

TO: Peter Franzese, Regulatory Analyst Residential Programs, California Public Utilities Commission (Commission)

FROM: Pacific Gas and Electric Company (PG&E), Southern California Edison (SCE), San Diego Gas and Electric Company (SDG&E), and Southern California Gas Company (SoCalGas)

SUBJECT: Comments on EM&V 2013-2014 Draft Energy Efficiency and Demand Response Residential Behavior Market Characterization Study Report

DATE: June 5, 2015

CC: Mary Sutter and Olivia Patterson, Opinion Dynamics; Valerie Richardson, DNV-GL

INTRODUCTION

Thank you for the opportunity to comment on the Draft Energy Efficiency and Demand Response Residential Behavior Market Characterization Study Report. The IOUs appreciate the opportunity to have a dialogue with Commission Staff and the study authors and look forward to discussing the draft report and comments included below.

GENERAL COMMENTS ON THE DRAFT REPORT ASSUMPTIONS

1. Clearly separating behavior feedback efforts and AMI feedback opportunities in definition and with regard to savings impact

It is important that AMI feedback opportunities not be conflated with all behavioral initiatives. Behavioral initiatives are broad, and many opportunities exist in California to leverage the various types of behavioral initiatives. Narrowly defining behavioral initiatives as those that use AMI feedback could potentially set California back.

The IOUs note that behavior feedback efforts and AMI data can indeed be mutually supportive and beneficial. Yet behavior feedback efforts can also be implemented without relying on AMI data. For example, Home Energy Reports (HERs) programs in numerous jurisdictions could rely solely on monthly billing data, yet the use of AMI data enhances HERs reports by allowing presentation of intra-day and daily usage comparisons. HERs are the largest behavior feedback programs in California, and the only ones to meet the current “behavior program” definition. The report could benefit from separating the two concepts, as energy feedback programs are not exclusively AMI programs.

The use of randomized control trials (RCTs) and other methods (e.g., removing incremental savings observed in HERs treatment groups but counted already in other programs) ensure that there is not

overlap between the EE/DR/AMI funding streams and any energy savings. In this manner, behavior savings can be assessed above and beyond AMI savings.

The IOUs recommend using the proposed Behavioral Summit (described below) to explore this issue further.

2. Behavioral initiatives cover both resource and non-resource initiatives

The IOUs would like to suggest that the report mention that current behavioral initiatives cover both resource and non-resource initiatives. Many of the examples cited in the report (e.g., Smart Thermostat Pilots) are Emerging Technologies (ET) Pilots, which by definition, are non-resource programs and do not result in savings claims. In addition, there are other behavioral initiatives that do not meet the three-prong behavior definition (e.g., comparative energy usage and disclosure; ex post measurement; RCT) for claiming savings via ex-post evaluation. This distinction between resource and non-resource initiatives explains why savings information is not available in the Program Tracking Database for many behavior style types of projects since only resource initiatives would be included. The report would benefit from distinguishing between these different types of behavioral initiatives when discussing associated savings.

Comments on Draft Report Conclusions

1. Improving data quality of behavior feedback efforts and associated benefits.

The IOUs agree that there is a need for better data on results from California and nationwide residential behavioral feedback efforts and supports the recommendations put forth in the Study. Standardized metrics would help the CPUC and PAs better demonstrate the positive impacts of behavioral based initiatives and their important contribution to the state's aggressive EE and carbon reduction goals. These guidelines should be carefully structured with utility input so as to foster rather than discourage innovation.

The Study authors recommend a CPUC oversight group for behavioral initiatives. The IOUs support this recommendation, however, suggest that it be expanded to other stakeholders as well to ensure that current and future CPUC policies align with trends and future opportunities for behavior based initiatives. As part of Phase 2 of R.13-11-005, the Joint Parties have recommended expansion of stakeholder involvement in PAs' portfolios. The Utilities encourage Commission Staff to consider leveraging the stakeholder concepts included in the Joint Parties proposal as they begin to form oversight groups for behavior-based initiatives.

