

## 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 and beyond. This Appendix contains the Responses to Recommendations in the report:

***RTR for the 2017 Small/Medium Commercial Sector ESPI Impact Evaluation: Final Report*** (Itron, ERS, TRC; Calmac ID #CPU0223.01, ED WO #GroupA\_SmCom\_1\_YR1)

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 CPUC Decision (D.) 07-09-043<sup>1</sup> and the Energy Division-Investor Owned Utility Energy Efficiency Evaluation, Measurement and Verification (EM&V) Plan<sup>2</sup> for 2013 and beyond.

Individual RTR reports consist of a spreadsheet for each evaluation study. Recommendations were copied verbatim from each evaluation’s “Recommendations” section.<sup>3</sup> 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.

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<sup>1</sup> 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.”

<sup>2</sup> 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>.

<sup>3</sup> 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:** 2017 Small/Medium Commercial Sector ESPI Impact Evaluation: Final Report  
**Program:** ESPI  
**Author:** Itron, ERS, TRC  
**Calmac ID:** CPU0223.01  
**ED WO:** GroupA\_SmCom\_1\_YR1  
**Link to Report:** [http://calmac.org/publications/2017\\_SmMedComESPI\\_Full.pdf](http://calmac.org/publications/2017_SmMedComESPI_Full.pdf)

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					Disposition	Disposition Notes	Disposition	Disposition Notes	Disposition	Disposition Notes	Disposition	Disposition Notes
				If incorrect, please indicate and redirect in notes.	Choose: Accepted, Rejected, or Other	Examples: Describe specific program change, give reason for rejection, or indicate that it's under further review.	Choose: Accepted, Rejected, or Other	Examples: Describe specific program change, give reason for rejection, or indicate that it's under further review.	Choose: Accepted, Rejected, or Other	Examples: Describe specific program change, give reason for rejection, or indicate that it's under further review.	Choose: Accepted, Rejected, or Other	Examples: Describe specific program change, give reason for rejection, or indicate that it's under further review.
<b>Refrigeration Case LED Lighting Measures</b>												
1	5	The use of a multiple lamp profile for PG&E measure code LC03 results in a very large delta watts value.	PG&E should revisit the use of the LC03 measure code.	PG&E	Rejected	These measures are retired, and the recommendation is no longer relevant to PG&E.						
2	5	T12 lamps are assumed existing condition for all six foot LED lamp measures, yet the self-reported lamp technology was overwhelmingly T8.	Utilities should revisit the assumption of T-12 lamps as the existing condition for all LED measures that are 6 feet in length.	PG&E, SCE, SDG&E	Rejected	These measures are retired, and the recommendation is no longer relevant to PG&E.	Rejected	SCE's Commercial deemed and Midstream Point of Purchase (MPOP) lighting programs have been closed and the recommendation is no longer relevant to SCE.			Other	The workpaper referenced (WPSDGENRLG0082) expired 12/31/2018.
3	5	SDG&E uses the unit refrigerated case door for the measure.	SDG&E should revisit the assumption of 1.2 fixtures per door.	SDG&E							Other	The workpaper referenced (WPSDGENRLG0082) expired 12/31/2018.
4	5	SDG&E uses the unit refrigerated case door for the measure.	SDG&E should revisit the assumption of 1.2 fixtures per door.	SDG&E							Other	The workpaper referenced (WPSDGENRLG0082) expired 12/31/2018.
5	5	Ex-post hours of operation generally support the HOU used in the workpapers and deemed savings for the refrigerated case LED measures.	Utilities should continue using the HOU currently being used in the ex-ante calculations.	SDG&E							Other	The workpaper referenced (WPSDGENRLG0082) expired 12/31/2018.
6	5	SDG&E and PG&E applied an EUL of 16 years to the measures.	The IOUs should revise the EUL they use for lifecycle savings.	PG&E, SCE, SDG&E	Rejected	These measures are retired, and the recommendation is no longer relevant to PG&E.	Rejected	SCE's Commercial deemed and Midstream Point of Purchase (MPOP) lighting programs have been closed and the recommendation is no longer relevant to SCE.			Other	The workpaper referenced (WPSDGENRLG0082) expired 12/31/2018.

