

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



September 4, 2015

**Advice Letter 3622-G/4693-E**

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

**Subject: PG&E, SDG&E, and SCE's To-Code Pilot  
Pursuant to D.14-10-046**

Dear Mr. Jacobson:

Advice Letter 3622-G/4693-E is effective September 13, 2015.

Sincerely,

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

Edward Randolph  
Director, Energy Division



**Erik Jacobson**  
Director  
Regulatory Relations

Pacific Gas and Electric Company  
77 Beale St., Mail Code B10C  
P.O. Box 770000  
San Francisco, CA 94177

Fax: 415-973-7226

August 14, 2015

**Advice 3622-G/4693-E**

(Pacific Gas and Electric Company ID U 39 M)

**Advice 2776-E /2407-G**

(San Diego Gas and Electric Company U 902 M)

**Advice 3260-E**

(Southern California Edison Company U 338 E)

Public Utilities Commission of the State of California Energy Division

**Subject: Pacific Gas and Electric Company, San Diego Gas and Electric Company, and Southern California Edison Company's To-Code Pilot Pursuant to Decision 14-10-046**

**Purpose**

The purpose of this Advice Letter is to seek California Public Utilities Commission (Commission) approval of Pacific Gas and Electric Company (PG&E), San Diego Gas and Electric Company (SDG&E), and Southern California Edison Company (SCE) (collectively the "IOUs") proposed To-Code Pilot, consistent with Ordering Paragraph (OP) 8 in Commission's Decision (D.) 14-10-046.

**Background**

On October 16, 2014, the Commission issued D.14-10-046 directing the IOUs to conduct "To-Code Pilots." Specifically, OP 8 of that decision directs "Pacific Gas and Electric Company, San Diego Gas and Electric Company, Southern California Edison Company (SCE) and Southern California Gas Company (IOUs)<sup>1</sup> each to file with us a Program Implementation Plan<sup>2</sup> for a pilot program to better understand the extent to which there is below-code equipment that is not getting replaced through natural turnover or existing programs. The pilots shall be designed to assess whether cost-

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<sup>1</sup> Southern California Gas Company will run another pilot simultaneously, structured in a similar way and using the same research team, but focusing on boiler retrofits. Southern California Gas Company will file a separate Advice Letter seeking approval for these activities.

<sup>2</sup> Commission staff subsequently directed the IOUs to designate the filing of the Program Implementation Plan as a Tier 2 Advice Letter.

effective ratepayer-funded programs can be developed to target this equipment when Program Administrators (PAs) receive savings credit and customer incentives are made available based on to-code, in addition to through-code, savings.”<sup>3</sup>

In addition, the IOUs were further instructed that the Pilots shall:

- a. Be budgeted up to \$1M per IOU using program funds authorized in Decision 14-10-046;
- b. Find similar cohorts within a service territory, then break them into control and treatment groups, with the treatment group being eligible to receive incentives for "to and through" code, while the control group receives only incentives based on above-code savings;
- c. Extend through one full calendar year, to observe program impacts across seasons; and
- d. Include program implementation and third-party evaluation, with the evaluation to address, at minimum, program impact on both program uptakes (e.g., Does the program increase replacement rates? Are customers who did not have a particular device at all participating, as well as customers who are replacing a device?) and customer energy usage (aggregate use and load shape).<sup>4</sup>

The Commission staff has contracted with researchers from the E2e Project<sup>5</sup> at the Energy Institute at Haas, University of California Berkeley, to work in close coordination with the IOUs to establish an Evaluation, Measurement, and Verification (EM&V) plan that will assess the impact on both program uptakes, energy savings, and cost-effectiveness. The evaluation will use an experimental design as described in Attachment 1.

### **Pilot Summary**

The IOUs are jointly proposing a To-Code Pilot because of constraining factors of the budget and sample size requirements. The IOUs' To-Code Pilot will seek to determine if providing incentives for existing conditions ("to and above code") increases energy efficiency program participation and achieves greater identified energy savings (both "to-code" and "above code"). This program will be implemented for a year from the effective date of this Advice Letter filing (to assess seasonal variation) immediately after the Commission's approval. The Pilot will provide an incentive for projects that meet and then exceed code to encourage customers to implement retrofits that they would not have completed without the "to-code" incentive. In addition, the Pilot will target only lighting as the end-use.

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<sup>3</sup> D.14-10-046, p. 163.

<sup>4</sup> D.14-10-046, p. 163.

<sup>5</sup> E2e.haas.berkeley.edu

Guided by the evaluation team, the IOUs will select approximately 10,000 small and medium size business customers with a peak demand of less than 200kW to participate in the Pilot. Through a Randomized Encouragement Design, approximately 10 percent of these business customers, selected randomly, will be offered an energy audit (Encouraged Group); and the other 90 percent will not be offered an audit (Control Group) (see figure in section 1.2 in Attachment 1). After the audit takes place, the business customer will be informed of their incentive level based on one of three incentive levels (Baseline, Treatment 1 or Treatment 2) (described in Attachment 1).

All businesses (encouraged or not) will be monitored such that a comparison between businesses can be made.

The Pilot contains the following six elements, which are described in more detail in Attachment 1:

- Element 1.0: Implementation Design
- Element 2.0: Incentive Structure
- Element 3.0: Business selection
- Element 4.0: Measures incentivized
- Element 5.0: Establishing the Baseline and the incentive levels
- Element 6.0: Direct Install + Co-pay

### **Schedule and Budget**

The Pilot launch is anticipated to be in September 2015. The Pilot as described above and in Attachment 1 will extend beyond calendar year 2015. Providing the audits and retrofits under the scope of the Pilot will continue for 12 months following launch. The evaluation will deliver preliminary results one year after the start of the data collection and deliver a final report by the end of 2017, at the earliest.

Under the model proposed, the general sequence of events is as follows:

1. Evaluation Design finalized
2. Randomization conducted
3. Audits offered
4. Retrofits concluded
5. Monitoring and data collection completed
6. Data analyzed

The Pilot specific budget leverages existing programs and reflects \$1M per IOU for the incremental incentives for the to-code portion of Treatment 1 (Attachment 2: Tables 2a, 3a and 4a). Each IOU is eligible to claim savings for the Above-Code incentives paid through leveraging existing programs (Attachment 2: Tables 2b, 3b and 4b). Attachment 2 provides the expected timing of the expenditures for the Pilot in 2015 and 2016.

The IOUs propose to have PG&E serve as the lead utility for the Pilot. However, each IOU will determine the best structure and strategy for its internal administration of the Pilot.

### **Attachments**

This Advice Letter includes the following attachments:

- Attachment 1: Pilot Scope of Work
- Attachment 2: Pilot Budget
- Attachment 3: Ten Pilot Elements
- Attachment 4: EM&V Plan
- Attachment 5: Program Implementation Plan (PIP)
- Attachment 6: PIP Attachments

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

### **Protests**

Anyone wishing to protest this filing may do so by letter sent via U.S. mail, facsimile or E-mail, no later than September 3, 2015, which is 20 days after the date of this filing. Protests must be submitted to:

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:

**For PG&E:**

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

Facsimile: (415) 973-7226  
E-mail: PGETariffs@pge.com

**For SDG&E:**

Megan Caulson  
Regulatory Tariff Manager  
8330 Century Park Court, CP31F  
San Diego, CA 92123-1548  
E-mail: MCaulson@semprautilities.com

**For SCE:**

Russell G. Worden  
Managing Director, State Regulatory Operations  
Southern California Edison Company  
8631 Rush Street  
Rosemead, CA 91770  
Facsimile: (626) 302-4829  
E-mail: AdviceTariffManager@sce.com

Michael R. Hoover  
Director, State Regulatory Affairs  
c/o Karyn Gansecki  
Southern California Edison Company  
601 Van Ness Avenue, Suite 2030  
San Francisco, CA 94102  
E-mail: Karyn.Gansecki@sce.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



# 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: Kingsley Cheng

Phone #: (415) 973-5265

E-mail: k2c0@pge.com and PGETariffs@pge.com

EXPLANATION OF UTILITY TYPE

ELC = Electric

GAS = Gas

PLC = Pipeline

HEAT = Heat

WATER = Water

(Date Filed/ Received Stamp by CPUC)

Advice Letter (AL) #: **3622-G/4693-E, et al.**

**Tier: 2**

Subject of AL: **Pacific Gas and Electric Company, San Diego Gas and Electric Company, and Southern California Edison Company's To-Code Pilot Pursuant to Decision 14-10-046**

Keywords (choose from CPUC listing): Compliance, Energy Efficiency

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

If AL filed in compliance with a Commission order, indicate relevant Decision/Resolution #: D.14-10-046

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: **September 13, 2015**

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**

**77 Beale Street, Mail Code B10C**

**P.O. Box 770000**

**San Francisco, CA 94177**

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

## **Attachment 1: Pilot Scope of Work**

### **PROPOSED PILOT**

The California Investor Owned Utilities (IOUs) were directed to develop and implement “To-Code Pilot” to better understand whether there is below-code equipment not being replaced. D.14-10-046 indicates there is anecdotal evidence that there are cost-effective yet unachieved energy savings due to the significant investment required to exceed current energy codes and standards.

The purpose of this proposed Pilot is to determine if providing incentives calculated based on existing conditions (“to and through code”) increases energy efficiency program participation and achieves greater identified energy savings (both “to-code” and “above code”). Upon approval by the Commission, this Pilot will be implemented throughout 2015 and 2016 (to assess seasonal variation) with a to-code incentive budget of \$1 million per IOU. The Pilot will be implemented and evaluated simultaneously. The evaluation will be conducted by The E2e Project,<sup>1</sup> with a team of professors from University of California – Berkeley, and will use an experimental design, described below.

The To-Code Pilot is a statewide collaboration across between PG&E (Pacific Gas and Electric), SCE (Southern California Edison), and SDG&E (San Diego Gas and Electric) (collectively the “IOUs”). The Pilot will incentivize projects from existing conditions to and through code in order to encourage customers to implement retrofits that they would not have completed without the “to-code” incentive. The study described in this document will target lighting as an end use. SoCalGas will run another pilot simultaneously, structured in the same way but focusing on boiler retrofits. The same research team will develop that pilot.

