

PUBLIC UTILITIES COMMISSION

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Date: July 23, 2019

To: Pacific Gas and Electric Company (PG&E)

From: Peter Biermayer, California Public Utilities Commission

Cc: R.12-01-005 and R.13-11-005 Service Lists

Subject: Mid-Year Feedback – 2019 Efficiency Savings and Performance Incentive (ESPI)
Expected Savings Review

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Pursuant to Decision (D).13-09-023, D.15-10-028 and D.16-08-019, the California Public Utilities Commission (CPUC) Staff and consultants are providing mid-year feedback on the program administrators' (PAs') activities producing expected (aka ex ante) savings estimates in the January 1 through June 30, 2019, timeframe (the review period). The mid-year feedback focuses on specific issues and concerns with the expected savings estimates of custom projects¹ and workpapers.² This feedback will help the PAs address these issues for the remainder of the year.

I. CPUC STAFF FINDINGS ON 2019 EXPECTED SAVINGS ACTIVITIES

The following sections provide a description of the findings, including areas of achievement and areas requiring improvement.

A. Custom Projects Review Overview

The CPUC selected a new contractor to assist the Staff with the custom projects expected savings review and expects to commence review activity in the third quarter of 2019. No custom projects were selected for expected savings review in the first two quarters of 2019, so there is no custom project feedback at this time.

B. Deemed Workpapers Review Overview

1. Summary of 2019 Mid-Year Achievements

For the 2019 mid-year review, the CPUC Staff observed improvements in PG&E's development and management of workpaper submissions in the following areas:

- PG&E, in collaboration with the other PAs, has managed the revision and/or development of a high volume of workpapers during the review period. The CPUC commends PG&E's role in making this submission cycle successful and timely.
- PG&E has demonstrated effective workpaper leadership, managing the submissions for more complex measures including linear lighting and co-leading food services workpaper development.
- PG&E provided leadership in the resolution of the measure application type implementation and compiled all active workpaper parameters for all PAs into a single data set.

2. Summary of Areas of Improvement

The Staff highlights the following recommendations for improvement:

- PG&E, in collaboration with the other PAs, should plan workpaper updates holistically, with research activities coordinated across workpapers of the same end-use.

¹ Custom projects are energy efficiency efforts for which the customer financial incentive and expected energy savings estimates are determined using site-specific analysis of the customer's facility. See [D.13-09-023](#), Section 7.4.

² "Deemed" measures are individual energy efficiency measures with predetermined, or "deemed," savings estimates. They represent all portfolio savings from programs other than custom projects or codes & standards advocacy programs.

- PG&E, in collaboration with the other PAs, should identify disruptive issues earlier and propose methods for their orderly resolution.
- Workpaper plans should include detailed schedules and they should allocate adequate subject matter expert review time and adequate stakeholder notification.

II. DISCUSSION

A. Custom Projects Expected Savings Review Discussion

As stated in Section I, no custom projects were reviewed in the first two quarters of 2019.

B. Deemed Workpapers Expected Savings Review Discussion

PG&E submitted forty-one workpapers in the first half of 2019, of which eighteen were statewide workpapers through mid-June. PG&E is also the lead for four workpapers in the workpaper plan development stage. This high volume is due to workpaper revisions in response to the 2018 DEER Update Resolution E-4952 update and the consolidation of PA-specific workpapers into single statewide workpapers.

The comments below are organized by the five scoring metric areas created in D.16-08-019.³ The narrative includes observations common to multiple workpapers and feedback related to the workpaper development process. Specific workpaper feedback is provided in tables in Attachment A, at the end of this document. The Workpaper Detailed Review Table provides feedback on specific workpapers. The Workpaper Submissions Table lists all workpapers submitted by PG&E during the review period. Workpapers that were led by PG&E and were either disposed or reached approval status during the review period were selected for feedback. The Staff acknowledges that workpaper development may have been supported by multiple PAs; however, at the time of this mid-year review, there is no mechanism for apportioning feedback among PAs. Therefore, feedback is only provided for the submitting PA, with the assumption that they are the lead PA.

1. Timing and Timeliness of Submittals

PG&E has met deadlines for submission of statewide workpapers in the review period, which was an accomplishment considering the volume of workpaper submissions and the challenges of the consolidation process. There are, however, improvements that can be made in this metric.

Large numbers of scheduled workpapers were submitted just in time to meet a deadline. The Staff and consultants would appreciate it if PG&E distributed submissions over several weeks before the deadline, rather than as a single batch right at the deadline. PG&E submitted the majority of the 2019 Phase 1 in the last few days of 2018. The 2020 Phase 1 workpapers were usually submitted in a batch at the end of the month.

