



Goal 2: Commercial Quality Maintenance Committee Tuesday January 10, 2017 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. 5 voting members, 4 non-voting members and 4 guest and 1 staff attended this meeting. A total of 14 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	
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)	P
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	
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	
PG&E (Pacific Gas and Electric Company)	Christian	Weber	California IOU	
Richard Danks Consulting	Richard	Danks	Other Stakeholder	
SCE (Southern California Edison)	Steve	Clinton	California IOU	
SDG&E (San Diego Gas and Electric Company)	Robert	Nacke	California IOU	



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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 +		
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	
Fieldpiece Instruments	Kennedy	Kong+	HVAC Manufacturer	P
Galawish & Associates	Elsia	Galawish	Energy Efficiency Program Consultant	P
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.
CQM Committee Planning	Don Langston	Overview of planning and leadership for CQM Committee
2017 CQM C. Goals – approval of 2016 Work Products	Don Langston	Work product to be presented at EC Dec. 14 meeting
CQM WG Planning: 1) STD 180 User Guide; 2) CM Data Spec.; 3) STD 180 Value Proposition next steps	Don Langston	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

December 13 meeting draft notes were distributed December 14. Approved meeting notes would be finalized and posted to the CQM Committee site.

Review Status of Action Items from Previous Meeting

Dec. 13 ACTION ITEMS: Don and Gretchen agreed that both would contact Jeremy Reeve, SDG&E, to encourage monthly updating and more participation going forward. Ongoing.

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.

Welcome New Members and Guests; Consider Pending Members

Russ Harju, Fieldpiece, was unable to attend. He asked Kennedy Kong of his firm to attend in his place.



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New Business - Don Langston & IOU Representatives

None.

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

REMINDER from Dec. 13 meeting:

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, indicated that their metrics were from December 27. Year end results hadn't been finalized yet. There were no new contractors, clients or buildings added in December. She expected the 2017 program updates to be completed in January and she would report on those at the next meeting.

SCE CQM HVAC – December

	Dec-16	2016 YTD
New contractors	0	6
New customers - application received	2	83
New buildings – check cut	0	339
% of units w/ economizers	N/A	56%
New tonnage – check cut	0	34,186
Units w/ CSA – check cut	281	3643
Units w/ DCV/VFD – check cut	24	845
Units w/ ADEC w/ CSA – check cut*	120	1599
kWh – check cut	508,219	12,695,987
kW – check cut	209.05	5,003.42

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

Don Langston, Chair and Aire Rite AC and Refrigeration, pointed out the metric regarding the % of units with economizers. His firm had commonly found 7.5 and 10 ton units without economizers installed in violation of CA code. He asked whether that metric represented the number of units which had economizers, had been upgraded or had the economizer units disabled.

Gretchen Egging, CLEAResult – it represented the number of units with economizers. Disabling economizers was no longer allowed within their program for the unit to participate. If a unit was not brought up to baseline/acceptance, it had to be removed from the program.



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

Shayne Holderby was unable to attend. No report.

SDG&E CQM Program Update

No report.

Dec. 13 meeting - CQM Committee Future and 2017 Planning– Don Langston

Don Langston shared that during the next year he would be assuming the Chairmanship for ACCA starting in March. He'd decided he needed to step down from his participation on the WHPA Executive Committee. Another ACCA board member would fill that position. He intended to maintain his chair position for this committee but didn't want to hinder its progress. The frequency and scheduling of committee meetings might change. His concern was to balance the right amount of committee meetings with most of the actual work getting done at the working group level. The committee might meet quarterly or bi-monthly with dedicated working groups meeting more frequently.

CQM Committee 2016 Work Products – Don Langston

Two 2016 work products were delivered to the WHPA Executive Committee for consideration at their December meeting. There was insufficient time at that meeting to present, discuss and vote on them. They would be considered again at the EC January 18 meeting.

CQM Committee 2017 Working Groups – Don Langston

Three different working groups were to be considered for 2017 committee efforts and goals.