The Pilot launch is anticipated in September 2015. The Pilot will extend beyond calendar year 2015. The audits and retrofits under the scope of the pilot will continue for 12 months following launch. The evaluation will deliver preliminary results one year after the start of the data collection and deliver a final report by the end of 2017. PG&E, SDG&E, and SCE will be equally involved in the Pilot implementation. To facilitate statewide consistency, coordination, and communication, the utilities also propose to work with one Pilot implementer per IOU for services such as recruiting, auditing, and installing the retrofits. These Pilot implementers will be hired by each utility. Each IOU will determine the best structure for its internal administration.

### **SCOPE OF WORK**

Guided by the evaluation team, the IOUs will select approximately 10,000 small and medium business customers with a demand of less than 200kW to participate in the Pilot.<sup>2</sup> About 10 percent of these customers, selected randomly through a randomized encouraged design, will be offered an audit (encouraged group). The randomized encouraged design is described in more detail below. After the audit takes place, the customer will be offered one of the three incentives (described in Section 1.2 Incentive Structure below). All customers (encouraged or not) will be monitored such that a comparison between customers can be drawn.

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<sup>1</sup> [E2e.haas.berkeley.edu](http://E2e.haas.berkeley.edu)

<sup>2</sup> The final numbers are yet to be defined. Numbers might vary depending on the results from power calculations, conducted by the research team.

While each utility has determined the best structure for internal administration of the Pilot projects, the following elements are common across all IOUs:

### 1.1. Implementation Design

The deployment and evaluation of each IOU's component of the To-Code Pilots will happen simultaneously. The Pilot will be offered to approximately 10,000 small and medium business customers with a peak demand of less than 200kW determined by the Research team. Approximately 10 percent of these customers, selected randomly, will be offered an audit (Encouraged Group); and the other 90 percent will not be offered an audit (Control Group) (see figure in section 1.2). To avoid bias in the experiment, there will be an additional layer of "blindness" to the Pilot design. The Pilot implementer will not know the treatment group (T1, T2, or Baseline) to which the business was assigned until after the audit is complete. The communication method to the Pilot implementer is still under development, but will be tailored to fit with current program delivery methods and procedures. After the audit takes place, the customer will be informed of their incentive level based on one of three incentive levels (Baseline, Treatment 1 or Treatment 2) (see Section 1.2 below).

The Pilot implementer will develop proposals that include the typical Direct Install measures (i.e. lighting, HVAC and refrigeration), as applicable for that customer. The customer can participate in the Pilot with any one or combination of measures available through the Pilot. However, additional "to-code" savings incentives will only be applied to lighting measures identified as part of the To-Code Pilot (see Section 1.4b below). Outside of the lighting, other opportunities based on site-specific conditions will be available to the customer as offered in standard Direct Install program using the standard incentive rate.

Once the proposal is presented to the customer, the implementer will gather information and report on customer uptake and estimated savings, providing initial insights into these two policy issues. Actual as-built savings will be calculated as customer installations are completed.

### 1.2. Incentive Structure

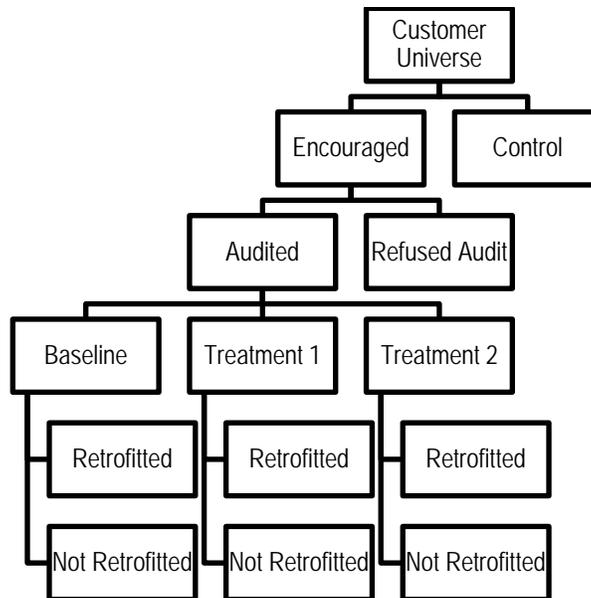
Upon completion of the audit, customers that take up the retrofits after encouragement will be informed of their assignment will be notified of their assigned incentive level (Baseline, Treatment 1 or Treatment 2):

- **Baseline Group** – Receives encouragement and standard incentive levels (\$X/kWh) for above-code measures currently allowed in the portfolio. The savings are calculated using Replace on Burnout (ROB) and code as a baseline (measure-code = A kWh). The incentive paid to the customer will be calculated using the above code savings and the standard incentive rate ( $A * X = \text{incentive}$ ).
- **Treatment Group 1** – Receives encouragement and standard incentive levels (\$X/kWh) to and above code. The intent is to calculate the savings using Early Retirement (ER) and the customer's site specific existing conditions as a baseline (measure-existing = B kWh). The incentive paid to the customer will be calculated using the above existing condition savings and the standard incentive rate ( $A * X = \text{incentive}$ ). Since the existing condition will vary, the incentive in treatment group 1 will also vary.

- **Treatment Group 2** – Receives encouragement and incentives above code at a higher rate (\$Y/kWh) than Treatment 1 and the Baseline Group. The intent is to calculate the savings using ROB and code as a baseline (measure-code = A kWh). This treatment group will determine the effect of a higher incentive for the existing savings claim. The rate of the incentive will be proportional to the overall incentive for Treatment Group 1. The incentive paid to the customer will be calculated using the above code savings and the higher incentive rate ( $B * Y = \text{incentive}$ )

The incentive rate per group will be finalized through collaboration between the three IOUs, CPUC and The E2e Project prior to the launch of the Pilot. .

The figure below summarizes the structure:



Because participation is voluntary, it is expected that only part of the encouraged group will enroll and receive the audit. This self-selected group of businesses will be called the “Audited Group.” After the audit is completed, each business will be randomly placed in the Baseline Group or in one of the two Treatment groups, which vary according to the incentive received, as described in the figure above. While all audited businesses will receive a proposal, it is anticipated that only a portion of audited businesses will complete the retrofits and receive the incentives.

### 1.3. Business selection

The IOUs agree that The E2e Project team will be responsible for randomly assigning businesses to one of the treatment groups or the control group. This is important in order to assure that the evaluation is rigorous. The process will be “double-blind” to address all possible sources of bias (see below). The customers targeted in this Pilot include small and medium businesses defined as customers with a peak demand of 200kW or less.

The Pilot implementer will be notified of the customer treatment group after the audit. The communication method to the implementer is still under development, but will be tailored to fit with current program delivery methods and procedures.

**1.4. Measures incented**

This study will focus on lighting fixture measures. Lamp and ballast replacements will not be included. The “to-code” measures identified as part of the Pilot are as follows:

- LED recessed panels and integrated retrofit kits
- LED high bay fixtures
- LED exterior lighting fixtures
- LED retrofit strips

This proposed measure list reflects the measures that will be eligible for a “to code” incentive but is not exhaustive of eligible measures for the Pilot.

**1.5. Establishing the Baseline and the levels of incentive**

Treatment Group 1 will use the existing conditions as the baseline (As-Is Baseline) for the selected “to-code” measures, while the Control Group and Treatment Group 2 will use the current Commission-approved code baselines in a business-as-usual framework.

**1.6. Direct Install + Co-pay**

The Pilot will be implemented through the IOUs’ Direct Install with co-pay programs in order to boost uptake and provide a higher level of control for evaluation purposes.

**EVALUATION, MEASUREMENT AND VERIFICATION (EM&V): EVALUATION OBJECTIVES AND RESEARCHABLE QUESTIONS**

The To-Code Pilot will allow the IOUs to better understand the impact on program uptake and energy savings when incentives are based on existing conditions rather than above code savings. In addition, the IOUs aspire to incorporate the learning from the Pilot into Phase 3 of the Energy Efficiency Rolling Portfolio Rulemaking (R.13-11-005). This Pilot will be evaluated by the Commission’s consultant, The E2e Project, using a randomized encouragement design (RED).

### The Theory behind Randomized Encouragement Designs (REDs)

What exactly is a RED? REDs are based on the idea that all businesses can be categorized as one of three types:

1. The “**never-taker**” (NT) type will not enroll in the program, regardless of encouragement.
2. The “**always-taker**” (AT) type will enroll in the program, regardless of encouragement. These are the businesses in the control group that enroll.
3. The “**complier**” (C) type will be persuaded to enroll in the program when encouraged, but will not enroll without the encouragement.

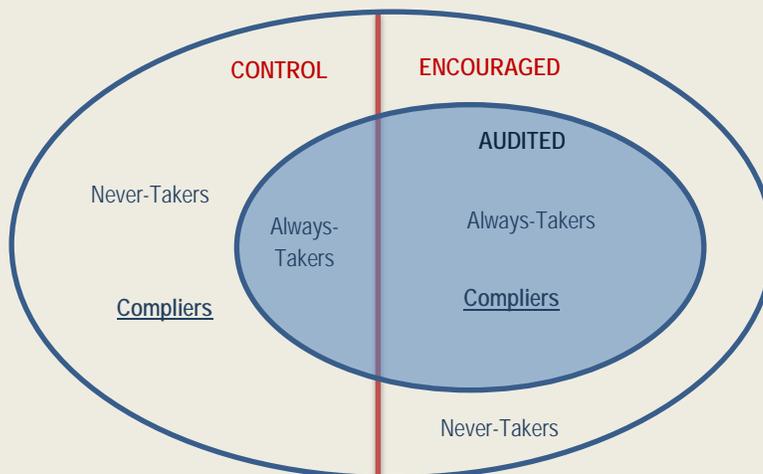
A useful impact evaluation can distinguish between always-takers and compliers. It also provides insights about how compliers react to an additional amount of incentive.

