

## 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 2013–2015 Residential Roadmap: 2015 Multifamily Focused Impact Evaluation*** (Apex Analytics, Itron, and DNV GL; Calmac ID #CPU0149.01, ED WO #ED\_D\_Res\_4)

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<sup>1</sup> and CPUC Decision (D.) 07-09-043<sup>2</sup>.

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> 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>2</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>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:** 2013–2015 Residential Roadmap: 2015 Multifamily Focused Impact Evaluation  
**Program:** MF-WB and MFEER  
**Author:** Apex Analytics, Itron, and DNV GL  
**Calmac ID:** CPU0149.01  
**ED WO:** ED\_D\_Res\_4  
**Link to Report:** [http://calmac.org/publications/MF\\_Impact\\_Evaluation\\_Final.pdf](http://calmac.org/publications/MF_Impact_Evaluation_Final.pdf)

Item #	Page #	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.
1	53	<b>MF-WB:</b> Although the IOUs have assumed ER savings for all multifamily measures, this research indicated that a substantial portion of projects may not qualify for ER because of planned improvements, installation of new equipment, or replacement of equipment that was in poor condition. For example, only 18% of program shell measures and 50% of water heater installations qualified as ER measures.	The IOUs should set up a survey for multifamily participants at intake to better determine the appropriate baseline for each project and measure. The intake survey can follow a similar logic as that used in this report or that from the CPUC early retirement guidance document. The baseline assumptions for a sample of projects should then be verified by an independent third-party evaluator.	All IOUs	Other	Whole building multifamily programs will use a prescreening survey tools and utilize third party site assessment reports (when applicable depending on utility program model) in a sample of units as an indicator for ER vs ROB. Further discussion and guidance on how the ER and ROB indicators will be used in savings calculations is requested. Establishing individual baselines for each measure is cumbersome and complicated in whole building programs due to varying useful life of measures across all units.
2	53	<b>MF-WB:</b> This research found a NTG ratio of 44.6%. This value is slightly lower than the 2013–2014 REN MF-WB NTG value and significantly less than the IOU provided ex ante value of 85%. These NTG values reduce savings from measures that would have been installed without program intervention.	IOUs should consider using the researched NTG ratio from this study and update this information as future evaluation results become available. Because the program is still relatively new, the composition of participants may change over time, so the NTG ratio may change as the program matures. In addition, the NTG ratio should be updated if there are changes in the implementation strategies that might reduce or alter the free-ridership (e.g., increasing incentive levels or changing the measure mix).	All IOUs	Other	Due to the limited sample size of projects in this research, the multifamily programs do not believe the researched NTG ratio is an appropriate adjustment at this time. The multifamily programs believe additional discussion and research to establish a revised NTG for whole building multifamily programs is necessary. The multifamily programs will use a prescreening tool to document the owner's intentions to the best of our ability to aid researching an appropriate NTG ratio for whole building programs.
3	53	<b>MF-WB:</b> The consumption analysis did not result in comprehensive energy use for many of the sampled properties. This is due to challenges linking the meter numbers to IOU billing data and considerable time periods with zero energy use during the pre-program period. As such, the evaluation team could not calibrate the simulation models to the estimated consumption as planned, and relied upon the consumption estimates calculated in the simulation models.	Program administrators need to access and calculate whole building consumption for projects prior to approving project application and have this information readily available for evaluators to justify savings claims. Program administrators should access at least 12 months of gas and electric use prior to potential program upgrades, and 12 months of use after the upgrades occur. These data need to encompass all common area and dwelling units within the participant property and should be a prerequisite of participation. These data will allow savings assumptions and models to be calibrated and/or verified	All IOUs	Other	Multifamily program administrators have limitations to accessing energy use data depending on implementation model. In a closed rater model calibration is more easily accomplished due to the contractual relationship with the PA (e.g. Data access/security requirements, Nondisclosure agreement, Terms & Conditions, etc.). In an open rater model PAs have to work with owners to access data within the constraints of AB 802 requirements.  The multifamily programs utilizing an open rater model will work with property owners to access pre-retrofit data, within the constraints of AB 802, when data is available. Due to the limitations and costs involved in accessing data, the multifamily programs do

