



Memorandum

Date: November 21, 2017
To: Program Administrators
Cc:: SCE
From: Bryan Pena, CPUC
Subject: Smart Thermostats Workpaper, SCE17HC054 Rev.0

In February of 2017, in cooperation with Nest Labs, SCE submitted a workpaper for smart thermostats that provided a summary of potential electric and gas energy savings across all California climate zones and building types for both winter (heating) and summer (cooling) months¹. Though the SCE analysis was conducted using Nest Labs data, the workpaper savings values were applied to a wide category of smart thermostats².

Throughout program year 2017, as well as in years past³, the modeling approach employed in the SCE workpaper raised concerns in the Ex Ante review team because the resultant electric and gas gross annual savings values were significantly higher than the results of the recent smart thermostat studies conducted by PG&E and SCG. Also in dispute were the Net-to-Gross (NTG) multiplier applied to the savings, program eligibility requirements and eligibility verification plan, and the effective useful life (EUL) assigned to the measure.

As continued cooperation efforts between Ex Ante team and SCE were not resolving outstanding issues with the smart thermostats workpaper, Energy Division then issued a Disposition in June of 2017 on the SCE smart thermostat workpaper that allowed for use of the workpaper Ex Ante values on an interim basis until the end of the year, 12/31/17.

¹ SCE smart thermostats workpaper SCE17HC054 Rev.0

² Eligible smart thermostats are defined in terms of functionality and features. Various qualifying models are available from manufacturers such as Nest, Ecobee, Sensi, Simple, Honeywell, Venstar Thermostats, and Zen Thermostats.

³ Disposition issued July 19th, 2016 on the SCG smart thermostats workpaper WPSCGREHC160624A Rev.0 and Disposition issued November 8th, 2016 on the SCG smart thermostats workpaper WPSCGREHC160624A Rev.2. Comments within a disposition apply to a measure and examination for all future workpaper submittals having measures reference by a disposition.

In November of 2017, SCE submitted a smart thermostats research plan developed in collaboration with PG&E, SCG, and SDG&E⁴. The research plan describes a set of additional efforts and study results that will be available for review and assessment by March of 2018. The plan specifically mentions:

1. Year-2 findings of the AEG Emerging Technology Program Smart Thermostats study to inform savings value updates
2. Survey results from an Opinion Dynamics Online Survey focused on program influence factors and program eligibility fulfillment
3. Continued collection of device manufacturers' historical operational data in order that longer than 3-year EUL can be granted

Program Year 2018

Provided here is a notification to all Program Administrators (PA's) that SCE17HC054 Rev.0 workpaper shall continue to have interim approval through 12/31/2018, thereby "freezing" all Ex Ante values associated with the workpaper for the entirety of program year 2018.

Though this memo potentially delays immediate action to revise the workpaper, Program Administrators should be aware that the underlying savings methodology and proposed life of the savings are still considered generally unfounded by real data and will continue to garner significant concern.

As newer study results are posted and new findings uncovered, emphasis shall be made to align projected savings values with the actual performance of these products as validated by the study results and other data independent of a manufacturer's own analysis. The expectation is that the workpaper will be updated before the start of program year 2019 with savings values that are consistent with the additional finding of the above listed sources from the research plan. All existing completed studies⁵ should also be considered. All savings adjustments are subject to review.

It has been identified that the EUL these measures refers to the hardware as well as the user-adjustable software components of the products and that both are needed to realize the proposed energy savings. SCE shall either provide evidence showing that an 11 year EUL is appropriate for these types of energy savings algorithms, default to the more conservative assumptions attributed to deemed Operational Measures in the baseline Resolution⁶, or provide analysis and evidence supporting an alternative EUL as part of the research plan. All evidence is subject to review.

⁴ Document title: Smart Thermostat Research Plan Collaboration, SCE | PG&E | SCG | SDG&E
Document name: Smart Thermostat CPUC Comm_Final_20171107

⁵ Examples of existing complete studies are AEG's ETP Smart Thermostats Year-1 findings and Navigant's SCG Nest Pilot

⁶ Resolution E-4818 issued March 2, 2017