



Goal 2: Commercial Quality Maintenance Committee Tuesday October 17, 2017 Meeting Notes

Call to Order

The meeting was called to order at 10:04 am PDT by Don Langston, Chair and President of Aire Rite AC and Refrigeration. Meetings are normally scheduled for 60 minutes. This meeting was scheduled for 90 minutes because of the longer agenda.

Roll Call

Quorum for voting organizations = 8 of 14. 10 voting members, 4 non-voting members and 0 guest and 1 staff attended this meeting. A total of 15 members, guests and staff attended.

P = present at meeting

A = absent voting member; if proxy has been assigned it will be noted below.

WHPA Goal 2: CQM Committee VOTING Members				Roll Call
ACCA (Air Conditioning Contractors of America)	Donald	Prather	Contractor Association	
Aire Rite AC & Refrigeration	Don	Langston	Contractor (Nonresidential)	P
AMS (American Mechanical Services)	Marc	Pickett	Contractor (Nonresidential)	P
ASHRAE	Richard	Danks	Other Stakeholder	P
CLEAResult	Gretchen	Egging	Energy Efficiency Program Consultant	P
FDSI (Field Diagnostic Services Inc.)	Dale	Rossi	Third Party Quality Assurance Providers	P
Honeywell E&ES (Energy & Environmental Solutions)	Mike	Lawing	Controls (Manufacturer or Distributor)	P
HSE (Honeywell Smart Energy)	Shayne	Holderby	Energy Efficiency Program Consultant	P
PG&E (Pacific Gas and Electric Company)	Christian	Weber	California IOU	
SCE (Southern California Edison)	Scott	Higa	California IOU	P
SDG&E (San Diego Gas and Electric Company)	Paul	Thomas	California IOU	
Tre' Laine Associates	Pepper	Hunziker	Energy Efficiency Program Consultant	P
Western Allied Corporation	Mike	Gallagher	Contractor (Nonresidential)	
XCSpec	Janet	Peterson	Controls (Manufacturer or Distributor)	P
WHPA Goal 2: CQM Committee NON-VOTING Members				Roll Call
Brownson Technical School	Bill	Brown	Educator, Trainer	P
Clean Energy Horizons	Norm	Stone	Energy Efficiency Program Consultant	
CLEAResult (formerly PECEI)	Michael	Blazey	Energy Efficiency Program Consultant	
CLEAResult (formerly PECEI)	Phil	Jordan	Energy Efficiency Program Consultant	
CLEAResult (formerly PECEI)	Paul	Kyllo	Energy Efficiency Program Consultant	
CLEAResult (formerly PECEI)	Todd	Van Osdol	Energy Efficiency Program Consultant	P
CLEAResult (formerly PECEI)	Mike	Withers	Energy Efficiency Program Consultant	
Marina Mechanical	Denny	Mann	Contractor (Nonresidential)	
HSE (Honeywell Smart Energy)	Steve	Varnum	Energy Efficiency Program Consultant	P
Lupson and Associates	Warren	Lupson	Other Stakeholder	
SCE (Southern California Edison)	Steve	Clinton	California IOU	P
Transformative Wave	Joe	Schmutzler	Controls (Manufacturer or Distributor)	
Transformative Wave	Justin	Sipe	Controls (Manufacturer or Distributor)	
XCSpec	Jeff	Aalfs	Controls (Manufacturer or Distributor)	
WHPA Goal 2: CQM Committee NON-VOTING Guests				Roll Call
Adrienne Thomle, Consulting **	Adrienne	Thomle +		
Air Management Industries	April	Yungen	Contractor (nonresidential)	



