RTR Appendix

Southern California Edison, Pacific Gas and Electric, Southern California Gas, and San Diego Gas and Electric ("Joint Utilities" or "Joint IOUs") developed Responses to Recommendations (RTR) contained in the evaluation studies of the 2013-2015 Energy Efficiency Program Cycle. This Appendix contains the Responses to Recommendations in the report:

RTR for the Literature Review of Miscellaneous Energy Loads (MELs) in Residential Buildings (Energy Solutions, Calmac ID #SCE0360.01, ED WO #2003)

The RTR reports demonstrate the Joint Utilities' plans and activities to incorporate EM&V evaluation recommendations into programs to improve performance and operations, where applicable. The Joint IOUs' approach is consistent with the 2013-2016 Energy Division-Investor Owned Utility Energy Efficiency Evaluation, Measurement and Verification (EM&V) Plan[1] and CPUC Decision (D.) 07-09-043[2].

Individual RTR reports consist of a spreadsheet for each evaluation study. Recommendations were copied verbatim from each evaluation's "Recommendations" section.[3] In cases where reports do not contain a section for recommendations, the Joint IOUs attempted to identify recommendations contained within the evaluation. Responses to the recommendations were made on a statewide basis when possible, and when that was not appropriate (e.g., due to utility-specific recommendations), the Joint IOUs responded individually and clearly indicated the authorship of the response.

The Joint IOUs are proud of this opportunity to publicly demonstrate how programs are taking advantage of evaluation recommendations, while providing transparency to stakeholders on the "positive feedback loop" between program design, implementation, and evaluation. This feedback loop can also provide guidance to the evaluation community on the types and structure of recommendations that are most relevant and helpful to program managers. The Joint IOUs believe this feedback will help improve both programs and future evaluation reports.

---

1 Page 336, "Within 60 days of public release of a final report, the program administrators will respond in writing to the final report findings and recommendations indicating what action, if any, will be taken as a result of study findings. The IOU responses will be posted on the public document website." The Plan is available at http://www.energydataweb.com/cpuc.

2 Attachment 7, page 4, "Within 60 days of public release, program administrators will respond in writing to the final report findings and recommendations indicating what action, if any, will be taken as a result of study findings as they relate to potential changes to the programs. Energy Division can choose to extend the 60 day limit if the administrator presents a compelling case that more time is needed and the delay will not cause any problems in the implementation schedule, and may shorten the time on a case-by-case basis if necessary to avoid delays in the schedule."

3 Recommendations may have also been made to the CPUC, the CEC, and evaluators. Responses to these recommendations will be made by Energy Division at a later time and posted separately.

Response to Recommendations (RTR) in Impact, Process, and Market Assessment Studies

Study Title: Literature Review of Miscellaneous Energy Loads (MELs) in Residential Buildings
Program: Plug Loads
Author: Energy Solutions
Calmac ID: SCE0360.01
ED WO: 2003
Link to Report: http://calmac.org/publications/MEL_Literature_Review_6_10_14.pdf