**Table 2: RED underlying assumptions**

	Encouraged	Control
Never-takers	Don't enroll	Don't enroll
Always-takers	Enroll	Enroll
Compliers	Enroll	Don't enroll

Randomization is a simple way to create groups that are statistically identical on observable and on non-observable characteristics. When randomizing the sample into encouraged and control groups, we should get the same proportion of never-takers, always-takers, and compliers in both groups. This is key in allowing us to estimate the impact of the program, since the only difference between the groups is the treatment.

Never-takers and always-takers behave in the same way regardless of their assignment, thereby “cancelling” each other out. When comparing encouraged and treatment groups, taking into consideration the proportion of compliers (revealed by the difference in take-up rates within the groups), we are actually recovering the impact of the program.



## **SOURCES OF BIAS**

As it is the case with any program evaluation, it is important to pay attention to the incentives that the Pilot will give to participants – these may create bias on the evaluation. The most significant of these biases is self-selection (e.g. a “greener” business selecting into one of the treatment groups), which will be eliminated by the randomized assignments. We do, however, need to map all other possible sources. The research team is working closely with the IOUs to correctly anticipate and address these biases, building solutions to address them into the design and the implementation of the To Code Pilot.

**1. How will the Pilot customers be identified? Is there a large pool of candidates that have not been approached in the past or will the Pilot re-approach candidates that may have already passed previously on the LED measures included in the Pilot?**

The IOUs will provide a list of all eligible businesses to The E2e Project team. An “eligible business” is defined as small and medium business customers with a peak demand of less than 200kW and a customer who has not participated in an IOU rebate program in the past 5 years as determined by the Research team. Other criteria is still being defined, and this information will be made publicly available to address transparency concerns. The database of eligible businesses provided to The E2e Project will not contain the actual names of the businesses. Instead, unique identifiers will be used. This will ensure that none of the parties (IOUs and The E2e Project team) will have any power to “cherry-pick” a specific list of businesses. Using a randomization algorithm (see below), the Pilot Customers (Control Group and Encouraged Group) will be drawn from that list.

**2. What do you mean by randomly select?**

The “random selection” of business is a process determined by a computer. None of the parties (The E2e Project team, IOUs, CPUC, vendors, and businesses) has any ability to influence this process. The E2e Project team will feed the list of unique identifiers (not business names), and the algorithm will select a portion of them to compose the Pilot.

**3. How will you decide on the Control/Encouraged split?**

This will also be a blind, random process. After the list of participants in the Pilot is defined, The E2e Project team will feed the unique identifiers into a similar algorithm. This algorithm will randomly select 10 percent of these businesses to be encouraged. These are the businesses that will be approached by the vendors. The vendors will not be allowed to approach control businesses.

**4. Do they IOUs have an incentive to place the biggest savers on the encouraged group?**

The IOUs will have no access to the algorithm.

**5. How does the study ensure the vendors will not influence enrollment?**

To avoid bias in the experiment, there will be an additional layer of “blindness” to the rollout. The Pilot implementer will not know to which treatment group (T1, T2, or Baseline) the business was assigned to until after the audit is completed. The Pilot implementer will be notified of the customer treatment group after the audit. The

communication method to the implementer is still under development, but will be tailored to fit with current program delivery methods and procedures.

The logistics on how to inform the vendor about this assignment are still under development.

**6. Clients who receive better incentive packages may encourage peers to enroll as well. Would this make it difficult to assign treatment and control group status randomly?**

Although we cannot control these Control businesses that want to (and can) enroll in the program, we expect this effect to be very limited given that this is a Pilot and the sample of clients is quite small. The large majority of businesses in the IOUs' territory will not be part of the Pilot.

**7. The IOUs have all been vocal regarding their preference to have savings credit and customer incentives be based on “to-code.” How will the Pilot be able to eliminate the known IOU bias to ensure the Pilot is bias-free and not prejudged given the IOUs are running the Pilots?**

The Pilot was designed such that none of the parties (IOUs, the CPUC, The E2e Project, vendors, businesses) have any control over the placement of a business in a certain group. This ensures that the evaluation will be impartial, credible, and rigorous.

## **SURVEY OF CURRENT CONDITIONS**

The E2E Project will conduct a survey of the current conditions of the businesses in each IOU's territory. This survey will consist of comprehensive audits of the businesses in the Encouraged Group with the goal of collecting additional information about all measures, not limited to lighting fixtures. It is expected that this survey will provide evidence on possible savings opportunities and on the feasibility of these retrofits. The exact variables and format of the survey are yet to be determined.

## **SCHEDULE**

The efforts of the program as described above will extend well beyond calendar year 2015. Providing the audits and retrofits under the scope of the pilot will continue for 12 months following launch. The evaluation will deliver preliminary results one year after the start of the data collection and deliver a final report by the end of 2017.

Under the model proposed, the general sequence of events is as follows:

1. Evaluation Design finalized
2. Randomization conducted
3. Audits offered
4. Retrofits concluded
5. Monitoring and data collection completed
6. Data analyzed

**Attachment 2: Pilot Budget**

The following tables represent the approximate budget per IOU per year for the life of the Pilot.

**Table 1a: Estimated Budget Summary per IOU per Year - Pilot Specific**

	<b>2015</b>	<b>2016</b>	<b>Total</b>
<b>Budget per IOU</b>			
PG&E	\$ 300,000	\$ 700,000	\$ 1,000,000
SCE	\$ 200,000	\$ 800,000	\$ 1,000,000
SDG&E	\$ 300,000	\$ 700,000	\$ 1,000,000
<b>Total Budget</b>	<b>\$ 800,000</b>	<b>\$ 2,200,000</b>	<b>\$ 3,000,000</b>

**Table 2a: Estimated PG&E Budget Summary - Pilot Specific**

Incremental Incentives for To-Code Portion of Treatment 1

	<b>2015</b>	<b>2016</b>	<b>TOTAL</b>
<b>Line Item</b>			
Administration	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
Marketing	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
Implementation	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
Above-Code Incentives	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
To-Code Incremental Incentives	\$ 300,000	\$ 700,000	\$ 1,000,000
<b>Total</b>	<b>\$ 300,000</b>	<b>\$ 700,000</b>	<b>\$ 1,000,000</b>

**Table 3a: EstimatedSCE Budget Summary - Pilot Specific**

Incremental Incentives for To-Code Portion of Treatment 1

	<b>2015</b>	<b>2016</b>	<b>TOTAL</b>
<b>Line Item</b>			
Administration	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
Marketing	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
Implementation	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs

Above-Code Incentives	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
To-Code Incremental Incentives	\$ 200,000.00	\$ 800,000.00	\$ 1,000,000.00
<b>Total</b>	<b>\$ 200,000.00</b>	<b>\$ 800,000.00</b>	<b>\$ 1,000,000.00</b>

**Table 4a: EstimatedSDG&E Budget Summary - Pilot Specific**  
Incremental Incentives for To-Code Portion of Treatment 1

	2015	2016	TOTAL
Line Item			
Administration	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
Marketing	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
Implementation	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
Above-Code Incentives	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
To-Code Incremental Incentives	\$ 300,000	\$ 700,000	\$ 1,000,000
<b>Total</b>	<b>\$ 300,000</b>	<b>\$ 700,000</b>	<b>\$ 1,000,000</b>

**Table 1b: Estimated Budget Summary per IOU per Year - Existing Programs**

	<b>2015</b>	<b>2016</b>	<b>Total</b>
<b>Budget per IOU</b>			
PG&E	\$ 867,900	\$ 2,025,100	\$ 2,893,000
SCE	\$ 589,621	\$ 2,358,485	\$ 2,948,106
SDG&E	\$ 753,348	\$ 1,757,813	\$ 2,511,161
<b>Total Budget</b>	<b>\$ 2,210,870</b>	<b>\$ 6,141,398</b>	<b>\$ 8,352,267</b>

**Table 2b: PG&E Estimated Budget Summary - Existing Programs**

Eligible to claim savings on the Above-Code Incentives

	<b>2015</b>	<b>2016</b>	<b>TOTAL</b>
<b>Line Item</b>			
Administration	\$ 76,500	\$ 178,500	\$ 255,000
Marketing	\$ 45,900	\$ 107,100	\$ 153,000
Implementation	\$ 229,500	\$ 535,500	\$ 765,000
Above-Code Incentives	\$ 516,000	\$ 1,204,000	\$ 1,720,000
<b>Total</b>	<b>\$ 867,900</b>	<b>\$ 2,025,100</b>	<b>\$ 2,893,000</b>

**Table 3b: SCE Estimated Budget Summary - Existing Programs**

Eligible to claim savings on the Above-Code Incentives

	<b>2015</b>	<b>2016</b>	<b>TOTAL</b>
<b>Line Item</b>			
Administration	\$ 40,946	\$ 163,784	\$ 204,730
Marketing	\$ 24,568	\$ 98,270	\$ 122,838
Implementation	\$ 114,649	\$ 458,594	\$ 573,243
Incentives	\$ 409,459	\$ 1,637,837	\$ 2,047,296
<b>Total</b>	<b>\$ 589,621</b>	<b>\$ 2,358,485</b>	<b>\$ 2,948,106</b>

**Table 4b: SDG&E Estimated Budget Summary - Existing Programs**

Eligible to claim savings on the Above-Code Incentives

	<b>2015</b>	<b>2016</b>	<b>TOTAL</b>
<b>Line Item</b>			
Administration	\$ 75,335	\$ 175,781	\$ 251,116
Marketing	\$ 45,201	\$ 105,469	\$ 150,670
Implementation	\$ 150,670	\$ 351,563	\$ 502,232
Incentives	\$ 482,143	\$ 1,125,000	\$ 1,607,143
<b>Total</b>	<b>\$ 753,348</b>	<b>\$ 1,757,813</b>	<b>\$ 2,511,161</b>

### **Attachment 3: Ten Pilot Elements**

Below are responses to the required 10 Pilot Elements outlined in Decision (D) 09.09.043.

***a. 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 D.14-10-046, the IOUs are directed to launch “to-code pilots” to better understand whether there is below-code equipment not being replaced. There is anecdotal evidence that there are cost-effective yet unachieved energy savings due to the significant investment required to achieve current energy codes and standards.

