

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



July 21, 2015

Advice Letter 4731-G and 4731-G-A

Ronald van der Leeden
Director, Regulatory Affairs
Southern California Gas
555 W. Fifth Street, GT14D6
Los Angeles, CA 90013-1011

**Subject: 2013-2015 Energy Advisor Program – 10-10-10+ Multi-Family
Behavioral Pilot Program Pursuant to D.12-11-015 and
Supplemental Filing**

Dear Mr. Leeden:

Advice Letter 4731-G and 4731-G-A are effective July 19, 2015.

Sincerely,

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

Edward Randolph
Director, Energy Division

December 30, 2014

ADVICE 3157-E
(Southern California Edison Company – U 338-E)

Advice 4731-G
(Southern California Gas Company – U 904-G)

PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA
ENERGY DIVISION

SUBJECT: Southern California Edison Company and Southern California Gas Company's 2013-2015 Energy Advisor Program – 10-10-10 Multi-family Behavioral Pilot Program Pursuant to Decision 12-11-015

PURPOSE

The purpose of this Advice Letter is to seek California Public Utilities Commission (Commission) approval of Southern California Edison Company (SCE) and Southern California Gas Company's (SoCalGas) proposed 2015 10-10-10 Multi-family Behavioral Pilot Program (Pilot), consistent with Commission direction in Decision (D.)12-11-015.

BACKGROUND

On October 1, 2009, the Commission issued D.09-09-047 authorizing the Investor-Owned Utilities (IOUs)¹ to initiate expedited approval of Evaluation, Measurement, and Verification (EM&V) methodologies to verify savings driven by behavior-based efficiency programs.²

On April 21, 2010, the Commission issued D.10-04-029 restricting IOU savings claims for behavior-based programs as those with the following characteristics:

¹ The IOUs are Pacific Gas & Electric Company, San Diego Gas and Electric Company, SCE, and Southern California Gas Company (SoCalGas).

² D.09-09-047, p. 304.

1. Provides households with comparative energy usage information;³
2. Uses experimental design methodologies contained within the California Evaluation Protocols to determine net energy savings;⁴ and
3. Uses ex post savings measurement to determine claimable energy savings.⁵

The existing definition for behavioral programs limits the IOUs' ability to claim energy savings to only those efforts meeting the above-referenced criteria.

However, on November 15, 2012, the Commission issued D.12-11-015 providing the following direction for expanding the current behavioral definition:

“However, we also encourage the utilities to work with Opower, EHC, and other interested parties to initiate a process for expansion of the definition of behavioral programs as well as initiating additional program activities in this cycle. Nothing prohibits the utilities from going beyond this minimum level and definition. If there is consensus on additional types of activities in the behavioral areas that would be beneficial, the utilities may initiate them as soon as possible utilizing the program and administrative flexibility they have already been granted and/or they may seek specific authority from the Commission, if necessary.”⁶

Subsequently, two additional behavioral change documents were issued – *Paving the Way for a Richer Mix of Residential Behavior Programs* and *A Behavior Straw-Proposal* – which offer a new, not formally approved, definition of behavior-based programs developed by California IOUs and the Commission's Energy Division staff.⁷ These documents state that California IOUs and implementers should focus on using one or more underused behavioral strategies—commitment, feedback, follow-through, framing, in-person interactions, energy pricing, rewards or gifts, social norms, and multi-pronged strategies.

PILOT SUMMARY

This Pilot will be a collaboration between SCE and SoCalGas to test behavioral change strategies in multi-family (MF) complexes within joint SCE/SoCalGas service territory. The pilot seeks to reduce MF complexes' usage of electricity, gas, and water by 10% over a 12-month period utilizing the following behavioral strategies:

³ D.10-04-029, p. 37.

⁴ D.10-04-029, p. 40.

⁵ D.10-04-029, pp. 36-41.

⁶ D.12-11-015, pp. 76-77.

⁷ [Http://www.calmac.org/publications/Residential_Behavior_White_Paper_5-31-13_FINAL.pdf](http://www.calmac.org/publications/Residential_Behavior_White_Paper_5-31-13_FINAL.pdf)

- **Competition** – the participating MF complexes will compete on three different levels (i.e., self competition, MF complex-to-MF complex competition, and city-to-city competition);
- **Feedback/Benchmarking** – the usage information for the participating MF complexes will be reported on a monthly basis using the Multi-family Energy Star Portfolio Manager Software;
- **Commitment** – seeking 10% electricity, 10% gas, and 10% water usage reduction from baseline;
- **Follow-through** – the pilot will be asking the apartment renters and property owners/managers to exhibit behavior changes to support 10% reduction within a 12-month period; and
- **Rewards** – different levels of rewards will be made available for the three different levels of MF complex competitions.

The pilot will target MF complexes with 20 or more units and utilize the Multi-family Energy Star Portfolio Manager Software to benchmark the participating complexes.

The Pilot seeks to expand the behavioral definition through (1) Testing different, underused behavior intervention strategies with innovative designs; (2) Using generally accepted social science research and behavior theories; and (3) Yielding evaluable effects to support energy savings.

The Pilot diverges from the established behavioral program requirements in that it does not provide comparative energy usage; therefore, results from this Pilot will not be included in the SCE or SoCalGas 5% behavioral goal.

ATTACHMENTS

This Advice Letter includes the following attachments:

- **Attachment 1:** Program Implementation Plan (PIP)
- **Attachment 2:** Program Non-Energy Objectives
- **Attachment 3:** Pilot Criteria

No cost information is required for this advice filing.

This advice filing will not increase any rate or charge, cause the withdrawal of service, or conflict with any other schedule or rule.

TIER DESIGNATION

Pursuant to General Order (GO) 96-B, Energy Industry Rule 5.2, this advice letter is submitted with a Tier 2 designation.

EFFECTIVE DATE

This advice filing will become effective on January 29, 2015, the 30th calendar day after the date filed.

NOTICE

Anyone wishing to protest this advice filing may do so by letter via U.S. Mail, facsimile, or electronically, any of which must be received no later than 20 days after the date of this advice filing. Protests should be mailed to:

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

Copies should also be mailed to the attention of the Director, Energy Division, Room 4004 (same address above).

In addition, protests and all other correspondence regarding this advice letter should also be sent by letter and transmitted via facsimile or electronically to the attention of:

Megan Scott-Kakures
Vice President, State Regulatory Operations
8631 Rush Street
Rosemead, CA 91770
Facsimile: (626) 302-4829
E-mail: AdviceTariffManager@sce.com

Michael R. Hoover
Director, State Regulator Affairs
c/o Karyn Gansecki
Southern California Edison Company
601 Van Ness Avenue, Suite 2030
San Francisco, CA 94102
Facsimile: (415) 929-5544
E-mail: Karyn.Gansecki@sce.com

There are no restrictions on who may file a protest, but the protest shall set forth specifically the grounds upon which it is based and shall be submitted expeditiously.

In accordance with General Rule 4 of GO 96-B, SCE is serving copies of this advice filing to the interested parties shown on the attached GO 96-B and A.12-07-001 et al. service lists. Address change requests to the GO 96-B service list should be directed

by electronic mail to AdviceTariffManager@sce.com or at (626) 302-4039. For changes to all other service lists, please contact the Commission's Process Office at (415) 703-2021 or by electronic mail at Process_Office@cpuc.ca.gov.

Further, in accordance with Public Utilities Code Section 491, notice to the public is hereby given by filing and keeping the advice filing at SCE's corporate headquarters. To view other SCE advice letters filed with the Commission, log on to SCE's web site at <https://www.sce.com/wps/portal/home/regulatory/advice-letters>.

For questions, please contact Sheila Lee at (626) 302-5762 or by electronic mail at Sheila.Lee@sce.com.

