

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 PY2018 Small/Medium Commercial (SMB) Sector ESPI Impact Evaluation: Final Report (Itron, ERS, TRC; Calmac ID #CPU0224.01, ED WO #ED_Com_2018)

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.) 07-09-043¹ and the Energy Division-Investor Owned Utility Energy Efficiency Evaluation, Measurement and Verification (EM&V) Plan² 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.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 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.”

² 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>.

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: PY2018 Small/Medium Commercial (SMB) Sector ESPI Impact Evaluation: Final Report
Program: SMB
Author: Itron, ERS, TRC
Calmac ID: CPU0224.01
ED WO: ED_Com_2018
Link to Report: http://calmac.org/publications/2018_SmMedComESPI_Eval_Full.pdf

Item #	Sect. #	Findings	Best Practice / Recommendations (Verbatim from Final Report)	Recommendation Recipient	PG&E (if applicable)		SCE (if applicable)		SCG (if applicable)		SDG&E (if applicable)	
					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.
Refrigeration Case LED Lighting Measures												
1	5	By separately claiming savings for the refrigeration case lighting measure in addition to the new case, savings associated with the new efficient lighting in the case are double-counted.	The program's application review and verification process should ensure that project savings are not being double counted for any participants receiving incentives in any given program or across any set of programs.	PG&E	Rejected Other	These measures are retired, and the recommendation is no longer relevant to PG&E. PG&E no longer provides incentives for refrigerated case lighting.						
2	5	Ex-post hours of operation generally support the assumed 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. One possible exception is to develop a measure code for buildings that are open 24/7.	SDG&E							Other	The workpaper referenced (WPSDGENRLG0082) expired 12/31/2018.
3	5	Evaluators concluded the remaining useful life of the refrigerated case, or 1/3 of the case's 12 year EUL.	The Evaluation Team recommends this measure be considered accelerated replacement with an EUL equal to the remaining useful life of the refrigerated case itself, or 4 years.	PG&E, SDG&E	Rejected Other	These measures are retired, and the recommendation is no longer relevant to PG&E. PG&E no longer provides incentives for refrigerated case lighting.					Other	The workpaper referenced (WPSDGENRLG0082) expired 12/31/2018.

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4	6	In general, Refrigerated LED Case Lighting measures exhibited medium program influence levels.	As Refrigerated LED Case Lighting measures continue to be incented by SCE and SDG&E, free ridership should be monitored on an ongoing basis.	SDG&E, SCE			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.
Process Pumping VFD Measures												
5	5	The workpaper-based estimates of savings currently draw results from a database of legacy custom and new construction projects involving pump VFDs.	Workpaper updates for agricultural pump VFD measures that are scheduled for 2020 should take into consideration the broad results of this evaluation and any trends observed in order to best improve the accuracy of future workpaper estimates.	PG&E, SCE, SDG&E	Accepted	The workpaper was revised for energy savings; no significant changes were made since savings estimates include a large amount of data provided by a 3 rd party.	Other	SCE will collaborate with PG&E, the statewide lead, on future workpaper updates.			Other	SDG&E will collaborate with PG&E, the statewide lead, on future workpaper updates.
6	5	The workpaper-based estimates of savings currently draw results from a database of legacy custom and new construction projects involving pump VFDs.	The program's application and review process should be expanded to increase the range of irrigation pump performance information captured in the ex-ante tracking databases.	PG&E, SCE, SDG&E	Rejected	The current workpaper energy savings calculations are based on about 300 data points (197 Well and 99 Booster pumps); PG&E believe this to be an acceptable statistical sample of the pump population in PG&E territory.	Other	SCE will collaborate with PG&E, the statewide lead, on future workpaper updates.			Other	SDG&E will collaborate with PG&E, the statewide lead, on future workpaper updates.
7	5	The workpaper-based estimates of savings currently draw results from a database of legacy custom and new construction projects involving pump VFDs.	The PAs should consider using an enhanced measure savings algorithm that provides for some reasonable level of customization for relevant input parameters.	PG&E, SCE, SDG&E	Accepted	Energy savings methodology should be evaluated and revised according to these recommendations.	Other	SCE will collaborate with PG&E, the statewide lead, on future workpaper updates.			Other	SDG&E will collaborate with PG&E, the statewide lead, on future workpaper updates.
8	5	By far the most valuable data source supporting ex-post gross impact accuracy was the AMI	The PAs should leverage AMI data for the purposes of deriving workpaper-	PG&E, SCE, SDG&E	Accepted	Energy savings methodology should be evaluated and revised according to these recommendations.	Other	SCE will collaborate with PG&E, the statewide lead, on future workpaper updates. SCE agrees with IE recommendation.			Other	SDG&E will collaborate with PG&E, the statewide lead, on future workpaper updates.