Additionally, it is our understanding that the Commission's Integrated Demand-Side Resource (IDSR) Programs proceeding (R.14-10-003) is addressing similar issues. The proceeding is intending to develop a

regulatory policy framework that would streamline the offering of demand-side resource programs. This issue is best addressed in that proceeding

Specific to Southern California Gas Company (SoCalGas), as outlined in its 2013-14 Energy Efficiency PIP, SoCalGas behavioral change conservation programs are currently being implemented and funded through the SoCalGas Advanced Meter project, authorized in D.10-04-027, and specific to regulatory proceedings associated with A.08-09-023, "Application of Southern California Gas Company for Approval of Advanced Metering Infrastructure." SoCalGas is adhering to the CPUC decision requirements in that proceeding which included establishing a system to track and attribute program costs and projected savings from conservation, and submitting Semi Annual reports to the CPUC Energy Division. The SoCalGas Advanced Meter Semi Annual Reports submitted to the CPUC may be accessed at the following location: <http://www.socalgas.com/regulatory/A0809023.shtml>. The behavior program conservation results reported within these CPUC reports are derived from rigorous program evaluation provided by SoCalGas' third party program evaluation consultant Nexant and provide a solid example of a statistically rigorous framework suitable for evaluating utility behavior change pilot programs that incorporate experimental design and ex post evaluation.

2. Improving the ability of CPUC staff to assess and prioritize behavior feedback efforts across funding streams.

The IOUs support this recommendation, with the caveat that different behavior efforts do not claim or report savings due to the reasons cited in comment 2 above. Only efforts meeting the three-prong, narrow behavior definition report savings.

Please note that the cost-effectiveness methodology for behavior feedback efforts may be informed by the outcome of several other Commission proceedings where cost effectiveness is being considered. These include: (1) the Integrated Demand-Side Resource Programs (IDSR) OIR (R.14-10-003); (2) the Demand Response OIR (R.13-09-001) (draft methodology issued); (3) the Energy Efficiency OIR (R.13-11-005) (cost-effectiveness identified as a phase 3 issue); (4) and potentially other proceedings.

With regards to tracking of impacts and reporting, the IOUs note that with the exception of very specific behavioral efforts, it would be challenging to parse out the impacts of behavior feedback efforts for complex initiatives such as the Whole Building approach. IDSR OIR is addressing funding silos and reporting and is intending to develop a regulatory policy framework that would streamline the offering of demand-side management programs. The IOUs recommend that these issues be addressed in the IDSR proceeding.

The IOUs believe a behavior oversight group may be beneficial, but recommend inclusion of industry experts and other interested stakeholders to ensure that California is able to incorporate the full

breadth of behavioral based in initiatives in Portfolio Administrators' portfolios. Commission policies must align with the fundamental building blocks of behavioral-based initiatives for these programs to be successful in California.

3. Reducing vendor barriers to accessing AMI data and collaborating with IOUs.

The IOUs agrees that the CPUC, IOUs and vendor community should continue to collaborate to foster a more robust marketplace for residential feedback programs and technologies that leverage AMI data. That said, utility customers should continue to authorize/control the dissemination of their data to third party vendor tools and technologies. AMI data should be transferred in accordance with current data privacy regulatory frameworks, rules and regulations, such as CPUC D.14-05-016 "Decision Adopting Rules to Provide Access to Energy Usage and Usage-related Data while Protecting Privacy of Personal Data," to ensure protection of customer privacy.

As noted in the report, the IOUs have been actively working to expand the marketplace for energy feedback and AMI data leveraging companies. The IOUs have enhanced the Green Button Download data download offering into Green Button Connect, a data streaming beta program. Green Button Connect allows registered vendor(s) to connect to a customer's AMI data via an automated Application Program Interface (API). There are no restrictions on the number of vendors that may register and receive AMI data. Currently only electric data may be shared, however PG&E is expanding the platform's capabilities to include gas data in the near future. More information on the platform can be found at www.pge.com/ShareMyData/.