Southern California Edison Company

/s/ MEGAN SCOTT-KAKURES

Megan Scott-Kakures

MSK:sl:dm
Enclosures

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.: Southern California Edison Company (U 338-E)

Utility type:

ELC GAS
 PLC HEAT WATER

Contact Person: Darrah Morgan

Phone #: (626) 302-2086

E-mail: Darrah.Morgan@sce.com

E-mail Disposition Notice to: AdviceTariffManager@sce.com

EXPLANATION OF UTILITY TYPE

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

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: 3157-E et al.

Tier Designation: 2

Subject of AL: Southern California Edison Company and Southern California Gas Company's 2013-2015 Energy Advisor Program – 10-10-10 Multi-family Behavioral Pilot Program Pursuant to Decision 12-11-015

Keywords (choose from CPUC listing): Energy Efficiency

AL filing type: Monthly Quarterly Annual One-Time Other

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #:

Does AL replace a withdrawn or rejected AL? If so, identify the prior AL: _____

Summarize differences between the AL and the prior withdrawn or rejected AL¹: _____

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: 1/29/15 No. of tariff sheets: -0-

Estimated system annual revenue effect: (%): _____

Estimated system average rate effect (%): _____

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: None

Service affected and changes proposed¹: _____

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

¹ Discuss 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 filing, unless otherwise authorized by the Commission, and shall be sent to:

CPUC, Energy Division
Attention: Tariff Unit
505 Van Ness Avenue
San Francisco, California 94102
E-mail: EDTariffUnit@cpuc.ca.gov

Megan Scott-Kakures
Vice President, State Regulatory Operations
Southern California Edison Company
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Rosemead, California 91770
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Michael R. Hoover
Director, State Regulatory Affairs
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Southern California Edison Company
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San Francisco, California 94102
Facsimile: (415) 929-5544
E-mail: Karyn.Gansecki@sce.com

Attachment A

10-10-10 Multi-family Behavioral Pilot Program

Program Implementation Plan (PIP)

ATTACHMENT A

1. **Pilot Program Name:** SCE/SoCalGas 10-10-10 Multi-family Behavioral Pilot Program
2. **Sub-Program ID Number:** SCE-13-SW-001a & SoCalGas 3701-SW-CALS-Energy Advisor
3. **Type of Pilot Program:** Core Third Party Partnership
4. **Market sector or segment that this pilot program is designed to serve[§]:**
 - a) Residential pilot
 - i. Including Low Income? Yes No
 - ii. Including Moderate Income? Yes No
 - iii. Including or specifically Multifamily buildings Yes No
 - iv. Including or specifically Rental units? Yes No
 - b) Commercial (List applicable NAIC codes: N/A)
 - c) Industrial (List applicable NAIC codes: N/A)
 - d) Agricultural (List applicable NAIC codes: N/A)
5. **Is this pilot program primarily a:**
 - a) Non-resource program Yes No (for Phase-I pilot program only)
 - b) Resource acquisition program Yes No
 - c) Market transformation program Yes No
6. **Indicate the primary intervention strategies:**
 - a) Upstream Yes No
 - b) Midstream Yes No
 - c) Downstream Yes No
 - d) Direct Install Yes No
 - e) Non Resource Yes No (for phase-I pilot program only)
7. **Projected Sub-program Total Resource Cost (TRC) and Program Administrator Cost (PAC):** TRC PAC

Not applicable – the budget for this pilot is embedded in existing program budgets. Phase-I includes a limited deployment for the Pilot Program in Inland Empire cities with Phase-II including an expanded deployment in San Fernando Valley and Inland Empire cities. Although SCE/SoCalGas may not claim energy savings for Phase-I of this pilot, SCE/SoCalGas anticipates claiming energy savings for Phase-II of the pilot program.

[§] Check all that apply
Southern California Edison

8. Projected Pilot Budget:

Table 1: Projected Pilot program Budget, by Calendar Year⁹

Pilot Budget Phase-I ONLY		
Sub-Program	Program Year	
	2015	Total
Admin (\$)	\$0	\$0
General Overhead (\$)	\$0	\$0
Incentives (\$)	\$0	\$0
Direct Install Non-Incentives (DINI) (\$)	\$0	\$0
Activity-A: Pilot Implementation Select Implementer/s (time & material)	\$150,000	\$150,000
Activity-B: MF Benchmarking		
Initial data analysis and testing to support prototype, beta and operational analysis	\$25,000	\$25,000
Data cleaning for electricity, gas and water billing data, alignment	\$75,000	\$75,000
Data management of MF Energy Star Portfolio Manager & 12-month implementation	\$150,000	\$150,000
Activity-C: Other Pilot Implementation Tasks and Costs	\$140,000	\$140,000
Customer recruiting & enrollment & Signage & door hangers – design, development and implementation (12 months), include rewards.		
Education & Training	\$10,000	\$10,000
Contingency Budget	\$50,000	\$50,000
Rapid feedback & Early M&V for Reporting for 2015 (program funded)	\$125,000	\$125,000
Total Budget	\$725,000	\$725,000

SCE and SoCalGas will each contribute 50% of \$725,000 for the pilot program budget. This pilot program expense will be further allocated to SCE and SoCalGas' Home Energy Advisor Program, Multi-family Energy Efficiency Program, and Energy Upgrade California Multi-family Programs.

⁹ Individual utility specific information to be provided in this table

Table-1: Phase-I Pilot Program Net Energy and Demand Impacts, by Calendar Year

Energy Advisor Program	Program Years	
	2015	Total
Electricity	N/A	N/A
Gas	N/A	N/A
Water	N/A	N/A

While SCE/SoCalGas does not anticipate submitting energy savings claims for Phase-I of the pilot, it is anticipated that there will be savings claims for Phase II of the pilot program. As detailed below, Phase-I of this pilot is designed to identify the logistics of the overall implementation requirements.

To meet the requirements specified in Decision (D.) 09-09-047, please refer to the list of Pilot Program Questions in Attachment A2. For program non-energy objectives, please refer to Attachment A1.

9. Pilot Program Description, Objectives and Theory:

a) Pilot Program Description and Theory:

The CPUC has mandated that all statewide IOUs reach 5% of all residential customers with a behavior-based program by the end of 2014. For SCE, this requirement translates to 215,000 residential customers. In 2015, SCE will provide continuous behavior-based program engagement to 5% of all residential customer households. Existing Energy Advisor programs (i.e., Opower-1, Opower-2 and HEES Enhancement activities) are set to achieve the 5% mandate by December 31, 2014).

In D.12-11-015, the CPUC encouraged

“the utilities to work with Opower, EHC, and other interested parties to initiate a process for expansion of the definition of behavioral programs as well as initiating additional program activities in this cycle. Nothing prohibits the utilities from going beyond this minimum level and definition. If there is consensus on additional types of activities in the behavioral area that would be beneficial, the utilities may initiate them as soon as possible utilizing the program and administrative flexibility they have already been granted and/or they may seek specific authority from the Commission, if necessary.”¹⁰

Additionally, two guiding documents have been developed to provide additional details for behavior change programs – the *Paving the Way for a Richer Mix of Residential Behavior Programs* whitepaper¹¹ (i.e., Behavior Whitepaper) and a *Behavior Straw-Proposal*, which offer a new, not formally approved definition of behavior-based programs developed

¹⁰ Decision (D.) 12-11-015, PP. 76-77.

¹¹ http://www.calmac.org/publications/Residential_Behavior_White_Paper_5-31-13_FINAL.pdf

by CA IOU and CPUC Energy Division staff. These documents direct CA IOUs to focus on one or more underused behavior change intervention strategies in their program designs. The underused strategies are commitment, feedback, follow-through, framing, in-person interactions, energy pricing, rewards or gifts, social norms, and multi-pronged strategies.

This pilot seeks to meet three behavior program best practices:

1. Test different, underused behavior intervention strategies with innovative designs;
2. Ground the pilot in generally accepted social science research and behavior theories; and
3. Yield evaluable effects, especially to support energy savings reporting.

