

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 CPUC Group A: Impact Evaluation Report of Plug Load and Appliance - Program Year 2021 (DNV GL, Calmac ID #SCE0477.01)

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.) 07-09-043¹ 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: CPUC Group A: Impact Evaluation Report of Plug Load and Appliance - Program Year 2021
Program: Plug Load and Appliance
Author: DNV
Calmac ID: SCE0477.01

ED WO: Group A: Impact Evaluation Report of Plug Load and Appliance
Link to Report: https://www.calmac.org/publications/PY2021_Plug_Load_and_Appliance_Impact_Evaluation_Final_Report_CAL-MAC.pdf

MANAGEMENT APPROVAL AFTER REVIEWING ALL IOU RESPONSES		
Name		Date
PG&E		
SCE	Justine Chao, EE Pro Perf Mgmt, Senior Manager	7/20/23
SCG		
SDG&E	Jen Taylor	7/18/23

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				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.
1	8	<ul style="list-style-type: none"> The breadth of the HVAC measure documentation data was sufficient, but the quality could be improved. 	<ul style="list-style-type: none"> SCE and their implementers ought to increase efforts to train participating midstream program distributors on consistent and accurate data recording. SCE and their implementers ought to conduct regular quality control reviews of the data prior to submittal. SCE and their implementers ought to design program documentation to include SCE's premise and customer identifier fields. More documentation and linking program data to utility customer database information to help benefit the certainty of evaluated savings. 	SCE			Other	<p>SCE agrees with the evaluator's recommendation to increase training efforts for midstream program participants (e.g. distributors, contractors) on accurate data recording, and quality control reviews to improve realization rates on applicable Energy Efficiency (EE) Fuel Substitution measure offerings which are critical for supporting statewide decarbonization goals.</p> <p>When designing the program (e.g., Direct Install, Downstream, Midstream, Upstream), it is imperative to consider the cost-effectiveness of data collection and ensure the availability of information. However, the inclusion of additional documentation such as SCE's premise</p>			Other	<p>SDG&E agrees with some of the evaluator's recommendations to improve data tracking, documentation, and quality control. The SW PLA program has already implemented various steps to improve quality. More specifically, the SW PLA implementor does train participating partners on accurate data collection. Additionally, the implementer as well as SDG&E conducts regular quality assurance activities to ensure the data is as accurate as possible. These quality assurance activities include site level inspections conducted either via phone, email, or in-person, and documentation review. Items verified through quality assurance activities are installation, end-user information and applicable data</p>

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								and customer identifier fields, as well as the linkage of program data to the utility customer database, presents a resource-intensive challenge that imposes a substantial administrative burden and considerable cost.				collection, equipment eligibility, and compliance with measure package requirements. SDG&E rejects that the program must include premise identifiers and linking program data to the utility customer database. The program design of the SW PLA program does not collect premise or account identifiers. The collection of this data point would decrease participation. The SW PLA program does collect end-use customer information such as name, address, email, and phone number. Lastly, being that this is a statewide program linking program data to each utilities' database is not feasible. However, The SW PLA program is implementing an acknowledgement API to strengthen customer validation which utilizes each IOUs' customer databases.
2	8	<ul style="list-style-type: none"> These systems fell short of expectations for gas savings. This is somewhat because, as survey respondents indicate, the ductless heat pump measure is not often replacing an existing gas heating system, but the analysis also shows this doesn't account for all the unachieved gas savings. Combining the consumption analysis and the survey results indicates that on average, when the ductless HVAC system does replace an existing heating system, the gas savings are 19% 	<p>A best practice for SCE would be to implement controls and other program design aspects to ensure normal replacement claims are offsetting existing gas heating.</p> <ul style="list-style-type: none"> The gross savings for the ductless HVAC technology should be reviewed considering the poor achieved gas savings from consecutive (PY2020 and PY2021) impact evaluations. 	SCE			Other	<p>Both ductless and central Heat Pump HVAC technology will continue to be critical in support of statewide decarbonization goals. SCE agrees that improved controls and measure installation validations based on program (e.g., Direct Install, Downstream, Midstream, Upstream) to ensure existing gas equipment decommissioning shall be enabled (as part of measure eligibility) for improving measure savings realization particularly on natural gas savings. Some level of cost-effective program controls requirements have been enabled in the latest version of ductless and central Heat Pump measure packages in alignment with latest applicable DEER policies.</p> <p>Methodology for determining measure savings fully rely on DEER prototypes and methods. Future improvements on DEER prototype calibration to latest RASS saturation studies along with improve measure characterization are</p>			Accept	<p>SDG&E agrees with the evaluator's recommendations to improve controls to ensure normal replacement claims are correct. The SW PLA program has already implemented various steps to improve this quality. More specifically, through data collection, the implementor collects existing baseline information when determined by the measure package. Additionally, SDG&E conducts regular quality assurance activities to ensure this data is as accurate as possible. These quality assurance activities include site level inspections conducted either via phone, email, or in-person and documentation review. Items verified through the quality assurance activities are installation, end-user information and applicable data collection, equipment eligibility, and compliance with measure package requirements.</p> <p>Additionally, The SW PLA program does not offer ductless HVAC measures and SDG&E is not</p>