The IOUs fully support fostering a competitive marketplace and including innovative technologies such as smart thermostats in its portfolio of EE products. However, the utilities caution that the CPUC's ex ante team's standard for proving and verifying savings from these devices and associated programs can be arduous and require significant amounts of AMI data collected both prior to the intervention (to provide a baseline) and after. The development, testing, and approval processes are measured in years, a period far longer than many vendors are accustomed to.

In addition, the IOUs would like to suggest other reasons why market adoption may be low for technologies that enable residential behavior feedback. First, Smart Meter Upgrade and the market approach to enabling HAN only included making meter data available, and funding was not allocated to provide devices. Device vendors are reluctant to invest in marketing devices to the degree necessary to enable widespread adoption, and continue to petition utilities to raise customer awareness of and demand for devices, resulting in a cycle of non-adoption. Second, the communication protocol built into the Smart Meter devices has not been widely embraced by the technology community. Third, many consumers find the feedback from HAN devices to be of limited value since residential time-of-use energy pricing is not widely deployed.

The IOUs appreciate the challenges vendors face in entering IOU programs. While IOUs provide various venues to educate vendors on working with IOUs, including SMB events, via CEEIC, PAGs, TRIO, ETCC etc. in many cases vendors remain unaware of many of the CPUC requirements to prove, verify and validate products savings claims before they are able to be incorporated into IOU resource portfolios. As such, the IOUs recommend the Commission Staff host stakeholder workshops to explain and provide a deep dive into important ex ante requirements that are outside of a PAS' control such as DEER, data requirements for ex ante workpapers etc. In addition, some vendors that attempt to partner with the IOUs do not propose unique or more advanced solutions than those currently being implemented.

IOUs support the study's recommendation to determine an approach to shortening the timeline for introducing behavior products in the DSM portfolio. First, the IOUs recommend that PAs, CPUC, etc. convene a "Behavioral Summit" in summer 2015 to refine and solidify an expanded definition of behavioral initiatives that PG&E is willing to host and agree on research projects to demonstrate an approach to designing behavior programs. Second, the IOUs recommend that CPUC staff, IOUs and stakeholders work collaboratively with the CPUC ex ante team to determine and agree upon policy changes that will be required to fully incorporate the full breadth of behavioral initiatives into EE portfolios. In particular, the IOUs highly recommend a re-examine of the baseline policies, currently being tackled as part of Phase 2 and 3 of R.13-11-005. Finally, CPUC policy regarding savings claims for installations should be revisited for veracity and consistency with recommendations in this study.

Also, of note - on page 49 of the Study, the authors reference a draft bill which is currently in the California Assembly for consideration (AB 793). The IOUs strongly support the goal of ensuring customers understand the benefits of energy management systems, and offering its customers more opportunities to take advantage of such technology to improve their buildings energy performance and eliminate unnecessary energy use. However, the IOUs recommend striking references to AB 793 as it has not been signed into law, a feat which will not occur until early Fall, provided that it successfully passes through both the Assembly and Senate. In addition, there are several challenges with the bill as it is currently written. Until such a time that the bill is signed into law by Governor Brown, the IOUs recommend its exclusion from this report.

4. Expanding the definition of behavior and revising the current framework for the EE Potential and Goals Study (PGS).

The IOUs support re-engaging with CPUC staff, PAs and other interested stakeholders to refine a proposal for defining and setting parameters for EE behavior programs for 2015-2017. The current straw proposal included in this report was an initial attempt by IOUs, in collaboration with other stakeholders, to develop these parameters. In the last several years, more research has been conducted on behavioral initiatives which should be explored before settling on a set of parameters. By their nature, behavior programs involve a variety of social science based intervention strategies and may require unique evaluation methods. When developing a revised definition of behavioral programs, the CPUC needs to

account for this complexity. The IOUs suggest that an expanded definition and path forward for behavioral initiatives in California, including the permissible ex-post evaluation methods to claim savings, be refined and solidified at the proposed “Behavioral Summit” suggested above.