Each utility is directed to use up to \$1 million to fund incentives to conduct the pilot program over a 12 month period. In addition, the utilities are coordinating with the Commission and The E2e Project to establish an EM&V plan to assess the impact on program uptake and energy savings.

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

The To-Code Pilot is designed to ascertain the impact that incentives associated with existing conditions will have on customer adoption rates of Energy Efficiency (EE). The underlying hypothesis is that the increased incentive levels will result in customers implementing EE that they would not have otherwise, resulting in greater market penetration of EE. This Pilot contributes to goals associated with increasing efficiency in existing buildings (Commercial Goal 2) and improving code compliance (C&S Goal 2 and Lighting Goal 1), albeit through incentive-based interventions.

***c. Specific goals, objectives and end points for the project***

The purpose of the To-Code Pilot is to understand the following:

- The extent to which there is below-code equipment that is not getting replaced quickly enough through natural turnover or existing programs; and
- Assess whether cost-effective ratepayer-funded programs can be developed to target this equipment when Program Administrators receive savings credit and customer incentives are made available based on to-code, in addition to above-code, savings.

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

The Pilot will be evaluated by CPUC’s consultant E2e, using randomized encouragement design (RED).

The To-Code Pilot will determine if providing incentives on existing conditions (“to and through code”) increases energy efficiency program participation and achieves greater identified energy savings (both “to-code” and “above-code”). In addition, the Pilot will incentivize customers to implement retrofits that they would not have completed without the “to-code” incentive.

The To-Code Pilot team considered a number of different end-use technologies and associated Energy Efficiency measures for inclusion in this Pilot. The measure selection was ultimately informed by the constraining factors of the Pilot budget and the sample size requirements of the RED. In order to both stay within budget and ensure that the requisite number of customers could be treated, lighting was identified as the best fit end-use technology, given its relative cost and ubiquity amongst customers.

With the selection of lighting as the end-use, the Pilot team identified a number of criteria that were critical in determining the measure list for this Pilot. Each of the criteria, shown below, was established to align the Pilot design with the decision language and the spirit of a to-code pilot study.

- Pilot Criteria for Measures:
  - To-code and above-code savings
    - The To-Code Pilot is intended to bring customers above code, not simply to code. Consideration was also made for the potential below code savings and how much the customer would be influenced by the associated incentive.
  - Measure exceeds a simple modification in place
    - The To-Code Pilot was directed to focus on below-code equipment that is not getting replaced quickly enough. With lighting, it was critical to go beyond re-lamping and include additional modifications of equipment that is not as simple to replace, aligning the Pilot with the Commission direction. Lighting fixtures and ballasts can be long-lived and are not always replaced when lighting projects are implemented; the hard-wired equipment which is not always replaced and can stay in place past the expected useful life.
  - Measure represents high-quality, widely available, reasonable cost upgrade
    - All IOU programs strive to deliver quality projects for our customers. Additionally, the reasonable cost element will aid in the success of this Pilot; as customers in any treatment group will be presented with a reasonable project cost (i.e. the cost differential across treatment groups should not present a bias).
  - Measure meets all rebate/eligibility requirements for IOUs
    - Given that these measures will be delivered through an existing program and above code savings will be claimed, these requirements should be maintained in Pilot measure selection. Rebates will be calculated on first year savings as is standard for the IOUs.
- Proposed List of Measures Eligible for To-code Incentive:
  - LED recessed panels and integrated retrofit kits
  - LED high bay fixtures
  - LED exterior lighting fixtures
  - LED retrofit strips

This proposed measure list is not an exhaustive list of eligible measures for the Pilot, but does represent the measures receiving the “to-code” incentive.

To provide a greater level of consistency across customers, the Pilot will focus on small and medium business sector (<200kW demand). To facilitate a timely deployment and provide

greater control of RED implementation, i.e. reduce bias, the Direct Install program model will be leveraged.

***e. A clear budget and timeframe to complete the project and obtain results within a portfolio cycle - pilot projects should not be continuations of programs from previous portfolios***

Please refer to Attachment 2: Pilot Budget.

The attached budget table reflects an estimated budget and assumes that each IOU install 300 projects: 100 projects in the baseline group, 100 projects in Treatment 1, and 100 projects in Treatment 2.

The Pilot specific budget leverages existing programs and reflects \$1M per IOU for the incremental incentives for the To-Code portion of Treatment 1 (Tables 2a, 3a and 4a).

Each IOU is eligible to claim savings for the Above-Code incentives paid through leveraging existing programs (Tables 2b, 3b and 4b).

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

Treatment Group 1 will use the existing condition as the baseline (As-Is Baseline) for the selected measures while the Control Group and Treatment Group 2 will use the current Commission-approved code baselines in a business-as-usual framework as currently employed in the EE portfolio.

***g. Program performance metrics (see Section 4.6.3)***

Baseline versus Treatment 1 (T1): The comparison here is designed to test if a “to-code” incentive makes a difference in program uptake and deeper energy savings. To that end, we want to compare program uptake between the Baseline and T1 and energy savings between the Baseline and T1.

Baseline versus Treatment 2 (T2): The comparison here is to see if a bigger incentive drives more program uptake and project savings. To that end, we want to compare program uptake between the Baseline and T2 and energy savings between the Baseline and T2.

T1 versus T2: The comparison between here is to tease out the impact of the to-code incentive. We will examine the program uptake between these two groups as well as energy savings.

In addition to the impact on achieved savings, the To-Code Pilot will identify and measure the PPMs listed below. Included are associated goals that the utilities hope the Pilot can achieve.

PPM	Goal
Deeper Retrofits/Adoption of Above-code Measures (count of measures above code)	25%
Spillover (additional measures other than those on the To-Code list)	10%

The goals listed are in terms of percentage greater for treatment group(s) as compared to the control group. A primary component of the Pilot is to determine a To-Code incentive’s impact on increasing Deep Energy Retrofits and Spillover. The provided PPM levels are estimates of values that are likely to be considered meaningful increases.

***h. Methodologies to test the cost-effectiveness of the project***

The Pilot is a non-resource program as mandated by Decision 14-10-046. The “above code” savings for the Pilot will be claimed in the existing IOU direct install programs. The “to code” savings will not be claimed by the IOUs; however, the Pilot will measure these savings as part of the impact evaluation conducted by the CPUC’s consultant.

In addition to typical EM&V, the Pilot will collect data at the measure and project/customer level. This data will be used under various assumptions to calculate a number of different metrics related to savings and cost effectiveness to full assess the impact of the to-code offering, for example, such as for use in the “Duel Test” (TRC and PAC). The IOUs will work collaboratively with the CPUC and The E2e Project team to identify the appropriate cost-effectiveness framework in advance of launching the Pilot.

***i. A proposed EM&V plan***

Please see Attachment 4: EM&V Plan.

***j. A concrete strategy to identify and disseminate best practices and lessons learned from the pilot to all California IOUs 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 will inform the policy discussions to be held in Phase 3 of the EE Order Instituting Rulemaking (OIR) 13-11-005 in early 2016. The outcome of those discussions will shape the EE portfolio at the state level, informing the design of many different resource programs. Beyond the OIR discussions, it is anticipated that the experimental design nature of this Pilot will provide opportunities to disseminate the findings through industry conferences and/or publications. Final results from the complete study will be made publicly available at the end of 2017. These results will take two different forms: a working paper and a policy brief. The working paper will contain technical language and all the details of the analysis. The policy brief will focus on the main results and lessons learned. The E2e Project team will also submit the working paper for publication on a top Economics journal.

In addition, the second component of the evaluation strategy (as described in Attachment 1: Project Scope) is to use the Pilot as an opportunity to conduct a survey of the current conditions of businesses in each IOU’s territory. Results of the survey of current conditions will be included on the preliminary results report. This report will be made available to the IOUs, CPUC and the public one year after the rollout of the program. This is a low-cost effort to produce more evidence on possible savings opportunities. This survey will be composed by comprehensive audits of the businesses in the Encouraged Group with the goal of collecting additional information about all measures, not limited to lighting fixtures. It is expected that this survey will provide evidence on possible savings opportunities and on the feasibility of these retrofits. The exact variables and format of the survey are yet to be determined.

**Attachment 4: EM&V Plan**

The California Public Utilities Commission (Commission) will lead the To-Code Pilot impact evaluation and has selected The E2e Project (E2E) as the consultant. E2E will evaluate the program using a randomized encouragement design (RED). REDs are based on the idea that all businesses can be categorized as one of three types:

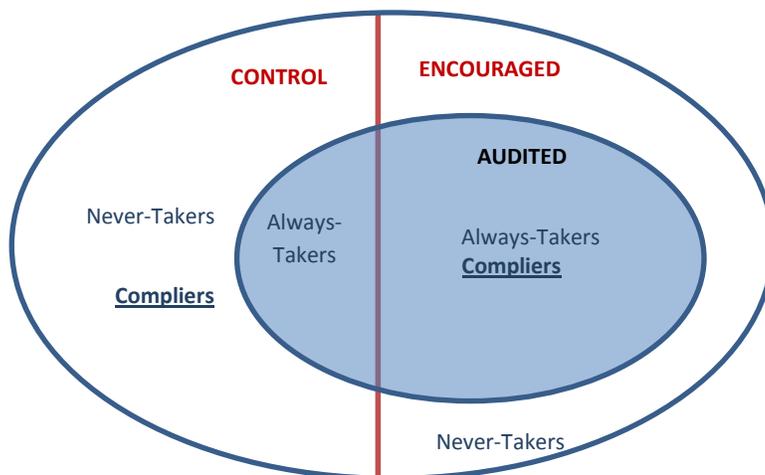
1. The “**never-taker**” (NT) type will not enroll in the program, regardless of encouragement.
2. The “**always-taker**” (AT) type will enroll in the program, regardless of encouragement. These are the businesses in the control group that enroll.
3. The “**complier**” (C) type will be persuaded to enroll in the program when encouraged, but will not enroll without the encouragement.

**Table 2: RED underlying assumptions**

	Encouraged	Control
Never-takers	Don't enroll	Don't enroll
Always-takers	Enroll	Enroll
Compliers	Enroll	Don't enroll

Randomization is a simple way to create groups that are statistically identical on observable and on non-observable characteristics. When randomizing the sample into encouraged and control groups, we should get the same proportion of never-takers, always-takers, and compliers in both groups. This is key in allowing us to estimate the impact of the program, since the only difference between the groups is the treatment.

