RTR Appendix

Southern California Gas Company (SoCalGas) 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 WE&T Installation Improvement Evaluation (Opinion Dynamics, Calmac ID #CPU0378.01)

The RTR reports demonstrate SoCalGas' plans and activities to incorporate EM&V evaluation recommendations into programs to improve performance and operations, where applicable. SoCalGas' approach is consistent with the CPUC Decision (D.) 07-09-043[1] and the Energy Division-Investor Owned Utility Energy Efficiency Evaluation, Measurement and Verification (EM&V) Plan[2] 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 SoCalGas 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), SoCalGas 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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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: WE&T Installation Improvement Evaluation
Program:
Author: Opinion Dynamics
CALMAC ID: CPU0378.01
ED WO:
Link to Report: CPUC Energy Evaluation Public Comment

MANAGEMENT APPROVAL AFTER REVIEW		
	Name	Date
SCG Programs	Darren Hanway	5/7/2025
SCG RP&R	Roy Christian	5/14/2025

Item #	Page #	Findings	Best Practice / Recommendations (Verbatim from Final Report)	Disposition	Disposition Notes	SCG Proposed RTR Implementation				
				Choose: Accepted, Rejected, or Other	Examples: Describe specific program change, give reason for rejection, or indicate that it's under further review.	Next Steps: For each accepted recommendation, outline the steps required for implementation, responsible parties, and deadlines. For each rejected recommendation, document the reason provided for rejection. Outline any potential follow-up actions or considerations for the future.	Timeline: Set deadlines for the completion of each action. Include a start date and end date when possible.	Status: Track the status of each action item (e.g., Not Started, In Progress, Completed).	Notes: Add notes for any additional information or updates.	Impacted Programs: Identify which programs (program IDs) would be impacted by the action items.
1	45	While WE&T HVAC trainees generally reported positive experiences and a knowledge increase resulting from their participation, instructors found it difficult to actively engage trainees in a virtual environment. Our Installer Survey of WE&T trainees found that an overwhelming majority of participants in HVAC trainings from 2019 and 2020 felt the trainings met their expectations (95.4% and 91.3%, respectively; see Section 4.2). In addition, most participants reported an increase in level of knowledge across a range of topics relevant to residential and small commercial HVAC installation and maintenance (see Section 4.3), and reported confidence that they would be able to apply what they learned on the job (see Section 5.1). Although self-reported satisfaction and knowledge gain were relatively high among participants, instructors highlighted the challenges of finding ways to actively engage participants in the training content, particularly in virtual or hybrid trainings (see Section 4.2). Further, only one of the four HVAC trainings that our team audited as part of this evaluation included in-class assessments to help instructors understand if and how participants understood the	Recommendation 1: We recommend that the four California IOUs draw core questions from the standardized reaction survey that Opinion Dynamics prepared (see Appendix E-III for the instrument) to cover key topics related to participant satisfaction with their training experience. IOUs currently administer exit surveys at the end of trainings. However, topics and survey length differ between IOUs (see Section 4.1). We recommend that IOUs work to administer streamlined surveys that are available to participants online immediately after completing the training. A shorter survey will reduce the burden on respondents and a standardized version will enable decision-makers to understand satisfaction with similar training offerings across the IOUs. We discuss the most critical topics to cover in this type of survey in Section 4.1 and include the complete survey instrument in Appendix E-III.	Accepted	SoCalGas accepts this recommendation. The SoCalGas Workforce, Education and Training (WE&T) group uses core questions on their post training surveys and administers these online surveys immediately after participants complete the training.	The SoCalGas WE&T surveys, which consist of standardized questions consistent with the other three California IOUs, are administered online using Survey Monkey.	SoCalGas-WE&T has been using standardized questions since approximately 2018 and has been utilizing Survey Monkey since 2019.			
2	45		Recommendation 2: Training providers should consider incorporating in-training assessments into curricula where possible to ensure that knowledge transfer is occurring among trainees and that the core concepts are understood before moving on to later topics. Training providers should also consider implementing summative assessments or tracking to help instructors understand how to better tailor their trainings to support outcomes such as higher rates of participants	Accepted	SoCalGas accepts this recommendation. The SoCalGas-WE&T training providers have training assessments built into their curriculum and utilize example questions to track participants' knowledge gained from training.	SoCalGas WE&T training providers include multiple-choice questions on topics covered in their presentations to assess participants' understanding and knowledge gain as they progress through the material. Additionally, they review ex-	Starting in 2017, SoCalGas – WE&T training providers utilize multiple-choice questions in their curriculum as well as utilize example cer-			