The IOUs encourage the CPUC ex post team to work collaboratively with the CPUC ex ante team to determine allowable evaluation methodologies and application of associated savings for initiatives that include or are based on behavioral science approaches. For instance, PG&E recently (May 13, 2015) received an ex ante disposition for its Non-Residential Energy Audits workpaper. The Disposition claims that CPUC policy requires that energy savings claims be tied specifically to installations, except for the specific allowable comparative energy use disclosure programs, in this case HER. In addition, the Disposition goes further to suggest that the 5% market effects adders accounts for additional energy savings that could be attributed to behavior feedback initiatives, such as energy audits. This CPUC ex ante finding is troubling and runs counter to the recommendations included in the Behavioral Market Characterization Study and potentially threatens the furthering of behavioral based initiatives in future PA portfolios.

PG&E has been testing ways to leverage and incorporate Smart Meter data into its EE programs. In fact, PG&E has been running a proof of concept demonstration called Commercial Whole Building that uses Smart Meter data to verify energy savings from whole-building installations, including behavioral based activities and moving away from estimating saving only based on widget by widget installations. However, current Commission policy noted below hinders this approach from being implemented portfolio-wide.

Current CPUC policy requires that PAs only claim savings and incentivize customers for measure installations above current Title 24 code and/or industry standard practice. Not only does this policy lead to a large pool of stranded energy efficiency savings potential, it also makes it near impossible to use AMI data to estimate energy savings from EE projects as parsing out the above code or ISP elements of an EE installation is challenging much less count the benefits or reductions associated with actions unrelated to technology. The IOUs fully support using AMI data to establish baselines and measure the energy savings from energy efficiency projects and looks forward to working with CPUC staff to identify more opportunities to fully leverage this technology. The benefit of using AMI data rather than the current method of engineering estimates to calculate savings is that it can reduce uncertainty and the need for engineering judgment, and better align savings reported to the CPUC with the actual performance and reductions in energy use experienced by customers and observed through decreased usage.

Phase 2 of R.13-11-005 includes an examination of current Commission policy on baselines. The IOUs recommend that PAs claim behavioral savings based on actual energy usage reductions, taking into consideration the overall reduction in normalized metered energy consumption as a measure of energy savings. In order for PAs to fully leverage the opportunities AMI data presents, Commission policy

around baselines will need to change. California PAs need a framework to estimate and claim savings based on real metered data so that California can realize the full benefits of the Smart Meter infrastructure. Commission policy needs to become more flexible in allowing PAs to move away from T24 code and ISP baselines and to be able to leverage the full performance potential of a facility including but not limited to structural improvements, technology upgrades and updates, and behavior changes of building occupants.

The IOUs agree that the PGS is limiting in its inclusion of solely one behavior based feedback initiative – Home Energy Reports (HERs). The IOUs encourage exploration of other behavior-based initiatives for inclusion in the PGS per recommendations included in this study. In order for behavioral initiatives to be cost-effective the full breadth of associated benefits need to be identified and recognized. This includes allowing PAs to claim behavioral savings based on actual energy usage reductions, taking into consideration the overall reduction in normalized metered energy consumption as a measure of energy savings.

CONCLUSION

We look forward to continuing to work with you on this report. Please contact Brian Arthur Smith at PG&E (b2sg@pge.com and (415) 973-1180), Miriam Fischlein at SCE (Miriam.Fischlein@sce.com and (626) 302-0633), Rob Rubin at SDG&E (rrubin@semprautilities.com and (858) 654-1244) and Corinne Sierzant at SoCal Gas (csierzant@semprautilities.com and 213-244-5354) to set up a meeting to discuss.

