

## 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 2018 Nonresidential ESPI Deemed Lighting Impact Evaluation: Final Report*** (Itron, Calmac ID #CPU0211.01)

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:** 2018 Nonresidential ESPI Deemed Lighting Impact Evaluation: Final Report  
**Program:** Lighting  
**Author:** Itron  
**Calmac ID:** CPU0211.01  
**Link to Report:** [http://calmac.org/publications/2018\\_Nonresidential\\_ESPI\\_Deemed\\_Lighting\\_Impact\\_Evaluation\\_-\\_Final\\_Report\\_and\\_Appendices.pdf](http://calmac.org/publications/2018_Nonresidential_ESPI_Deemed_Lighting_Impact_Evaluation_-_Final_Report_and_Appendices.pdf)

Item #	Findings	Best Practice / Recommendations (Verbatim from Final Report)	Recommendation Recipient	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.
1a	The evaluation team found the ex post operating hours for certain commercial sectors—like retail and grocery—were significantly higher than ex ante assumptions. While there were measurable differences between ex ante and ex post operating hours for each technology type, T-LEDs and retrofit kits were generally installed in high usage areas like lobbies and retail space that can operate for a significant number of hours per day and week.	The ex ante/DEER team should consider utilizing the monitoring data, along with the business hour and self-reported operating schedules collected as part of this evaluation, to support the development of updated operating hour estimates for LED Fixtures and T-LEDs. Furthermore, businesses that operate 24 hours a day should be considered a unique case and claimed operating hours should be updated to reflect higher activity within these facilities.	CPUC		
1b	The evaluation team found claims and associated energy/demand savings using a building type designation and claimed HOU that don't correspond to the actual activity level within a facility. The evaluation team verified installations at fitness centers, grocery stores and retail establishments that operate 24-hours a day and had much greater reported HOU than claimed.		CPUC		
2a	The PA's assumed a replacement on burnout baseline for LED Fixture measures. However, we found that T-LEDs and retrofit kits were predominantly replacing linear fluorescent systems—T-LEDs were installed in fixtures with existing wiring and ballasts. Therefore, it's likely there is significant stock of LF systems still out there with well-functioning ballasts, so an opportunity for accelerated replacement may exist for LED Fixture retrofits.	Future studies should consider an accelerated replacement path for LED Fixture retrofits. As industry standard practice moves towards LEDs for replacement on burnout of linear fixtures, accelerated replacement may be the more cost-effective path for this measure. Furthermore, The PA's should track the age and condition of linear fluorescent ballasts where T-LED lamps are being installed.	CPUC		
2b	LED lamps have an average service life of roughly 50,000. However, they are being installed in fixtures with existing ballasts.		CPUC		
3	A not insignificant percentage of program participants installing LED fixture measures self-reported metal halide (MH), mercury vapor (MV) and high-pressure sodium (HPS) as the baseline technology replaced as part of the retrofit—especially for outdoor LED fixture measures.	Further research should be conducted to continue to track the typical baseline and efficiency of equipment replaced with program rebated LED indoor and outdoor technologies. Furthermore, future studies and programs should consider a framework to recognize the age of the existing equipment	CPUC		

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		and the likelihood that a program participant would have either 1) deferred installation and maintained or continually repaired their existing system or 2) installed equipment that was no more efficient than code at the time they did, in the absence of the program.			
4	When comparing ex ante parameter estimates to ex post results, not all documentation could be found detailing the specific parameters comprised of the ex ante claimed savings values. This caused unnecessary coordination with the PAs to find missing workpapers.	All workpaper documentation (workbook calculations and supporting documents) should be posted on the workpaper project archive (WPA) at <a href="http://www.deeresources.info">www.deeresources.info</a> .	PG&E, SCE, SDG&E	Accepted	All IOUs currently post workpapers on the workpaper project archive (WPA) and will continue to do so. All workpapers and supporting documentation are submitted to the CPUC for review and approval on WPA. The IOUs recommend that CPUC evaluators utilize <a href="http://www.deeresources.net/workpapers">http://www.deeresources.net/workpapers</a> website to locate approved workpapers.
5	The evaluation team sometimes found that the expected parameter values used in the ex ante savings claims were not based on the reported ex ante IDs.	Ex ante IDs should match with parameters used in the actual reported ex ante savings.	PG&E, SCE, SDG&E	Accepted	The IOUs will work to ensure ex ante IDs match where appropriate. There are several IDs that represent the measure being claimed, some IOU specific and some DEER driven. It is unclear which IDs are being referenced in this recommendation. DEER IDs will no longer be utilized in lighting workpapers for 2020 and beyond so this should not be an issue moving forward.
6	In general, lighting measures exhibited medium program influence levels. NTGR values vary somewhat by measure type and PA and range from a low of 0.57 (SDG&E Reflectors) to a high of 0.88 (PG&E Accent Lamps). Values by PA show less variation and range from 0.63 (SDG&E) to 0.71 (PG&E). In nearly all cases, ex post NTGR values are less than ex ante values. For SCE Indoor Lamps, it is interesting to note that the NTGR of 0.70 for the midstream delivery is the same as that for the downstream reflector measure, despite being based on two fundamentally different data sources. The midstream result is almost entirely based on distributor survey results, while the downstream result is based solely on participant survey results. This was because the Midstream program did not collect contact information for most of the end user program participants. As a result, it was difficult to identify a sufficient sample of participants to triangulate responses against the distributor responses. Therefore, the NTG analysis for the midstream program relied primarily on distributor responses.	The Midstream NTG framework generally calls for values that are based on a combination of customer and distributor survey results. With the transition to 3P programs that are predominantly Midstream, it is increasingly important that the PA's collect both customer and distributor contact information to support this process.	PG&E, SCE, SDG&E	Accepted	The PAs are supportive of this recommendation to collect both customer and distributor contact information to support the evaluation process. SCE, as the lighting lead, will make a concerted effort to include provisions in its contract's supporting documents that would require 3rd party implementers to collect customer and distributor contact information for midstream point of sale programs. SCE notes, however, that the third-party contracts are still being negotiated.
7	The evaluation team found evidence of some programs incorrectly reporting the unit basis of claimed savings for measures rebated by the total lumens installed, rather than the total number of fixtures or lamps installed. When savings are incorrectly reported, claimed savings are underestimated.	PA's should carefully review claims data for projects rebated with a unit basis of kilolumens to confirm that the claimed units installed represent the total kilolumens installed rather than the total fixtures installed.	PG&E, SCE, SDG&E	Accepted	IOUs will review claim data to make sure the appropriate units are reported so savings may be claimed correctly.