### 1. Process Flow Chart:

*Provide a sub-program process flow chart that describes the administrative and procedural components of the sub-program. For example, the flow chart might describe a customer's submittal of an application, the screening of the application, the approval/disapproval of an application, verification of purchase or installation, the processing and payment of incentives, and any quality control activities.*



### 2. Program Aspects (i.e., a description of various program elements/aspects):

See "Program Aspects" section, page 16, below

### 3. Incentive Tables, Workpapers, Software Tools:

*Provide a summary table of measures and incentive levels, along with links to the associated workpapers. Templates are available at <http://eestats.cpuc.ca.gov/StandardTables/GuidanceDocument.aspx>.*

Eligible common area measures will be covered at full cost initially. Measure incentive caps or changes to the program may be made to manage funding should full cost coverage change.

The program will report modeled savings from EnergyPro non-residential version 7, consistent with MUP, and factoring in work paper savings when applicable, to model common area energy savings, comparing upgraded conditions to existing conditions to determine overall savings. CAM may move to other software modules, versions, or tools, if PG&E determines that the updated software is appropriately capturing savings. To supplement the measure modeling possibilities in EnergyPro, CAM will consider additional measures whose savings are supported by IOU workpapers.

#### 4. Quantitative Program Targets:

*Provide estimated quantitative information on number of projects, companies, non-incentive customer services and/or incentives that program aims to deliver and/or complete annually. Provide references where available.*

**Table 2: Common Area Measure Goals and Budget**

	2018	2019	2020	Total
<b>Number of buildings audited<sup>6</sup></b>	50	850	270	1,170
<b>Number of buildings treated</b>	3	237	725	965
<b>kWh Savings</b>	10,500	829,500	2,537,500	3,377,500
<b>kW Savings</b>	6	495	1,495	1,990
<b>Therms Savings</b>	450	35,550	108,750	144,750
<b>Total Program Budget</b>	\$1,650,000	\$11,350,000	\$23,000,000	\$36,000,000

Table 2 summarizes audit, reservation, treatment, savings and payment goals by planned phase. The timing displayed in the table assumes this PIP will be approved by May 31, 2018. The data forecasted in Table 2 may change as a result of information gathered during the phases identified above. The data is also subject to change based on when the Advice Letter is approved and what content is approved.

PG&E will use a phased approach focusing on research, limited launch, and full launch in five main phases: 1- Market Assessment, 2- Program Design and Ramp-Up, 3- Common Area Installation Initial Roll-Out, 4 – Full Scale Roll Out, 5- Project Completion and Ramp Down. This approach will allow PG&E to be most effective in reaching budget, treatment, and savings goals within the shortened timeframe, while using real project data to inform improvements to processes, policies, and procedures. These phases are sequential and each is dependent on the phase prior. Proposed phases are as follows:

**Phase 1 – Market Assessment (Research).** The CAM implementer will conduct a market assessment to characterize the types of multifamily properties in the PG&E territory to identify the largest energy savings opportunities. Results will be used to inform any changes needed to make the MUP model most applicable to the deed-restricted, low income multifamily market. Results will influence Phase 2.

<sup>6</sup> Assumes 1,170 buildings will be audited total (10 buildings per project on average)

**Phase 2 – Program Design and Ramp-Up (Research).** The CAM implementer will finalize the program design and measure mix based on the results from Phase I. During this phase, the implementer will create the program policies and procedures manual, create a customer acquisition plan, develop collateral, set up data tracking and reporting, begin project intake, conduct limited audits, and provide technical assistance. The implementer will benchmark properties and initiate coordination with the CSD and ESA in-unit in preparation for Phase 3.

**Phase 3 – Common Area Installation Initial Roll-Out (Limited Launch).** The implementer will continue technical assistance and audits, and will issue the first project reservations, up to a \$5 million program cap in total reservations. Interested projects that do not make the first \$5M cap allocation will be queued in order of those who complete all required steps to become a committed project. Steps may entail the property being confirmed by the implementer as eligible and the property owner signing an application agreeing to a CAM scope of work as outlined in **Section 3.1 Flow Chart** above. During this phase, the implementer will validate the program process, technical requirements, and policies. During this phase, the implementer will assess how each component of the program is functioning and recommend appropriate adjustments prior to full-scale roll-out in Phase 4. In order to move to Phase 4, all processes, including; audits, technical assistance, scope of work refinement, and installations, need to be defined and working as expected, stable and able to scale up.