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		content (see Appendix A.). Relatedly, instructors reported some difficulty understanding how much information from the training that participants retained and whether participants went on to take and ultimately pass certification exams.	scheduling or passing certification exams post-training.			ample certification test questions throughout each session to prepare participants for certification exams in both Core and Specialty disciplines	tification questions.			
3	46	Finding 2: For the trainings included in this evaluation, Opinion Dynamics identified that both instructor and trainee experiences differed between in-person and virtual trainings, and that the virtual environment posed challenges in terms of participant engagement. The four WE&T trainings we audited included few opportunities for active engagement amongst participants (see Appendix A-II). We also reviewed training materials for twelve WE&T HVAC trainings, both intended to be delivered in-person and virtually, and we found little difference between the materials and training design across delivery modes. Instructors reported preferring in-person delivery over virtual delivery because it allows more opportunities for active participation, gauging engagement and understating, and opportunities, where applicable, for "hands-on" learning. Respondents to the Installer Survey echoed similar sentiments (see Section 4.2). Participants who took the trainings in-person were more likely to be "very satisfied" than virtual/hybrid participants with the training overall , training materials, and the instructor (see Table 3).	Recommendation 3: We recommend that training providers consider different strategies to minimize screen fatigue and maximize trainee focus and attention. Virtual trainings can be a convenient option for technicians who do not want to travel to a physical location after working a long day. It can also reduce barriers for technicians who do not have the means to get to the training site. However, training providers should consider that technicians, who already had busy and tiring days, may have trouble focusing in front of a computer screen for several hours at a time. We note that WE&T program administrators may already employ these different types of strategies in their virtual training offerings, and we recommend that IOUs continue to expand these options across their portfolio and work with third-party training providers to encourage adoption of these practices. One strategy that IOUs and training providers may consider is shortening modules or sessions. We found that virtual trainings involved the same number and duration of sessions as the same training offered in person. While the number and length of sessions in a training may be appropriate for in-person trainings, virtual trainings could involve more sessions that are shorter in duration thereby reducing screen fatigue. If adjusting the length and frequency of sessions is not possible, training providers should ensure that trainees have the opportunity to take regular breaks during virtual trainings. IOUs should also explore differentiating activities between in-person and virtual delivery as another strategy that can help maximize trainee focus and attention. For example, lectures may be more appropriate for in person trainings but may present challenges for sustaining trainee attention in the virtual setting. When exploring virtual training options, WE&T program administrators should consider different technology options, or training designs, that would enable more active participant engagement. One option is to facilitate small group breakout discussions to break up lecture-style presentations. Another option is to explore software that would enable participants to complete activities or mimic repairing or installing HVAC systems.	Accepted	SoCalGas accepts this recommendation. Consequently, SoCalGas WE&T training providers have shortened the length of virtual training sessions, streamlined their presentations to be more time-efficient, and incorporated visual components to enhance the virtual training experience.	SoCalGas – WE&T training providers have shortened virtual training sessions to two hours. The online presentation has been reconfigured to highlight bulleted information and provide real-life examples. Additionally, the SoCalGas WE&T training providers incorporate You Tube Videos and system diagrams in the presentation to engage participants visually during virtual training sessions.	SoCalGas – WE&T training providers have been utilizing these virtual training strategies since 2021.			
4	46	Finding 3: Technicians who we observed as part of the Behavioral Assessment had somewhat mixed results in terms of how they were able to diagnose and ultimately fix an HVAC system that was not properly functioning. As we detail in Section 5.2, we sabotaged	Recommendation 4: WE&T trainings should incorporate opportunities for hands-on demonstration of skills the training intends to develop, where appropriate. If hands-on application is not feasible (e.g., in virtual learning environments), we recommend training providers increase opportunities for participants to	Other	SoCalGas - WE&T training has incorporated hands-on demonstrations for in-person training and scenario-based problem-solving exercises in both in-person and	SoCalGas - WE&T trainings utilize problem solving exercises in training presentations that help participants work through scenarios they could encoun-	SoCalGas - WE&T trainers have utilized hands on demonstration and problem-solving exercises			