Pilot Program Description

The 10 (Electricity) – 10 (Gas) – 10 (Water) Multi-family (MF) Behavioral Pilot Program is designed with a multi-year and multi-phased approach to engage MF complexes to reduce energy and water usage by 10%.

The pilot approach includes the following:

- 1) Engage MF complexes (i.e., a combination of rental dwelling units and common areas) to reduce usage of electricity, gas, and water by 10% from existing usage in a 12-month period.
- 2) The Pilot will utilize apartment association and property owners/managers, common areas to engage individual renters using tactics such as home owner association meetings, common area signature, and door-hangers to communicate and rally for complex-wide engagement and support.

This Pilot program design may be expanded to include single family units in conjunction with a Home Owner Association (HOA) and/or Condo units with an HOA; however, this is not the initial pilot program focus.

- 3) This Pilot will engage competitive behavior at three or more levels by utilizing the capabilities of MF Energy Star Portfolio Manager Software:
 - a. MF complex-wide self-competition (i.e., % of reduction from all dwellings and common areas meters combined).
 - i. Month to month self-measurement as compared to same month last year. This metric will need to be normalized to at the per unit level.
 - ii. The Pilot will target apartment complexes with 20 or more units to support Rule 15-15 for customer confidentiality. This approach will also support the design limitation within the MF Energy Star Portfolio Manager software.
 - b. MF complex to MF complex competition (i.e., Apartment-A competes with Apartment-B in the same city or different cities).

- i. The participating MF complex can select an avatar for their complex and compete against another MF complex with another avatar. For example, the “Ring of Fire” MF complex against “Batman” MF complex in the same city or within a different city.
 - ii. Month to month self-measurement plus apartment to apartment measurement in the same manner. This apartment to apartment competition is an **opt-in feature**.
 - c. The participating MF complexes will be grouped by MF Energy Star Portfolio Manager to facilitate city-to-city competition.
 - i. For example, the participating MF complexes in the city of Long Beach compete against participating MF complexes in the city of Rosemead.
 - ii. For Phase-I of the pilot, 10 MF complexes in city-A will compete against another 10 MF complexes in city-B.
 - d. Aggregating additional city groups into an even bigger territory may be possible. (i.e., County of LA versus County of Riverside).
- 4) Rewards will be offered to the winning apartment complex and used to motivate team building efforts at the MF complex level:
 - i. Quarterly winner for MF complex competition,
 - 1. The rewards are small and low cost items that are relevant to the pilot and available to all tenants.
 - ii. Annual winner for MF complex-to-MF complex competition,
 - 1. The reward can be more substantive such as energy efficient washer and dryer for the common area laundry room with proper signage to explain the reasons for the reward to the apartment dwellers.
 - iii. Annual winner for city-to-city competition.
 - 1. The reward can be a city recognition award event.

The pilot program team understands a 10% behavior-only reduction (i.e., without plug load appliance upgrades) in electricity usage may be difficult to achieve, but a 10% reduction in water usage may be easily achievable¹². Based on studies to date for Opower based Home Energy Reports, behavior only electricity and gas energy savings can be as low as 1.0% depending on the customer’s targeting strategy. For the purpose of this pilot, SCE will consider the 10-10-10 goals to be aspirational and will generally serve as a “stretch goal”.

¹² EPA (<http://www.epa.gov/WaterSense/pubs/indoor.html>) suggest 20-30 potential savings in water conservation. Mitchell and Chesnutt (2013) show water savings in their experimental study which vary 5.5% to 8.4%.

Pilot Program and Behavior Theory:

This pilot will use a multi-pronged behavior strategy to engage residential customers in MF complexes to decrease energy usage by utilizing the following:

- **Feedback and Benchmarking** – the usage information for the MF complex will be reported on a monthly basis for all participating MF complexes, using MF Energy Star Portfolio Manager Software.
- **Competition** – the participating MF complex will compete in three different levels (i.e., self-competition, MF complex-to-MF complex competition, by grouping all MF complex together using MF Energy Star Portfolio Manager, this will enable city-to-city competition).
 - Using feedback as a tool – the usage information for the MF complex will be reported on a monthly basis for all participating MF complexes, using MF Energy Star Portfolio Manager Software.
 - Using rewards as a tool – Different levels of rewards will be made available for the three different levels of MF complex competition.

The central behavior theory for this pilot is Competition and Benchmarking. Other behavior theories such as Commitment and Follow-through are also used as a part of this multi-prong behavior strategy as “tools” to motivate the desired behavior.

During the research phase of this pilot development, the pilot program team identified the following list of behavior intervention strategies for consideration:

- **Commitment** – seeking 10% electricity, gas and water usage reduction from baseline at the time of participation.
 - **Feedback/Benchmarking** – the usage information for the MF complex will be reported on a monthly basis for all participating MF complexes, using MF Energy Star Portfolio Manager Software.
 - **Follow-through** – the pilot will be asking the apartment renters and property owners/managers to exhibit behavior changes to support 10% reduction within a 12-month period.
- Competition** – the participating MF complexes will compete on three different levels (i.e., self-competition, MF complex-to-MF complex competition, by grouping all MF complex together using MF Energy Star Portfolio Manager, this will enable city-to-city-competition).
- **Rewards** – Different levels of rewards will be made available for the three different levels of MF complex competition.

Rather than quoting all of the above as pilot program behavior theory, the intervention strategy is condensed to (1) Feedback & Benchmarking and (2) Competition. Other intervention strategies used in this pilot are used as “tools” for the pilot implementation. For example, behavioral tools are the research and communication and intervention methods that will be employed during the experimentation phase. Moreover, feedback can

be an example of a tool that creates a communication link between the experimenter and experimentee. However, with behavioral theory the focus is on psychological realism and economic applicability of research promoted.

Additional Theoretical Background

Energy efficiency has been considered to be a promising approach to reducing energy demand and thus decreasing greenhouse gas emissions; and in this context electricity, gas, and water consumption. A recent increase in non-monetary interventions using behavioral economics and psychology have led consumers to conserve energy. In a variety of areas, many behavioral concepts have been implemented to “nudge” consumers toward behavioral change to increase health, wealth, etc. benefits. There are some studies that have reviewed/tested concepts or designs similar to what is being proposed by SCE in this study; but, in different settings. However, few of these studies are larger than SCE’s proposed pilot design. These studies indicate that there are increased opportunities to implement various behavioral concepts within different settings to better identify what drives consumer’s energy use behavior and how it can be influenced. CPUC D. 12-11-015, makes provision for the utilities to go beyond the described minimum level and definition for energy efficiency behavioral programs. The goal of SCE’s quasi-experimental study is to enable evidence-based and data-driven decision making by applying some of the behavioral concepts and tools suggested in this proposal.

Studies have shown that customers are more likely to make permanent changes in their energy behaviors if the new behaviors are easy and convenient to perform whereas skills and resources are available, peer pressure and social norm dictates the change, and when commitments are made to change in public settings (Costanza et al., 1986; Stern, 1992; McMakin et al., 2002). As indicated by McMakin et al., (2002) and other recent studies, people are more likely to adopt energy-efficiency behaviors under the following conditions:

- People view energy efficiency in terms of benefits to themselves rather than curtailment, especially in terms of increased thermal comfort and health (Becker et al., 1981; Samuelson & Biek, 1991)
- When energy use and savings are made visible, it provides goals and motives where they did not previously exist (Kempton et al., 1992; Harding and Hsiaw, 2012). In addition, competitive incentives have proven to be effective in inducing more effort. In a dynamic competitive setting where information on the performance of the competing agents is available, the state of competition may have an impact on performance (Apesteguia and Palacios-Huerta, 2010; Bracha and Fershtman, 2012)
- Information or feedback is made salient, vivid and personal format (Tversky and Kahneman, 1981; Costanza et al., 1986; Stern and Aronson, 1984; Stern 1992; Chetty et al., 2007; Finkelstein, 2009).
- Another often used behavioral tool/concept is social pressure and norms. Mani et al.’s (2013) study in Switzerland worked with the electric utility company to encourage electricity conservation among homeowners throughout an entire region of the country. The experiment is as follows. Homeowners received social feedback on how much electricity they used relative to the average person. When the comparison was between the homeowner and all the other people in their

country, virtually no savings resulted; people behaved the same. When the comparison was between them and people in their neighborhood, however, things worked better, showing that how closely they identified with the people in the comparison group mattered. Pentland (2014) explains these findings as identification with a group of people, which increases both trust of group membership and the social pressure that the group can exert. Thus, behavior change was most effective when it took advantage of the strength of the surrounding social ties.