**Phase 4 – Full Scale Roll-Out.** This phase provides additional funds and will scale up audits and reservations. Projects started in Phase 3 will continue to be supported through measure installation and payment. Reservations in this phase will fill the pipeline to meet overall goals during Phase 5.

**Phase 5 – Project Completion and Ramp Down.** Phase 5 will include completion and payment of projects started in Phase 4 as well as the reservation of a small set of projects (only projects that can be fully completed by 2020). The majority of activity in this phase will focus on installation support, installation verification, and project close-out (and payment). Once all phases have completed, the CAM implementer will propose recommendations to fine tune these aspects of program design.

Table 3 summarizes planned activity within each phase to meet the Common Area Measure goals defined in Table 2 above. Dates are subject to change based on the actual approval of the Advice Letter.

**Table 3: Phasing Structure**

Activities	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
<b>Goal Completion Date</b> (subject to change)	<b>Q3 2018</b>	<b>Q4 2018</b>	<b>Q2 2019</b>	<b>Q4 2019</b>	<b>Q4 2020</b>
<b>Phase Name</b>	<b>Market Assessment</b>	<b>Program Design and Ramp Up</b>	<b>Common Area Installations Initial Roll Out</b>	<b>Full-Scale Roll Out</b>	<b>Project Completion and Ramp Down</b>
<b>Initiation and reporting set up</b>	N/A	<ul style="list-style-type: none"> <li>Common Area plan</li> <li>Project initiation</li> </ul>	N/A	N/A	N/A

		<ul style="list-style-type: none"> <li>• Data tracking plan and set-up</li> </ul>			
<b>Inputs to Program design</b>	<ul style="list-style-type: none"> <li>• Market assessment</li> <li>• Procedures manual outline</li> </ul>	<ul style="list-style-type: none"> <li>• Measure mix and strategy</li> <li>• Program goals, targets, milestones (updates to Table 2)</li> <li>• Procedures manual finalized</li> </ul>	<ul style="list-style-type: none"> <li>• Assess and modify as needed</li> </ul>	<ul style="list-style-type: none"> <li>• Assess and modify as needed</li> </ul>	<ul style="list-style-type: none"> <li>• Assess and modify as needed</li> </ul>
<b>Customer acquisition</b>	N/A	<ul style="list-style-type: none"> <li>• Customer acquisition plan</li> <li>• Collateral</li> </ul>	<ul style="list-style-type: none"> <li>• Customer acquisition</li> </ul>	<ul style="list-style-type: none"> <li>• Customer acquisition</li> </ul>	N/A
<b>Implementation</b>	N/A	<ul style="list-style-type: none"> <li>• Eligibility and intake</li> <li>• Audits and technical assistance</li> <li>• Project &amp; Pipeline management</li> <li>• Benchmarking support</li> <li>• CSD coordination</li> <li>• ESA in-unit coordination</li> <li>• Application processing</li> </ul>	<ul style="list-style-type: none"> <li>• Eligibility and intake</li> <li>• Audits and technical assistance</li> <li>• Measure installation oversight</li> <li>• Project &amp; Pipeline management</li> <li>• Benchmarking support</li> <li>• CSD &amp; ESA coordination</li> <li>• Application processing</li> <li>• Post inspections</li> </ul>	<ul style="list-style-type: none"> <li>• Eligibility and intake</li> <li>• Audits and technical assistance</li> <li>• Measure installation oversight</li> <li>• Project &amp; Pipeline management</li> <li>• Benchmarking support</li> <li>• CSD &amp; ESA coordination</li> <li>• Application processing</li> <li>• Post inspections</li> </ul>	<ul style="list-style-type: none"> <li>• Project &amp; Pipeline management</li> <li>• Benchmarking support</li> <li>• Limited audits and technical assistance</li> <li>• Application processing</li> <li>• Measure installation oversight</li> <li>• Post inspections</li> </ul>

#### 4. Program Aspects:

All programs must have manuals to clarify for implementers and customers the eligibility requirements and rules of the program. Note that program rules must comply with CPUC policies and rules. Table templates are available at <http://eestats.cpuc.ca.gov/StandardTables/GuidanceDocument.aspx>. At minimum, manuals should include:

##### 1. Eligible Measures or Measure Eligibility:

Provide requirements for measure eligibility or a list of eligible measures.