Never-takers and always-takers behave in the same way regardless of their assignment, thereby “cancelling” each other out. When comparing encouraged and treatment groups, taking into consideration the proportion of compliers (revealed by the difference in take-up rates within the groups), we are actually recovering the impact of the program.



The RED impact evaluation should distinguish between always-takers and compliers. It also provides insights about the lowest incentive level necessary to persuade compliers to enroll on the program.

The evaluation design and the program design have occurred simultaneously. Working closely with E2E, the IOUs will select approximately 10,000 small to medium business customers with peak demand of less than 200kW to participate in the Pilot. E2E will randomly assign 10% of the customers to the encouraged group, and the remaining customers to the Control Group. The IOUs will provide the list of customers in the Encouraged Group to the Pilot implementer. Audits will be offered to all businesses in the Encouraged Group. Customers in the Control Group will be monitored but will not be contacted by the Pilot implementer to receive an audit. Encouraged businesses will be offered a free audit that they can then choose to participate in. The implementer will conduct audits; assessing the landscape of existing conditions.

In order to ensure there is no bias going into the experiment, the Pilot will add an extra layer of “blindness” to the rollout. The Pilot implementer will not know to which treatment group (T1, T2, or Baseline) the (encouraged) business was assigned to until after the audit is completed. This assignment will be done by E2E, to prevent bias in the experiment. The logistics on how to inform the vendor about this assignment are still being finalized. After the audit takes place, businesses that take up the retrofits after encouragement will be informed of their assignment to one of three incentive levels (Baseline, Treatment 1 or Treatment 2):

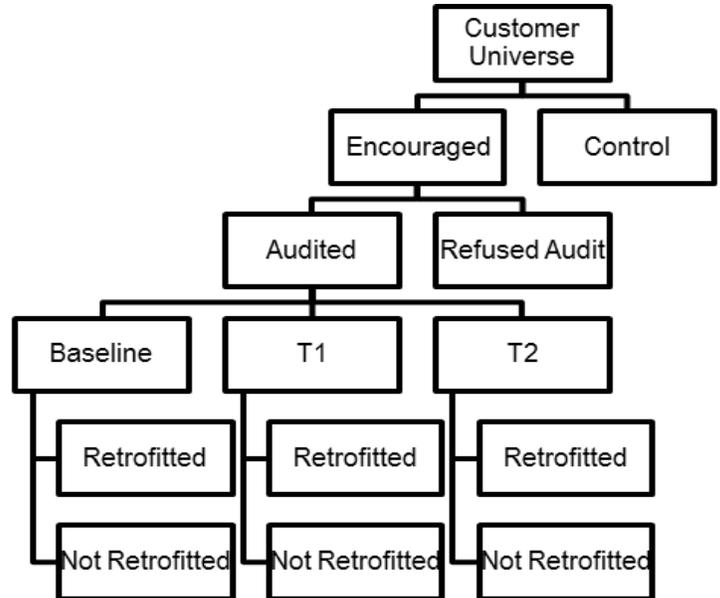
- **Baseline Group** – Receives encouragement and standard incentive levels for above-code measures currently allowed in the portfolio.
- **Treatment Group 1 (T1)** – Receives encouragement and incentives to and above code. The intent is to calculate the savings using the customer’s site-specific conditions.
- **Treatment Group 2 (T2)** – Receives encouragement and incentives above code at a higher rate than Treatment 1 and the Baseline Group. The intent is to use code as a baseline for incentive calculations. This treatment group will determine the effect of a higher incentive for the existing savings claim. The rate of the incentive will not necessarily be proportional to the overall incentive for Treatment Group 1.

The customer can participate in the Pilot with any one or combination of measures available through the Pilot. Additional “to-code” savings incentives will only be applied to lighting measures identified as part of the To-Code Pilot. Outside of the lighting, other opportunities based on site-specific conditions will be available to the customer as offered in the standard Direct Install program using the standard incentive rate.

Once the proposal is presented to the customer, the implementer will gather information and report on customer uptake and estimated savings, providing initial insights into these two policy issues. Actual as-built savings will be calculated as customer installations are completed.

The amount given to businesses as incentive is yet to be finalized. This summarizes the graphic below:

Because participation is voluntary, it is expected that only part of the encouraged group will enroll and receive the audit. This self-selected group of businesses will be called the “Audited Group.” After the audit is completed, each business will be randomly placed in one of the three treatment groups, which vary according to the incentive received: Baseline, T1 and T2, as described in the figure to the right. While the audited businesses will all receive a proposal for installation, it is expected that only a proportion of audited businesses will complete the retrofits and receive the incentives.



Through the Pilot, the IOUs seek to better understand the impact on program uptake and energy savings when incentives are based on existing conditions rather than above code savings. The IOUs also seek to understand the difference in program uptake and energy savings between the two treatment groups. In addition, the IOUs aspire to incorporate the learning from the Pilot into Phase 3 of the Energy Efficiency Rolling Portfolio Rulemaking (R.13-11-005). E2E will evaluate the program results.

## Attachment 5: Program Implementation Plan

### Program Overview<sup>1</sup>

#### 1) Program Name

State Wide To-Code Pilot

#### 2) Program Description (general)

The Pilot will determine if providing incentives calculated based on existing conditions (“to and through code”) increases energy efficiency program participation and achieves greater identified energy savings (both “to-code” and “above-code”).

The Pilot will be implemented jointly by Pacific Gas and Electric Company (PG&E), San Diego Gas and Electric Company (SDG&E), and Southern California Edison Company’s (SCE) (collectively the “IOUs”) in a consistent and collaborative manner. Each IOU will deliver the Pilot by leveraging their existing Direct Install programs.

The Pilot will be offered to approximately 10,000 small and medium business customers with a peak demand of less than 200kW determined by the Research team. Approximately 10 percent of these customers, selected randomly, will be offered an audit (Encouraged Group).

Implementers might be biased into focusing on businesses that got the highest level of rebate because they think take-up may be larger in these cases. To address this issue, the Pilot will add an extra layer of “blindness” to the rollout. The vendor will not know to which treatment group (T1, T2, or Baseline) the (encouraged) business was assigned to until after the audit is completed. The logistics on how to inform the vendor about this assignment are still being finalized. After the audit takes place, business customers will be notified of their assigned incentive level (Baseline, Treatment 1 or Treatment 2):

- Baseline Group – Receives encouragement and standard incentive levels for above-code measures currently allowed in the portfolio.
- Treatment Group 1 – Receives encouragement and incentives to and above code. The intent is to calculate the savings using the customer’s site-specific conditions.
- Treatment Group 2 – Receives encouragement and incentives above code at a higher rate than Treatment 1. The intent is to use code as a baseline for incentive calculations.

All businesses (encouraged or not) will be monitored such that a comparison between customers can be drawn.

Although energy savings will be tracked for evaluation purposes, the IOUs will not be claiming any savings for the to-code portion under this Pilot, but rather claim the normally allowed above-code savings attributable to each IOU’s Direct Install program.

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<sup>1</sup> This cover page “Program Overview Template” shall be completed consistently by all IOUs for statewide programs.

The Pilot is being designed using a Randomized Encouragement Design method that is being performed by the California Public Utilities Commission's (Commission) contractor, The E2e Project.

Note: SoCalGas is conducting a different model of the To-Code Pilot. This PIP applies only to PG&E, SCE, and SDG&E.

**3) Total Projected Program Budget and Savings**

**4) Table 1: Total Projected Program Budget & Savings by Subprogram**

Subprogram	PG&E (\$)	SCE (\$)	SDG&E (\$)	SCG (\$)	Total (\$)	Kwh	KW	Therms
<b>To-Code Pilot</b>	\$1,000,000	\$1,000,000	\$1,000,000		\$3,000,000	0	0	0
<b>Total</b>	\$1,000,000	\$1,000,000	\$1,000,000		\$3,000,000	0	0	0

**5) Table 2: Total Projected Program Savings by IOU**

Treatment 1 includes the to-code portion of a project. This group within the Pilot is non-resource with no associated claimable savings.

**6) Short description of each subprogram** (*suggested word limit- 50 words/subprogram*).

There are no sub-programs under the To-Code Pilot.

**Sub-Program  
Program Implementation Plan Template<sup>23</sup>**

- 1) **Sub-Program Name:** To-Code Pilot
- 2) **Sub-Program ID number:**
- 3) **Type of Sub-Program:**  Core  Third Party  Partnership
- 4) **Market sector or segment that this sub-program is designed to serve<sup>4</sup>:**
  - a.  Residential
    - 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: all \_\_\_\_\_)
  - c.  Industrial (List applicable NAIC codes: \_\_\_\_\_)
  - d.  Agricultural (List applicable NAIC codes: \_\_\_\_\_)

- 5) **Is this sub-program primarily a:**
  - a. Non-resource program  Yes  No
  - 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.

7) **Projected Sub-program Total Resource Cost (TRC) and Program Administrator Cost (PAC)** TRC  PAC

The Pilot will collect data at the measure and project/customer level. This data will be used under various assumptions to calculate a number of different metrics related to savings and cost effectiveness to full assess the impact of the to-code offering. The IOUs will work collaboratively with the CPUC and E2e to identify the appropriate cost-effectiveness framework in advance of launching the Pilot.

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<sup>2</sup> Subprogram descriptions shall be provided for all subprograms, by all IOUs implementing the subprogram. Narrative text shall in general be identical across these submissions. For any unique IOU-specific deviations from the agreed statewide subprogram, each IOU shall indicate narrative text unique to their IOU by bolding or underscoring the relevant text. Unless otherwise indicated, budget and other tables may be unique to each IOU..

<sup>3</sup> Suggested page limit for subprogram PIPs: 15 pages for each resource acquisition and non-resource sub-program, and 20 pages for each market transformation-oriented subprogram. A "sub-program" of a statewide program has: a specific name, targets a specific market sub-segment or uses a unique delivery or marketing approach not used across the entire program; has a specific budget; and, for resource programs, has specific estimated savings and demand impacts.

