



**Goal 2: Commercial Quality Maintenance Committee
Tuesday December 13, 2016 Meeting Notes**

Call to Order

The meeting was called to order at 10:00 am PST by Don Langston, Chair and President of Aire Rite AC and Refrigeration. Meetings are normally scheduled for 60 minutes.

Roll Call

Quorum for voting organizations = 7 of 11. 6 voting members, 7 non-voting members and 3 guest and 1 staff attended this meeting. A total of 17 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	P
Aire Rite AC & Refrigeration	Don	Langston	Contractor (Nonresidential)	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)	
HSGS (Honeywell Smart Grid Solutions)	Shayne	Holderby	Energy Efficiency Program Consultant	
PG&E (Pacific Gas and Electric Company)	Jeanne	Duvall	California IOU	
SCE (Southern California Edison)	Scott	Higa	California IOU	P
SDG&E (San Diego Gas and Electric Company)	Jeremy	Reefe	California IOU	
Tre' Laine Associates	Pepper	Hunziker	Energy Efficiency Program Consultant	P
Western Allied Corporation	Mike	Gallagher	Contractor (Nonresidential)	
WHPA Goal 2: CQM Committee NON-VOTING Members				Roll Call
ASHRAE			Engineering Society	
BELIMO Aircontrols, Inc	Darryl	DeAngelis	Controls (Manufacturer or Distributor)	
Brownson Technical School	Bill	Brown	Educator, Trainer	P
BuildingMetrics Inc. (BMI)	Pete	Jacobs	Energy Efficiency Program Consultant	
Clean Energy Horizons	Norm	Stone	Energy Efficiency Program Consultant	P
CLEAResult (formerly PECEI)	Michael	Blazey	Energy Efficiency Program Consultant	
CLEAResult	Elizabeth (Liz)	DeSouza	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)	Mike	Withers	Energy Efficiency Program Consultant	
Marina Mechanical	Denny	Mann	Contractor (Nonresidential)	
Honeywell Smart Grid Solutions (HSGS)	Steve	Varnum	Energy Efficiency Program Consultant	P
PG&E (Pacific Gas and Electric Company)	Christian	Weber	California IOU	P
Richard Danks Consulting	Richard	Danks	Other Stakeholder	
SCE (Southern California Edison)	Steve	Clinton	California IOU	P



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SDG&E (San Diego Gas and Electric Company)	Robert	Nacke	California IOU	
SMUD (Sacramento Municipal Utility District)	Bruce	Baccei	Publicly Owned Utility	
Transformative Wave	Joe	Schmutzler	Controls (Manufacturer of Distributor)	P
Transformative Wave	Justin	Sipe	Controls (Manufacturer of Distributor)	
Lupson and Associates	Warren	Lupson	Other Stakeholder	
XCSpec	Jeff	Aalfs	Controls (Manufacturer of Distributor)	
XCSpec	Janet	Peterson	Controls (Manufacturer of Distributor)	P
WHPA Goal 2: CQM Committee NON-VOTING Guests				Roll Call
Adrienne Thomle, Consulting **	Adrienne	Thomle +		P
AHRI	Garrett	McGuire	HVAC Manufacturer Association	
Air Management Industries	April	Yungen	Contractor (nonresidential)	
AirTest Technologies	Mike	Schell	HVAC Manufacturer	
American Commissioning Group	Craig	Hofferber	Third Party Quality Assurance Provider	
AMS (American Mechanical Services)	Marc	Pickett	Contractor (Nonresidential)	P
California Public Utilities Commission (CPUC) - Energy Division	Carmen	Best	California PUC	
California Public Utilities Commission (CPUC) - Energy Division	Pete	Skala+	California PUC	
CLEARresult	Richard	Waite	Energy Efficiency Program Consultant	
Fieldpiece Instruments	Russ	Harju	HVAC Manufacturer	
Galawish & Associates	Elsia	Galawish	Energy Efficiency Program Consultant	
ICF (ICF International)	James	Jackson	Energy Efficiency Program Consultant	
Mark Cherniack Emeritus	Mark	Cherniack	Emeritus	
NADCA (National Air Duct Cleaners Association)	Dan	Stradford	Contractor Association	P
NCI (National Comfort Institute)	Rob	Falke	Educator / Trainer	
Pax-Sun Engineering, Inc.	Tom	Paxson	Other Stakeholder	
PG&E (Pacific Gas and Electric Company)	Robert	Davis	California IOU	
SCE (Southern California Edison)	Andres	Fergadiotti+	California IOU	
SCE (Southern California Edison)	Sean	Gouw	California IOU	
ServTEC Air Conditioning	George	Rodriguez	Contractor (Nonresidential)	
UC Davis Energy Efficiency Center	Kristin	Heinemeier	Research Organization	
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



