

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 2013-2014 Energy Efficiency Program Cycle. This Appendix contains the Responses to Recommendations in the report:

RTR for the SCE Quality Maintenance Program Comprehensive Manufactured Home Program (CMHP) Data Evaluability Assessment Report (ASW Engineering Management Consultants, ED WO #2071, Calmac ID #SCE0382.01)

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 2013-2016 Energy Division-Investor Owned Utility Energy Efficiency Evaluation, Measurement and Verification (EM&V) Plan¹ and CPUC Decision (D.) 07-09-043².

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 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>.

² 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.”

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.

EM&V Impact, Process, Market Assessment Study Recommendations

Study Title: SCE Quality Maintenance Program Comprehensive Manufactured Home Program (CMHP) Data Evaluability Assessment Report

Program: CMHP

Author: ASW Engineering Management Consultants

Calmac ID: SCE0382.01

ED WO: 2071

Link to Report: http://calmac.org/publications/CMHP_Data_Analysis_-_Phase_I_-_MV_Report_Final-Nov2013.pdf

Item #	Page #	Best Practice / Recommendations	Recommendation Recipient	Disposition (Accepted, Rejected, or Other)	Disposition Notes (e.g. Description of specific program change or Reason for rejection or Under further review)	
1	12	SCE should consider the following recommendations in order to improve program delivery:	Management should check the time it took the technicians to perform the HVAC improvements (Test-in & Test-out) before management accept the operating data and is inputted in the Project Database spreadsheet.	SCE	Accepted	Implemented. Synergy Companies uses HVAC software for testing and the software ensures that the time requirements are achieved. The name of this software is called Synergy Tech System and for the remainder of the document it shall be referenced as STS. It is an approved HVAC tool that meets HVAC industry standards for performing HVAC refrigerant charge adjustments.
1a	12		Sanity checks should be incorporated into the program to ensure validity of data collected. The sample data set had some inconsistencies (e.g. absolute humidity variances) which should be flagged in the field.	SCE	Accepted	Implemented. STS automatically testing data that is not within tolerable parameters such as humidity, temperature and airflow for example.
1b	12		The database/tool should identify when a field is estimated, and if not estimated when the data is unlikely. This recommendation should be incorporated particularly for airflow.	SCE	Accepted	Implemented. STS by design captures exclusively exact values for all parameters. As a result, estimated values are never recorded for airflow.
1c	12		There is ambiguity in what tool the technician should use in the field based on program materials. Further investigation should be performed to determine if technicians are given enough direction for tool selection.	SCE	Accepted	Implemented. Synergy technicians are provided the HVAC equipment and supported tools by Synergy Companies. This provides consistency in testing amongst all our technicians.
1d	13		On-site observations of technicians should be made to identify any other areas of improvement.	SCE	Accepted	Implemented. As part of quality assurance for HVAC refrigerant charge, NATE certified Synergy Production Managers observe each technicians on a monthly basis to ensure standards and procedures are consistently being followed.
1e	13		The test-in/test-out field is confusing, the reliability of this data should be assessed.	SCE	Accepted	Implemented. The test-in/test-out fields have been standardized to meet industry standards for layout and design.
1f	13		The unit must stabilize during test-in/test-out, whether or not this occurs should be investigated.	SCE	Accepted	Implemented. The STS has built in test-in/test-out programming to ensure the unit stabilizes before the testing data can be recorded and saved.
1g	13		Efficiency data obtained from in-situ tests should be normalized to standard (AHRI) conditions to facilitate valid test-in and test-out efficiency comparisons.	SCE	Accepted	Implemented. STS is an approved HVAC tool that meets HVAC industry standards for performing HVAC refrigerant charge adjustments. This includes Air Conditioning, Heating, and Refrigeration Institute (AHRI) standards.
2	13	To improve the data collection, SCE should consider the following:	Collect operating data (Test-in and Test-out) between 10 AM to 5 PM during the months of May through October in cities with extreme hot weather conditions to obtain better results.	SCE	Other	Not Implemented. Synergy's HVAC tool, STS, determines if the weather conditions are favorable for performing refrigerant charge adjustment not the month of the year or time of day. STS enables Synergy Companies to conduct refrigerant charge adjustments when favorable indoor air temperatures, outdoor air temperatures and humidity levels are present. These conditions are present in the winter months in the Climate Zone 15 region and then become present in other Climate Zones as the year progresses. Also, as the year progresses favorable testing conditions begin before the 10am hour and last beyond the 5pm hour. As a result, quality AC testing is able to occur year round in SCE's service territory.