Leveraging MUP, CAM will take a whole-building audit, modeling approach to assess eligible measures. CAM will allow common area measures that can be modeled in EnergyPro non-residential module, as well as supported workpapers as needed. These include common area water heating, building shell (envelope), heating, lighting, and appliances. The following list is a preliminary list of measures that includes systems and equipment known, through MUP, to exist in multifamily common areas in PG&E service territory. PG&E will assess opportunities to integrate water/energy nexus measures where PG&E deems appropriate for common area measures. PG&E will confirm the final eligible measure mix for CAM during design phases and may add or remove measures at any time as program data suggests. Not all measures recommended from audit results may be covered at full cost by the program. The program may explore incentive caps for certain measures, or per property funding caps as a way to manage program funding. A final list of measures and requirements will be published with the final CAM manual upon launch. This list may include all or some of the following:

- Appliances
  - Clothes Dryer - Commercial
  - Clothes Washer - Commercial
  - Residential Refrigerator
  - Commercial Refrigerator, Freezer
  - Commercial Griddle, Oven
  - Kitchen Exhaust Fan
  - Residential Dishwasher
- Domestic Hot Water
  - Central System Gas Boiler
  - Hot Water Demand Control
  - Faucet aerator
  - Small Storage Water Heater
  - Pipe Insulation, Tank Wrap
- Envelope
  - Air Sealing
  - Windows
  - Attic Insulation, Cool Roof
  - Wall Insulation
  - Window Film, Shading
- HVAC
  - Common Area Air Conditioning
  - Central System Gas Water Heater/Space Heating
  - Common Area Forced Air Furnace
  - Common Area Heat Pump
  - Common Area Fans (downsize cooling system)
  - Central Cooling System, Central Heating System
  - Programmable Thermostat
  - Demand Control Ventilation
- Lighting
  - LED Exit Sign (2W)
  - LED Lamp

- LED T8
- Exterior LED Wall Mount (14 - 60W)
- Occupancy Sensor
- Exterior LED Pole Mount (70 - 260W)
- Exterior LED Architectural Flood/Spot (25 - 150W)
- LED Parking Garage Fixture (35 - 150W)
- Plug Load
  - Power Strip
  - Ceiling Fans, Computer, Monitor, Printer
  - Property-Wide Wi-Fi
  - Vending Machine Control
- Variable Speed Pool Pump and Motor
- Commercial Pool Heater, Pool Cover
- Other
  - Elevators
  - Custom (commissioning, controls, and other measures not identified above)

## 2. Customer Eligibility Requirements:

*Provide requirements for program participation (e.g., annual energy use, peak kW demand)*

To be eligible for CAM, properties must meet affordability requirements, which include; property must be deed-restricted, government or non-profit owned, or federally-recognized tribally owned and demonstrate that at least 65% residents are at or below 200 percent of the Federal Poverty Line (FPL). To demonstrate affordability, applicants will be asked to sign the ESA Property Owner Affidavit. This intake form will allow property owners to register all properties in their portfolio with ESA, self-certify the percentage of residents that qualify for ESA, and grant site access to these properties. Applicants will also supply the regulatory agreement or deed attached to the multifamily property, which demonstrates the property's affordability restriction.

The program can serve existing multifamily properties with five or more units and will serve both low-rise (three stories and less) and high-rise multifamily buildings (four stories or more). CAM will evaluate campuses of multiple two-to-four-unit properties on a case-by-case basis. Properties must be located in PG&E service territory and receive gas and/or electric service from PG&E.