							PG&E (if applicable)		SCE (if applicable)		SDG&E (if applicable)	
Item #	**Page #**	**Findings**	**Best Practice / Recommendations**	**Recommendation Recipient**	**Combined Disposition (Accepted, Rejected, or Other)**	**Combined Disposition Notes (e.g. Description of specific program change or Reason for rejection or Under further review)**	**Disposition (Accepted, Rejected, or Other)**	**Disposition Notes (e.g. Description of specific program change or Reason for rejection or Under further review)**	**Disposition (Accepted, Rejected, or Other)**	**Disposition Notes (e.g. Description of specific program change or Reason for rejection or Under further review)**	**Disposition (Accepted, Rejected, or Other)**	**Disposition Notes (e.g. Description of specific program change or Reason for rejection or Under further review)**
1	82	The 2008 Home Energy Rating System (HERS) technical manual, miscellaneous electricity consumption is modeled as a function of square footage, and the only plug loads that are individually modeled are refrigerator/freezers, dishwashers, clothes dryers, clothes washers, and range/ovens. We recommend that the next version of the HERS model be updated to individually account for major MELs.	Update the HERS model to incorporate large MEL end-uses	All IOUs	Other	HERS Model updates are completed by the California Energy Commission. The IOUs will support where applicable.	Other	HERS Model updates are completed by the California Energy Commission, but will be supported where applicable.	Other	HERS Model updates are completed by the California Energy Commission, but will be supported where applicable.	Other	HERS Model updates are completed by the California Energy Commission. will be supported where applicable.
2	83	Accurate modeling of CE devices requires an understanding of both existing stock energy use and how that stock energy use is expected to change over time.	Develop a Stock-Flow model to inform ZNE modeling efforts	All IOUs	Other	PAs may include components of this recommendation as a part of program design when new approaches to plug load end uses are developed in the upcoming implementation plan cycle.	Other	PG&E suggests that PAs may include components of this recommendation as a part of program design when new approaches to plug load end uses are developed in the upcoming implementation plan cycle and go through statewide administration's single implementer.	Other	SCE suggests that PAs may include components of this recommendation as a part of program design when new approaches to plug load end uses are developed in the upcoming implementation plan cycle and go through statewide administration's single implementer.	Other	SDG&E suggests that PAs may include components of this recommendation as a part of program design when new approaches to plug load end uses are developed in the upcoming implementation plan cycle and go through statewide administration's single implementer.
3	83	For products with limited existing data on usage, power, and/or installed base, we recommend updating current estimates to better characterize existing energy use. To improve usage and power data, we recommend obtaining this data from large-scale metering studies instead of user surveys due to the limitations of survey data to accurately reflect actual usage for smaller consumer electronics. For installed base and saturation data, we recommend using saturation data from the forthcoming 2012 California Lighting and Appliance Saturation Survey (CLASS) (KEMA 2014).	Improve existing data for MELs with low levels of confidence	All IOUs	Other	IOUs agree that a better understanding of MELs is an area of need. IOUs recognize that saturation surveys such as CLASS may be the appropriate avenue for additional MEL's studies and points to ongoing studies in the area of Plug loads and MELS that may support these efforts such as the Case study being led by PG&E: 2016-RES-ACM-D. (HOW ABOUT AB 793 pilot guidance in the resolution?)	Other	PG&E agrees that a better understanding of MELs is an area of need. PG&E recognizes that saturation surveys such as CLASS may be the appropriate avenue for additional MEL's studies and points to ongoing studies in the area of Plug loads and MELS that may support these efforts such as the PG&E Case study: 2016-RES-ACM-D.	Other	SCE agrees that a better understanding of MELs is an area of need. SCE recognizes that saturation surveys such as CLASS may be the appropriate avenue for additional MEL's studies and points to ongoing studies in the area of Plug loads and MELS that may support these efforts such as the Case study being led by PG&E: 2016-RES-ACM-D. Additionally, SW EM&V recently concluded the "MEL Phase II study", which examined the potential for MEL predictive analytics.	Other	SDG&E agrees that a better understanding of MELs is an area of need. SDG&E recognizes that saturation surveys such as CLASS may be the appropriate avenue for additional MEL's studies and points to ongoing studies in the area of Plug loads and MELS that may support these efforts such as the Case study being led by PG&E: 2016-RES-ACM-D. Additionally, SW EM&V recently concluded the "MEL Phase II study", which examined the potential for MEL predictive analytics. SDGE also anticipates including results from the ongoing CEC CEUS and RASS studies in programmatic design.