Considering the findings from the literature the pilot design is intended to utilize social ties by emphasizing the competition among the multi-family apartment complexes, creating a 10-10-10 goal structure and commitment structure. Few, if any, studies have explored the competition among multi-family apartments. The current proposal limits the study by only utilizing apartment associations, however, SCE and SoCalGas may expand this pilot to include single family or condo units, and potentially commercial infrastructures in the future.

For a complete reference of bibliographical references, please refer to Attachment A3.

Pilot Program Treatment Design

Depending on the size of the MF complex, the pilot program may need to provide program treatment to the following components:

- 1) Engage the property owners and managers to **sign-up** with the 10-10-10 program to participate,
- 2) Engage the apartment association to provide complex-wide event(s) to promote understanding and awareness,
- 3) Provide signage for the common area to do the following:
 - a. Describe the 10-10-10 program,
 - b. Engage a sister-apartment-complex to engage opt-in competition (Optional),
 - c. Provide monthly results tracking and monitoring,
- 4) Tenant treatment and communication
 - a. Provide periodic door-hangers to communication program and results as feedback.
- 5) Provide periodic rewards to motivate MF complex-wide behavior and competition between MF complexes and between MF complex groups.

It may be desirable to monitor post-pilot behavior once all treatments are completed. This may be of interest from a behavior persistence and maintenance perspective. Post-intervention monitoring will allow us to examine the long-term durability and persistence of a behavioral intervention. The design of the pilot allows SCE/SoCalGas to study the long-term persistence and durability of the energy reducing treatment. The findings may potentially demonstrate that behavioral interventions can lead to long-term behavior change that persists after the interventions are discontinued. SCE/SoCalGas will further elaborate on this point during the update of the phase-II pilot implementation plan.

At this time, this pilot design's ongoing maintenance treatment is the feedback from the Energy Star Portfolio Manager.

Pilot Program Qualifications

Phase-I ONLY:

- Only apartment complexes with 20 units or more to adhere to Rule-15 and the limitation within Energy Star Portfolio Manager (i.e., to have ES Score, the MF complex must have 20 or more units),
- For electricity use, SCE would like to engage a mixture of master-metered as well as individually metered apartment complexes,
- For gas and water use, the pilot team understands that master-metered apartment complexes would be a norm; however, if individually metered properties are available, they will be included in the pilot.
- The pilot program team would like to work with a mixture of low-income, affordable housing, and market rate apartment complexes.
- Although this pilot will not make an energy savings claim, the pilot program team will conduct an early M&V analysis to assess the energy impact for the benefits of future program planning. Due to the small sample size, it may not be possible to detect the expected effect size. Therefore this part of the evaluation will primarily focus on process evaluation to inform the Phase II scaling of the pilot.
- The participating MF complexes must be customers of SCE/SoCalGas and have a common water agency such as the Department of Water and Power (DWP).
- This list may not be exhaustive. Additional program qualifications may be added during the program implementation phase.

A Multi-Phase Implementation Approach

Given the above complex pilot program design and intended goals, the 10-10-10 MF Competition Pilot will take a multi-year and multi-phase implementation approach. As the pilot program team completes each phase of this pilot, the pilot team will conduct an assessment of results to date before scaling this pilot program further. During the follow-up phase, the pilot program implementation plan may be updated based on lessons learned. This kind of flexibility is necessary to provide stability and consistency.

- (1) Phase-I: Limited Deployment for Pilot Program logistic Shake-Down, Inland Empire cities.
- (2) Phase-II: Expanded Deployment for Pilot Program in San Fernando Valley and Inland Empire cities.
- (3) Phase-III: TBD.

Table-1: Summary of 10-10-10 Implementation Phases:

Phase-I	Phase-II	Phase-III
Inland Empire Cities	Expand to include San Fernando Valley Cities	TBD
Mapped to Opower-1/2 territory	Expand to include Opower-1/2, and HEES Enhancement territory	TBD
Scale: <ul style="list-style-type: none"> • 2 Cities with 10 MF Complexes each, • Limited to self-competition, MF complex to MF complex competition, and city-to-city competition. • Engage local government support in two cities, • Limited to SCE/SoCalGas and one water agency • Special focus to Affordable Housing and LI properties. 	Scale: <ul style="list-style-type: none"> • Multiple Cities with substantially more MF complexes in each city, • Sign-up 100 apartments in phase-I and phase-II region per year. • The level of competition can be expanded to cover additional levels. • Require extensive local government support, • Expand to include other water agencies, if possible. 	TBD
Timing: Start in 2015 and into 2016	Timing: Start in late 2016 and beyond	Timing: TBD

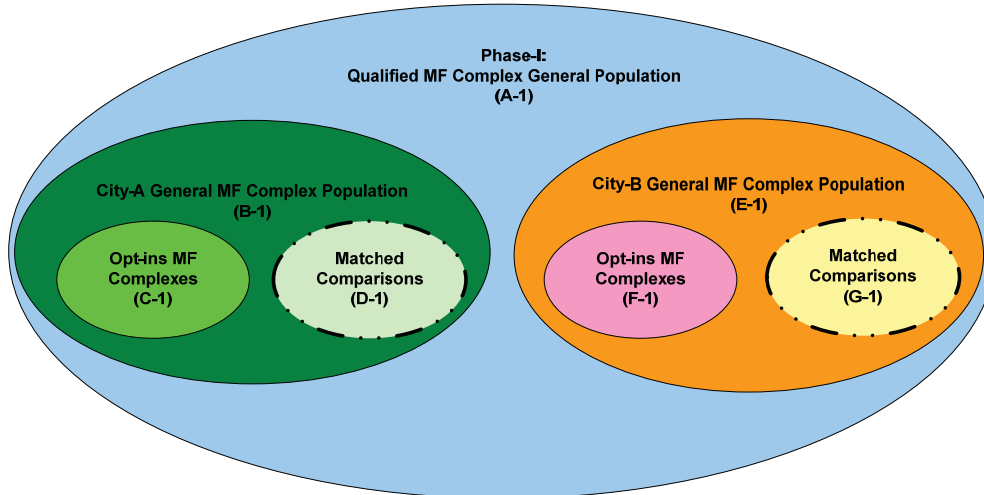
We are mapping the above implementation into the various SCE/SoCalGas behavior program implementations so duplication of energy savings can be properly eliminated later. This will also facilitate the appropriate sampling design since these are contained regions for the original sample design efforts. Although SCE/SoCalGas may not claim energy savings for phase-I of this pilot, SCE/SoCalGas may seek energy savings claim for phase-II of the pilot program.

Phase-I Pilot Implementation

The following elements are designed into Phase-I to enable a limited deployment to support a pilot program logistic shake-down.

- A. Isolate two (2) cities that could support the 10-10-10 pilot program with SCE (electricity), SoCalGas (gas) and a water agency such as DWP. In phase-I, the pilot program team would prefer to work with a single water agency.
- B. The deployment for this phase will be limited to 10 MF complexes for each city.
- C. For comparison, the pilot program will utilize a quasi-experimental approach, matching MF complexes after the fact. However, all eligible MF complexes will be identified upfront and the program will take an opt-in approach for initial sign-on.
- D. The goal of phase-I is logistic shake-down to identify all the implementation requirements in detail.