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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.
NEWS – Regulatory and Legislative Updates	Don Langston, CPUC/ED, CEC & IOU Representatives	Members and guests are kept informed about new regulatory and legislative actions, events and announcements.
CQM Program Updates SCE/PG&E/SDG&E	Gretchen Egging, Shayne Holderby, Jeremy Reeve	Gain a current understanding of IOU CQM program status, progress, developments and issues.
WHPA In-Person Nov. 17 & 18 Meetings	Don Langston	Update members on the meeting topics and focus – EBEE, AB802/SB350, WHPA Optimization – needs fit.
CQM STD 180 User Guide WG Update	Dale Rossi	Work product to be presented at EC Dec. 14 meeting
Committee Work Product - Customer Interview Process	Don Langston and Janet Peterson	Work product to be presented at EC Dec. 14 meeting
2017 Committee Planning	Don Langston	Committee Plans User Guide WG Plans CM Data Specification WG Plans
Review meeting Action Items, set next meeting date/time, adjourn	Don Langston	Set next meeting date and confirm time.

Approve Minutes of Previous Meeting

The November 8 meeting draft notes were distributed November 22. Approved meeting notes would be finalized and posted to the CQM Committee site.

Review Status of Action Items from Previous Meeting

PAST ACTION ITEMS:

September 2015 ACTION: Scott Higa, SCE, would report progress on the testimonials and access to and analysis of customer energy data at the next monthly meeting. Ongoing.

November 2016 ACTION: Don Langston requested all committee members review the committee’s draft work product which Bob Sundberg would send out. He asked that they reply with their comments and suggestions which Bob would relay onto Jan Peterson for incorporation. This would allow for the work product to be finalized, voted on and delivered to the Executive Committee for consideration at their December 14 meeting. Completed.



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Welcome New Members and Guests; Consider Pending Members

- Christian Weber – PG&E Energy Efficiency Senior Product Manager – California IOU. Christian was unable to attend the November meeting to be welcomed.

New Business - Don Langston & IOU Representatives

None.

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

The latest version of the [Conflict of Interest \(COI\) Policy](#) was approved and adopted by the Coordinating Committee during the December 7 meeting. All future CAEECC events and participation must be conducted in accordance with these policies and procedures. Follow the link below to access and/or download a copy of the revised policy.

http://media.wix.com/ugd/0c9650_5e3a1176d3ff43658180125096e1b9f9.pdf

IOU CQM Program Updates

SCE CQM program summary (Gretchen Egging of CLEAResult):

Gretchen Egging, CLEAResult, commented that there were a lot of zero entries for November. They'd hit their savings goals so they stopped issuing rebate checks. She anticipated a strong start for 2017 since they had over \$2M in savings applications in hand.

Don Langston asked Gretchen to provide a little more detail about what their 2016 goals had been.

Gretchen responded that their primary goal had been kW driven and they'd surpassed their goal of a reduction of 5050 kW demand.