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AirTest Technologies	Mike	Schell	HVAC Manufacturer	
B2B Sales Excellence**	James	Graening+		
California Public Utilities Commission (CPUC) - Energy Division			California PUC	
CLEARresult	David	Cantanese+	Energy Efficiency Program Consultant	
CLEARresult	Richard	Waite	Energy Efficiency Program Consultant	
Galawish & Associates	Elsia	Galawish	Energy Efficiency Program Consultant	
NADCA (National Air Duct Cleaners Association)	Dan	Stradford	Contractor Association	
Pax-Sun Engineering, Inc.	Tom	Paxson	Other Stakeholder	
STAFF				
BBI (Better Buildings Inc.)	Mark	Lowry	WHPA Executive Advisor/BBI COO	
BNB Consulting/WHPA Staff, host, admin. support & scribe	Bob	Sundberg	WHPA Staff	P
CLEARresult	Paul	Kyllo+	WHPA Senior Advisor	
Empowered LLC	Shea	Dibble	WHPA Co-Director	

** Organization is Not a Member of the WHPA; + Individual is NOT Registered with the WHPA;
 (P) after last name = Member/Registrant is Pending Approval from the WHPA Executive Committee

AGENDA

Topic	Discussion Leader	Desired Outcome
Welcome, roll call, review agenda, approve past meeting minutes and ACTION items	Don Langston and Bob Sundberg/staff	Record meeting attendees, finalize past meeting minutes, review status of meeting action items.
Welcome new members & guests, review new candidates	Don Langston and Bob Sundberg/staff	New members and invited guests welcomed. Decision made on suggested revisions to candidate options and the review process.



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<p>New Business</p> <ul style="list-style-type: none"> • CQM C. self-supporting • Streamlining/Stakeholder Engagement • IOU State-wide EE programs 	<p>Don Langston, Paul Thomas and IOU Representatives</p>	<p>Inform members/guests regarding new developments. Committee will be self-supporting after Oct. 31 WHPA new committee launched to explore WHPA options. IOU EE programs moving toward > 60% developed and implemented by third parties, <</p>
<p>NEWS – Regulatory and Legislative Updates –</p>	<p>Don Langston, CPUC/ED, CEC & IOU Representatives</p>	<p>Members and guests are kept informed about new regulatory and legislative actions, events and announcements.</p>
<p>CQM Program Updates SCE/PG&E/SDG&E</p>	<p>Gretchen Egging, Shayne Holderby, Paul Thomas</p>	<p>Gain a current understanding of IOU CQM program status, progress, developments and issues.</p>
<p>CQM STD 180 User Guide Customer Comm. WG</p>	<p>Jan Peterson, Chair</p>	<p>Update members on WG progress.</p>
<p>CQM STD 180 User Guide (T) WG</p>	<p>Marc Pickett, Chair</p>	<p>Update members on WG progress.</p>
<p>Review meeting Action Items, set next meeting date/time, adjourn</p>	<p>Don Langston</p>	<p>Set next meeting date and confirm time.</p>

Approve Minutes of Previous Meeting

August 8 meeting draft notes were distributed August 20. All voting members present approved the draft minutes. There had been no suggested corrections or revisions received via email. Approved meeting notes would be finalized and posted to the CQM Committee site. Seven of ten attendees voted AYE to approve the October 17 meeting notes. No response was received from ACCA, FDSI or HSE as of Oct. 31. The October 17 meeting draft notes were approved via email and will be posted to the WHPA website.

Review Status of Action Items from Previous Meeting

February 14 ACTION: Christian Weber, PG&E and Scott Higa, SCE, would report on the IOU billing analysis study at the March 2017 meeting. Updated at August meeting. Preliminary results were expected by year end. Background: A study was being conducted, led by PG&E, regarding billing analysis for HVAC which would include CQM, CQR and Upstream program participants. The goal of the study was to produce a quantitative model capable of predicting energy usage of a customer’s building before and after a program intervention. It was not, for example, assessing the impact of CQM program participation on a customer’s metered energy usage.

February 14 ACTION: Christian Weber, PG&E would reach out to PG&E CQM program contractors to get feedback about their possible participation on this committee and its working groups. Ongoing.

February 14 ACTION: Scott Higa, SCE – consider ways to inform participating contractors about the WHPA, this committee and its working groups and ways they could become involved. Ongoing.