<sup>4</sup> Check all that apply

**8) Projected Sub-Program Budget**

**Table 1. Projected Sub-Program Budget, by Calendar Year<sup>5</sup>**

Sub-Program	Program Year		
	2015	2016	Total
Admin (\$)	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
General overhead (\$)	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
Incentives (\$)	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
To-Code Incremental Incentives	\$1,000,000	\$2,000,000	\$3,000,000
Direct Install Non-Incentives (\$)	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
Marketing & Outreach (\$)	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
Education & Training	Leveraging Existing Programs	Leveraging Existing Programs	Leveraging Existing Programs
Total Budget	\$1,000,000	\$2,000,000	\$3,000,000

For additional information, please see Attachment 2: To-Code Pilot Budget.

**9) Sub-Program Description, Objectives and Theory**

**a) Sub-Program Description and Theory:**

The objective of the Pilot is to determine if providing incentives calculated based on existing conditions (“to and through code”) increases energy efficiency program participation and achieves greater identified energy savings (both “to-code” and “above-code”).

This Pilot is designed to address the lost savings potential of energy savings that are below the current baseline. The market considers these savings “stranded” and the Pilot is designed to show that to-code incentives can be effective in removing the financial barrier that contributes to the “stranded” savings.

<sup>5</sup> Individual utility specific information to be provided in this table

Baseline versus Treatment 1 (T1): The comparison here is designed to test if a “to-code” incentive makes a difference in program uptake and deeper energy savings. To that end, we want to compare program uptake between the Baseline and T1 and energy savings between the Baseline and T1.

Baseline versus Treatment 2 (T2): The comparison here is to see if a bigger incentive drives more program uptake and project savings. To that end, we want to compare program uptake between the Baseline and T2 and energy savings between the Baseline and T2.

T1 versus T2: The comparison between here is to tease out the impact of the to-code incentive. We will examine the program uptake between these two groups as well as energy savings.

**b) Sub-Program Energy and Demand Objectives-**

The to-code energy savings will not be claimed by the IOUs, but the “above-code” energy savings will be claimed through existing programs.

**Table 2. Projected Sub-Program Net Energy and Demand Impacts, by Calendar Year<sup>6</sup>**

	Program Years		Total
	2015	2016	
<b>Sub-program Name</b>	Pilot	Pilot	Pilot
GWh	N/A	N/A	N/A
Peak MW	N/A	N/A	N/A
Therms (millions)	N/A	N/A	N/A

**c) Program Non-Energy Objectives:**

*[Please refer to Attachment A of this template for instructions on how to provide Non-Energy Objectives]*

Baseline versus Treatment 1 (T1): The comparison here is designed to test if a “to-code” incentive makes a difference in program uptake and deeper energy savings. To that end, we want to compare program uptake between the Baseline and T1 and energy savings between the Baseline and T1.

Baseline versus Treatment 2 (T2): The comparison here is to see if a bigger incentive drives more program uptake and project savings. To that end, we want to compare program uptake between the Baseline and T2 and energy savings between the Baseline and T2.

<sup>6</sup> Individual utility specific information to be provided in this table

T1 versus T2: The comparison between here is to tease out the impact of the to-code incentive. We will examine the program uptake between these two groups as well as energy savings.

In addition to the impact on achieved savings, the To-Code Pilot will identify and measure the PPMs listed below. Included are associated goals that the utilities hope the Pilot can achieve.

PPM	Goal
Deeper Retrofits/Adoption of Above-code Measures (count of measures above code)	25%
Spillover (additional measures other than those on the To-Code list)	10%

The goals listed are in terms of percentage greater for treatment group(s) as compared to the control group. A primary component of the Pilot is to determine a To-Code incentive’s impact on increasing Deep Energy Retrofits and Spillover. The provided PPM levels are estimates of values that are likely to be considered meaningful increases.

**d) Cost Effectiveness/Market Need:**

The need for this program is based on both the stakeholder’s input and the Commission’s direction in D.14-10-046.

The Pilot is a non-resource program as mandated by Decision 14-10-046. The “above code” savings for the Pilot will be claimed in the existing IOU direct install programs. The “to code” savings will not be claimed by the IOUs; however, the Pilot will measure these savings as part of the impact evaluation conducted by the CPUC’s consultant.

In addition to typical EM&V, the Pilot will collect data at the measure and project/customer level. This data will be used under various assumptions to calculate a number of different metrics related to savings and cost effectiveness to full assess the impact of the to-code offering. The IOUs will work collaboratively with the CPUC and The E2e Project to identify the appropriate cost-effectiveness framework in advance of launching the Pilot.

**e) Measure Savings/ Work Papers:**

- a. Above Code savings will be based on current DEER values. The To-Code savings for the same measures will be based on DEER; however, it may be necessary to use previous DEER versions to establish the To-Code savings values.

**Table 4 – Work paper Status**

*Not Applicable*

**10) Program Implementation Details**

**a) Timelines:**

**Table 5: Pilot Milestones and Timeline**

The Pilot launch is anticipated to be in September 2015. Providing the audits and retrofits under the scope of the Pilot will continue for 12 months following launch. The evaluation will deliver preliminary results one year after the start of the data collection and deliver a final report by the end of 2017, at the earliest.

Milestone	Date
Pilot Approval	Sept. 2015
Implementer Contracts/Amendments Executed	Sept 2015
Marketing Materials Completed	Sept 2015
Pilot Launch	Sept 2015
Pilot Implementation Completed	September 2016
Preliminary Pilot Report Published	September 2016
Final Pilot Report Published	Q4 2017

**b) Geographic Scope:**

Each of the three IOUs will select geographic areas within their respective service territories based on the needs of sampling sizes of the Control and Treatment groups. Thus the Pilot will be offered to a rather limited number of customers.

**Table 6: Geographic Regions Where the Program Will Operate**

*See attached Table 6 Geographic Regions*

**c) Program Administration**

**Table 7: Program Administration of Program Components**

*See attached Table 7 Program Administration*

**d) Program Eligibility Requirements:**

- i. Customers:** List any customer eligibility requirements (e.g., annual energy use, peak kW demand):

Customers must meet the current eligibility requirements for each IOU's Direct Install Program. These programs are targeted at Commercial customers with peak demand of less than 200 kW.

**Table 8: Customer Eligibility Requirements (Joint Utility Table)**

*See attached Table 8 Customer Eligibility Requirements*

**ii. Contractors/Participants:**

The Pilot is not available to the contractor community at-large. Rather, each of the IOUs will assign one of their Direct Install implementers to the Pilot.

**Table 9: Contractor/Participant Eligibility Requirements (Joint Utility Table)**

Not Applicable to this Pilot.

**e) Program Partners:**

**a. Manufacturer/Retailer/Distributor partners: :**

None.

**Table 10: Manufacturer/Retailer/Distributor Partners**

Not Applicable to this Pilot.

**b. Other key program partners:** Indicate any research or other key program partners:

As a consultant to the CPUC, The E2e Project has been and will continue to be an active partner with the IOUs during all phases of the Pilot. The scope of the evaluation includes, but not limited to, design of the Control and Treatment groups, sample size and incentive assignment, and statistical evaluation, including billing analysis, of Pilot results.

**f) Measures and incentive levels:**

The To-Code Pilot considered a number of different end-use technologies and associated Energy Efficiency measures for inclusion in this Pilot. The measure selection was ultimately informed by the constraining factors of the Pilot budget and the sample size requirements of the RED. In order to both stay within budget and ensure that the requisite number of customers could be treated, lighting was identified as the best fit end-use technology, given its relative cost and ubiquity amongst customers.

Proposed List of Measures Eligible for To-code Incentive:

- LED recessed panels and integrated retrofit kits
- LED high bay fixtures
- LED exterior lighting fixtures
- LED retrofit strips

This proposed measure list reflects the measures that will be eligible for a “to code” incentive but is not exhaustive of eligible measures for the Pilot.

To provide a greater level of consistency across customers, the Pilot will focus on small and medium business sector (<200kW demand). To facilitate a timely deployment and provide greater control of RED implementation, i.e. reduce bias, the Direct Install program will be leveraged.

Incentive levels will vary by treatment group:

- **Baseline Group** – Standard incentive levels for above-code measures currently allowed in the portfolio.
- **Treatment Group 1** – Incentives to and above code. The intent is to calculate the savings using the customer's site-specific conditions.
- **Treatment Group 2** – Incentives to and above code at a higher rate than Treatment 1. The intent is to use code as a baseline for incentive calculations.

The incentive rate per group is yet to be finalized.

**Table 11: Summary Table of Measures, Incentive Levels and Verification Rates**

*See attached Table 11 Summary Table of Measures, Incentive Levels and Verification Rates*

- g) Additional Services:** List additional services that the sub-program will provide, to which market actors.

The To-Code Pilot will be implemented by each IOUs Direct Install Program implementer. Thus in addition to the To-Code Pilot offering, participating customers will be offered installation of other measures included in each IOUs Direct Install Program.

**Table 12: Additional Services**

*See attached Table 12 Additional Services*

- h) Sub-Program Specific Marketing and Outreach:**

Pilot specific marketing materials will be limited to informational materials developed by the IOUs for use by the Pilot implementer. These materials will be developed at the beginning of the Pilot for use at program launch. Outreach will be performed through direct customer contact by the Pilot contractors.

No general marketing or mass outreach will be performed as this Pilot is being offered on a limited and controlled basis per program design.

- i) Sub-Program Specific Training:**

The Pilot implementers will be trained by the IOUs and The E2e Project in a joint Pilot training session. The aim of this training session is both to fully communicate the Pilot objectives, procedures, data collection requirements

and necessary controls and to do so in a state-wide consistent manner to promote consistent implementation.

**j) Sub-Program Software and/or Additional Tools:**

- a. No specific software or similar tools are required for Pilot participation.
- b. Indicate if pre and/or post implementation audits will be required for the sub-program.  
Pre-implementation audit required  Yes  No  
Post-implementation audit required  Yes  No
- c. Audits will be performed at no cost to the Customer by the implementing contractor. The contractors will be paid under the terms of the existing IOU Direct Install programs.

