

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298



Date: August 2, 2016
To: Southern California Gas Company (SoCalGas)
From: CPUC Ex Ante Review Staff
Cc: R.12-01-005 and R.13-11-005 Service Lists
Subject: Mid-Year 2016 Efficiency Savings and Performance Incentive Ex Ante Review Performance Feedback

Pursuant to Decision (D).13-09-023, California Public Utilities Commission (CPUC) staff and consultants are providing mid-year feedback on the Program Administrators (PA) respective ex ante activities for 2016. Qualitative feedback is provided per each of the metrics identified in Attachment 7 of D.13-09-023. The mid-year feedback focuses on specific issues and concerns identified in dispositions issued so far during 2016 and in ongoing workpaper and custom project ex ante reviews and collaboration activities. CPUC staff translated the identified review issues and concerns into qualitative feedback for the specified metric to give the PAs a sense of how each can improve its respective activities.

Custom Projects

With regard to custom projects and measures, the CPUC Ex Ante review dispositions have touched three projects between January 1, 2016 and June 30, 2016. On a positive note, Project SCG-15-C-I-0033, a process dryer project, documentation was very comprehensive and well detailed describing a complex process with good supporting documentation. Projects SCG-15-C-I-0034 and SCG-15-C-I-0035, wastewater recovery projects, measurement & verification (M&V) plans are a good example of comprehensive well documented savings analysis methodology.

In early 2016 CPUC staff updated the custom project ex ante review disposition template to include a categorization of the actions that CPUC staff requires the PA to implement for the project under review. The categorization allows more specific identification of problem areas which need to be addressed by the PA. Table 1 below summarizes the results of the categorization analysis for dispositions issued between January 1, 2016 and June 30, 2016.

Table 1 - Summary of Categorized Action Items

Action Category	Total number	% of total	% of dispositions
Analysis assumptions	1	9%	33%
Calculation method	1	9.1%	33%
Eligibility	2	18.2%	67%
EUL/RUL	3	27.3%	100%
M&V	2	18.2%	67%
Missing documents	1	9.1%	33%
Program influence	1	9.1%	33%
	11	100.0%	

Generally, CPUC staff observed that the SoCalGas staff Ex Ante Review activities continue to require improvements in the areas as identified below. More diligence is required in SoCalGas staff internal quality control review of:

- **Measure effective useful life (EUL).**

Each of the three projects reviewed have issues in this category.

- **Measure eligibility.**

For Project SCG-15-C-I-0033, a process dryer project, the documentation did not clearly demonstrate one item was appropriate to consider as an energy efficiency measure. It also was not clear if the customer had already ordered the project equipment. Pre-approval for customers to order custom project equipment prior to the completion of review is not appropriate in most cases and requires especially diligent review and documentation of that pre-approval and its reasoning and certainty of eligibility and program influence within the project file. SoCalGas staff has requested this of CPUC staff for Project SCG-16-C-C-0108 with the customer understanding that the CPUC staff reviewed/approved savings will be the final ex ante values and that the customer will be assuming the risk to the incentive depending on the outcome of the EAR and post-installation review after deciding to proceed with the installation.

- **Measurement and verification plan (M&V).**

SoCalGas staff has been making efforts to improve M&V plans. CPUC staff finds for Projects SCG-15-C-I-0034 and SCG-15-C-I-0035, wastewater recovery process projects that are similar in nature, that the M&V plan for the projects are a good example of comprehensive well documented savings analysis methodology. However, the measurement approach lacked rigor. There were too many unspecified parameters in the M&V plan which may lead to less than optimum execution of the M&V for this project.

SoCalGas staff should take steps to remedy these deficiencies moving forward.

The CPUC staff identified several high-level issues of concern from these projects. A summary of these issues, from the project review findings dispositions issued, is provided in Table 1 of Attachment B of this memo. Table 1 of Attachment B attachment is intended to provide SoCalGas staff with information as to how the issues may potentially translate into upward or downward scoring movement in the ESPI scoring metrics. The qualitative feedback is designated as follow:

- ‘+’ indicates a positive scoring impact on a metric,
- ‘-‘ indicates a negative scoring impact on a metric
- ‘Yes’ indicates meeting expectation; no scoring impact on a metric
- ‘No’ indicates the review feedback is not applicable to a metric.