June 13 ACTION: Scott Higa and Gretchen Egging would follow-up to provide Bob Sundberg details about why their program had extended incentives to customers to upgrade to the integrated VFD/ADEC option (Catalyst)



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beyond the program three-year limit when those same customers had earlier chosen the ADEC alone option.
COMPLETED.

August 8, 2017 ACTION: Todd Van Osdol, CLEAResult, would check with their implementation team lead to see whether any of the new sales training materials had incorporated materials or content developed by CQM Committee or its working groups. COMPLETED.

UPDATE: SCE had conducted program sales training back in August. They'd incorporated more of the WHPA/CQM Committee work product content. Contractors had found the material very helpful in framing their discussions with customers. They weren't enrolling very many new contractors at present but intended to continue to use WHPA work product content whenever the opportunity came up. Most existing contractors were now pretty established with their sales process.

Don Langston, Chair – he suggested they try to plan training events in the November through February time-frame. Summer, especially August, was the most hectic time of the year for service contractors given all the emergency calls they had to address in addition to normal maintenance, service and equipment replacement activities. August was, typically, the hottest month of the year and a month when contractor participation was understandably at a low point.

Todd Van Osdol, CLEAResult – this was ad hoc training requested by one firm. He agreed that they needed to plan most of their contractor training when contractors would be most available, not during the summer, if possible.

Welcome New Members and Guests; Consider Pending Members

None.

New Business - Don Langston & IOU Representatives

CQM Committee to become self-supporting after October 31

Don Langston, Chair – he was a member of the new HVAC Stakeholder Engagement Strategy (HSES) Committee co-chaired by Paul Thomas of SDG&E and Bob Wiseman of IHACI. That committee hadn't reached any decisions yet but was preparing to present its findings and proposals for discussion at the next Executive Committee meeting to be held the next day, October 18. Current plans for most committees and working groups was for them to be on their own after October 31. He didn't honestly know yet what that would look like for this committee. In 2017 this committee had moved from monthly to bi-monthly meetings to free up resources for more progress to be made at the working group level. He had all member email addresses and knew who had been active and who had not. Those who hadn't shown up for six months were to be dropped from the committee roster due to their inactivity. He'd work with Bob Sundberg on that before the end of the month. He planned for the committee to meet once more before the end of the year. Then, they'd have to determine why they would be meeting further and what their goals were and would wait to see what developed out of the Stakeholder Engagement Strategy Committee's efforts before the committee reconvened in 2018.

New WHPA Committee formed to explore streamlining the WHPA

Scott Higa, SCE – he'd attended a recent meeting of this committee co-chaired by Paul Thomas of SDG&E and Bob Wiseman of IHACI. The HSES HVAC Stakeholder Engagement Strategy Committee would present options for how the WHPA could be supported beyond 2017 at the next Executive Committee meeting. One option was for the WHPA to be re-formed as a non-profit organization with some support from the IOUs.



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The next Executive Committee meeting was scheduled for Wednesday October 18.

State-wide mandate for IOU EE programs move toward 60% minimum developed, administered and implemented by third parties

Bob Sundberg, WHPA staff – he asked Scott Higa, SCE what impact this state-wide mandate might or would have on commercial HVAC related programs.

Scott Higa, SCE – the state-wide administration of programs proposed in the IOU business plans would only impact certain programs.

- If those plans were approved by the CPUC, those state-wide administered HVAC programs would include upstream programs for residential and non-residential and a downstream pilot for residential HVAC. SDG&E was proposed to provide state-wide administration.
- The CQM, CQI and a commercial High Opportunity Program (HOPS) would continue to be run at a local level by individual IOUs.
- IOUs would act as portfolio administrators for the other third party developed and implemented energy efficiency (EE) programs. The proposed target was > 60% of EE programs would be offered through this pathway.