**Table 13: Post-implementation Audits**

*See attached Table 13 Program Related Audits*

**k) Sub-Program Quality Assurance Provisions:** Please list quality assurance, quality control, including accreditations/certification or other credentials

None specific to the Pilot, but existing QA provisions of the IOUs Direct Install programs will apply.

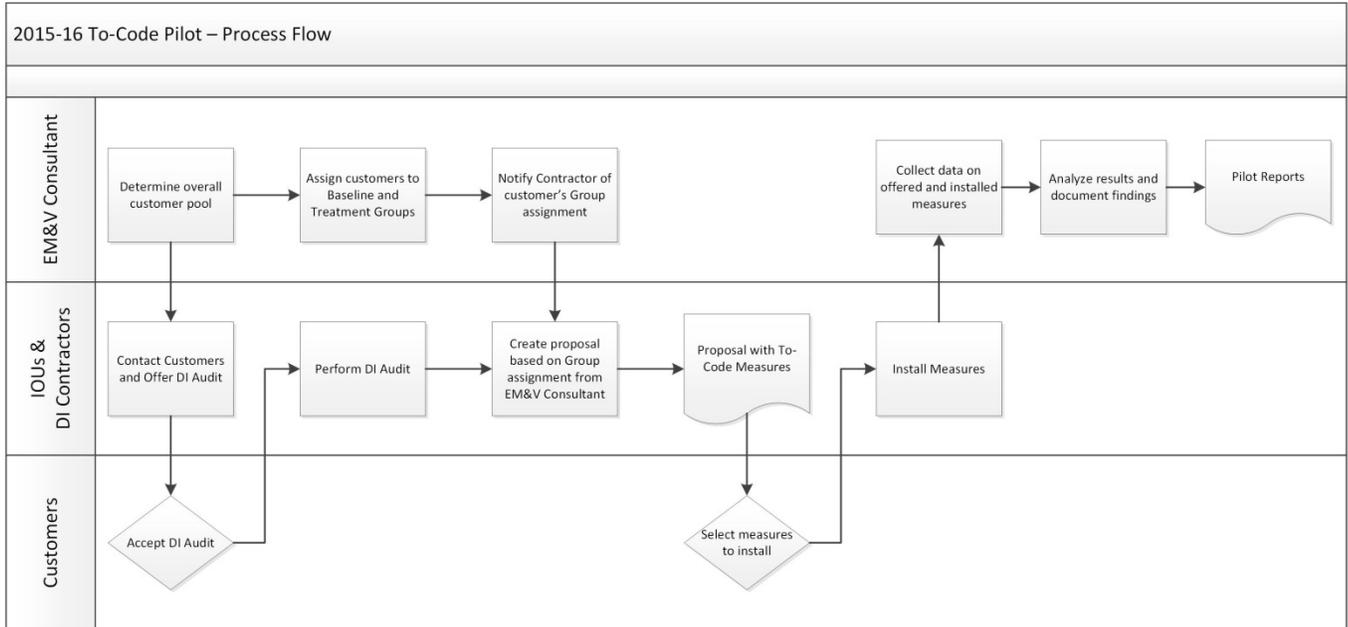
**Table 14: Quality Assurance Provisions**

*Not Applicable to this Pilot.*

**l) Sub-program Delivery Method and Measure Installation /Marketing or Training:**

None

**m) Sub-program 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.



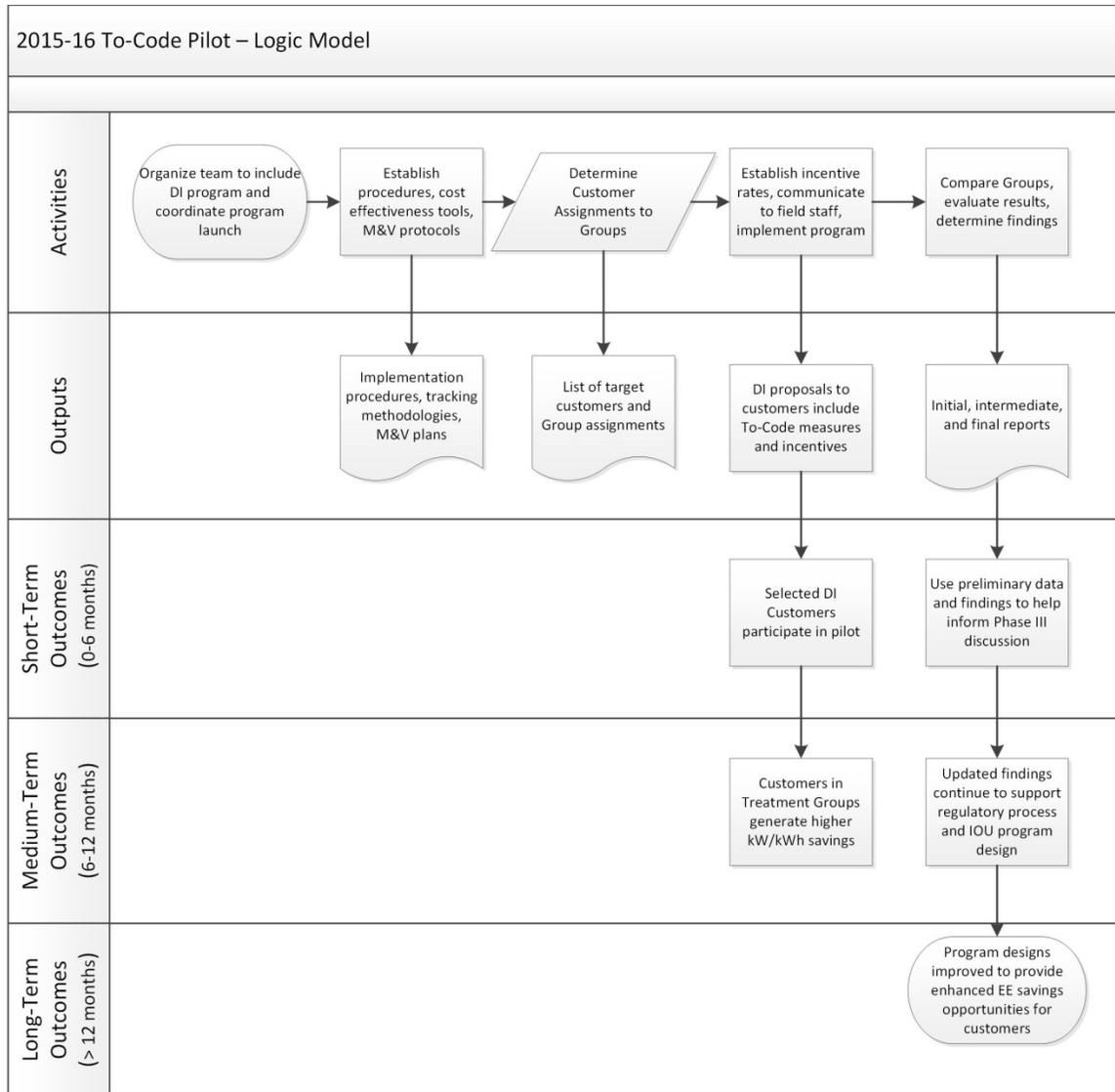
**n) Cross-cutting Sub-program and Non-IOU Partner Coordination: :**

The Pilot will coordinate on an on-going basis with the Pilot implementers. Additionally, the Pilot will coordinate, on a state-wide basis with the Commission and E2e on design, implementation, data collection, and evaluation topics. This coordination will be provided on an on-going basis for the duration of the Pilot.

**Table 15: Cross-cutting Sub-program and Non-IOU Partner Coordination**

*See attached Table 15 Cross-cutting Sub-program and Non-IOU Partner Coordination*

**o) Logic Model:** Please append the logic model for this sub-program to the end of this PIP. Describe here any additional underlying theory supporting the sub-program intervention approach, referring as needed to the relevant literature (e.g., past evaluations, best practices documents, journal articles, books, etc.).



**11) Additional Sub-Program Information**

**a) Advancing Strategic Plan Goals and Objectives:**

The pilot is designed to ascertain the impact that incentives associated with existing conditions will have on customer adoption rates of Energy Efficiency (EE). The underlying hypothesis is that the increased incentive levels will result in customers implementing EE that they would not have otherwise, resulting in greater market penetration of EE. This pilot contributes to goals associated with increasing efficiency in existing buildings (Commercial Goal 2) and improving code compliance (C&S Goal 2 and Lighting Goal 1), albeit through incentive-based interventions.

**b) Integration**

**i. Integrated/coordinated Demand Side Management**

DSM is not part of this pilot; however, customers will receive audits that incorporate DSM objectives under the normal provisions of the Direct Install programs.

**Table 16: Non-EE Sub-Program Information**

*Not Applicable to this pilot.*

ii. **Integration across resource types**

Not an objective of this pilot.

c) **Leveraging of Resources**

The Pilot will highly leverage the existing IOU Direct Install programs.

d) **Trials/ Pilots:**

The To-Code Pilot is a pilot program.

e) **Knowledge Transfer:**

Results and lessons learned from the Pilot will be summarized and described in a report to be completed by the IOUs and E2e. It is intended that the data and findings of the Pilot will be used in the current Energy Efficiency Rolling Portfolio Rulemaking (R.13-11-005) to inform the applicability of using to-code savings in future EE programs.

12) **Market Transformation Information:**

Not Applicable to this Pilot.

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

None

## ATTACHMENT A

### 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 SMART<sup>7</sup> non-energy objectives of the program. These should correspond to key methods identified above to overcome the market barriers, areas of concern or gaps, and to the outputs and short, mid- and long-term non-energy outcomes identified in the logic model requested below.
- ii. For each SMART objective, identify the quantitative targets, direction or percent of change that you hope to achieve during the program cycle.<sup>8</sup>
- 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):** If not already provided above, indicate estimates of the number of measure units, buildings, etc. projected to be treated by the sub-program.