SCE CQM HVAC – November 2016

	Nov-16	2016 YTD
New contractors	0	6
New customers - application received	8	79
New buildings – check cut	0	318
% of units w/ economizers	67%	56%
New tonnage – check cut	1,907	34,186
Units w/ CSA – check cut	0	3362
Units w/ DCV/VFD – check cut	0	821
Units w/ ADEC w/ CSA – check cut*	0	1479
kWh – check cut	0	12,187,768
kW – check cut	0.00	4,794.37

*does not count units with ADEC pre-existing at CSA or units where ADEC is installed at DCV



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PG&E CQM Program Summary (Jeanne Duvall of PG&E & Shayne Holderby of HSGS)

Shayne Holderby was unable to attend.

Message from Shayne Holderby: PG&E portal is down will be until January. I have a meeting with new portal developer same time as our CQM meeting. We will have updates and new program update for January call.

SDG&E CQM Program Update

None.

Don Langston asked Gretchen to confirm whether CLEAResult was also supporting the SDG&E commercial maintenance programs. If so, might she be able to provide any program updates. The program representatives had only intermittently attended committee meetings and the committee had, only rarely, been updated on program changes, progress or issues.

Gretchen responded that she hadn't been directly involved but would be willing to gather some information for the January meeting.

Don and Gretchen agreed that both would contact Jeremy Reefe, SDG&E, to encourage monthly updating and more participation going forward.

CQM STD 180 Interview Process – Jan Peterson, XCSpec

Bob Sundberg, WHPA staff, showed attendees the summary work product cover pages which listed the voting record in addition to comments about the intended audience, potential benefits and work product objectives. He also let the group know that voting members had approved the work product. It had been delivered to Executive Committee members to review and vote on adoption at their meeting the following day.

Jan Peterson, XCSpec, provided a quick overview of the work product itself. She indicated that the reason for developing customer interview overview was intended to help both the customer and their service provider. The interview questions were not intended to be asked in the "grouped" order presented. It was not a "sales script." The questions were intended to develop and clarify objectives for their maintenance program, the budgets and authorities for maintenance related spending as well as establish means for measuring and reporting on goal progress and issues. Some of the information could be gathered ahead of any face-to-face meeting. The amount of customer willingness and interest would also provide a gauge indicating their degree of real interest in developing a better overall approach to maintenance, capital expenditures and energy savings. The process would also provide an opportunity to educate some customers where they had questions, didn't understand important aspects of their system operation and even how utility rebates worked.

CQM STD 180 User Guide Working Group Update – Dale Rossi, Chair

The WG work product had been voted on and approved by both the working Group and the CQM Committee voting members. It had been delivered to Executive Committee members for consideration and a vote for adoption at their Wednesday December 14 meeting.



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Dale Rossi, FDSI and WG Chair, summarized the five topics this group investigated in 2016:

1. Understanding performance objectives and condition indicators
2. Making a maintenance plan
3. Investigating unacceptable conditions and performance
- 4. Communicating the value proposition**
5. Customer facing reporting

Four of the topics were intended to understand the intent of the standard better in Section 4 Implementation. The standard referenced these terms but didn't indicated clearly enough for group members what each meant and how to meet the requirements indicated. These were mostly technically oriented and had been investigated briefly. They'd then selected and decided to devote more time, take a "deep dive," into the topic on communicating the value proposition for adoption of the standard's approach to maintenance. Most of that effort had been led by Pepper Hunziker, Tre' Laine Associates.

Pepper described how the group had begun by breaking down the marketplace into segments based on the type of organization which occupied commercial/institutional buildings or managed commercial property. The tried to establish what type of decision-makers for each decided on their approach to maintenance, repair, service and replacement. They also looked into different obstacles, roadblocks to adoption of a Standard 180 approach and different strategies which might be implemented to overcome those obstacles. Finally, they'd considered what sorts of information and/or materials might be helpful in effecting a sale to this higher level of maintenance. They tried to determine what factors made the most sense to each of the market segments in order to consider a change to a Standard 180 based approach to maintenance.

Dale Rossi added that they'd tried to look into buildings managed by landlords but found that there was such a variety of circumstances, who was responsible for HVAC equipment and/or energy expenses, that they'd needed to table that more complex market segment. He wasn't sure they'd have future resource to re-address that diverse market segment. He thanked Pepper for being instrumental in their exploration of communicating the value proposition.