The Staff has appreciated the quality of recent workpaper plan submissions. However, the Staff and consultants expect that workpaper plans will include at least a target workpaper submission date early in the development cycle. As the development cycle advances, the schedule should become more detailed with itemized tasks, interim deliverables, and Staff review milestones with projected due dates. A detailed workplan schedule allows the Staff to monitor the progress of the workpaper development and to schedule subject matter expert to review deliverables. The Food

³ See [D.16-08-019](#) at 87.

Services workpaper plan includes a schedule that can be used as a template for future workpaper plan detailed schedules.

The Staff requests that the PA joint Work Paper Plan required by D.15-10-028, and typically submitted in October, include all planned workpaper submissions, including Phase 2, resubmitted Phase 2, and PA adoption workpapers, as well as 2020 Phase 1 workpapers.

2. Content, Completeness, and Quality of Submittals

The content, completeness, and quality of workpapers has generally met standards. From the Staff perspective, the consolidation process has gone well, considering the volume of workpapers, the coordination that has been required, and the difficulties acquiring all the reference building prototypes.

PAs have an important responsibility to identify new technologies and delivery methods, and to develop workpapers where a deemed option makes sense. PG&E has four workpapers in the workpaper plan development stage. The CPUC encourages the continued development of new measure workpapers to ensure innovative measures.

The CPUC encourages planning workpaper updates more comprehensively and by end-use, borrowing elements from the workpaper consolidation planning. Planning by end-use (such as lighting or refrigeration) provides an opportunity to leverage research activities across multiple measures and workpapers. The CPUC notes that the catalog of potential areas of improvement by end-use is also very useful and should be continuously updated as issues arise.

Rather than single workpaper or workpaper parameter updates, the CPUC encourages comprehensive updates by workpaper groupings, like the in-progress update of five food services workpapers. The plan for updating these five workpapers includes standard practice research, equipment testing, customer surveys, hours of operation measurements, and updated compilation of product characteristics. Updating the uncertain and impactful parameters means these workpapers should not require updating again for a significant period. The CPUC encourages a proposal from the PAs for updating workpapers grouped by end-use spaced over a multi-year time horizon.

Workpapers are focused on defining well-supported savings and cost estimates, but measures are delivered in a program and regulatory context that is not described in the workpaper. The Staff finds it useful to hear PA views on program and regulatory issues and encourages briefings when appropriate. As an example, the SoCalGas (or SCG) smart communicating thermostat program manager described to the Staff and consultants the measure's role in multiple co-offerings with other PA programs. Also, SCE presented to the Staff and consultants a data-rich analysis of workpaper trends and their potential impact on the portfolio savings and cost-effectiveness. Both presentations were excellent, and the CPUC encourages similar communication of thoughtful and data-rich program and regulatory perspectives on important issues.

3. Proactive Initiative of Collaboration

The CPUC recognizes that the consolidation of workpapers into single, statewide workpapers has required considerable coordination and collaboration between the PAs, and the PAs are to be commended.

PG&E has provided the Staff with updates and preliminary work products on upcoming workpapers via the workpaper plan process. For example, PG&E arranged a conference call to discuss proposed proactive updates to lighting workpapers in an organized fashion with clear

supporting material provided in spreadsheets. PG&E also collaborated with the other PAs and the Staff to present a Third Party Workpaper Q&A webinar on April 11.

4. PA's Due Diligence and Quality Assurance/Quality Control Effectiveness

Of the forty-one workpapers submitted, PG&E was the lead for the thirty-five workpapers listed in the submitted table in Attachment A, at the end of this document. Leading this workpaper development taxes PA resources, and the CPUC acknowledges and commends PAs taking on this work. PG&E has provided leadership in the review period, which has included the development of the linear lighting workpapers.

The Staff expects that the PAs manage workpaper development well, including the submission of a workpaper plan and schedule early in the development process, as noted in Section 1, and that the schedules are managed to meet deadlines. PG&E has four workpapers under development. Three of them have workpaper plans, although only one includes a timeline, although not a schedule. The Staff also expects that the lead PA will coordinate with other PAs to ensure each submission is complete from the perspective of all PAs.

5. PA's Responsiveness to Needs for Process and Program Improvements

PG&E partnered with the Staff and other PAs to resolve common issues and implement process improvements. Examples of these include:

- Development of a solution for implementing the new measure application types (MAT). PG&E provided leadership in the development and implementation of the solution by organizing coordination meetings and by synthesizing PA input.
- Implementation of workpaper cover page. All workpaper submissions from PG&E have included a complete cover page since its rollout.
- Common workpaper parameter dataset. Working with the other PAs, PG&E gathered all active workpaper data specifications sheets and compiled them into a single dataset.