Although CPUC staff dispositions only touch three projects in 2016, there are about thirteen SoCalGas projects listed in CPUC staff’s tracking as ‘waiting for initial CMPA upload’. SoCalGas staff and CPUC staff should review the status of these projects and ensure that uploads are not being unduly delayed or that projects are not being indicated as “ready for CPUC staff review” when they do not yet have all documents available and internal review has not taken place.

Thus far in 2016 SoCalGas staff has not requested any early opinions from CPUC staff. Although CPUC staff has been working with SoCalGas staff on a steam trap tool in connection with a steam trap project, SoCalGas staff has not yet uploaded any custom project tools to the Custom Tools Archive (CTA) for Commission staff to review. Commission staff recommends that custom project tools be uploaded to the CTA as directed in D.11-07-030. Providing tools and their documentation for Commission staff review is an important step to ensuring projects that utilize those tools in the future will not be subject to delay or substantial adjustment in savings due to problems with the tool or its documentation.

Workpapers

CPUC staff acknowledges and appreciates that SoCalGas staff has been very responsive to CPUC staff requests relating to workpaper activities. Although the SoCalGas deemed program is relatively small compared to the overall size of its energy efficiency portfolio, SoCalGas staff are setting priorities to provide rapid initial response to CPUC staff input. In particular, we note the productive process that SoCalGas staff went through with CPUC staff regarding the SoCalGas water heater program in March of this year. We appreciate the proactive approach that SoCalGas staff took to issuing a response memo, scheduling discussion meetings, and ensuring that they understand the requirements within the natural gas water heater disposition.

In 2016, SoCalGas staff submitted four new or revised workpapers. CPUC staff has waived review on three of them, and thus these workpapers have interim approval. SoCalGas and CPUC staff collaborated on the fourth workpaper for Residential Smart Thermostats (WPSCGREHC160624A); CPUC staff issued a detailed review on that workpaper. Preliminary reviews were issued for the statewide natural gas water heater workpapers for which SoCalGas staff is the lead developer. In 2016, CPUC staff has issued detailed reviews on six workpapers, five of which provide detailed direction regarding the SoCalGas statewide water heater workpapers and one covers their recently submitted smart thermostat workpaper. Since January 1, 2016, SoCalGas staff has submitted ex ante data to accompany the four submitted workpapers, and CPUC staff is processing data for three of those workpapers to prepare the data for addition to the Preliminary Ex Ante Review database (PEARDB).

As noted above SoCalGas staff responsiveness has several benefits. However, CPUC staff also sees room for improvement in SoCalGas staff overall approach to workpaper collaboration. Additional information and CPUC staff assessment of the SoCalGas staff deemed ex ante development activities is provided by topic area below.

- **Workpaper Reviews**

SoCalGas staff has submitted four new or revised workpapers in 2016. CPUC staff took the following action on those: 1) three have had review waived, and thus the workpapers have interim approved status; and 2) one has had a detailed review issued. Additionally, CPUC staff issued prospective detailed reviews for five workpapers submitted in previous years. Below are CPUC staff observations on workpaper review activities in 2016 along with how these observations might impact a final ESPI score:

- Aliso Canyon workpaper: CPUC staff and SoCalGas staff recently completed an accelerated effort to develop, review and approve one workpaper intended to address a potential natural gas and related electricity generation shortage due to the recent closure of the Aliso Canyon natural gas storage facility. One workpaper, WPSCGREHC160624A, a statewide workpaper which covers residential smart thermostats, is the first workpaper to propose savings for residential installations of communicating “smart” thermostats. CPUC staff found that, after providing both written and verbal descriptions of concerns regarding the source of savings calculations and the methods used to extrapolate savings beyond the available data, SoCalGas staff was not able to make adjustments which matched CPUC staff expectations. Therefore, CPUC staff’s disposition on this workpaper made adjustments to many of the savings calculation parameters including overall unit energy savings, net to gross, measure application type, and cost. CPUC staff recognizes that SoCalGas is pursuing this program in response to requirements in recent legislation (Assembly Bill 973) as well as to address a potential natural gas and related electricity generation shortage due to the recent