Eligible applicants include non-profit organizations; for-profit businesses; and local government entities including, but not limited to cities, counties, housing authorities; non-profit community organizations; regional or statewide nonprofit entities; federally-recognized tribes; and private individuals or corporations.

Participants in CAM must certify all work completed meets all state and local building code, inspection, and permitting requirements. A licensed contractor must complete the installation work.

### 3. Contractor Eligibility Requirements:

*List any contractor (and/or developer, manufacturer, retailer or other "participant") eligibility requirements (e.g. specific IOU required trainings; specific contractor accreditations; and/or, specific technician certifications required).*

Contractors installing CAM measures must meet minimum criteria consistent with PG&E's Multifamily Upgrade Program (MUP). Preliminary requirements include (final requirements will be included in the CAM manual):

- Hold a California A, B, or C license, and ensure that all subcontractors are appropriately licensed and insured.
- Maintain the following minimum insurance requirements
  - Commercial general liability - \$1,000,000 each occurrence, \$2,000,000 in aggregate
  - Business automobile liability - \$1,000,000, and personal automobile liability - \$500,000
  - Worker's compensation and employer's liability - \$1,000,000 (except for sole proprietors)

Each contractor must take part in a program orientation meeting prior to CAM participation. Meet project quality and customer satisfaction metrics to which contractors will be held accountable. If contractors do not meet these established quality and satisfactions metrics they will be placed on probation (prohibiting new project participation until the aforementioned quality and/or satisfaction issues are remedied). If contractors are unable to remedy these issues, they will be removed from the participating contractor list. CAM will leverage the contractor disciplinary procedures already in place through the PG&E Multifamily Upgrade Program.

For all eligible common area installation work, owners may select a participating contractor from a program provided list, or may select their own contractor for the common area measures. For property owners that do not have a preferred contractor already selected to perform the work, CAM staff will provide the owner with a list of participating CAM contractors. Contractors will be added to the participating contractor list on a rolling-basis, with updates made at a minimum once per quarter.

The list will also highlight those contractors who are ESA in-unit-qualified and common-area qualified, meaning they are eligible to treat the entire property. It is important to note ESA common area approved contractors cannot treat units, unless they are certified in-unit contractors.

### 4. Participating Contractors, Manufacturers, Retailers, Distributors:

*For upstream or midstream incentive and/or buy down programs indicate*

N/A

### 5. Additional Services:

*Briefly describe any additional sub-program delivery and measure installation and/or marketing & outreach, training and/or other services provided, if not yet described above.*

N/A

## 6. Audits:

*Indicate whether pre and post audits are required, if there is funding or incentive levels set for audits, eligibility requirements for audit incentives*

CAM will provide an audit, or energy assessment tailored to property owner needs, of common area equipment on each participating property (an audit may not be required if one was completed in the last 3-5 years). An analyst will record existing building conditions, interview maintenance staff, conduct combustion safety testing (where appropriate), and identify upgrade opportunities through a site visit coordinated with the property staff. This visit may also be coordinated with ESA program staff that can assess for eligibility for in-unit upgrades. Following the site visit, the energy assessor will complete building energy simulation with EnergyPro nonresidential module to analyze upgrade measure possibilities. Where feasible, CAM implementer technical personnel will calibrate the model to actual energy use (documented through benchmarking).

The property owner will receive an energy assessment report outlining eligible common area measures, specifications, and estimated energy savings. In consultation with the owner and team, the CAM implementer will finalize the upgrade scope of work and update building simulation files prior to reservation of upgrade funds.

## 7. Sub-Program Quality Assurance Provisions:

*Please list quality assurance, quality control, including accreditations/certification or other credentials*

CAM will provide a pre-retrofit energy assessment and verification of existing conditions, negating the need for a pre-retrofit quality assurance site visit. Analysis conducted through the energy assessment to determine the scope of work, energy savings, and cost-effectiveness will receive desktop quality assurance review prior to reservation of funds.

A minimum percentage of CAM projects will undergo post-retrofit site inspection. Inspectors will verify specifications, locations, and installations of the scope of work funded through CAM.

(End of Attachment)

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

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