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		data that the utilities provided to the evaluation team.	based impact estimates.									
9	5	By far the most valuable data source supporting ex-post gross impact accuracy was the AMI data that the utilities provided to the evaluation team.	The PAs should make use of AMI data to screen projects for eligibility based on pump run time being greater than the required 1,000 hours.	PG&E, SCE, SDG&E	Accepted	AMI data in 2021 is now more easily accessed by customers and implementers and thus provides increased detail. The WP should also be updated to provide some crop specific or NC parameters to account for, for example, lower than 'normal' water usage in new orchards versus the steady state of an established one.	Other	SCE will collaborate with PG&E, the statewide lead, on future workpaper updates. SCE agrees with IE recommendation.			Other	SDG&E will collaborate with PG&E, the statewide lead, on future workpaper updates.
10	5	Although the evaluation did not contest the utility-derived standard practice baseline, nor conduct additional research surrounding standard practice for VFDs in pumping systems, there are certainly irrigation applications where there is a high likelihood that a VFD would have been installed in the absence of the program, given many non-energy benefits of VFD operations.	The workpaper baseline condition should be revisited in advance of completion of 2020 workpaper updates for the agricultural pump VFD measure.	PG&E, SCE, SDG&E	Accepted	Will need to do an ISP study since our experience indicates that the prevalent baseline is a throttle valve to control flow.	Other	SCE will collaborate with PG&E, the statewide lead, on future workpaper updates. SCE agrees with IE recommendation.			Other	SDG&E will collaborate with PG&E, the statewide lead, on future workpaper updates.
11	5	Pumps in the sample frequently failed to comply with various program eligibility requirements. These requirements are generally in place to ensure each VFD installation will produce a desirable minimum level of program savings and/or produce savings at all.	The program's application and review process should be enhanced to better screen projects against eligibility requirements and exclusions, and verification should be performed to ensure that installations claimed are both valid and accurately represent the associated irrigation system.	PG&E, SCE	Accepted	Newly launched 3P ag program AESAP includes a robust eligibility, tracking and site inspection schedule to maximize claimed savings. Full details can be found in the AESAP Implementation Plan (EM&V) posted on CAEECC.org.	Accepted	Future programs sponsored by SCE to evaluate and adopt IE recommendation for improving project screening. SCE agrees with IE recommendation.				

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12	5	Pumps that do not operate at substantially reduced speeds and flow should not be eligible for program VFD incentives.	The program eligibility requirements should be strengthened to exclude all such pumps from participation.	PG&E, SCE, SDG&E	Accepted	This concern has been noted with the implementer of the new AESAP program, TRC, regarding value of VFDs on pumps with consistently high capacity run times. AMI data will be leveraged to determine best project candidates.	Accepted	Future programs sponsored by SCE to evaluate and improve program eligibility requirements. SCE agrees with IE recommendation.			Other	SDG&E will collaborate with its third-party implementers to further consider this recommendation as well as PG&E, the statewide lead, on future workpaper updates.
13	5	Across both the PG&E and SCE samples (49 pumps), there were only two pumps where evaluation-based EUL assignments matched those applied by the utilities in the tracking system.	The PAs should apply greater due diligence in populating tracking system-based EULs and better classify participating projects as new pump installations versus retrofit add-on installations.	PG&E, SCE	Accepted	The WP should be updated to provide some crop specific or NC parameters to account for, for example, lower than 'normal' water usage in new orchards vs the steady state of an established one. Increased diligence and negative results on claimable savings have been reviewed with PM and PG&E customer service staff in the Ag sector.	Accepted	SCE to collaborate as needed with lead IOU and sponsored programs to determine improvements on program's eligibility requirements.				
14	5	The Process Pumping VFD measure's average ex-post NTG ratio of 0.41 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, SCE, SDG&E	Accepted	New approach(es) included in the AESAP program are expected to improve the case for influence of the program, documentation of existing conditions, and post install inspections.	Accepted	Future programs sponsored by SCE to monitor program influence. SCE agrees with IE recommendation.			Accepted	SDG&E agrees with the need to monitor free ridership on an ongoing basis and will collaborate with its third-party program implementers on how to best incorporate this recommendation within its programs.
Agricultural Irrigation Measures												
15	5	Nine of the 17 sampled projects in this evaluation were ineligible for program participation because each of these nine farms grow deciduous crops.	The program's application and review process should be enhanced to screen projects against all eligibility criteria, and selected auditing or verification should be performed to ensure that only valid installations are claimed.	PG&E	Rejected Other	These measures are retired, and the recommendation is no longer relevant to PG&E. Measures sampled have been sunset and are no longer in use.						
16	5	IOU models for estimating savings were found to lack key parameters that are critical for accurately characterizing irrigation needs and resulting	Future workpaper revisions, ex-ante models, and impact claims should incorporate recent evaluation data and results.	PG&E	Rejected	These measures are retired, and the recommendation is no longer relevant to PG&E. Measures sampled have been sunset and are no longer in use.						