closure of the Aliso Canyon natural gas storage facility. For these reasons an accelerated workpaper development was necessary. However, the many man-hours invested (by all parties) in development of this measure was primarily spent in meetings, discussions and communications without any further analysis, development or refinements to the ex ante values. In the end, and in the absence of any progress after months of meetings and discussions, CPUC staff issued direction for the final values. When faced with this situation in the future, CPUC staff expects SoCalGas staff to assess the overall likely savings achieved from the proposed technology and match the level of effort with the expected savings, particularly when CPUC staff voice initial technical and programmatic concerns. (negative ESPI score impact)

- “Statewide” workpapers: In 2015, PG&E staff and the California Technical Forum (CalTF) began an effort to identify workpapers that would be used statewide by all PAs. PG&E staff posts to the WPA a table of statewide workpapers, identifying which PA is the lead developer, with all other PAs identified as participants. SoCalGas staff has attempted to define statewide water heater measures by averaging DEER results across PAs. This calculation shortcut is not approved by CPUC staff because it does not correctly account for DEER building type, vintage, climate zone and PA saturations (e.g. WPCSGNRWH120206b r5). When this issue was raised with SoCalGas staff, they stated that they had concerns about the additional level of effort needed to compute the energy impacts for areas outside of their territory. CPUC staff expects to see better coordination of statewide workpaper development moving forward. There should only be one workpaper submitted by the lead developer which correctly calculates Energy Impacts for all California climate zones. Once a statewide workpaper, submitted by a workpaper lead PA, is approved by CPUC staff, then other PAs may submit participant workpapers, with the primary content being ex ante data showing only how they will implement the adopted measures. If the effort level needed to produce statewide workpapers in some cases exceeds the resources available to the designated lead workpaper PA, that must be resolved between the PAs so that an appropriate and acceptable submission takes place. (negative ESPI score impact)
- Prospective Disposition Effective Date caused workpaper measures to expire: CPUC staff published a draft disposition of the water heater workpapers in mid-February 2016. The final disposition was published on April 8th, and allowed the SoCalGas measures to remain in force through the June 30th. CPUC staff felt that the required changes entailed a small effort such that they should have easily been accomplished in a month, especially since they had been discussed with SoCalGas staff more than one month prior to the disposition publication. However, SoCalGas staff has not yet re-submitted their water heater workpapers so the water heaters measures have expired. (negative ESPI score impact).

A summary of 2016 SoCalGas workpaper submissions is provided in Table 2, a summary of workpaper preliminary reviews is provided in Table 3, and a summary of workpaper detailed reviews is provided in Table 4 All tables are in Attachment B.

- **Ex Ante Database Submittals**

SoCalGas staff has not been proactive in continuously improving their understanding the EADB structure and required format for submittals. CPUC staff below highlights two areas where improvement is needed. If SoCalGas staff is able to address these two areas of their ex ante data submittals, the workpaper and data approval will be accelerated and ESPI scores will improve:

1. Provide an updated ex ante data submission for Implementations and Costs:
During the summer of 2015, CPUC staff coordinated with SoCalGas staff to request updates to the values within the ex ante database. While SoCalGas staff responded to explicit requests, they did not provide an updated data set. As a result, only 4 of the 37 SoCalGas implementations in the PEARDB are able to resolve to cost effectiveness values. Additionally, these 37 implementations do not include all of the measures in SoCalGas' current portfolio.
2. Resubmitting data that already exists in the ex ante database: The SoCalGas recent workpaper submission for faucet aerators appears to match data that is already within the PEARDB and has been assigned statewide measure IDs by CPUC staff. Resubmitting data under a different identification number slows down the workpaper review and approval process.