While there have been some procedural improvements, PAs have been deficient in anticipating and acting to resolve looming issues, such as the MAT implementation and defining the workpaper references for the September Annual Budget Advice Letters. As a group, the PAs need to better manage potential problems by first articulating issues early and then developing action plans to resolve them in an orderly fashion. The Staff requests that the monthly joint meeting include a standing agenda item to inventory upcoming issues and to begin formulating action plans to address them. The CPUC expects PAs to volunteer to take leads on high-priority issues.

The California Technical Forum (CalTF), who is consolidating measure workpapers, proposed eTRM,⁴ new third-party contracting process, and implications of Resolution E-4939⁵ all set the stage for rethinking workpaper processes. It is incumbent upon the PAs to provide their vision of what these processes might be, although other stakeholders will also have important input on the final processes. There has been limited progress on developing a communications plan that fully meets the needs of all stakeholders. The Staff will seek organized and thoughtful input on this

⁴ The eTRM, or electronic Technical Reference Manual, is an online relational database intended to be a repository for all statewide deemed measures. The development was sponsored by PAs and managed by the California Technical Forum, known as CalTF.

⁵ [Resolution E-4939](#) sets forth principles for regular updates of measure baselines.

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topic. PG&E's initiative in piloting a mechanism for stakeholders to formally log workpaper complaints is the kind of thinking the CPUC encourages.

The DEER team has requested that all DEER-related support questions be issued to DEERsupport@dnvgl.com . The Staff notes that compliance is good but seeks full compliance.

Questions or comments about the feedback or final scores should be directed to Peter Biermayer at Peter.Biermayer@cpuc.ca.gov . Note that pursuant to D.13-09-023, the Staff will schedule a conference call meeting with PG&E to discuss and answer clarifying questions from this memorandum.

ATTACHMENT A: WORKPAPER FEEDBACK

The table below lists workpaper submissions by ID number, revision number, and title. The qualitative scores shown will be combined into a single score in the final expected savings review performance memorandum. Each category’s total score will be equally weighted in the final total score for the metric. The PA may refer to the individual dispositions for more detailed descriptions of the specific actions the Staff required for each workpaper.

The ESPI Metric Columns in the tables correspond to the metrics described below:

Metric #	Metric Description
1	Timing and timeliness of submittals
2	Content, completeness, and quality of submittals
3	Proactive initiative of collaboration
4	PA’s due diligence and quality assurance/quality control effectiveness
5	PA’s responsiveness to needs for process and program improvements

The qualitative scores are designated as follows:

- + indicates a positive (from midpoint) scoring impact on a metric.
- indicates a negative (from midpoint) scoring impact on a metric.
- yes indicates a neutral (midpoint) scoring impact on a metric (meeting expectations).
- no indicates that the review feedback is not applicable to a metric.

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Workpaper Detailed Reviews: PG&E				ESPI Metrics				
WP ID	Rev	Title	Comments	1	2	3	4	5
SWFS001	1	Comm Convection Oven	<p>A disposition was issued requiring revisions with resubmission by September 1, 2019, to facilitate the disposition review and approval cycle for 2020 implementation. Additional information and analysis are required to support the expected savings values in the statewide workpaper. The critical issues are:</p> <ul style="list-style-type: none"> • Validate the accuracy of participant operating characteristics • Determine industry standard practice baseline of convection oven equipment • Update equipment performance baseline and eligibility requirements • Ensure that calculations and assumptions align with Energy Star • Investigate and resolve measure tracking data <p>This review will be replaced by the updated workplan.</p>	yes	-	no	no	+
SWFS005	1	Comm Steamer	<p>A disposition was issued requiring revisions (as needed based on a review of testing data) with resubmission by September 1, 2019, to facilitate the disposition review and approval cycle for 2020 implementation. Additional information and analysis are required to support the expected savings values in the statewide workpaper. The critical issues are:</p> <ul style="list-style-type: none"> • Update the equipment performance baseline and eligibility requirements • Ensure that calculations assumptions align with Energy Star <p>This review will be replaced by the updated workplan.</p>	yes	-	no	no	+