Illustration-A: Phase-I Limited Deployment for Logistic Shake Down Design



Definition:

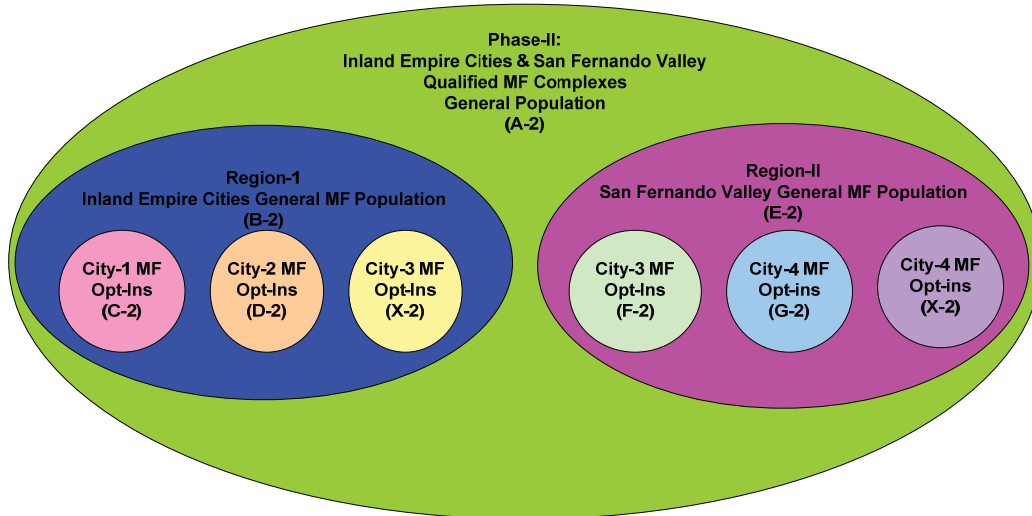
- A-1: This is all eligible MF complexes in the Inland Empire Cities mapping to SCE's Opower-1/2 implementation geographic location.
 - B-1: This defines the eligible MF complexes within city-1 within the Inland Empire Cities.
 - C-1: This is the number of eligible MF complexes that have opt-in to the phase-I of the 10-10-10 pilot program in city-1.
 - D-1: This is the matched comparison MF complexes for comparison at the time of evaluation assessment.
 - E-1: This is the eligible MF complexes within city-2 within the Inland Empire area.
 - F-1: This is the number of eligible MF complexes that have opt-in to the phase-I of the 10-10-10 pilot program in city-2.
 - G-1: This is the matched comparison MF complexes for comparison at the time of the evaluation assessment.

Phase-II Pilot Implementation

The following elements are designed into Phase-II to support a scaled deployment over a much larger geographic locations.

- A. In this phase, the pilot will engage MF complexes in two geographic areas: Inland Empire Cities (i.e., Opower-1 and Opower-2 region) and San Fernando Valley (i.e., SCE's HEES Enhancement region).
- B. The deployment for this phase will be to recruit a minimum of 100 apartments in a minimum of 4 cities spanning across the territory as defined above.
- C. Much of the phase-II details will be refined at the end of phase-I. The idea here is to scale this pilot as the pilot team gathered lessons learned from the phase-I pilot activities.

Illustration-B: Phase-II Expanded Deployment for Pilot Program



Definition:

- A-2: This is all eligible MF complexes in the Inland Empire Cities and San Fernando Valley areas,
 - B-2: This defines the eligible MF complexes within Inland Empire Cities (Region-1)
 - C-2: This is the number of eligible MF complexes that have opt-in for city-1.
 - D-2: This is the number of eligible MF complexes that have opt-in for city-2.
 - X-2: This represents additional scaling and addition in Region-1.
 - E-2: This is the eligible MF complexes within the San Fernando Valley (Region-2),
 - F-2: This is the number of eligible MF complexes that have opt-in for city-3.
 - G-2: This is the number of eligible MF complexes that have opt-in for city-4.
 - X-2: This represents additional scaling and addition in Region-2.

In addition to the above pilot program design and activities, the 10-10-10 pilot program will also support the following:

- **Quasi-Experimental Design** – this will be a part of the ex-post early M&E study design, subject to ED’s approval.
 - This pilot will support a quasi-experimental design, with matching comparison MF complexes,
 - All available and eligible MF complexes for the defined territory will be identified upfront,
 - The 10-10-10 pilot program will utilize an opt-in model for participation.

- **Early M&V for energy reporting**
 - For phase-I pilot, the program team must initiate a rapid feedback process evaluation with the goal to improve logistic design, and pilot program evaluability. This will be a program funded study activity.
 - For phase-II pilot, SCE/SoCalGas may wish to conduct early M&V analysis for energy savings claim. This activity will be initiated by the SCE/SoCalGas M&E team, but funded by the pilot program team.

Pilot Design and Study Limitations

This pilot design has several limitations:

1. One of the most noticeable challenges would be to identify desired matching groups. For example, matching of demographics, number (%) of people have own washer/dryer vs. using common areas, difference in average renting period and etc.
2. The quasi-experimental design is frequently the most practical option for conducting evaluations in the social studies/context. The significant limitation of this design is that without randomization, the study groups may differ in important ways that account for some of the group differences in outcomes after the intervention. This is a reasonable risk.
3. Behavioral theories are sensitive to the design. In order to not confound all the intervention outcomes, each behavior concept needs to be carefully articulated. Otherwise SCE may not be able to identify which intervention motivated the behavior changes. For example, pilot concepts that will be used as “tools” to execute the pilot need to be clearly identified and distinguished.
4. Studies suggest that as the group’s size increases, it is more likely to observe people within the group to exhibit moral hazard behavior such as cheating.¹³
5. The complication introduced by tenants **moving** in and out.
6. The pilot program team recognizes that a 10% reduction may be quite ambitious considering the tenants do not own the residence and do not have much incentive to invest heavily in energy efficient products. As pilot program designers, we are aware of this risk in achieving such a lofty goal--especially in electricity consumption.

b) Pilot Program Energy and Demand Objectives

This phase-I pilot study will analyze energy savings but SCE/SoCalGas is not planning to file an energy savings claim for Phase I.

¹³ In some situation members of the certain group form goals and objectives. The success of the objective often depends on individual contributions by group members to the collective cause. However, it is possible that members of the group have incentive to benefit from the effort contributed by the other members while contributing insufficiently individually. So we use the term moral hazard in teams to designate free riding within the community or group (Anesi, 2009)

c) Program Non-Energy Objectives:

The non-energy objective is to test the following:

- (1) A program model to engage MF complex and community, for all income level populations.
- (2) A program model to engage a multi-level participation:
 - a. MF self-competition
 - b. Apartment to apartment competition
 - c. City to city competition
 - d. Region to region competition
- (3) To embrace Energy Star Portfolio Manager to facilitate competition and results tracking.

For other non-energy metrics, please refer to Attachment A-1.

d) Cost Effectiveness/Market Need:

CPUC Decision 12-11-015, encouraged “the utilities to work with Opower, EHC, and other interested parties to initiate a process for expansion of the definition of behavioral programs as well as initiating additional program activities in this cycle. Nothing prohibits the utilities from going beyond this minimum level and definition. If there is consensus on additional types of activities in the behavioral area that would be beneficial, the utilities may initiate them as soon as possible utilizing the program and administrative flexibility they have already been granted and/or they may seek specific authority from the Commission, if necessary.”

The cost effectiveness analysis for this pilot can be constructed as “pilot costs” versus “pilot benefits”. Methodologies to test the cost-effectiveness of the project may include the following:

Pilot costs may include:

- Pilot administration cost
- Pilot implementation cost
- Pilot marketing cost
- Pilot early M&V evaluation cost

Pilot benefits may include:

- Energy and water related benefits
 - Electricity: Avoided kW and kWh
 - Gas: Therms
 - Water
- Other benefits that can be tangibly quantified from participant feedback surveys.

