



SCE “To-Code” Pilot

Lessons Learned

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Discussion

Objective:

Provide an update on key lessons learned from the joint IOU “To-Code” pilot.

Agenda:

- Background
- “To-Code” Pilot Parameters
- Challenges with SCE’s Original “To-Code” Pilot Proposal
- Other Technologies Considered
- Lessons Learned

Background

- In 2014, the Commission issued D.14-10-046 that directed the IOUs to develop and implement a pilot program to understand whether there is below-code savings that can be targeted to inform Phase 3 of the EE OIR.
- August 14, 2015, the IOUs file a joint Advice Letter seeking approval for a “To-Code” Pilot with LED fixtures and other competing measures.
- October 8 2015, P.U. Code Section 381.2(b) (i.e., AB 802) requires the Commission to authorize the IOUs to offer “to-code” programs.
- Early 2016, the IOUs recognized that the LED fixture pilot as designed would not be successful and would require a redesign. SCE considered other potential technologies.
- Mid 2016, SCE discussed the LED fixture challenges with E2E. SCE continued to identify alternative potential pilot designs.
- End of 2016. SCE proposes a commercial PCT pilot concept and shares with E2E and Energy Division.

“To-Code” Pilot Parameters

D 14-10-046

- Program design should be cost effective – “determine if cost-effective rate-payer funded programs can be developed”
- Incentives to be made available for “to-code”, and through-code savings
- Program should be budgeted up to \$1m per IOU using program funds authorized in the decision.
- Find similar cohorts within a service territory, then break them into control and treatment groups
- Treatment group eligible for “to and through” code incentives; Control group receives only above-code incentives
- Pilot should run for 1 full calendar year (to see impacts across seasons)
- Include program implementation and third-party evaluation with the evaluation to address at a minimum program impact on both program uptake (e.g., increase program replacement rates, which customers are participating, customer energy use)

Additional Requirements (From “To-Code” Workshop and input from E2E)

- Include competing measures w/ co-pay (E2E)
- Include long-lived measure (ALJ indicated requirement)

Challenges with Original Joint IOU “To-Code” Pilot Proposal

- As originally designed, the LED fixtures concept was deemed to have a low probability of success and did not appear likely to provide the Commission with any useful information. Customer uptake/adoption was deemed questionable because the LED fixtures cost significantly more than competing measures (e.g. T-8 fluorescents) but do not offer significantly greater savings.
- These same customers that would likely be targeted with these measures have been offered competing measures (fluorescent) at NO COST through the Direct Install program.
- Unknown degree to which below code lighting technology (saturation of T-12’s) still exists.
- The competing measures will be short lived (code moving to LED as the standard in 2018).
- If the offer was limited to LED equipment only, (rather than including alternate measures), incentives would need to be significantly larger further diminishing potential cost effectiveness.

Other Technologies Considered

LED Fixtures:
No Competing Measures

Not Cost Effective

Non-LED Lighting:
Competing Measures Only

Not long-lived equipment

Lighting Controls

Not long-lived equipment

Refrigeration Controls

Not long-lived equipment
No above code savings

Refrigeration Equipment

Cost of upgrades would result in extremely small sample size & not cost effective

HVAC Equipment:
Residential

Cost of upgrades would result in extremely small sample size & not cost effective

HVAC Equipment:
Non-Residential

Cost of upgrades would result in extremely small sample size & not cost effective

Swimming Pool Pumps

Cost of upgrades would result in extremely small sample size & not cost effective

Behavioral/Maintenance Interventions

Lack of a "to-code" baseline

Surveys

Does not comply with requirement to extended through 1 year

HVAC Controls:
Non-Residential

May be difficult to meet pilot design needs given potential sample size requirements

Lessons Learned

- Having a prescribed budget in advance of defining cost requirements for conducting study limits available options.
- Applying an RCT design limits the “To-Code” market potential by setting aside a control group and is not ideal for some opt-in programs
- Designing a “cost-effective” program may be difficult given that D.16-08-019 requires that downstream incentives cover full measure cost and midstream and upstream incentives are not allowed.
- Targeting a single measure will not likely inform the full scope of below code opportunities.
- The largest below code opportunity may fall within HVAC, but motivating equipment change may not be cost effective and the current budget is too small.
- Other, cheaper methods may exist to inform below code market potential and customer interest (e.g., surveys).
- The incentive value offered may dramatically affect uptake, but the pilot isn’t necessarily focused on customer response to a variety of incentive levels. Rather, it may inform response to only two fixed incentive offers (“to” and through-code), and if designed to be cost effective, those offers may be too low to garner participation. Stranded below-code potential therefore may remain stranded.
- Recent legislation (AB 802) and subsequent Commission guidance allows IOUs to pursue below code opportunities, raising the question, “Is the original intent of the pilot still valid?”

Thank You

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Addendum

Decision 14-10-046

To-Code Pilot Description

Order

ALJ/TOD/dc3	Date of Issuance 10/24/2014
Decision 14-10-046 October 16, 2014	
BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA	
Order Instituting Rulemaking Concerning Energy Efficiency Rolling Portfolios, Policies, Programs, Evaluation, and Related Issues.	Rulemaking 13-11-005 (Filed November 14, 2013)

8. We also direct ... (IOUs) each to **file with us a Program Implementation Plan** for a pilot program to better understand the extent to which there is below-code equipment that is not getting replaced quickly enough through natural turnover or existing programs. **The pilots shall be designed to assess whether cost-effective ratepayer-funded programs can be developed to target this equipment when PAs receive savings credit and customer incentives are made available based on to-code, in addition to through-code, savings.** As with the Zero Net Energy pilots, and for the same reasons, we expect investor-owned utilities to fund these programs via fund shifts.

The Pilots shall:

- a) Be budgeted up to \$1m per IOU using program funds authorized in this decision;
- b) Find similar cohorts within a service territory, then break them into control and treatment groups, with the treatment group eligible for incentives "to and through" code, while the control group receives only incentives based on above-code savings.
- c) Extend through one full calendar year, so that we see program impacts across seasons.
- d) Include program implementation and third-party evaluation, with the evaluation to address at minimum program impact on **both program uptake** (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 use** (aggregate use and load shape).