Cal TF

TrickleStar Opposing Technical View
Cal TF Meeting: January 28, 2016

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TRICKLESTAR POSITION

KEY POINTS

- An InfraRed (IR) only sensor paired with a 60-minute countdown timer is insufficient to accurately estimate a user's engagement with their AV

- Research data demonstrates that applying the simulated/CalPlug testing method approach to a Tier 2 APS unit utilizing an IR-only sensor paired with a sixty-minute timer is incorrect and will result in greatly exaggerated energy savings.

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ACTIVE SHUTDOWNS

ACTIVE SHUTDOWNS EXIST IN QUALITATIVE DATA BUT ARE IGNORED IN QUANTITATIVE DATA CONLUSIONS

FIGURE 26 - HOUSEHOLDS REPORTING ACTIVE SHUTDOWNS AND DISLIKE OF CERTAIN FEATURES

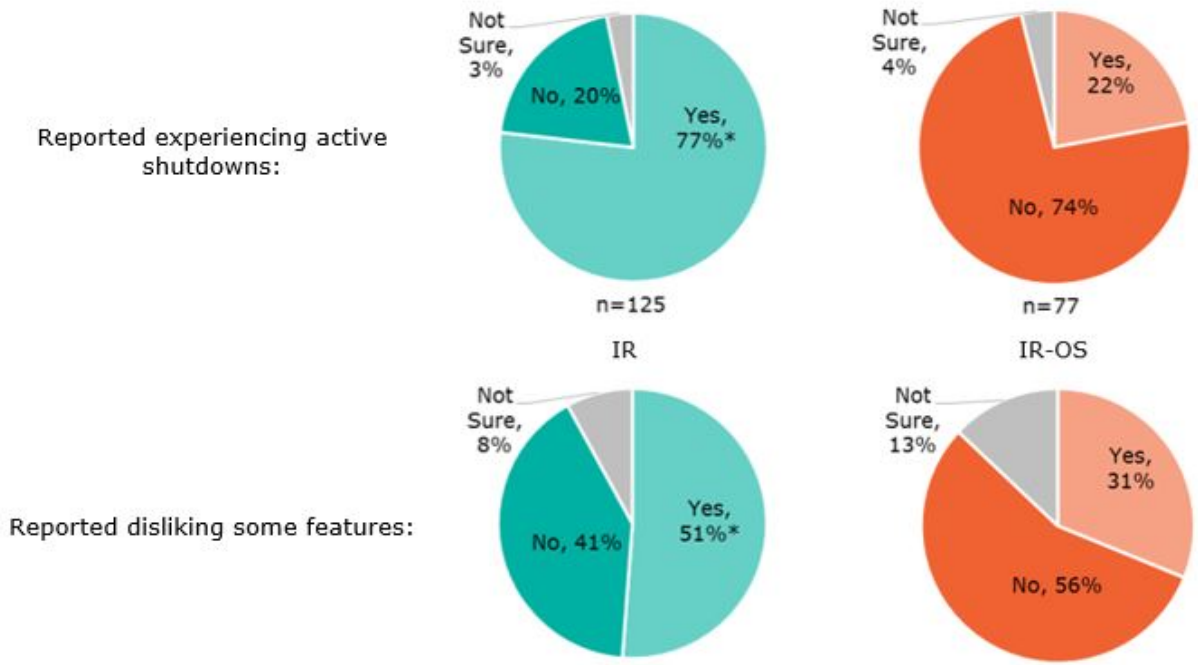

Figure 26 and Figure 27 show differing customer satisfaction measures between the IR and IR-OS models. This could be one of the causes of the higher persistence rate for the IR-OS model, despite the demographic difference mentioned above.

ACTIVE SHUTDOWNS – con't

ACTIVE SHUTDOWNS EXIST IN QUALITATIVE DATA BUT ARE IGNORED IN QUANTITATIVE DATA CONLUSIONS

On pages 62- 63 of the PG&E report, the survey author states the following:

> *Furthermore, 88 percent of those who experienced having their TV shut down had this happen more than one time, with 41 percent experiencing 6 or more shutdowns. Of the 60% that experienced active shutdown, 83% reported that they have at least once turned the TV back on. This points to the largest source of uncertainty in using the simulated M&V approach which may not account for users turning equipment back on after active shutdown.*

ACTIVE SHUTDOWNS – con't

ACTIVE SHUTDOWNS EXIST IN QUALITATIVE DATA BUT ARE IGNORED IN QUANTITATIVE DATA CONLUSIONS

Likewise, on page 73 of the PG&E report, the survey author states, "…nearly half of the IR model homeowners adjusted the shutdown settings."

If this was the case with the qualitative study, why did the report authors assume that the test subjects in Phase One simulated/SVS/CalPlug would keep their Tier 2 APS unit set to a one-hour timer?

Clearly they would not. This point was not addressed by the report's authors and provides additional proof that the simulated/SVS/CalPlug testing method delivers exaggerates savings with respect to an IR-only Tier 2 APS device paired with a 60-minute timer.

ACTIVE SHUTDOWNS – con't

ACTIVE SHUTDOWNS EXIST IN QUALITATIVE DATA BUT ARE IGNORED IN QUANTITATIVE DATA CONLUSIONS

Furthermore, we believe that the PG&E report authors and the San Diego Gas & Electric (SDG&E) work paper development team assume that the flashing LED warning light on the SVS testing equipment was sufficient to ensure appropriate user engagement in the Phase One field test.

In other words, they assume that this flashing LED light was sufficient to avoid active shutdown events.

How can this be the case, when 77% of the homes using the IR-only Tier 2 APS device in the qualitative study experienced active shutdowns with the exact same flashing LED light in operation?