- Other non-energy benefits may include items such as avoided greenhouse gas or CO2 emissions. We will be using the inherent capabilities built-in MF Energy Star Portfolio Manager to estimate these values.

The 10-10-10 pilot presents an innovative MF pilot program implementation to institute the latest behavioral program concepts. This is also an innovative use of Energy Star Portfolio Manager Software and Benchmarking.

e) Measure Savings/ Work Papers:

There is no workpaper for this pilot program. For Phase-I of the pilot, SCE/SoCalGas will not claim energy savings from pilot activity. However, as part of the program pilot implementation, SCE/SoCalGas will conduct an early M&V study to assess program results from an ex-post evaluation perspective.

For phase-II, SCE/SoCalGas may seek to claim energy savings. Additional documentation will be made available to support the savings claim discussion with Commission staff.

10. Program Implementation Details

a) Timelines:

Table-3: Pilot Program Milestones

Timeline	
Milestones	Dates
Phase-I Pilot	
Complete advice letter filing & gain ED’s approval	January 2015
Select implementers with a RFP (Activity-A)	February 2015
Initiate tasks identified in Activity-B—data testing and implementation with MF ES Portfolio Manager	February 2015
Identify Pilot General Population in Inland Empire Cities	January 2015
Recruit 2 cities with 10 MF complexes each	January 2015
Initiate Activity-C: Recruit, enroll properties in two cities and initiate pilot behavior treatment	April 2015
Results reporting and tracking monthly for 12 months	April 2015 to April 2016
Announce and award winners according to accepted metrics and pilot performance goals for individual MF complexes and other competition goals	May 2016
Complete rapid feedback assessment	Q3/2016

b) Geographic Scope:

Phase-I pilot will be limited to Inland Empire Cities, Phase-II pilot will expand to include San Fernando Valley. (Please refer to description in Table-1 above).

c) Program Administration

This pilot program will be administered by SCE/SoCalGas. SoCalGas and a selected water agency may engage and participate. SCE/SoCalGas may engage additional subcontractors to perform the following tasks:

1. Sampling design and data cleaning
2. Program recruiting and marketing
3. All treatment signature and communication material and displays
4. Support of Energy Star Portfolio Manager data implementation and ongoing results reporting.

d) Program Eligibility Requirements:

i. Customers:

SCE/SoCalGas may recruit a limited number of water agencies to partner in Phase-I of the pilot (i.e., DWP). Additional water agencies may be added as the pilot program increases in scale.

ii. Contractors/Participants:

No installation of hardware is required; therefore this pilot will not engage any program contractors.

SCE, SoCalGas and water agency/ies will be participants.

e) Program Partners:

i. Manufacturer/Retailer/Distributor partners:

Not Applicable

ii. Other key program partners:

Not Applicable

f) Measures and Incentive Levels:

Not Applicable – the “rewards” are in the form of logo items and/or MF complex operational items such as energy efficiency washers and dryers. No monetary incentive will be provided to any of the participants.

g) Additional Services:

Not Applicable

h) Program Pilot Specific Marketing and Outreach:

Refer to Section 9 above, “Pilot Program Description, Objectives and Theory”.

i) Pilot Program Specific Training:

The pilot program will provide training to the SCE/SoCalGas call center representatives to handle potential customer inquiries.

j) Pilot Program Software and/or Additional Tools:

- i. List all eligible software or similar tools required for pilot program participation:

MF Energy Star Portfolio Manager Software will be used as a part of this pilot implementation. SCE/SoCalGas is familiar with the DOE Energy Star Portfolio Manager Software. During 2010-2012, SCE/SoCalGas recruited over 50,000 non-residential customers into its benchmarking program using this software. In 2014, a multi-family component of this software was made available by the U.S. Department of Energy.

Portfolio Manager is an online, interactive energy management tool that allows the program administrator to measure and track MF building's energy and water consumption, identify investment priorities, and verify improvements over time. The MF participants can use the Portfolio Manager to track weather-normalized energy usage intensity (EUI), energy costs, greenhouse gas emissions and water consumptions, against a portfolio of liked-MF buildings in the nation. In addition, a comparative Energy Star Score (i.e., 1-100 points rating) is also available.

For the purpose of the 10-10-10 pilot, rather than grouping MF complexes for single property owners/managers together, SCE/SoCalGas is proposing to use the Portfolio Manager capability to support competition at various levels as described above. This is an innovative use of this capability and may very well be the first in the country to deploy a pilot with such a design to support behavioral change.

- ii. Indicate if pre and/or post implementation audits will be required for the pilot program:

Pre-implementation audit required: ___ Yes No

Post-implementation audit required: ___ Yes No

- iii. As applicable, indicate levels at which such audits shall be rebated or funded, and to whom such rebates/funding will be provided (i.e. to customer or contractor):

k) Pilot Program Quality Assurance Provisions:

The program quality assurance and quality control steps are not yet determined. This will be a part of the ongoing implementation logistics, especially from the perspective of data integrity. SCE/SoCalGas acknowledges this requirement in our detailed program implementation process also.

l) Pilot program Delivery Method and Measure Installation/Marketing or Training:

- i. **Upstream Incentive Delivery Channel**

Not Applicable

ii. Midstream Incentive Delivery Channel

Not Applicable

iii. Downstream Incentive Delivery Channel

Refer to Section 9 above, "Pilot Program Description, Objectives and Theory," regarding intrinsic motivations to increase participation in this pilot.

iv. Marketing Education & Outreach (ME&O)

Not Applicable

v. Worker Education & Training (WE&T)

Not Applicable

m) Pilot Program Process Flow Chart:

Pilot Program Process Diagram

This pilot program process is complex, prior to the implementation activities identified below; this pilot proposal must obtain regulatory approval from CPUC using an Advice Letter process.

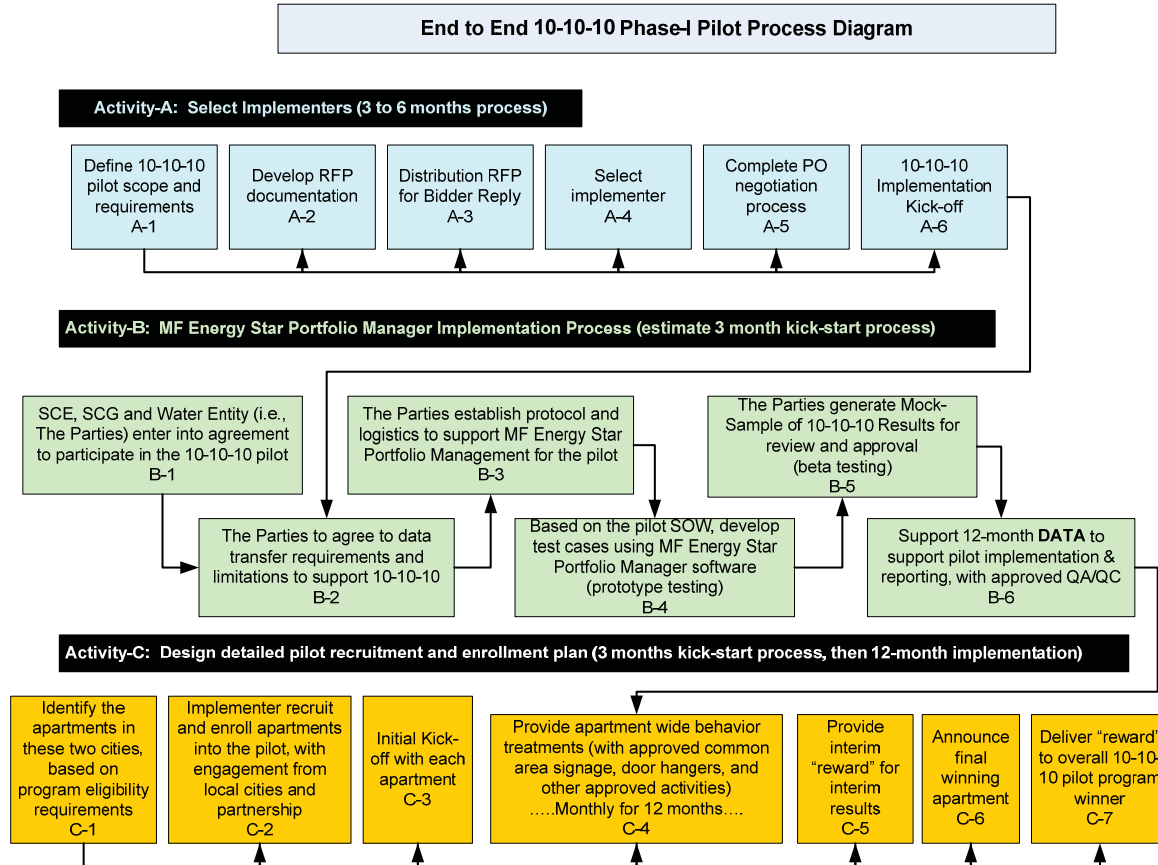
Once this Advice Letter is approved, the 10-10-10 pilot has three major implementation processes. (See process diagram below)