Dale thought that future working group efforts fit into three categories:

- Sales aspects of the guide which would include the validation/confirmation step
- Technical aspects of the guide which would include implementation and reporting
- Task of assembling content and producing a distributable document which would include formatting, editing, inclusion of pictures, graphs or flow charts, examples and templates and final assembly of a draft document

Dan Stradford, NADCA, asked who these products were aimed at and how could adoption be persuaded since there didn't seem to be an enforcement aspect that would put this product into use? How could you expect to deliver this great product to government or utility entities and not have them say "cool" but just put the binders on a shelf somewhere? He didn't want to see good work wasted.

Don Langston responded that Standard 180 was the first national standard developed to establish a minimum level of acceptable commercial HVAC maintenance. These work products were expected to be integrated into the existing IOU quality maintenance programs to further operationalize industry suggested best practices. The IOU



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program developers would be defining program guidelines and requirements which would be expected to include some of this content.

Pepper Hunziker, Tre' Laine Associates, also responded from her work supporting SCE and their HVAC WE&T efforts and integration into their programs. She was pretty certain that much of this output would be reviewed and embedded into the HVAC Optimization (SCE CQM program) curriculum and training. She was also involved in post-secondary adult HVAC education. There was already progress toward imbedding Standard 180 into the existing community college HVAC curriculum.

Bob Sundberg, WHPA staff, added that feedback had been received during the committee voting process from Shayne Holderby of HSGS, the CQM program implementer for PG&E. He'd been impressed with both the user guide document as well as the interview process structure and content. Shayne planned to put that content into the hands of the program developers and include much of it. The interview process had help his team realize that the client dialogue aspect outlined in Section 4 of the standard needed far greater attention in their program. The first few years of their program, understandably, had focused on technical aspects of the program, advanced technologies and energy savings.

Dan Stradford was very relieved to hear that there was already momentum regarding Standard 180 integration.

ACTION: Bob Sundberg, WHPA staff, was asked to distribute the final work products which had just been approved by committee voting members and delivered to Executive Committee members for their consideration.

Scott Higa, SCE, commented that he'd observed a lot of the program resources had been devoted to helping contractors understand requirements of Standard 180 and how to operationalize it. He thought that having documents like these two on how to better operationalize the standard was a significant step forward and would had a lot of potential to offset a lot of those previous program costs which were focused on how contracting firms could make adjustments to their current business practices. How to leverage the experience captured in these documents on best practices for implementing Standard 180, especially Section 4 Implementation. The SCE HVAC Optimization team would continue to look to this committee and its working groups for further work products which demonstrated Standard 180 implementation best practices.

Don Langston wanted to thank everyone who had contributed to producing both committee work products. He understood that this was a volunteer organization and was very grateful for what this committee continued to deliver year after year.

CQM Committee Future and 2017 Planning– Don Langston

Don Langston shared that during the next year he would be assuming the Chairmanship for ACCA. He'd decided he needed to step down from some of his WHPA participation. For now, that meant he'd step down from the WHPA Executive Committee. Another ACCA board member would fill his position. He intended to maintain his chair position for this committee, although the frequency and scheduling might change. The committee might meet bi-monthly with dedicated working groups meeting more frequently.



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WHPA November 17/18 In-Person Meetings – Don Langston

Don asked for those who had attended to share their experience and any insights. He shared that a number of utility and regulator attendees thought that a lot of ground had been covered. He and many of the committee members were more oriented toward problem solving and he'd not noted any conclusive next steps.

Dale Rossi, FDSI, agreed and thought that a lot was discussed and brainstormed but the meetings didn't seem to arrive at any conclusions.

Scott Higa, SCE, commented that on Day 1 there was a lot of information sharing on the regulatory and policy landscape. He was interested to hear comments from attendees about whether that information was useful and how information of that kind could be communicated more effectively.

Pepper Hunziker informed the group that Scott's question was one of the ones asked on a survey circulated to attendees at the end of the meetings. She also hoped that results of the survey would be communicated.