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7	6	In general, Refrigerated LED Case Lighting measures exhibited commendable medium-high program influence levels.	If Refrigerated LED Case Lighting measures continue to be incented, free ridership should be monitored on an ongoing basis.	PG&E, SCE, SDG&E	Rejected	These measures are retired, and the recommendation is no longer relevant to PG&E.	Rejected	SCE's Commercial deemed and Midstream Point of Purchase (MPOP) lighting programs have been closed and the recommendation is no longer relevant to SCE.			Other	The workpaper referenced (WPSDGENRLG0082) expired 12/31/2018.
<b>Process Boiler Measures</b>												
8	5	The workpaper stipulations for operating hours, load factors and measure case efficiency values differed from the ex-post findings and contributed to the gross savings gap.	The program's application and review process should be expanded to increase the range of boiler performance information captured in the ex-ante tracking databases.	PG&E, SCG	Accepted	The workpaper should be updated to incorporate all relevant data.			Accepted	SCG will revise the WP to include updates, SW data.		
9	5	The workpaper stipulations for operating hours, load factors and measure case efficiency values differed from the ex-post findings and contributed to the gross savings gap.	The PAs should consider using an enhanced measure savings algorithm that provides for some reasonable level of customization for relevant input parameters.	PG&E, SCG	Accepted	The workpaper should be updated to incorporate all relevant input parameters.			Rejected	This would require CPUC to accept a "hybrid" measure to derive such an algorithm. This measure is offered through a Deemed approach. Calculation on an individual project basis is not part of the program design. The workpaper should account for these differences.		
10	5	The baseline efficiency for hot water boilers in the SCG workpaper are not consistent with baseline requirements within the PG&E workpaper.	The workpaper base case efficiency needs to be updated to reflect current Title 24, Part 6 standards.	SCG					Other	Workpapers were updated in 2020 and are consistent with statewide code.		
11	5	Very few of the participants were able to measure, store, and analyze boiler consumption data as it results in increased overall operational costs.	The PAs should encourage customer investment in, and involvement with, performance monitoring of equipment by means of a rebate program or something similar.	PG&E, SCG	Accepted	PG&E agrees with the summary and recommendation. To this point a performance monitoring rebate has not been successfully launched either locally or in the 2021 Statewide program.			Rejected	This is not within SCG control: NMEC Process Boiler; outside of intention of the WP. The proposed measure would be behavioral. It's not clear how this would fit into a WP model. Introducing NMEC on a single piece of equipment is potentially fraught as well. SCG will take under advisement.		
12	6	The measure's average ex-post NTG ratio of 0.42 suggests a medium-low level of program influence and corresponding medium-high level of free ridership.	Given the medium-low program influence level, the programs should monitor free ridership on an ongoing basis.	PG&E, SCG	Accepted	Eligibility and free ridership continue to be evaluated at the project level for the local program. Implementer DNV GL will be responsible for demonstrating influence in the Statewide program.			Rejected	This measure is Deemed. Therefore, free-rider screening is not performed ex-ante or ex-post. Further the proposed efforts would be duplicative to the evaluation process and add cost to the rate payers.		

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<b>Food Service Measures</b>												
13	5	Realization rates, after discounting zero savers, would be 10 or more percentage points greater than the ex-post realization rate results.	The program's application and review process should be enhanced to screen projects against the eligible equipment listing, and verification should be performed to ensure that installations claimed are valid.	PG&E, SCG, SDG&E	Accepted	The new Statewide CFS program will continue to leverage the CEW posted QPL with enhanced application review provided by implementer Energy Solutions, inc.			Accepted	SCG will review the data related to this recommendation and modify its eligibility screening and or inspections if feasible and cost effective.	Accepted	SDG&E has both Quality Assurance (QA) and Quality Control (QC) processes and procedures that it will continue to refine to ensure that installations claimed are valid.
14	5	Across both the PG&E and SCG samples, 6 of 43 projects received EUL adjustments to account for loss of long-term savings associated with equipment that were removed from operation.	The PAs should consider reducing ex-ante EUL of 12 years.	PG&E, SCG, SDG&E	Rejected	PG&E does not have control over measures removed from operation. Could be due to business closed or sold to different owner.			Rejected	Set values not able to be adjusted by PA	Other	The EUL ID will need to be updated in DEER/eTRM, as the workpaper merely references the EUL ID. SDG&E suggests assigning this recommendation to the CPUC for their consideration.
15	5	Evaluation results provide validation for the robustness of both the ex-post and ex-ante models, as both approaches yield very similar results when modeling parameters are uniform across both models.	With the ex-ante model validated in this way, the focus of updates to ex-ante methods—to better align ex-ante and ex-post results—can focus on parameter updates.	PG&E, SCG, SDG&E	Accepted	If data aligns with workpapers then it should be followed and updated.			Rejected	PA's do not set the evaluation models.	Other	SDG&E will collaborate with SoCalGas, the statewide lead, on future workpaper updates.
16	5	Differences between ex-post and ex-ante model-based parameters resulted in a relatively large reduction in ex-post savings relative to claims.	Future workpaper revisions should incorporate all PY2013-17 evaluation data to revise parameter-level assumptions.	PG&E, SCG, SDG&E	Accepted	Will include the data in the revised workpapers.			Rejected	All WP's have been updated subsequent to the period mentioned.	Other	SDG&E will collaborate with SoCalGas, the statewide lead, on future workpaper updates.
17	6	Food service measures associated with the Midstream and Downstream delivery channels experienced high levels of free ridership.	Review the set of technologies that are currently eligible for incentives and research new technologies that are less commonly installed and adjust the set of technologies that are eligible for incentives. In addition, for account managed chain customers in particular, program implementers should change their	PG&E, SCG, SDG&E	Other	Most of the FS measures came through the Point of Sale program, a subprogram to the Core Deemed program. Grocery stores and larger chain customers are not typical participants through this channel, rather, individual independent restaurants are common. Since the point of sale aspect of this program is moving to Statewide with implementer Energy Solutions, they will be responsible to monitor free ridership. Since their approach also includes other parts of the supply			Rejected	SCG is continually reviewing new technology and bringing qualifying equipment/ measures into its portfolio. Similarly, SCG sunsets measures as needed to address changes to code, efficiency requirements and other attributes to maintain a cost-effective program.	Other	As programs transition to third-party implementation, the IOUs have less control over program design and implementation. SDG&E will take the recommendation and share it with its program implementers who establish their own promotional practices and determine which technologies to actively highlight and incentivize. SDG&E will also share this recommendation with SoCalGas, the statewide lead, who administers the Statewide Food Service Point-of-Sale Program.