IR REMOTE CONTROL TESTING

CALPLUG IR REMOTE CONTROL TESTING REFUTES SAVINGS ASSUMPTIONS FROM THE SIMULATED TESTING METHOD

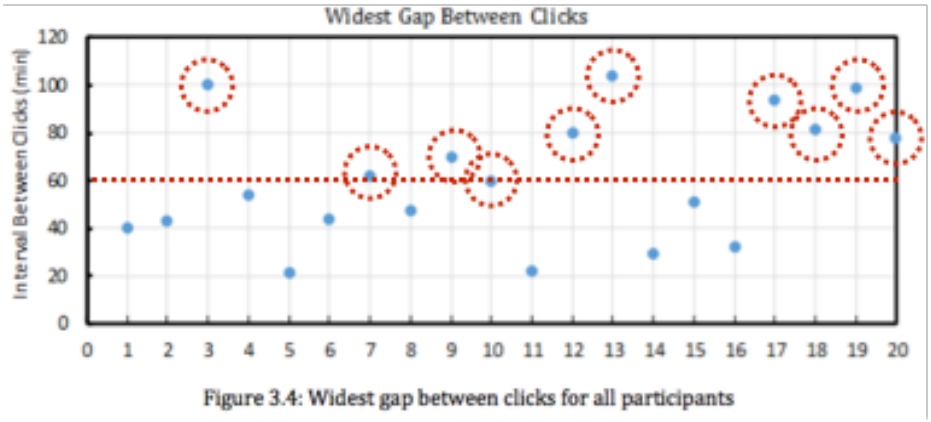

Figure 3.4: Widest gap between clicks for all participants

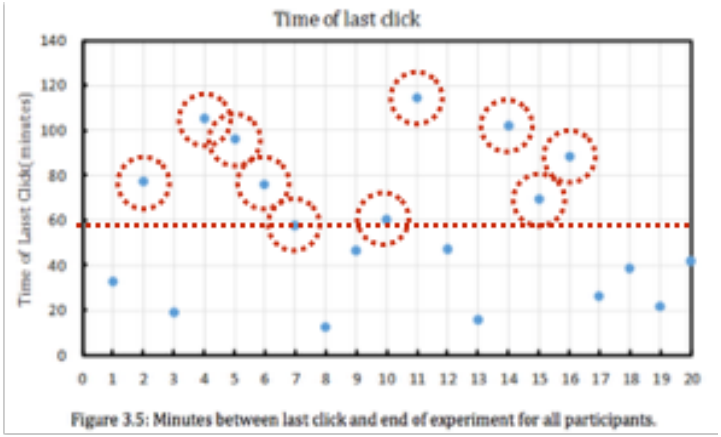

Figure 3.5: Minutes between last click and end of experiment for all participants.

CalPlug conducted in house logging of IR remote control button press intervals in "Tier 2 Advanced Power Strip Evaluation for Energy Saving Incentive"(i) .The study showed that a significant portion (10 out of 20) of users did not press an IR remote control button within a 60-minute period.

http://embertec.com/assets/pdf/CalPlug_Tier2_APS_Evaluation.pdf

IR REMOTE CONTROL TESTING – con't

CALPLUG IR REMOTE CONTROL TESTING REFUTES SAVINGS ASSUMPTIONS FROM THE SIMULATED TESTING METHOD

On page 23 of that same CalPlug report, CalPlug states the following:

> *Figure 3.4 indicated the largest interval between clicks for all participants. The average largest interval can be used as a bound. If the user does not click within the average largest interval, the device can turn off the TV.*

RTF REJECTS SIMULATED TESTING

NORTHWEST REGIONAL TECHNICAL FORUM REJECTS SIMULATED/SVS/CALPLUG TESTING METHOD

In the document dated 22 Sep 2015 and titled, "Proposed RTF Research Plan: Residential Advanced Power Strips, IR-Sensing Units for Home Entertainment Applications," the RTF states the following about previous field testing efforts for Tier 2 APS devices:

> *Research is needed because the RTF is not aware of any existing studies that provide sufficient rigor for proven UES values for this measure. Most currently-published savings figures are based on assumptions about APS-induced changes in appliance run-times unobserved. The RTF's judgment is that these assumptions have not been adequately tested with empirical data.*

CONCLUSION

- Evidence from two separate and trustworthy sources supports our statement that the simulated/SVS/CalPlug field testing method will deliver greatly exaggerated energy savings estimates for a Tier 2 product which uses an IR-only sensor paired with a one-hour timer.

- We request that all energy efficiency testing results for Tier 2 APS devices gathered from simulated/SVS/CalPlug testing be rejected and removed from consideration. No further testing is needed to support this decision.

- The foundational concern which was used to justify the use of the simulated/SVS/CalPlug testing method was a belief that baseline energy consumption could change from one period to the next. Neither the Phase One SDG&E work paper nor the Phase Two PG&E report presented any data to support this concern.

- After monitoring almost a hundred homes through both Phase One and Phase Two, we expected to see either or both SDG&E and PG&E present data that shows if or how baseline energy consumption did change from one period to the next. Unfortunately, no such information was presented in either the PG&E Phase Two report nor the SDG&E Phase One work paper. Therefore, the concern over changing baseline energy consumption was unfounded. This question remains unanswered by both PG&E and SDG&E.

CA ASSEMBLY BILL 802 (AB 802)

- AB 802 (signed by governor in Oct. 2015) mandates energy efficiency be measured using normalized metered energy consumption as the basis for measurement. This means:

  Pre-enrolled meter readings compared to post-enrolled meter readings to determine savings from energy efficiency programs

- While AB 802 looks more broadly at whole populations, it clearly supports the preference for a pre/post metering approach in California.

- Rather than justifying a poor study design and sample sizes, investment should be made on completing a statistically significant blind pre/post metering study of both technologies.

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THANK YOU