Bob Sundberg, WHPA staff, informed the group that there was a link to the meeting posted to the WHPA website on the "In-Person Meeting" tab. The full agenda sequence was provided along with links to many of the presentations and other meeting documents.

<http://www.performancealliance.org/InPersonMeeting/tabid/2588/Default.aspx>

Pepper Hunziker shared her three takeaways.

- SB350 and getting the workforce up to a higher level
- AB758 and workforce development to provide workers with the necessary knowledge and skill set needed to address whole buildings
- A lot of members were interested to see where these work products showed up and were put to use after they were approved, how WHPA work products contributed to market transformation

Dale Rossi added that he was impressed by the level of participation by high ranking CEC and CPUC staff. He hadn't ever been to a meeting where there was so much status or power in the room. This organization seems to have attracted some serious attention.

Don Langston shared that he'd been assigned to a table along with Carmen Best of the CPUC (Energy Efficiency Commercial Programs & Evaluation Supervisor). He had the opportunity for several conversations with her. One of those involved his comment that many folks in the room worked on planning over many years, the landscape which Scott had mentioned. He shared with her that he, himself, and many others in industry were more oriented to problem solving. Seeing a problem, diagnosing it, fixing it and moving on. Together, they came up with the idea of selecting a program or a couple of related ones, getting some of these folks together, breaking them down into smaller groups and tackling the problems which seemed to exist for those programs. A more concrete exercise, related to the comment Dale Rossi had made earlier.

Bob Sundberg, WHPA staff, agreed and commented that similar conclusions had been reached at his recent staff meeting when they discussed "lessons learned" from the In-Person meetings. There seemed to be many longer-range discussions and brainstorming sessions held at the meetings that suited the perspective of regulators, IOU and other agency staff. Ten year plans and legislation were more the focus. There didn't seem to be activities at



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the other end of the continuum where concrete problems, problems and issues dealing with specific programs, were addressed and attempts made to solve them or reach a point where next steps towards a solution could be identified.

Don Langston agreed and believed that there was a lot of opportunity to improve future meetings and use those “problem solver” talents that many brought to the WHPA.

CQM Committee Future and 2017 Planning– Don Langston

Don Langston brought up the work that was being completed in the Commercial Quality Installation (CQI) Committee and in the new ASHRAE SPC 221 Committee regarding field evaluation of performance for new commercial equipment installation. The CQI Committee was preparing to pass their installation standardized field data specification onto the CQM and RQI Committees in 2017. Each of the other two committees would then need to dedicate resources and focused effort to modify and customize that data specification to fit their applications. The CQI Committee was working, next, to translate that specification, information and measurements that needed to be gathered, into a method for a field HVAC system evaluation methodology. The CQM Committee would need to take their work product and work on developing a means for field benchmarking for a maintenance environment rather than for new equipment installation. How to determine when serious performance degradation was taking place. He looked forward to getting that work product early the next year following the ASHRAE meetings. He would be looking for volunteers to form that CQM working group. Any committee volunteers or referrals from outside the WHPA would be greatly appreciated.

Closing Comments/Adjournment

Don Langston suggested the next full committee meeting be scheduled for Tuesday January 10. The committee might be moving to bi-monthly meetings and skip February as he transitioned into his new ACCA role.

Next meeting tentative agenda items:

- ADMIN
 - New business
 - Industry/IOU/Regulator News
 - Check on SCE report of program customer energy usage and analysis and
- IOU program monthly updates
- 2017 Goals and
- Working group planning – User Guide and Commercial Maintenance Data Specification
- Confirm next meeting date/time, ACTION items, agenda, adjourn

The meeting was formally adjourned at 11:00 am PST.

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Summary of NEW Action Items and Key Decisions

December 2016 ACTION: Bob Sundberg, WHPA staff, was asked to distribute the final work products which had just been approved by committee voting members and delivered to Executive Committee members for their consideration.

PAST ACTION ITEMS:



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September 2015 ACTION: Scott Higa, SCE, would report progress on the testimonials and access to and analysis of customer energy data at the next monthly meeting. Ongoing.