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Workpaper Detailed Reviews: PG&E				ESPI Metrics				
WP ID	Rev	Title	Comments	1	2	3	4	5
SWFS011	1	Comm Fryer	<p>A disposition was issued requiring revisions with resubmission by September 1, 2019, to facilitate the disposition review and approval cycle for 2020 implementation. Additional information and analysis are required to support the expected savings values in the statewide workpaper. The critical issues are:</p> <ul style="list-style-type: none"> • Validate the accuracy of participant operating characteristics • Determine industry standard practice baseline of fryer equipment • Update equipment performance baseline and eligibility requirements • Ensure that calculations remain consistent <p>This review will be replaced by the updated workplan.</p>	yes	-	no	no	+
PGE3PHVC158	4	EvapCoil Cleaning	Low rigor addressed DEER resolution, MAT, and BRO ⁶ guidance.	yes	yes	yes	yes	+
PGE3PHVC160	4	Refrigerant Charge Adjustment	Low rigor addressed DEER resolution, MAT, and BRO guidance.	yes	yes	yes	yes	+
PGECOLTG179	6	LED Ambient Com Fixt	A disposition was issued that approved the changes to the workpaper.	0	0	0	0	0
PGECOLTG151	9	LED Outdoor Lighting	See comment for PGECOLTG179	0	0	0	0	0
PGECOLTG178	4	LED HighLowBay	See comment for PGECOLTG179	0	0	0	0	0
SWWH008	1	Process Boiler	The calculation methodology used is clearly stated. The Stage 1 issues that were brought up by CalTF were addressed in this workpaper.	yes	yes	no	yes	+
SWPR002	1	VFD for Glycol Pump Motor	PG&E submitted this workpaper based on PGE3PPR01018 R2 in a timely manner. Inconsistency in the range of heat pump reported (25 hp pump not included in the workpaper but listed in the EAD table and CalTF presentation). Due to a typo, the incorrect annual operating hours for measure case full speed was presented. PA addressed issues in a timely manner.	yes	no	yes	yes	+

⁶ Behavioral, Retrocommissioning, Operational

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Workpaper Submissions			
WP ID	Rev	Title	Lead or Adopt
PGECOAGR119	3	Variable Frequency Drive on Agricultural Well Pumps (<=300hp) NEW Express only	Lead
SWFS001	1	Comm Convection Oven	Lead
SWFS005	1	Comm Steamer	Lead
SWFS006	1	Ice Machine	Lead
SWFS011	1	Comm Fryer	Lead
PGECOREF108	8	Anti-Sweat Heat (ASH) Controls	Lead
PGECOHV143	3	Enhanced Ventilation for Packaged HVAC Units with Gas Heating and Packaged Heat Pumps	Lead
PGECOAGR111	7	Sprinkler to Drip Irrigation	Lead
PGE3PHVC151	5	Economizer Repair	Lead
PGE3PHVC152	6	Economizer Controls	Lead
PGE3PHVC156	4	Condenser Coil Cleaning	Lead
PGE3PHVC158	4	EvapCoilCleaning	Lead
PGE3PHVC157	4	Unocc Supply Fan Control	Lead
PGE3PHVC160	4	Refrigerant Charge Adjustment	Lead
PGECOHV168	2	Demand Controlled Ventilation Packaged HVAC	Adopt
PGECODHW125	7	Showerheads and Aerators	Lead
PGECOLTG163	8	LED Candelabra	Adopt
PGECOLTG179	6	LED Ambient Com Fixt	Lead
PGECOLTG151	9	LED Outdoor Lighting	Lead
PGECOLTG178	4	LED HighLowBay	Lead
PGECOLTG164	8	LED Globe Lamps	Adopt
PGECOLTG177	7	LED BR-R Lamps	Adopt
SWCR018	1	Comm Reach-in Refrigerator or Freezer v2	Lead
SWAP004	1	Clothes Washer, Residential	Lead
SWAP003	1	Clothes Dryer, Residential	Lead
SWAP001	1	Refrigerators and Freezers, Residential	Lead
SWAP008	1	Room Air Cleaner	Lead
SWAP007	1	Room Air Conditioner	Lead
PGECOPUM102	8	Res VSD Pool Pump	Lead
PGECOPRO114	0	Commercial Steam Traps	Adopt
SWWH011	1	Central Storage Water Heater, Multifamily	Lead
SWWH008	1	Process Boiler	Lead
SWWH005	1	Boiler, Commercial	Lead
SWWH022	1	Smart Pump, Residential	Lead
PGECOAGR120	2	Agricultural Pump System Overhaul for Pumps Up To 25 HP	Lead
PGECOFST129	1	Commercial Conveyor Broiler	Adopt

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Workpaper Submissions			
WP ID	Rev	Title	Lead or Adopt
SWPR001	1	Ventilation Fan, Agriculture	Lead
SWPR002	1	VFD for Glycol Pump Motor	Lead
SWRE003	1	Heater for Pool or Spa, Commercial	Lead
SWWP004	1	Water Pump Upgrade	Lead
PGECOAGR121	0	Enhanced Specifications VFD on Ag Pumps	Lead