A summary of data submissions that have been reviewed by CPUC staff so as to allow upload to the PEARdb is provided in Table 5 of Attachment B.

In accordance with D.13-09-023, CPUC staff and consultants will schedule a conference call meeting with SoCalGas staff to discuss the mid-year feedback. CPUC staff will send a Doodle Poll to find an available day and time. If SoCalGas staff has any questions or comments in the meantime, please contact Peter Lai (Peter.lai@cpuc.ca.gov).

Attachment A: Mid-year ESPI Ex ante Review Metric and Metric Descriptions

Metric No.	Metric Description
1a	Timeliness of action in the implementation of ordered ex ante requirements in the pre-submittal/implementation phase: Timing of disclosure in relation to reporting.
1b	Timeliness of action in the implementation of ordered ex ante requirements in the post-submittal/implementation phase: Timing of responses to requests for additional information.
2	Breadth of response of activities that show an intention to operationalize and streamline the ex ante review process.
3	Comprehensiveness of submittals.
4	Efforts to bring high profile, high impact, or existing (with data gaps) projects and/or measures to Commission staff in the formative stage for collaboration or input.
5	Quality and appropriateness of project documentation (e.g., shows incorporation of Commission policy directives).
6a	Depth of IOU quality control and technical review of ex ante submittals: Third party oversight.
6b	Depth of IOU quality control and technical review of ex ante submittals: Clarity of submittals and change in savings from IOU-proposed values not related to M&V.
7	Use of recent and relevant data sources that reflect current knowledge on a topic for industry standard practice studies and parameter development that reflects professional care, expertise, and experience.
8	Thoughtful consideration, and incorporation, of CPUC comments/inputs. In lieu of incorporation of comments/input, feedback on why comments/input were not incorporated.
9	Professional care and expertise in the use and application of adopted DEER values and DEER methods.
10	Ongoing effort to incorporate cumulative experience from past activities (including prior Commission staff reviews and recommendations) into current and future work products.

2015 Ex Ante Review Interim ESPI Performance Feedback — SoCalGas

Table 1 - Summary of SoCalGas Mid-Year 2016 Custom Project Reviews

CPUC Project ID.	Metric 1a	Metric 1b	Metric 2	Metric 3	Metric 4	Metric 5	Metric 6a	Metric 6b	Metric 7	Metric 8	Metric 9	Metric 10	COMMENTS
SCG_033	No	No	+	+	No	+	No	-	No	No	No	-	Very comprehensive and well detailed project documentation describing a complex process. Good supporting documentation. PA does not understand how to calculate the EUL for REA measures. Both measures seem to have baseline issues with possible error in the analysis of measure 1 and questionable classification of measure 2 as an energy efficiency measure. The M&V plan may be reviewed at a later date.
SCG_034	No	No	Yes	Yes	No	Yes	No	-	No	No	No	Yes	<p>The "placeholder" calculations for this project are not well documented and are difficult to follow. The PA's M&V plan for this project is a good example of comprehensive well documented savings analysis methodology. CPUC staff required some modifications and clarifications to the M&V approach. The PA's measurement approach for the project lacked rigor, and CPUC staff required the use of data loggers and shorter measurement intervals. There are too many unspecified parameters in the M&V plan which may lead to less than optimum execution of the M&V for this project.</p> <p>PA program influence is unclear- it appears that the equipment vendor may have developed this project and involved the PA to help move the project ahead. CPUC staff contacted the AQMD and did not find this customer having any relevant compliance issues.</p>

Attachment B: Custom and Workpaper Performance Feedback

SCG_035	No	No	Yes	-	No	Yes	No	-	No	No	No	Yes	<p>The "placeholder" calculations for this project are not well documented and are difficult to follow. The PA has not provided the technical review for this project. The technical review submitted with the documents uploaded to the CMPA is for the same measure at another customer facility (5001256832).</p> <p>The PA's M&V plan for this project is a good example of comprehensive well documented savings analysis methodology. CPUC staff required some modifications and clarifications to the M&V approach. The PA's measurement approach for the project lacked rigor, and CPUC Staff required the use of data loggers and shorter measurement intervals. There are too many unspecified parameters in the M&V plan which may lead to less than optimum execution of the M&V for this project.</p> <p>PA program influence is unclear- it appears that the equipment vendor may have developed this project and involved the PA to help move the project ahead. CPUC Staff contacted the AQMD and did not find this customer having any relevant compliance issues.</p>
---------	----	----	-----	---	----	-----	----	---	----	----	----	-----	---

