

**CPUC “Living Pilot” Symposium Proposal – Opower, Inc.  
Submitted by: Josh Lich, Tom Mercer, and Matt O’Keefe**

**Context**

The gap in capacity created by the closure of San Onofre Nuclear Generating Station (SONGS) provides a unique opportunity to test programs in a targeted geographic area. In order to deliver the load reductions necessary to meet the reliability needs in this region, California’s regulatory policy leaders have recognized that utilities must look beyond the traditional programs to combat typically low participation in residential demand response programs. In the past, participation often ranged between 5 and 10% of residential customers. The situation in the SONGS region provides an opportunity for innovation, and to prove out solutions that utilize new approaches and engage a higher proportion of customers.

**Background**

Southern California Edison (SCE) and Opower have an existing partnership focused on providing SCE customers with home energy reports that give customers contextualized energy information and recommendations that have been demonstrated in multiple evaluations to motivate customers to make energy efficient decisions and reduce their energy use. The program engages select customers in SCE’s service territory and delivers measurable and verifiable energy efficiency savings.

As part of this proposal, Opower proposes building upon the existing program by establishing a new, multi-pronged trial for the summer of 2014. The proposed pilot will use new approaches and technologies to drive peak reduction at scale using the Opower Behavioral Demand Response platform and smart thermostat software.

**Introduction to Behavioral Demand Response**

Opower’s Behavioral Demand Response product is an innovative new approach that can be used to engage large numbers of customers in demand response, and deliver significant peak reduction. Through the application of behavioral science and personalized messaging, Opower’s product motivates customers to reduce peak consumption without new hardware or complex rate structures. Since the platform does not rely on rates or devices and can be deployed on an opt-out basis, this program will enable SCE to engage a larger cohort of customers than are currently enrolled in the Summer Discount Plan or opt-in peak time rebate (PTR) program for 2014.

Opower’s Behavioral Demand Response works by delivering personalized information via multiple channels to customers prior to peak energy consumption days, encouraging customers to reduce their consumption during a pre-established period of time and giving them recommendations for how to save. After peak events, customers are provided next-day feedback on their performance and how they compare to similar homes. This is a low-cost and scalable approach to reducing peak consumption that can be deployed to

residential customers through a combination of channels including text message, email and phone calls. Like Opower's home energy report program, the savings generated from the Behavioral Demand Response program will be measured and verified via randomized control trial methodology, the gold standard M&V protocol for behavioral energy efficiency programs nationwide

### **Proposed Program Summary**

SCE and Opower could deploy a pilot program to 50,000 randomly selected residential customers (+20,000 control) in the area affected by the SONGS closure. The pilot could run in a four-month window from June 2014 through September 2014. Treatment groups will include the following:

1. Behavioral Demand Response (45,000 residential HHs)
  - Pre-season materials informing customers that they will be receiving communications around events about reducing their peak usage this summer
  - Pre-event communications by email, IVR, and SMS informing customers up the peak day and telling them what to do to save energy
  - Post-event communications providing details on how the customers did on the prior event
  - M&V using both RCT and customer-level regression calculations
  - Provide .1 - .2 kW per HH
  
2. WiFi Thermostat with Mobile Application (Target: 5,000 residential HHs)
  - Automatically pre-scheduled thermostat
  - Coaching to help customers make efficient choices about their setpoints
  - Automatic response to DR events
  - M&V using propensity matching to create control
  - Provide .75 - 1.5 kW per HH
  
3. Control (20,000 residential HHs)

### **Summary**

Opower is excited to work with SCE and the CPUC to address a very pressing need in the SONGS region. We believe that our Behavioral Demand Response platform, coupled with our wi-fi thermostat software, will help educate and engage SCE's residential customers and provide meaningful load reduction. We believe that the innovative technologies and approaches proven out in this region will serve as a proof point for programs throughout the state of California.