

## 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 PG&E Targeted HER (Nexant, Calmac ID #PGE0425.01, ED WO #2157)***

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:** PG&E Targeted HER  
**Program:** HER  
**Author:** Nexant  
**Calmac ID:** PGE0425.01  
**ED WO:** 2157  
**Link to Report:** [http://calmac.org/publications/PG%26E\\_Targeted\\_HER.pdf](http://calmac.org/publications/PG%26E_Targeted_HER.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	15		<p>Given the observed performance of the causal forest algorithm relative to simple rules and its expected performance given prior research, we recommend that PG&amp;E use the predicted treatment effects from the causal forest directly for making decisions about which customers to treat. This output can be pared with a simple decision rule, such as “customers with negative expected energy savings will no longer receive home energy reports” or “customers with expected energy savings worth less than the marginal participant cost will no longer receive home energy reports” to improve upon energy savings forecasts.</p> <p>Depending on the accurate benefit per kWh and cost per report, a substantial percentage of current HER participants may not be providing sufficient savings to justify the cost of delivering the reports to them. Based on the results from the causal forest algorithm and our assumptions, PG&amp;E could stop sending reports to these customers based on their predicted savings (i.e., likely return on investment). In Section 3.3, an illustrative analysis using assumptions about costs per report and benefits per kWh indicates that 70% of customers provide a treatment effect that is too small to be cost effective. In other words, this analysis reveals that HERs cost more than the benefits they provide for more than 70% of the sampled participants. In this example, delivering HERs only to customers with savings predicted to be in excess of the cost of delivery (over 0.27 kWh per day) could reduce PG&amp;E’s program costs significantly while achieving cost effective energy savings. Excluding customers with trivial or negative energy savings would not have a significant impact on aggregate program impacts (in other words, removing individual customers with zero savings would have zero impact on aggregate savings).</p>		Rejected	<p>Stopping sending reports to some HER-recipients (by excluding these customers from the treatment group or simply interrupting treatment) would either not meet the requirements of an RCT (the internal validity rule would be broken) or not generate cost savings.</p> <p>While this recommendation is sound, logical, and based on data analysis, its implementation would be highly challenging for the following reasons:</p> <ul style="list-style-type: none"> <li>• <u>Internal validity</u>: excluding HER-recipients that perform less than others is not possible except if customers who would have behaved identically had they participated in the program were also removed from the control. Since this is not possible, modifying the treatment group would break the internal validity rule, i.e. the control group may no longer be representative of the treatment. The RCT design would then no longer be effective</li> <li>• <u>Contractual terms with HER implementers</u>: the HER program is subject to the upcoming energy efficiency solicitations, it is not clear that limiting the HER-recipient population would create significant cost savings for PG&amp;E.</li> </ul>
2	15		<p>Nexant recommends PG&amp;E develop a formal experiment designed to test the impact of discontinuing the delivery of HERs to customers who are predicted not to have energy savings sufficient to cost justify their continued delivery. This experiment would be similar to PG&amp;E’s experiments testing the persistence of energy savings. Treatment discontinuation would be based on customers’ predicted future savings, instead of random selection. If customers with small expected savings are removed from the program, it is possible that we may not see a difference in energy savings after terminating their reports.</p>		Rejected	<p>PG&amp;E notes that the HER program will be subject to the upcoming energy efficiency solicitations. Vendors bidding in programs will be reviewed based on their cost effectiveness and energy savings opportunities which could leverage this finding at the election of the vendors.</p>