- A. Process steps to select one or more implementation vendor.
- B. Process steps to streamline data needs from SCE/SoCalGas and water agency to support monthly MF Energy Star Portfolio Manager implementation needs.
- C. Process steps to engage apartments in two cities and to provide behavior treatments as defined for a 12-month period.

In parallel to the above outlined process, the M&E team would need to support the following:

- 1) Participate in the pilot development to make sure data would be available to support evaluation.
- 2) Support early M&E and rapid feedback analysis so the pilot program can get feedback for much needed improvement prior to phase-II implementation decisions.
- 3) Conduct an early M&V ex-post evaluation, to the extent possible to assess energy savings, verification and validation.

Process Diagram: End-to-end 10-10-10 Phase-I Pilot Process Steps



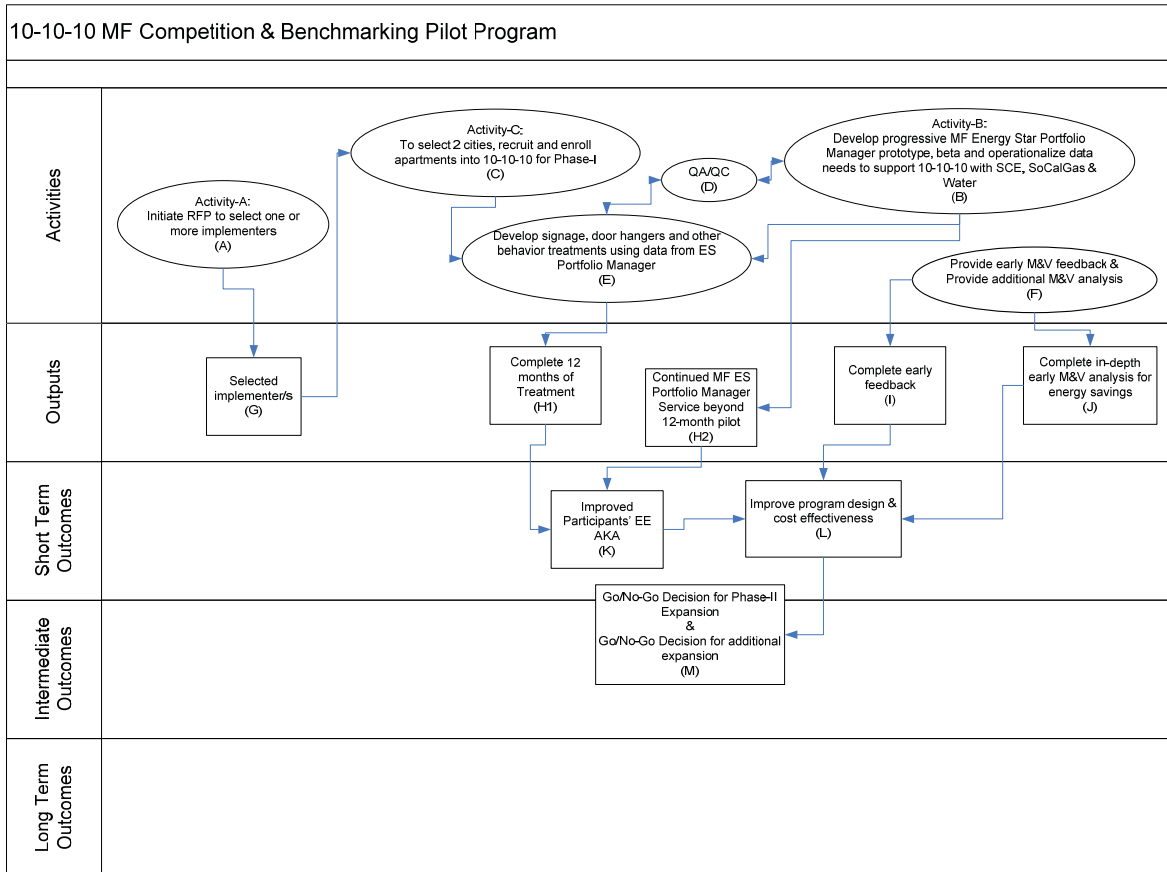
End-to-end pilot process steps:

- Activity-A: This pilot program will be selecting a pilot program implementer using a RFP process. This will be the responsibility of the pilot program manager.
- Activity-B: In addition to select the appropriate water agency to participate in this pilot, the pilot program team must engage the existing Benchmarking Program team to implement MF Benchmarking using DOE MF Portfolio Manager. In Activity-B, we have identified a series of expected testing steps to make this implementation possible for phase-I and beyond implementation.
 - The participating apartments are enrolled into the MF Benchmarking Program first.
 - By using the standardized MF Benchmarking Program results, the 10-10-10 pilot will formulate comparison and ranking.
 - By taking this approach, the 10-10-10 pilot participants are enrolled into two different programs at the same time.
- Activity-C: In this section, we have identified the high-level steps to implement 10-10-10 at the individual apartment complex level. These steps may include recruiting, enrollment, month-to-month communication, and selection of winning apartment complex, to finally delivery of the "reward" for recognition. These activities will be managed by the pilot program team and the selected implementer.

n) Cross-cutting Sub-program and Non-IOU Partner Coordination:

This pilot will need to coordinate with the Benchmarking Program.
 This pilot will require coordination among SCE, SoCalGas and Water entity/ies.

o) Logic Model for 10-10-10 MF Competition and Benchmarking Pilot



Pilot Program M&E Plan

In parallel to the above outlined process, the M&E team would need to support the following:

- 1) Participate in the pilot development to make sure data would be available to support evaluation.
 - a. Review the comparison approach and quasi-experimental design considerations.
- 2) Support early M&E and rapid feedback analysis so the pilot program can get feedback for much needed improvement prior to phase-II implementation decisions.

- a. Participant feedback from property owners and tenants.
 - b. Interview of implementer/s to get feedback.
 - c. Review ES Portfolio Manager data management process to seek improvement and streamline.
- 3) Conduct an early M&V ex-post evaluation, to the extent possible to assess energy savings, verification and validation.
- a. Using either monthly billing or AMI data, as necessary.

This will be a program funded M&E study task. The SCE/SoCalGas M&E team will be working with Energy Division to seek approval for this study plan and study tasks.