			through actual customer bills and will be imperative to support future claims for projects utilizing an existing conditions baseline.			not support 12 months of pre-retrofit data as a prerequisite to participation. Additionally, energy model calibration drives the cost of program implementation due to the limitations discussed above and limited software support of model calibration.
4	54	<b>MF-WB:</b> IOUs should discontinue use of the EnergyPro RES PERF model for their savings estimates because concerns about the accuracy of this software have led to it to be dropped from the CPUC list of approved simulation model software for the California single-family whole building programs.	Consider the use of the EnergyPro NR PERF model with inputs that reflect building and use characteristics of multifamily projects in future program cycles.	All IOUs	Accepted	For PG&E and SDG&E: EnergyPro RES PERF was an approved software for program use in 2015. The program will transition to use of EnergyPro NR PERF model (transition starting in 2018 program year). The program will begin calculating all savings claims based on EnergyPro NR PERF model starting in Q4 2017. 2017 incentives will continue to be calculated based on RES PERF in order to minimize customer confusion on committed project incentives. The program will begin to train program partners on the EnergyPro NR PERF model in 2018. The program will assess the necessary changes for the incentive calculation to reflect NR PERF savings estimates in 2018.  For SCE and SoCalGas: EnergyPro NR PERF was used by the SCE/SoCalGas implementation team.
5	54	<b>MF-WB:</b> The IOU data collection and tracking systems were greatly improved from the 2013–2014 multifamily evaluation, with near complete information on property and measure details. For several projects, however, the energy estimates and savings from energy models submitted by the IOU did not match to the tracking data.	Continue to review tracking data and energy model results before submitting IOU models to the evaluation team to ensure they match one another.	All IOUs	Accepted	IOUs will continue to improve data collection and tracking of projects, including capturing any energy modeling assumptions. To streamline this effort, the program put together a data dictionary and are engaging with the BEDES effort by CPUC/LBNL to standardize program database structure and tracking.
6	54	<b>MF-WB:</b> Some projects had incentivized measures that did not exceed Title 24 prescriptive requirements. For example, Title 24 2013 Standard Section 150.2(b)1B requires replacement fenestration to meet prescriptive requirements in Table 150 1-A and some projects installed windows that did not meet these, according to project documentation. These projects were negatively impacted when adjusting the baseline to the proper code.	Require project submittals to include Title 24 compliance documentation for project retrofits to building envelope and mechanical systems to demonstrate that the project at least meets the required prescriptive Title 24 Code. Additionally, the certified performance rating certificates for windows (NFRC), HVAC (AHRI), and DHW (AHRI) equipment documenting the efficiencies at least meet code requirements should be included in project documentation. IOU staff should take photos of the NFRC ratings affixed to manufactured windows during the IOU test-out QC inspections. This may require closer coordination with the construction schedule so the labels are not removed prior to the inspection.  Additionally, IOU staff should include a site measurement of solar transmission for verification of low-e glazing when NFRC labeling data is not available. Photo documentation of all installed measures should be included in the IOU final documentation.	All IOUs	Other	The multifamily programs will improve milestone tracking for items such as permit dates and installation dates which may vary by measure depending on code cycle and timing of permitting. Site measurement of window specifications is not recommended as this is a test performed by NFRC during testing and is reflected in specification sheets provided by the contractor/participant to the programs. Instead, the programs will capture product specifications including performance rating certificates for equipment and windows where applicable and when site conditions permit.
7	70	<b>MFEER:</b> A number of measures are included in the	IOUs should use DEER savings values for all applicable measures to make the ex ante savings more closely align with the ex post values. For measures	All IOUs	Accepted	The Database for Energy Efficiency Resources (DEER) provides estimates of the energy savings potential for energy efficient technologies in residential and nonresidential applications. The DEER

		DEER database, yet the IOUs used workpaper savings values.	not included in DEER, IOUs can continue to use approved workpaper values.			database includes CPUC adopted energy savings and cost effectiveness parameters (NTG, EUL/RUL/and GSIA) for common and established measures. IOU workpapers are prepared for DEER measures (exclusively) using DEER's energy savings and cost effectiveness parameters. Measures not available in DEER (e.g., Non-DEER measures) are evaluated and reported in full alignment with CPUC's ex-ante procedures and requirements.
8	71	<b>MFEER:</b> SCE incorrectly assigned the vast majority (78%) of measures to a constrained area NTG. Constrained area NTG is only applicable for approved zip codes and must show an increased incentive to qualify.	IOUs should apply the residential default NTG value unless the measures qualify for this increased NTG value.	All IOUs	Accepted	SCE agrees. SCE is taking measures to increase the quality and consistency of its program reporting process to improve the application of DEER, work paper and NTG values. SCE had incorrectly reported these as 0.85 NTG for constrained area but instead was supposed to report 0.85 for Hard-To-Reach. SCE's understanding of what was agreed upon with CPUC staff was that if a project was (1) multifamily, (2) MFM or DMO, (3) direct install, and (4) common or dwelling measure, SCE could claim 0.85 NTG as a hard-to-reach measure. However, pending further guidance from the CPUC, SCE will stop using MFEER as Hard-to-Reach as default value. Instead, SCE will use the proper default deemed, work paper, and NTG values. PG&E/SoCalGas/SDG&E agree with this recommendation.