#### Table 3. Quantitative Program Targets (PPMs)

*[Table 3 Quantitative Program Targets (PPMs) to be provided as an Excel Attachment to this PIP. Please see file "AppendixC\_2013-2014\_PIPTemplate\_NEWPrograms\_V05Attachment.xlsx" for table formats]*

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<sup>7</sup> 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 vender 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 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 service territory that are considered quality installations will increase by 25%.
- c) By 2020, installations of energy efficient packaged air conditions in the SCE service territory that are considered quality installations will increase by 75%.

<sup>8</sup> Please also add any new program objectives and quantitative targets for statewide programs to the portfolio PPM/MTI reporting template.

**Attachment 6: PIP Attachments**

Table 1: Total Projected Program Budget & Savings by Subprogram

Subprogram	PG&E (\$)	SCE (\$)	SDG&E (\$)	Kwh	KW	Therms
A	\$ 1,000,000.00	\$ 1,000,000.00	\$ 1,000,000.00	N/A - To Code savings are not claimable	N/A - To Code savings are not claimable	N/A - To Code savings are not claimable
Total	\$ 1,000,000.00	\$ 1,000,000.00	\$ 1,000,000.00	N/A - To Code savings are not claimable	N/A - To Code savings are not claimable	N/A - To Code savings are not claimable



Table 1a. Projected Sub-Program Budget, by Calendar Year - PG&E

Sub-Program	Program Year		
	2015	2016	Total
Admin (\$)	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
General overhead (\$)	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
To Code Incentives (\$)	\$ 300,000.00	\$ 700,000.00	\$ 1,000,000.00
Direct Install Non-Incentives (\$)	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
Marketing & Outreach (\$)	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
Education & Training	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
Total Budget	\$ 300,000.00	\$ 700,000.00	\$ 1,000,000.00

Individual utility specific information to be provided in this table

Table 1b. Projected Sub-Program Budget, by Calendar Year - SCE

Sub-Program	Program Year		
	2015	2016	Total
Admin (\$)	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
General overhead (\$)	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
To Code Incentives (\$)	\$ 200,000.00	\$ 800,000.00	\$ 1,000,000.00
Direct Install Non-Incentives (\$)	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
Marketing & Outreach (\$)	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
Education & Training	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
Total Budget	\$ 200,000.00	\$ 800,000.00	\$ 1,000,000.00

Table 1c. Projected Sub-Program Budget, by Calendar Year - SDG&E

Sub-Program	Program Year		
	2015	2016	Total

Admin (\$)	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
General overhead (\$)	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
To Code Incentives (\$)	\$ 300,000.00	\$ 700,000.00	\$ 1,000,000.00
Direct Install Non-Incentives (\$)	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
Marketing & Outreach (\$)	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
Education & Training	Leveraging existing programs	Leveraging existing programs	Leveraging existing programs
Total Budget	\$ 300,000.00	\$ 700,000.00	\$ 1,000,000.00

Table 2. Projected Sub-Program Net Energy and Demand Impacts, by Calendar Year - N/A, To Code savings are not claimable under this pilot.

	Program Years		Total
	2013	2014	
Sub-program Name			
GWh			
Peak MW			
Therms (millions)			

Individual utility specific information to be provided in this table

Table 3. Quantitative Program Targets (PPMs) - Estimated

PPM	Goal
Deeper Retrofits/Adoption of Above-code Measures (count of measures above code)	25%
Spillover (additional measures other than those on the To-Code list)	10%

*Not Applicable to this Pilot.*

**Table 4 – Work paper Status**

#	Workpaper Number/Measure Name	Approved	Pending Approval	Submitted but Awaiting Review
1				
2				
3				
4				
5				
6				

Table 5: Sub-Program Milestones and Timeline - Dates estimated and dependent on Advice Letter approval

Milestone	Date
Pilot Approval	Sept. 2015
Implementer Contracts/Amendments Executed	Sep-15
Marketing Materials Completed	Sep-15
Pilot Launch	Sep-15
Pilot Implementation Completed	Sep-16
Preliminary Pilot Report Published	Sep-16
Final Pilot Report Published	Q4 2017 or Q1 2018

Table 6 Geographic Regions

<b>Geographic Region</b>	
CEC Climate Zone 1	
CEC Climate Zone 2	
CEC Climate Zone 3	PG&E (potentially limited geography depending on implementer)
CEC Climate Zone 4	PG&E (potentially limited geography depending on implementer)
CEC Climate Zone 5	PG&E (potentially limited geography depending on implementer)
CEC Climate Zone 6	
CEC Climate Zone 7	SDG&E (limited to customers served by two specific substations in the Oceanside/Vista area)
CEC Climate Zone 8	
CEC Climate Zone 9	
CEC Climate Zone 10	
CEC Climate Zone 11	
CEC Climate Zone 12	
CEC Climate Zone 13	
CEC Climate Zone 14	
CEC Climate Zone 15	
CEC Climate Zone 16	

**Table 7: Program Administration of Program Components**

Program Name	Program Component	Implemented by IOU Staff? (X = Yes)	Implemented by contractors to be selected by competitive bid process (if Yes then enter type of contractor/other market actor possibly used)	Implemented by contractors NOT selected by competitive bid process (list prime contractor and sub-contractor names)	Implemented by local government or other entity ( X = Yes)
To-Code Pilot	Installation Reporting	X	Existing DI Contractors/Implementers previously selected by competitive bidding.		
To-Code Pilot	All other Admin activities	X			

Table 8: Customer Eligibility Requirements (Joint Utility Table)

<b>Customer Eligibility Requirement (list of requirements)</b>	<b>PGE</b>	<b>SCE</b>	<b>SDGE</b>
Segment	Com	Com	Com
Peak Demand	<200kW	<200kW	<200kW

The utilities must work together and submit this table jointly in their respective applications

Table 9: Contractor Eligibility Requirements (Joint Utility Table)

***Not Applicable to this Pilot. See PIP.***

<b>Contractor Eligibility Requirement (list of requirements)</b>	<b>PGE</b>	<b>SCE</b>	<b>SDGE</b>

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).

The utilities must work together and submit this table jointly in their respective applications



Table 11: Summary Table of Measures, Incentive Levels and Verification Rates (Not an exhaustive list of measures for this pilot.)

Measure Group	Market Actor Receiving Incentive or Rebate	PGE		SCE		SDGE	
		Incentive Level	Installation Sampling Rate	Incentive Level	Installation Sampling Rate	Incentive Level	Installation Sampling Rate
LED recessed panels and integrated retrofit kits	Customer	varies by group	same as existing DI Program	varies by group	same as existing DI Program	varies by group	same as existing DI Program
LED high bay fixtures	Customer	varies by group	same as existing DI Program	varies by group	same as existing DI Program	varies by group	same as existing DI Program
LED exterior lighting fixtures	Customer	varies by group	same as existing DI Program	varies by group	same as existing DI Program	varies by group	same as existing DI Program
LED retrofit strips	Customer	varies by group	same as existing DI Program	varies by group	same as existing DI Program	varies by group	same as existing DI Program
Indoor high-efficiency lighting fixtures	Customer	varies by group	same as existing DI Program	varies by group	same as existing DI Program	varies by group	same as existing DI Program
Outdoor high-efficiency lighting fixtures	Customer	varies by group	same as existing DI Program	varies by group	same as existing DI Program	varies by group	same as existing DI Program

- a. Use a single excel spreadsheet to indicate the eligible measures for the program across all IOUs. Indicate the expected incentive level by measure or measure grouping for each IOU, making clear where these vary.
- b. For each incented or rebated measure, indicate the market actor to whom this will be provided.

**Table 12: Additional Services**

Additional Services that the Sub-Program Will Provide	To Which Market Actors	PGE	SCE	SDGE	SCG
		[indicate the level at which the service will be incented or funded]	[indicate the level at which the service will be incented or funded]	[indicate the level at which the service will be incented or funded]	[indicate the level at which the service will be incented or funded]
Other measures offered by the Direct Install Program	Customer	varies by measure	varies by measure	varies by measure	
Audit as normally offered by the Direct Install Program	Customer	100%	100%	100%	

a. For each service provided, indicate any expected charges to market actors of the services, and/or the level at which any such services will be incented or funded.

**Table 13: Program Related Audits**

Levels at Which Program Related Audits Are Rebated or Funded	Who Receives the Rebate/Funding (Customer or Contractor)
Audits are performed at no cost to Customers	Implementers are paid through the existing IOU Direct Install programs.

NOTE: If software tools are required sub-program participation, and if there is a program related audit for the sub-program, this table shows the levels at which the audit is rebated or funded and to whom such rebates/funding will be provided (i.e., customer or contractor)

**Table 14: Quality Assurance Provisions**

*Not Applicable to this Pilot. See PIP.*

<b>QA Requirements</b>	<b>QA Sampling Rate (Indicate Pre/Post Sample)</b>	<b>QA Personnel Certification Requirements</b>
QA requirements #1		
QA requirements #2		
QA requirements #3		
QC requirement #1		
QC requirement #2		
QC requirement #3		

NOTE: Please list quality assurance, quality control, including accreditations/certification or other credentials required.

Table 15: Cross-cutting Sub-program and Non-IOU Partner Coordination

Sub-Program Name		
Other IOU Sub-program Name	Coordination Mechanism	Expected Frequency
Direct Install Program	Implementation	On-going
Coordination Partners Outside CPUC		
E2e	Weekly calls; meetings with IOUs, ED, and DI contractors as needed	Weekly and as-needed but on an on-going basis

Note: “Mechanisms” refers to communication methods (i.e. quarterly meetings; internal list serves; monthly calls, etc.) and/or any cross-program review methods (i.e., feedback on program plans; sign off on policies, etc). or harmonization techniques (i.e. consistent certification requirements across programs, program participant required cross trainings, etc).

**Table 16: Non-EE Sub-Program Information**

*Not Applicable to this Pilot. See PIP.*

Sub-Program Name		
Non-EE Sub-Program	Budget	Rationale and General Approach for Integrating Across Resource Types

NOTE: Column C --> Integrated/coordinated Demand Side Management: As applicable, describe how sub-program will promote customer education and sub-program participation across all DSM options. Provide budget information of non-EE sub-programs where applicable. Column D --> Integration across resource types (energy, water, air quality, etc): If sub-program aims to integrate across resources types, please provide rationale and general approach

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

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