Scott Higa, SCE – there should be more clarity after IOU business plans are approved. The overall trend did appear to be towards more third party designed and implemented programs. How the WHPA might interact with and inform those third parties needed to be considered. The WHPA should have the opportunity to provide all EE programs with input and feedback. The WHPA was recognized as having provided significant input to the IOUs as well as to regulators. That dialogue was intended to be continued, going forward.

Don Langston, Chair – he saw the challenge going forward to be, how would the IOUs, third party implementers and regulators hear from industry? He recalled that mission behind forming the WHPA was to bring in industry to inform, educate and collaborate. His assessment was that they'd experienced mixed success to date. The other challenge was to answer who were they actually intended to be reaching? There had been relatively constant turnover in IOU and regulator staff positions. When they'd finally gotten someone fully engaged and participating, that person tended to move on and the position filled with someone with no WHPA continuity. Instead of building a base of shared tribal knowledge, they always seemed to need to start over with new participants which was a constant obstacle to more robust collaboration.

Bob Sundberg, WHPA staff – he suggested a question which might be left for the committee to address in the future. In the past, this committee has worked closely with the IOU representatives regarding program claimed savings work papers. If/when IOUs assume the future role of being EE program portfolio managers, how would claimed savings and program evaluation be conducted in the future? Also, how would WHPA committees be formed to provide input and assistance for those third party developed programs? Would the IOUs still be in the role for developing claimed savings or would that move to be the responsibility of the third party working directly with the CPUC and their consultants? Bob asked Scott to confer with the other IOU leads to bring some clarification back to this committee in the future.

NEWS Updates -Industry, Regulatory and Legislative - Don Langston, CPUC/ED, CEC & IOU Representatives

No discussion.



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IOU CQM Program Updates

SCE CQM program summary (Scott Higa of SCE & Gretchen Egging of CLEAResult):

Gretchen Egging, CLEAResult, provided an update.

SCE CQM HVAC – September

	Sep 2017	2017 YTD
New contractors	0	0
New customers - application received	9	54
New buildings – check cut	22	526
% of units w/ economizers	67%	72%
New tonnage – check cut	1,037	25,288
Units w/ CSA – check cut	955	4,829
Units w/ DCV/VFD – check cut	66	337
Units w/ ADEC w/ CSA – check cut*	402	2373
kWh – check cut	1,934,277	8,700,637
kW – check cut	951	3,924

The implementation team continued to support contractors and their implementations such as verification of program required field work. The program management team had recently been focused on the 2018 program design proposal. They were also working to build the 2018 pipeline with IOU account reps to help reach those 2018 goals.

Gretchen Egging – she addressed an earlier mentioned action item which asked for an explanation as to why the program re-visited allowing VFD/economizer upgrades after the three-year program participation. The primary reason was that pursuing those upgrades was another means to increase overall program related energy savings.

Scott Higa, SCE – the SCE HVAC Optimization/QM program was a lower performer from a total resource cost (TRC) metric standpoint. The team was doing what it could to try and improve that TRC evaluation metric. The program was intended to support “market transformation” rather than primarily pursuing energy savings. So, it was considered a “non-resource” based program. There was no current work paper which would support claimed savings directly from QM practices required in the program. Gretchen had described one of several efforts to re-address higher TRC EE measures, the VFD/economizer one.

Scott Higa, SCE – 2018 program proposed changes

- Looking for additional higher TRC EE measures to add to the program
- Considering de-coupling the cooling service analysis (CSA) from the three-year commitment
 - Would allow offering the CSA separately for additional overall program claimed savings
 - Reduce the barrier to entering into a three-year commitment by not requiring the CSA



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- Further reduce the information contractors needed to collect for the maintenance agreement (would reduce the maintenance agreement incentive)
- Considering reducing the maintenance agreement requirement from three to only one year with the option to renew for up to three years
- Reviewing every EE measure within the CSA to consider only keeping those with high TRC values – can only claim very low savings for some portions like coil cleaning and airflow adjustment
- April 1 target to implement program changes

Scott Higa, SCE – they were trying to leverage input from the many experienced program contractors and implement changes to reduce program participation barriers for customer as well as additional contractors. He continued to be impressed with how effectively participating contractors have been able to engage customers to participate in the QM program and establish Standard 180 based maintenance plans.