Attachment B: Custom and Workpaper Performance Feedback

Table 2 - Summary of SoCalGas Mid-Year 2016 Workpaper Submissions

WP ID	Revision	Title	Date Submitted	PA Stated Scope of Submission	Submission Status
WPSCGNRWH 150827A	2	Laminar Flow Restrictors	5/2/2016	Revised savings calcs; Tier 2 Water heater removed; efficiencies updated; added water savings est.	Review waived – Interim approval
WPSCGNRWH 120618A	3	Faucet Aerators for Bathroom/Kitchen Sinks in Residential Buildings	5/2/2016	Update due to GPM baseline; Savings calcs remain the same; RUL updated; Bathroom Aerator measure added	Review waived – Interim approval
WPSCGREHC 160624A	4	Residential Smart Thermostat	7/4/2016	New Workpaper	Detailed review – resubmit
SWWH001	0	Auto-Diverting Tub Spout with Thermostatic Shut-off Valve	5/16/2016	Tubspout workpaper submitted for review.	Review waived – Interim approval

Table 3 - Summary of SoCalGas Mid-Year Workpaper Preliminary Reviews

WP ID	Revision	Title	Date Issued	Summary of Issues
WPSCGNRWH 120206B	5	Tankless Water Heaters For Commercial Applications	2/22/2016	Issues are summarized under Detailed Review, below. A disposition was written to cover all SoCalGas water heating measures based on three preliminary reviews and subsequent coordination between EAR team and SoCalGas staff.
WPSCGNRWH 120206C	5	Commercial Hot Water Boilers	2/22/2016	
WPSCGREWH 120919A	2	Tankless Water Heaters for Single Family and Multifamily Applications	2/16/2016	

Attachment B: Custom and Workpaper Performance Feedback

Table 4 - Summary of SoCalGas Mid-Year 2016 Workpaper Detailed Reviews

WP ID	Revision	Title	Date Issued	Summary of Issues
WPSCGREHC 160624A	4	Residential Smart Thermostat	7/19/2016	Main issue is the level of savings per thermostat. Authorized savings are much lower than the SoCalGas proposal. Additionally, measure application type, net-to-gross, and eligibility requirements are adjusted via disposition.
WPSCGNRWH 120206A	8	Storage Tank Water Heaters for Commercial and Industrial Applications	4/8/2016	A main problem with all these workpapers was the proposed approach to defining statewide energy impacts. The workpapers propose averaging DEER data together to reduce the number of EnergyImpacts. This is not allowed since it is inconsistent with DEER methods. Also, workpaper costs do not include changes to installation such as flue modifications to handle the condensate.
WPSCGNRWH 120206B	5	Tankless Water Heaters For Commercial Applications	4/8/2016	
WPSCGNRWH 120206C	5	Commercial Hot Water Boilers	4/8/2016	
WPSCGREWH 120919A	2	Tankless Water Heaters for Single Family and Multifamily Applications	4/8/2016	
WPSCGREWH 130613A	0	Central Storage Water Heaters for Multifamily Residential Applications	4/8/2016	

Table 5 - Summary of SoCalGas Mid-Year 2016 Workpaper Reviewed Ex Ante Data

WP ID	Revision	Title	PEARdb Ready?	Reason	Uploaded to EADB?	Ready for upload?	Date Submitted
WPSCGNRWH 120618A	3	Faucet Aerators for Bathroom/Kitchen Sinks in Residential Buildings	No	MeasureIDs appear to be renamed versions of data which is already within the PEARDB. As well, it appears that EnergyImpacts associated with these approved, statewide measures have been re-submitted.	No		5/2/2016