11. Additional Pilot Program Information:

a) Advancing Strategic Plan Goals and Objectives:

Yes. This pilot will test additional behavior elements.

b) Pilots:

To meet the requirements of 09-09-047, please also refer to Attachment-A2 for pilot/pilot specific information.

c) Knowledge Transfer:

During the pilot period, SCE/SoCalGas program team will report pilot progress at the monthly program Check-In meeting with ED staff. Once the pilot program implementation has been completed, SCE/SoCalGas M&E team will initiate the early M&V study to verify results and effects. The SCE/SoCalGas M&E team will file an ED approved M&E plan prior to initiating the study. After completing this early M&V evaluation study, SCE/SoCalGas will engage the other IOUs and ED staff to conduct a debriefing session.

12. Market Transformation Information:

a) A summary of the market transformation objectives of the program:

Not Applicable

b) A description of the market, including identification of the relevant market actors and the relationships among them:

Not Applicable

- c) A market characterization and assessment of the relationships/dynamics among market actors, including identification of the key barriers and opportunities to advance demand side management technologies and strategies:

Not Applicable

- d) A description of the proposed intervention(s) and its/their intended results, and specify which barriers the intervention is intended to address:

Refer to Section 9 above, "Pilot Program Description, Objectives and Theory"

- e) A coherent program, or "market," logic model that ensures a solid causal relationship between the proposed intervention(s) and its/their intended results¹⁴:

Refer to Section 10 o) above

- f) Appropriate evaluation plans and corresponding Market Transformation indicators and Program Performance Metrics based on the program logic model:

Not Applicable

13. Additional information as required by Commission decision or ruling or as needed:

This pilot will support the pending decision by the CPUC on the expansion of qualifying behavior programs as part of Phase III of R. 13-11-005, EE Rolling Portfolios OIR proceeding and prior Commission direction in Decision 12-11-015, and 12-08-044 ESA decision to support program integration.

¹⁴ If this logic model is the same as that requested in #10.(O), only provide once. As needed, provide a more detailed logic model emphasizing the market transformation elements of the program and/or how such elements integrate with resource acquisition elements.

Attachment A1

Program Non-Energy Objectives

ATTACHMENT A1

Program Non-Energy Objectives

For New or Substantially changed programs and sub-programs, provide the following information for Program Non-Energy Objectives and follow the format used for the previous cycle Program Performance Metrics found in Resolution E-4385:

- i. List the primary SMART¹⁵ non-energy objectives of the program:
- ii. For each SMART objective, identify the quantitative targets, direction or percent of change that you hope to achieve during the program cycle¹⁶:
- iii. For each proposed SMART objective, describe any relevant baseline data on current market conditions that you have assembled or plan to assemble and the sources:
- iv. Quantitative program targets (PPMs):

The following pilot performance metrics should be considered for the early M&V study: (not exhaustive, subject to change during pilot implementation)

1. # of apartments in the pilot,
2. # of dwelling units in the pilot,
3. # of common area meters for each apartment and for the pilot program,
4. # of 1 bedroom versus 2 bedroom versus 2+ bedroom units available per apartment for the entire pilot
5. # of square footage for each apartment and the pilot,
6. # of swimming pool, spa, and other plug load appliances for the apartment and for the pilot,

The following program outputs should be tracked on a monthly basis: (this list should be updated once initial MF ES Portfolio Manager investigation has been completed.

1. Number of kW/kWh, therms, gallons usage at the beginning of the program as the baseline, measure % of reduction.
 - a. Energy Score.
 - b. Energy Intensity.

¹⁵ A SMART objective is one that is **S**pecific (i.e. quantitative and quantifiable generally, in terms of the results to be achieved), **M**easurable, **A**mbitious, **R**ealistic, and **T**ime-bound. For example, for a venter training component of an innovative commercial program, two SMART mid-term objectives and one long-term objective might be:

- a) During the period 2013-2014, the number of HVAC installers in the SCE/SOCALGAS service territory who are able to perform quality installations of energy efficient packaged air conditioners will increase by 20%.
- b) During the period 2013-2014, the number of installations of energy efficient packaged air conditions in the SCE/SOCALGAS service territory that are considered quality installations will increase by 25%.
- c) By 2020, installations of energy efficient packaged air conditions in the SCE/SOCALGAS service territory that are considered quality installations will increase by 75%.

¹⁶ Please also add any new program objectives and quantitative targets for statewide programs to the portfolio PPM/MTI reporting template.

2. Number of tons of greenhouse gas or CO2 avoided.
3. Other relevant metrics provided as standard metric by MF ES Portfolio Manager.

ATTACHMENT A2

Pilot Project Criteria

Attachment A2: D.09-09-047, Pilot Project Criteria (page 48)

In accordance to Decision 09-09-047, any program pilots must provide the following information:

1. A specific statement of the concern, gap, or problem that the pilot seeks to address and the likelihood that the issue can be addressed cost-effectively through utility programs;

In 2013, the IOUs and ED jointly hosted a “Behavior Workshop” in San Francisco with the goal to expand the current thinking and program design for this area. Since then, two guiding documents have been developed to provide additional details for behavior change programs – the *Paving the Way for a Richer Mix of Residential Behavior Programs* whitepaper¹⁷ (i.e., behavior whitepaper) and a *Behavior Straw-Proposal*, which offers a new, yet not formally approved, definition of behavior-based programs developed by CA IOU and CPUC Energy Division staff. These documents direct CA IOU program designers and implementers to focus on using one or more underused behavior change intervention strategies in their program designs. The underused strategies are commitment, feedback, follow-through, framing, in-person interactions, energy pricing, rewards or gifts, social norms, and multi-pronged strategies.

The pilot is providing the MF customer sector a behavior program design that is consistent with the goal to implement MF ES Portfolio Manager (i.e., feedback and benchmarking), while using competition as a key behavior motivator.

2. Whether and how the pilot will address a Strategic Plan goal or strategy and market transformation;

Please refer to the pilot program description.

3. Specific goals, objectives and end points for the project;

Please refer to the pilot program description.

4. New and innovative design, partnerships, concepts or measure mixes that have not yet been tested or employed;

This is a new and innovative program design for the following reasons:

¹⁷ http://www.calmac.org/publications/Residential_Behavior_White_Paper_5-31-13_FINAL.pdf

- Combine electricity, gas and water in one single program,
 - Innovative use of MF ES Portfolio Manager to set-up a competitive SCE/SoCalGas scenario for multiple property owners and dwellings.
 - In this design context, this pilot can promote competition at multiple levels: self-competition, apartment to apartment competition, city to city competition.
5. A clear budget and timeframe to complete the project and obtain result within a portfolio cycle - pilot projects should not be continuations of programs from previous portfolios;

The 10-10-10 pilot is complex. We are proposing a two phased approach, using phase-I to shake down the logistic of required implementation. Phase-II would be a later phase, building upon lessons learned from phase-I. The IOUs proposed to update the phase-II implementation plan during late 2015 so a 2016 ramp up could be possible for phase-II.

6. Information on relevant baselines metrics or a plan to develop baseline information against which the project outcomes can be measured;

Please refer to attachment A1.

7. Program performance metrics;

Please refer to attachment A1.

8. Methodologies to test the cost-effectiveness of the project;

We have proposed the items to consider for cost effectiveness assessment. For phase-I implementation, we are going to gather data to analyze the cost of implementation. For phase-II implementation, we will revise the implementation plan using lessons learned. The phase-I implementation cost will be absorbed by Home Energy Advisor Program, which is already reflected in the program TRC value.

9. A proposed EM&V plan; and

Please refer to the M&E portion of the pilot program description.

10. A concrete strategy to identify and disseminate best practices and lessons learned from the pilot to all California utilities and to transfer those practices to resource programs, as well as a schedule and plan to expand the pilot to utility and hopefully statewide usage.

The results of this pilot implementation and study results will be posted on ED's basecamp, public website and CALMAC website. In addition, the SCE/SoCalGas pilot program team will conduct pilot results debriefings to share results and lessons learned for all IOUs, ED/Consultants and others upon request.

ATTACHMENT A3

Bibliography for Behavior Program Theory

ATTACHMENT A3: Bibliography

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