Bob Sundberg, WHPA staff – he asked Scott to comment on the potential benefits for claimed savings which might come out of the energy billing analysis project and/or SCE analysis of program participants pre/post program participation whole building meter energy use analysis.

Scott Higa, SCE – Bob was addressing more of a holistic whole system impact of Standard 180 based maintenance on energy usage and potential savings as opposed to the current individual piecemeal measure by measure approach to claiming program energy savings. SCE was trying to address that more holistic, comprehensive impact of QM via development of a HOPS pilot, high opportunity program value chain program. This was planned to be a whole building meter based approach to assess the impact of maintenance practices, a whole suite of intervention practices. Getting results from the HOPS pilot would require patience. Following the maintenance interventions, they would need to wait at least one year to collect sufficient impact information, EMI meter data at the individual building. It would be another avenue for IOU programs to claim savings but might have some deficiencies.

- Some interventions might not be discernable at the whole building level.
- They would need to provide evidence of impact at the individual building level.

There was still value in pursuing individual EE measure claimed savings.

- Low overhead and easy to administer
- Predictable results
- No one year wait for unknown results before savings could be claimed
- The deemed savings approach provided a better reach for mass-market application

Bob Sundberg, WHPA staff – he asked Scott whether the pre/post whole building meter data was available for SCE analysis for all current QM program participants from their activity over the last six to seven years of the program's existence? Wouldn't that data be a wealth of information to mine for program impact, as Don Langston and others had suggested at several previous committee meetings?

Scott Higa, SCE – that data had been part of the EMI billing analysis study being led by PG&E. He understood that the analysis was being conducted at the program, not individual building level because there would be so many factors which could influence the meter results at the individual building level. When expanded to a program level, you could normalize the results by population and distribution. The study would help confirm whether you could estimate the savings for participation in the QM program, not at an individual building level. The HVAC HOPS pilot was more focused on drilling down to the EMI meter usage at an individual building level



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and the potential program impact. The HOPS pilot was the next step after the program EMI billing analysis study.

Don Langston, Chair – he thanked both Scott and Gretchen for the very thorough and helpful set of updates.

PG&E CQM Program Summary (PG&E staff to be designated & Shayne Holderby of HSE)

Shayne Holderby, Honeywell Smart Energy Solutions, provided an update.

PG&E CQM HVAC

	2017 YTD PAID
New/Active Contractors	1/55
New customers – app submitted	-
New buildings – app submitted	370
% of units w/ economizers	50%
New tonnage – app submitted	14704
Units w/ CSA - app submitted	2298
Units w/ DCV/VFD - app submitted	145*
Units w/ ADEC w/ CSA - app submitted	1153
kWh - app submitted	5998492
kW - app submitted	993

Shayne Holderby, HSES – a lot of the items Scott had described had also been included in revisions and upgrading the PG&E HVAC Optimization Program as well. Examination of individual EE measures, their TRC values and what impact they had on the overall program ability to claim energy savings, all were also part of the PG&E program review, evaluation and revision process. He mentioned that many of those topics were also addressed in the Program Participation Guide.

Summary:

- Contractors are very engaged and like the new Portal
- A few new contractors but they already have a large portion of the larger contractors in their territory
- kWh savings at about \$6M even with a severe reduction in the number of EE measures available, they'd already removed many measures which were scored low TRCs by the CPUC
- Result – they were seeing an increased number and percentage of program rooftop units (RTUs) with economizer systems, moved from 30% with economizers/70% no economizers to about 50% without/50% with economizers
- The shift is from contractors looking for more rooftop units with economizers on them
- Economizer DCV was pulled from receiving incentives because of the low TRC score but continue to offer advance ventilation control options

Don Langston, Chair – he congratulated Shayne and their program for the market transformation reflected in contractors seeking out larger RTUs with economizer systems.