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		of what was reported for those claims.						likely to yield improvements on measure savings forecast and realization. SCE encourages evaluator to review measure package characterization (and building energy modeling inputs) and provide recommendations to measure developer as needed to support improvements on measure savings estimates. SCE will work with ED to improve characterization of measure package to align with program implementation.				the lead on this specific measure package. However, we agree with the recommendation that the gross savings should be reviewed.
3	9	The claimed DHW measure installations were not verifiable and their gross impacts (site energy, source energy, and emissions) remain untested and uncertain due to the extremely limited available data collected by the program's upstream delivery type.	SCE ought to consider a midstream program design, similar to the ductless HVAC fuel substitution program. This will help reliably collect higher quality equipment details, market actors' contact information, and increase efforts to ensure heat pump water heater claims are installed within the service territory.	SCE			Other	Domestic hot water heat pump technology will continue to be critical in support of statewide decarbonization goals. SCE agrees that a midstream program design with cost-effective measure validations (that are reasonable based on program design) would assist to improve impact evaluation research. However, market penetration of technology via other critical program designs (e.g., upstream where the incentives are provided to manufacturers or retailers of high efficiency products in order to encourage their production and sales) should still be encouraged. Further, program evaluator should explore opportunities for improving evaluation methods for upstream programs for which validation of existing conditions at the customer site are difficult and resource intensive to support.			Accept	The SW PLA program is a midstream program design where equipment details and market actors' contact information are collected. Therefore, SDG&E accepts this recommendation. Additionally, the implementor and SDG&E both conduct regular quality assurance activities to ensure the measure is installed within an IOU territory. These quality assurance activities include site level inspections conducted either via phone, email, or in-person and documentation review. Items verified through the quality assurance activities are installation, end-user information and applicable data collection, equipment eligibility, and compliance with measure package requirements.
4	40	Finding: The breadth of the HVAC measure documentation data was sufficient, but the quality could be improved.	SCE and its implementers should increase efforts to train participating midstream program distributors on consistent and accurate data recording.	SCE			Accept	SCE agrees with the evaluator's recommendation to increase training efforts for midstream program participants (e.g., distributors, contractors) on consistent and accurate data recording.			Accept	SDG&E agrees with the evaluator's recommendations to improve data tracking, documentation, and quality control. The SW PLA program has already implemented various steps to improve quality. More specifically, the SW PLA implementor does train participating partners on accurate data collection. Additionally, the implementor and SDG&E both conduct quality assurance activities to ensure that the data is accurate. If errors are found, corrective action steps

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												are implemented.
5	40	Finding: The breadth of the HVAC measure documentation data was sufficient, but the quality could be improved.	SCE and its implementers should conduct regular quality control reviews of the data prior to submittal.	SCE			Accept	SCE agrees with the evaluator's recommendation to conduct regular cost-effective quality control (e.g., sampled based) reviews of the data collected to improve data quality.			Accept	SDG&E agrees the evaluator's recommendations to improve data tracking, documentation, and quality control. The SW PLA program has already implemented various steps to improve quality. Additionally, the implementer as well as SDG&E conducts regular quality assurance activities to ensure the data is as accurate as possible. These quality assurance activities include site level inspections conducted either via phone, email, or in-person and documentation review. Items verified through the quality assurance activities are installation, end-user information and applicable data collection, equipment eligibility, and compliance with measure package requirements.
6	40	Finding: The breadth of the HVAC measure documentation data was sufficient, but the quality could be improved.	Recommendation: SCE and its implementers should collect more site and contact information linking program data to utility customer database information to help benefit the certainty of evaluated savings.	SCE			Other	SCE agrees with the evaluator's recommendation to improve site and contact information to improve realization rates on applicable Energy Efficiency (EE) Fuel Substitution measure offerings which are critical for supporting statewide decarbonization goals. However, the linkage of program data to the utility customer database, presents a resource-intensive challenge that imposes a substantial administrative burden and considerable cost.			Reject	SDG&E rejects that the program must include premise identifiers and linking program data to the utility customer database. The program design of the SW PLA program does not collect premise or account identifiers. The collection of this data point would decrease participation. The SW PLA program does collection end-use customer information such as name, address, email, and phone number. Lastly, being that this is a statewide program linking program data to each utilities' database is not feasible. However, The SW PLA program is implementing an acknowledgement API to strengthen customer validation which utilizes each IOUs' customer databases.
7	40	Finding: Ductless HVAC fuel substitution measures fell short of expectations for gas savings. This is in part because, as survey respondents indicate, the ductless heat	A best practice for SCE would be to implement program controls to track if claims are offsetting existing gas heating systems.	SCE			Other	Ductless Heat Pump HVAC technology will continue to be critical in support of statewide decarbonization goals. SCE agrees that improved controls and measure installation validations based on program (e.g., Direct Install, Downstream, Midstream, Upstream) to ensure existing gas equipment decommissioning shall be enabled (as part of measure eligibility) for im-			Accept	SDG&E agrees with the evaluator's recommendations to improve controls to ensure normal replacement claims are correct. The SW PLA program has already implemented various steps to improve this quality. More specifically, through data collection, the implementor collects existing baseline information when determined by the measure package. Additionally,