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		savings.										
Tankless Water Heaters												
17	5	The tankless water heater measure's distributor-facing design results in inconsistent or missing tracking data.	For any offering where the IOUs are providing support and incentives through the state's energy efficiency programs, such as the tankless water heater measure, program administrators should require participating distributors contractors to collaboratively collect and submit basic information for each customer ultimately receiving the equipment or other support and partnering	PG&E, SCG	Accepted	Statewide program will be largely responsible for collecting sufficient customer information so savings can be verified post install. SW implementer's midstream distributor portal includes a level of QC for complete project information prior to processing and payment of savings/incentive claims.			Accepted	SoCalGas currently requires all distributors to complete a DSA (distributor service agreement) which collects all participating distributor information. Additionally, the SW Midstream Water Heating Program collects certain end-use customer information such as installation address, contact phone number, customer name, etc.		
18	5	Three of the 25 evaluated projects were determined to result in zero savings due to non-install or ineligibility.	For any measures delivered mid-stream through distributor rebates, such as the tankless water heater measure, the programs must require participating distributors and partnering contractors to submit more comprehensive installation documentation (e.g., invoices, commissioning reports) and photographs to prove measure installation, quantity, size, fuel source, and efficiency.	PG&E, SCG	Accepted	PG&E understands that the Statewide implementer DNV GL and lead PA SCG will be conducting post install checks and other visual documentation as part of their validation process.			Rejected	SoCalGas requires that participating distributors provide invoices for sales verification but requiring that program participants provide commission reports and pictures of installation is outside the scope of mid-stream programs. Fuel source, quantity, and efficiency levels are captured through a preapproved qualifying products list. These recommendations do not conform with the midstream sales process. This recommendation is best suited for downstream programs.		
19	5	11 of the 25 evaluated projects applied incorrect reported per-unit savings values or	Deemed measures in the small-medium commercial sector should con-	PG&E, SCG	Accepted	Project data should conform with the workpapers & claimed savings at the time of installation.			Other	SoCalGas recommends modifying the following statement to reflect sales date, not installation date. If a measure is purchased when the workpaper was active and installed when it was no longer active, the		

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		misclassified the type of facility where the measure was installed.	form with workpapers active at the time of installation, and claimed savings should reflect the product of workpaper-recommended unit energy savings (UES) with the total installed quantity or size for the most appropriate facility type.						claim would be rejected based on the recommended installation date.			
20	5	Active workpapers for the TWH measure in PY2018 recommended an NTGR of 0.60. However, evaluators found that 19% of PY2018 tracking records reflected an NTGR of 0.60, 80% an NTGR of 0.65, and 1% an NTGR of 0.90.	Deemed measures in the small-medium commercial sector should conform with workpapers active at the time of installation, and applied NTGRs should consistently reflect the NTGRs specified by workpapers active at the time of project application.	PG&E, SCG	Accepted	NTGR data should conform with the workpapers at the time of installation.			Other	SoCalGas recommends modifying the following statement to reflect sales date, not installation date. If a measure is purchased when the workpaper was active and installed when it was no longer active, the claim would be rejected based on the recommended installation date.		
21	5	We found differences in tankless water heater efficiency and temperature increase as compared with workpaper assumptions.	Future workpaper revisions, ex-ante models and impact claims should incorporate recent evaluation data and results.	PG&E, SCG	Accepted	2021 Water Heater Calculator incorporated many of these differences.			Accepted	Efficiency has been raised in the newest workpaper as the weighted average of all AHRI water heaters UEF in each efficiency bin. This results in a UEF values higher than the minimum qualifying criteria. We use the CPUC approved DEER water heater calculator for the source of our savings. We will work with commission staff to address concerns regarding setpoint temperature in subsequent workpaper updates. The workpaper assumes no tank or loop losses (whether closed or open loop system). It only takes into account the makeup water temperature increase to satisfy the demand, so the closed loop systems would have more savings. Although the return water temperature would be higher for closed loop systems, the tankless water heater would be operating a lot more to keep the system up to temperature.		