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			promotional practices to actively highlight and promote these new, less commonly adopted technologies.			chain, in addition to point of sale, interaction with and monitoring of standard practice and non-influenced purchases are part of their IP.						
<b>Agricultural Irrigation Measures</b>												
18	5	The agricultural irrigation workpaper revisions made over the last several years have resulted in more accurate savings estimation.	The programs should maintain eligibility requirements for pre-existing irrigation method and crop type.	PG&E	Rejected	These measures are retired, and the recommendation is no longer relevant to PG&E.						
19	5	Five of the 19 sampled projects were determined to be ineligible for program participation.	The program's application and review process should be enhanced to collect additional relevant data and more carefully screen applicants to avoid ineligible projects.	PG&E	Rejected	These measures are retired, and the recommendation is no longer relevant to PG&E.						
20	5	Agricultural irrigation projects are difficult to accurately characterize with a single deemed savings value.	The program should consider adding more granularity to the sprinkler-to-drip workpaper's unit energy savings based on key variables determined from project applications.	PG&E	Rejected	These measures are retired, and the recommendation is no longer relevant to PG&E.						
21	5	Evaluators were unable to assess EUL in this evaluation cycle; however, the current workpaper's EUL recommendation of 20 years is overstated.	Future evaluation cycles and PA research should emphasize measure EUL, which is likely too high in the current workpaper.	PG&E	Rejected	These measures are retired, and the recommendation is no longer relevant to PG&E.						
22	6	Agricultural Irrigation measures experienced high levels of free ridership.	Adjust the set of technologies that are eligible for incentives. In addition, program implementers should actively highlight and promote technologies that are less well-adopted, cutting edge, or emerging technologies.	PG&E	Rejected	These measures are retired, and the recommendation is no longer relevant to PG&E.						
<b>Pipe Insulation Measures</b>												
23	5	For PG&E projects in particular, the tracked ex-ante savings did not	Future pipe insulation savings claims should	PG&E, SCG	Accepted	Claims comments were noted and reflected in current workpaper assumptions and parameters.			Other	SCG will claim savings based on the appropriate WP at the time of the claim.		

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		appear to follow established workpaper recommendations for several of the evaluated sites.	reflect current workpaper assumptions and parameters.									
24	5	Differences in operating hours, installation rate, pipe diameter, and fluid temperature resulted in a lower GRR overall.	Future workpaper revisions should incorporate all PY2013-17 evaluation data to revise parameter-level assumptions. So as not to double-count evaluator findings, we do not recommend incorporating evaluation GRRs as well.	PG&E, SCG	Accepted	Revising a workpaper should take into the account all the evaluation data.			Rejected	All WP's have been updated subsequent to the period mentioned.		
25	5	Evaluators are pleased to observe that the current SCG and PG&E workpapers have added a third, large-diameter tier to the UES recommendations.	Continue incorporating evaluator recommendations in future workpaper updates.	PG&E, SCG	Accepted	Revising a workpaper should incorporate EM&V studies.			Accepted	SCG will continue to incorporate actionable recommendations that improve the Program, Customer experience, or rate payer benefits.		
26	6	The measure's average ex-post NTG ratio of 0.45 suggests a medium-low level of program influence and corresponding medium-high level of free ridership.	Given the medium-low program influence level, the programs should monitor free ridership on an ongoing basis.	PG&E, SCG	Accepted	PG&E continues to monitor free ridership for pipe insulation measures. Per the comments in Section 6 NTG regarding the results varied widely across respondents perhaps suggesting a larger sample may have provided more definitive results.			Rejected	This measure is Deemed. Therefore, free-rider screening is not performed ex-ante or ex-post. Further the proposed efforts would be duplicative to the evaluation process and add cost to the rate payers.		
<b>Water Heating Boiler Measures</b>												
27	6	The measure's average ex-post NTG ratio of 0.45 suggests a medium-low level of program influence and corresponding medium-high level of free ridership.	Given the medium-low program influence level, the programs should monitor free ridership on an ongoing basis.	PG&E, SCG	Accepted	PG&E will continue to monitor WH free ridership locally through project level review. Water Heating will also be offered as a Statewide program and monitoring of free ridership will be executed by implementer DNV GL.			Rejected	This measure is Deemed. Therefore, free-rider screening is not performed ex-ante or ex-post. Further the proposed efforts would be duplicative to the evaluation process and add cost to the rate payers.		