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		pump measure is not often replacing an existing gas heating system, but the analysis also shows this doesn't account for all the unachieved gas savings. Combining the consumption analysis and the survey results indicates that on average, when the ductless HVAC system does replace an existing heating system, the gas savings are 19% of reported for those claims.						<p>proving measure savings realization particularly on natural gas savings. Some level of cost-effective program controls requirements have been enabled in the latest version of ductless and central HP measure packages in alignment with latest applicable DEER policies.</p> <p>Methodology for determining measure savings fully rely on DEER prototypes and methods. Future improvements on DEER prototype calibration to latest RASS saturation studies along with improve measure characterization are likely to yield improvements on measure savings forecast and realization. SCE encourages evaluator to review measure package characterization (and building energy modeling inputs) and provide recommendations to measure developer as needed to support improvements on measure savings estimates. SCE will work with ED to improve characterization of measure package to align with program implementation.</p>				SDG&E conducts regular quality assurance activities to ensure this data is as accurate as possible. These quality assurance activities include site level inspections conducted either via phone, email, or in-person and documentation review. Items verified through quality assurance activities are installation, end-user information and applicable data collection, equipment eligibility, and compliance with measure package requirements.
8	40	Finding: Ductless HVAC fuel substitution measures fell short of expectations for gas savings. This is in part because, as survey respondents indicate, the ductless heat pump measure is not often replacing an existing gas heating system, but the analysis also shows this doesn't account for all the unachieved gas savings. Combining the consumption analysis and the survey results indicates	The gross savings for the ductless HVAC technology should be reviewed considering the poor achieved gas savings from consecutive (PY2020 and PY2021) impact evaluations.	ALL PAs			Other	<p>Ductless Heat Pump HVAC technology will continue to be critical in support of statewide decarbonization goals. SCE agrees that improved controls and measure installation validations based on program (e.g., Direct Install, Downstream, Midstream, Upstream) to ensure existing gas equipment decommissioning shall be enabled (as part of measure eligibility) for improving measure savings realization particularly on natural gas savings. Some level of cost-effective program controls requirements have been enabled in the latest version of ductless and central HP measure packages in alignment with latest applicable DEER policies</p> <p>Methodology for determining measure savings fully rely on DEER prototypes and methods. Future improvements on DEER prototype calibration to latest RASS saturation studies along</p>			N/A	The SW PLA program does not offer ductless HVAC measures and SDG&E is not the lead on this specific measure package. However, we agree with the recommendation that the gross savings should be reviewed.

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		that on average, when the ductless HVAC system does replace an existing heating system, the gas savings are 19% of reported for those claims.						with improve measure characterization are likely to yield improvements on measure savings forecast and realization. SCE encourages evaluator to review measure package characterization (and building energy modeling inputs) and provide recommendations to measure developer as needed to support improvements on measure savings estimates. SCE will work with ED to improve characterization of measure package to align with program implementation.				
9	40	The claimed DHW measure installations were not verifiable and their gross impacts (site energy, source energy, and emissions) remain untested and uncertain due to the extremely limited available data collected by the program's upstream delivery type. Evaluators were unable to associate equipment installations to the site or ensure installations were within service territory.	In the future, SCE should consider a midstream program design for DHW, with data collection processes similar to the ductless HVAC fuel substitution program. This will help collect reliable and higher quality equipment details, market actors' contact information, and increase efforts to ensure the program installs heat pump water heater claims within the service territory.	SCE			Other	Domestic hot water Heat Pump technology will continue to be critical in support of statewide decarbonization goals. SCE agrees that a midstream program design with cost-effective measure validations (that are reasonable based on program design) would assist to improve impact evaluation research. However, market penetration of technology via other critical program designs (e.g., upstream where the incentives are provided to manufacturers or retailers of high efficiency products in order to encourage their production and sales) should still be encouraged. Further, program evaluator shall explore opportunities for improving evaluation methods for upstream programs for which validation of existing conditions at the customer site are difficult and resource intensive to support.			Accept	The SW PLA program is a midstream program design where equipment details and market actors' contact information are collected. Therefore, SDG&E accepts this recommendation. Additionally, the implementor and SDG&E both conduct regular quality assurance activities to ensure the measure is installed within an IOU territory. These quality assurance activities include site level inspections conducted via phone, email, or in-person, and documentation review. Items verified, through the quality assurance activities, are installation, end-user information and applicable data collection, equipment eligibility, and compliance with measure package requirements.