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Shayne Holderby, HSES – their concern from a program standpoint was that as the program tried to focus on more measures with acceptable, higher TRC scores, that might negatively impact contractors on their bottom line.

Mike Lawing, Honeywell E&ES – he asked Shayne whether DCV and VFD ventilation enhancement no longer were incentivized in the program?

Shayne Holderby, HSES – DCV by itself had been removed from the program since the start of 2017 except for some grandfathered cases. Enhanced economizers, DCV with integrated VFD, was still eligible for program incentives. The TRC for enhanced economizer control had the highest TRC offered in the program so it was highly encouraged.

Shayne Holderby offered to provide a pdf copy of the “PG&E HVAC Optimization Program Participant Guide” which contained details about their program structure, training and materials. Please contact him at:

Shayne.Holderby@Honeywell.com

Or go to the following links to download the April 2017 pdf version:

https://docs.wixstatic.com/ugd/0c9650_13d5db588a8948b895d93f131549ba07.pdf

The document above can be reached by going to the following site:

<https://www.caeecc.org/pg-e-req-to-ccee-1-data-req>

Once at the site, scroll down to --- PG&E Response to CEE Data Request No. 16 (April 7, 2017) and click on

- [Attachment 6: Commercial HVAC Optimization Program Participation Guide](#)

SDG&E CQM Program Summary (Paul Thomas, SDG&E, David Cantanese, CLEAResult)

Paul Thomas, SDG&E, update.

CQM Committee 2017 Working Groups – Don Langston

Standard 180 User Guide Customer Communications Working Group – Jan Peterson, Chair

Jan Peterson, Chair – the group met September 26. Refinements to the introductory section and interview question topic flow charts was in process. Bob Sundberg had drafted an example “narrative” initial client/service provider discussion. More narratives from members were planned to be added in the future. The WG was still on track for completing a work product by October 31 for submission to the full CQM Committee and, if approved, forwarded on to the Executive Committee for their consideration. The WG had agreed to fold their effort back into the larger User Guide Technical WG after this work product was completed since their effort represented one chapter in that user guide project.

Standard 180 User Guide Technical Working Group – Marc Pickett, Chair, Rick Danks, Vice-Chair

Marc Pickett, Chair – the WG intended to insert new text regarding goal metrics into sections 3 and 4 of the user guide plan which the 2016 User Guide WG had proposed for future work. Establishing goals and evaluation/tracking metrics was important to include to initially interest responsible parties in this more comprehensive maintenance approach but also to have them develop proof of its value. This was especially



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important for the California QM programs to encourage customers to continue their Standard 180 based programs after graduating from the three-year programs.

Commercial maintenance data specification (measurements required to calculate performance evaluation/scoring) this WG had not yet been formed.

Closing Comments/Adjournment

Don Langston, Chair – he was still in the process of considering what resources might be allocated to allow supporting this committee and the WG going forward. He planned to support at least one more meeting before the end of the year. But, it was time to re-evaluate committee and organizational goals. Until there emerged some higher level of commitment to support WHPA and committee efforts, there seemed to be a lot of dysfunctional scrambling and confusion. This was the closing of a chapter for the WHPA, but he thought providing industry input would continue within a new context. Don thanked everyone for their past commitment and contributions.

The meeting was formally adjourned at 11:16 am PDT.

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Summary of NEW Action Items and Key Decisions

February 14 ACTION: Christian Weber, PG&E and Scott Higa, SCE, would report on the IOU billing analysis study at the March 2017 meeting. Updated at August meeting. Preliminary results were expected by year end. Background: A study was being conducted, led by PG&E, regarding billing analysis for HVAC which would include CQM, CQR and Upstream program participants. The goal of the study was to produce a quantitative model capable of predicting energy usage of a customer's building before and after a program intervention. It was not, for example, assessing the impact of CQM program participation on a customer's metered energy usage.

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