4	83	A major challenge in modeling MEL energy consumption is the very limited data for non-ENERGY STAR models. Developing a better understanding of the energy use of an entire product category is a critical component of developing a stock-flow model, as well understanding potential energy savings opportunities for future utility programs. While ENERGY STAR typically lists energy data for qualifying products, there is very little data on non-qualifying models entering the market. In some cases, especially Audio / Video devices, the little data that is available is limited and often has a low level of certainty. We recommend working with EPA and other stakeholders to identify opportunities to improve the existing knowledge base of non-qualifying products coming to market.	Work with ENERGY STAR and other stakeholders to improve energy information for non-ENERGY STAR products	All IOUs	Accepted	IOUs will continue working with the EPA and Energy Star to improve energy information for non-ENERGY STAR products. Additionally, as new approaches to these end use are developed in the upcoming implementation plans, PAs may include this approach as a part of the program design.	Accepted	PG&E currently works with and will continue working with the EPA and Energy Star to improve energy information for non-ENERGY STAR products. Additionally, as new approaches to these end use are developed in the upcoming implementation plans, PAs may include this approach as a part of the program design.	Accepted	SCE currently works with and will continue working with the EPA and Energy Star to improve energy information for non-ENERGY STAR products. Additionally, as new approaches to these end use are developed in the upcoming implementation plans, PAs may include this approach as a part of the program design.	Accepted	SDG&E currently works with and will continue working with the EPA and Energy Star to improve energy information for non-ENERGY STAR products. As new approaches to these end use are developed in the upcoming implementation plans, PAs may include this approach as a part of the program design.
5	84	This wide distribution across devices and minimal per-unit energy savings limits the effectiveness of traditional utility program mechanisms and is a key challenge for ZNE buildings. Due to the limited per-unit savings, an incentive-based, resource-acquisition program for MELs may have limited success if not coupled with a broader, market transformation approach. We recommend supporting a market transformation (MT) approach which attempts to create large-scale changes in aggregate. Although most MELs have low energy consumption, many MELs, particularly CE devices, have high sales volumes and therefore significant change can be achieved by addressing the market as a whole.	Support a Market Transformation (MT) approach to address MEL energy consumption	All IOUs	Accepted	IOUS support this approach for limited measures. As new approaches to plug load end uses are developed in the upcoming implementation plan cycle through statewide administration, PAs may include this as a part of the program design.	Accepted	PG&E programming supports this approach for limited measures. As new approaches to plug load end uses are developed in the upcoming implementation plan cycle through statewide administration, PAs may include this as a part of the program design.	Accepted	Current SCE programming supports this approach for limited measures. As new approaches to plug load end uses are developed in the upcoming implementation plan cycle through statewide administration, PAs may include this as a part of the program design.	Accepted	SDG&E programming supports this approach for limited measures. As new approaches to plug load end uses are developed in the upcoming implementation plan cycle through statewide administration, PAs may include this as a part of the program design.
6	84	We recommend that the IOUs consider conducting a study similar to NEEA's within California. However, we recommend that the IOUs review the NEEA study reports and lessons learned prior to considering a similar effort in California. NEEA's study began in March 2012, and therefore implementing a similar study in 2016-17 could provide	Consider conducting a large-scale, multi-year comprehensive metering study to improve plug load energy data within California	All IOUs	Accepted	IOUs may consider this larger study in relation depending on funding and prioritization. IOU's will conduct research on emerging technologies within the plug load end use to meet Assembly Bill 793 which requires IOU's to offer incentives for Energy Management Technology.	Accepted	PG&E may consider this larger study in relation depending on funding and prioritization. Alternatively, PG&E has worked with statewide IOU's, and other entities to conduct research on emerging technologies within the plug load end use to meet Assembly Bill 793 which requires IOU's to offer incentives for Energy Management Technology.	Accepted	SCE may consider this larger study in relation depending on funding and prioritization. Alternatively, SCE has worked with statewide IOU's, and other entities to conduct research on emerging technologies within the plug load end use to meet Assembly Bill 793 which requires IOU's to offer incentives for Energy Management Technology.	Accepted	SDG&E may consider this larger study in relation depending on funding and prioritization. SDG&E has worked with statewide IOU's, and other entities to conduct research on emerging technologies within the plug load end use to meet Assembly Bill 793 which requires IOU's to offer incentives for Energy Management Technology. Additionally, as noted above, the SW EM&V team has concluded a forecasting study titled

		valuable information on how energy consumption within the home has changed over time.										"MEL Phase II", available on CALMAC. This study conjunction with metered studies could provide the ability to forecast individual plug loads within buildings.
7	85	Most MEL products do not have any labeling or energy consumption measurement requirements, and it is therefore difficult to quantify the energy consumption of small MELs entering the market. This lack of energy information is key barrier in successfully achieving market transformation of MELs. We recommend that the IOUs continue to advocate for CE labeling policies and minimum efficiency standards for MELs, particularly consumer electronics products.	Encourage policies to promote the measurement of power data for CE devices through minimum efficiency standards and labeling.	All IOUs	Other	IOUs suggests that PAs may include components of this recommendation as a part of the program design as new approaches to plug load end uses are developed in the upcoming implementation plan development. Statewide Codes and Standards program is currently assessing energy savings associated with Low Power Mode for MELs for potential Title 20 regulation. IOUs will continue to work with CEC and appropriate stakeholders to meet and track minimum efficiency standards.	Other	PG&E suggests that PAs may include components of this recommendation as a part of the program design as new approaches to plug load end uses are developed in the upcoming implementation plan development. Statewide Codes and Standards program is currently assessing energy savings associated with Low Power Mode for MELs for potential Title 20 regulation. PG&E will continue to work with CEC and appropriate stakeholders to meet and track minimum efficiency standards.	Other	SCE suggests that PAs may include components of this recommendation as a part of the program design as new approaches to plug load end uses are developed in the upcoming implementation plan development. Statewide Codes and Standards program is currently assessing energy savings associated with Low Power Mode for MELs for potential Title 20 regulation. SCE will continue to work with CEC and appropriate stakeholders to meet and track minimum efficiency standards.	Other	SDG&E suggests that PAs may include components of this recommendation as a part of the program design as new approaches to plug load end uses are developed in the upcoming implementation plan development. Statewide Codes and Standards program is currently assessing energy savings associated with Low Power Mode for MELs for potential Title 20 regulation. SDG&E will continue to work with CEC and appropriate stakeholders to meet and track minimum efficiency standards.