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		an HVAC system so it presented with faults that a technician could see in their day-to-day jobs. We observed technicians as they diagnosed and attempted to fix the system faults once before and once after they completed a WE&T training We designed two sets of system faults—one for the pretraining and one for the post-training observations—that provided technicians with an opportunity to demonstrate the objectives of the training they completed. When compared with pretraining observations, technicians demonstrated a better understanding of HVAC systems, a more robust diagnostic process, and more success engaging with the member of our evaluation team completing the observation (i.e., mimicking their customer). As few of the technicians were able to address the system faults included in the observation, a typical residential customer would not have realized the energy savings that could have resulted in successfully addressing these issues were these actual house calls (see Section 5.2). However, their ability to more fluently discuss issues with "their customer" and connect symptoms with root causes of the faults suggest that their participation in the WE&T HVAC training would provide market benefit in their daily work experiences.	engage in problem-solving exercises where they are prompted to apply training content. One such example that instructors can consider is employing a case or scenario approach. Instructors could present trainees with a description of a real-world problem and ask participants to discuss appropriate diagnostic methods and potential strategies for addressing the issues presented in the scenario in smaller group settings. Training providers could also consider the use of software to simulate working directly on HVAC systems (see Recommendation 3). Another strategy is to bring HVAC equipment into the training environment to allow instructors to provide demonstrations and trainees the opportunity to practice working on real systems. We note that some of the energy centers may already have training equipment for this purpose and we encourage training administrators to continue and expand this practice to the extent possible		virtual training, however, simulation software is currently not being used in WE&T trainings.	ter in the field. HVAC equipment is used for in-person training (as appropriate) that allows participants to build systems and test for efficiency and performance.	since before 2017.			
5	47		Recommendation 5: We recommend that WE&T program staff continue to explicitly highlight the customer satisfaction benefits of training to HVAC contractors and other similar employers. Specifically, trained technicians may be more confident in their ability to ask questions of their customer and identify the root causes of the symptoms that customers experience, which may lead to better customer experiences. Additionally, addressing root causes of the issues that customers experience, rather than simply eliminating the symptoms, may lead to more efficient time at individual job sites and fewer callbacks.	Accepted	SoCalGas accepts this recommendation. Customer satisfaction is a key aspect of WE&T training, and proper diagnosis methods to identify root causes are emphasized throughout the curriculum.	Specific trainings on quality design and installation (Air Distribution, System Performance, and System Diagnostic classes) use scenario-based examples that teach technicians diagnostic methods to identify root causes of system malfunctions and how to communicate with customers to make the experience mutually beneficial for both the customer and technician.	SoCalGas – WE&T trainers have incorporated customer satisfaction in trainings since before 2017.			
6	47	Finding 4: Technicians work in a demanding industry that requires them to work long hours in difficult conditions. Both in our efforts to recruit technicians into the behavior assessment portion of this evaluation and post observation interviews we found that technicians were often over-burdened by their schedules. As such, trainings held in the evenings at the end of a long workday likely do not provide the best opportunities for technicians to retain the complex technical information provided through WE&T trainings.	Recommendation 6: WE&T program administrators should consider finding additional methods to provide training content to technicians. This may include shorter virtual training content or modules that technicians can do on their own time, reference packets or materials that may be useful to technicians in the field or working with employers to find ways to provide train-the-trainer opportunities or training content during typical work hours. We note that IOUs may be employing some of these strategies to already and we recommend expanding these alternative delivery methods more broadly.	Other	SoCalGas - WE&T is exploring using on-demand type training and recorded sessions but has not moved towards implementation.	SoCalGas – WE&T is working to identify classes that are best suited for this type of delivery and how to track and document participation. Additionally, SoCalGas is exploring alternative Learning Management Systems (LMS) with this functionality as well.	TBD			