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2a	13		Observations of field technicians should be conducted to assess instrumentation accuracy and proper placement.	SCE	Accepted	Implemented. As part of quality assurance for HVAC refrigerant charge, NATE certified Synergy Production Managers observe each technician on a monthly basis to ensure standards and procedures are consistently being followed.
2b	13		Airflow measurements are a key component of the identification of faults and the savings claimed, they should be collected multiple times to ensure consistency.	SCE	Accepted	Implemented. STS takes multiple airflow measurements throughout the testing processes to ensure consistency. Airflow data is also recorded during the test-in and again during test-out phase of refrigerant charge adjustment.
2c	13		The instruments used for airflow measurements should be further examined for accuracy, alternatives such as TrueFlow plates should be considered.	SCE	Accepted	Implemented. Synergy Companies has TrueFlow plates and uses them to ensure the accuracy of STS.
2d	13		The location of airflow measurements needs to be more consistent and program guidance should be explored for improvements.	SCE	Accepted	Implemented. Synergy Technicians are consistent in the location of airflow measurements. They always check at two locations: (1) The nearest air supply register to the FAU, and (2) The FAU return grill.
2e	13		Include in-situ true electric power readings.	SCE	Accepted	Implemented. Synergy always collects voltage and amperage readings.
2f	13		Include in-situ measurements of furnace or air handler fan power.	SCE	Accepted	Implemented. Synergy collects voltage amperage for fan power of furnace or air handler when the ECM motor is changed.
3	13	Finally, to improve the data analysis, the following recommendations are made:	Airflow measurements should be converted to standard CFM.	SCE	Rejected	Not Implemented. Refrigerant charge adjustment can be successfully accomplished by measuring either the airflow volume (CFM) or airflow efficiency (temperature split). STS measures airflow efficiency. Airflow efficiency measurements are calculated by measuring the difference in return air temperature and supply air temperature with temperature and humidity probes. This provides an accurate measurement of airflow efficiency and is done without needing to convert airflow measurements to standard CFM. Measuring airflow in this way is also a HVAC industry standard.
3a	13		Identify the number of people living in each Mobile Home.	SCE	Accepted	Not Implemented. Will implement immediately.
3b	13		If possible, identify the age of the HVAC equipment.	SCE	Accepted	Implemented. The age of the HVAC equipment is listed in the serial number located on the HVAC equipment which is recorded and submitted.
3c	13		Identify the ambient temperature away from the condensing unit.	SCE	Rejected	Not Feasible. HVAC industry testing standards are such that the ambient air temperature must be collected at the condensing coil. Synergy Companies places the temperature probe in the center of condensing coil to circumvent unwanted temperature spikes originating from the condensing fan and other external factors that could affect testing integrity.
3d	13		Identify when the AC is normally run – Example: when the outside air is 78°F. and above.	SCE	Other	Not Implemented. Will implement immediately if desired.
3e	13		Identify the months when they use the AC – Example: May through September.	SCE	Other	Not Implemented. Will implement immediately if desired.
3f	13		Identify the type of thermostat controlling the HVAC operation.	SCE	Accepted	Not Implemented. Will implement immediately.
3g	13		Include the space temperature setting at the time of the data collection (Test-in & Test-out).	SCE	Accepted	Implemented. This is recorded when doing the test-in and test-out.
3h	13		Add climate zones (CZ) to the spreadsheet for future analysis.	SCE	Accepted	Implemented.
3i	13		Analyze the historic monthly electric consumption for a period of one year. This will help to firm up the established full load hours of operation of the air conditioning system of a given Mobil Home.	SCE	Rejected	Not Required. Deemed savings is used to calculate energy impacts.
3j	13		Consider secondary data sources (e.g. modeling tools) for verifying full-load hours.	SCE	Accepted	Implemented. Other modeling tools like Cake or Snuggpro have been considered.