1. Standard 180 User Guide – implementation. Some considered this a continuation of the more technical aspects of implementing the standard – developing a maintenance program (inventory & plan), defining performance objectives & their metrics, condition indicators, evaluation and reporting, progress assessments, producing templates and examples etc.
2. Standard 180 User Guide – customer communications and defining the value proposition/goals. Some considered this as an early part of a user guide and client interview process to define program objectives.
3. Commercial maintenance data specification – receive and modify the standardized field data specification developed by the CQI Committee from one for commercial installation to one suited to a commercial maintenance application.

Dale Rossi, FDSI – stated that the data spec topic was originally started in this committee. The Maintenance Task Working Group he led had, actually, developed a maintenance data specification several years before. It was clear to him what additional work needed to be done. He noted that the data specification developed by the CQI Committee's working group, of which he was a member, did not call out for any refrigeration cycle measurements to be taken which made him very nervous. He wondered if members of that working group thought that they could commission installation of new equipment without looking at the refrigeration cycle. Maintenance couldn't be done effectively without addressing refrigeration system performance.

Bob Sundberg, WHPA staff – the CQI SFDS Working Group's specification was not focused on commissioning a newly installed HVAC packaged unit or piece of equipment. The commercial installation data specification was intended to provide the measurements needed to evaluate and score the amount of that equipment's rated capacity which was delivered to the conditioned space to provide a benchmark for overall system performance. That working group meeting notes had indicated several times that they expected far more focus would be placed on evaluating the refrigeration cycle equipment performance when the specification was passed to the CQM



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Committee for review and adoption to a maintenance application. The unit's delivered capacity could even be compared to what portion of that total capacity was delivered to the space as a diagnostic indicator.

Dale Rossi indicated he understood that since he'd participated on that CI data spec. working group. He'd concluded that it was, essentially, a way of getting NCI's approach to system evaluation established as a standard. He believed they had called it a commercial equipment installation verification standard. As such, he believed it was erroneous to assume that the refrigeration cycle of the equipment shipped from the factory and installed would always run as intended without any further verification. He thought it was implicit in their document that this was being assumed.

Don Langston suggested that this committee could compare and contrast the CQI working group data spec. to CQM Committee previous work products once it was passed over to this committee.

Pepper Hunziker, Tre' Laine Associates, was not clear on what problems the proposed three working groups were trying solve. How they would support market transformation moving ahead in helping commercial maintenance be based on Standard 180 without utility incentives. What problems were we trying to solve and for what people? What would then be done with the resulting work products to transform the marketplace?

Don Langston – the committee had been working toward developing a Standard 180 User Guide with subsets being worked on by different working groups. Parts would focus on introduction, sales and understanding the value proposition for adopting Standard 180 as a basis for maintenance. All of it would contribute educational components around better communications between end users, utilities, contractors and their technicians and other staff. All of this was involved in the sales cycle, from his perspective, which would lead to market transformation. He appreciated Pepper raising those questions which would be especially valuable to new committee members who hadn't been engaged in earlier committee and working group work.

Dale Rossi expressed appreciation to Pepper Hunziker for her help during the value proposition part of the Standard 180 User Guide Working Group's work the previous year. The focus of that effort was way outside his wheelhouse and comfort zone. He understood the value of a user guide for the standard. But, he didn't personally recognize how the sales process would be part of the standard and how it would be part of a user guide. Admittedly, he considered himself very literal. He did think that any effort around a sales part of the user guide deserved its own working group and resources and leadership but would be his area of interest. He thought there was a complete effort needed for how to implement the standard once a client had been sold on its value. He also thought that there was another complete effort needed for taking the technical content, sales/communications content and integrating it into one document. He thought this would be a serious issue if the intent was to accomplish all three of these tasks in 2017. If these three tasks didn't all have to be accomplished in 2017, there wouldn't be an issue.

Donald Prather, ACCA – he didn't understand what Dale had referred to as "sales" the same way. The standard required that the client and service provider needed to have a "sit down and face-to-face" detailed discussion with the owner. He saw those "sales" discussions as what it would take to cover the things the owner needed to talk about and decide up front about goals and the maintenance program. That was his understanding which was very different from efforts to "sell" someone on use of the standard.

Don Langston agreed. That customer discussion was under the umbrella of customer communication. Sales could be a subtopic. But, the real focus of the customer communications was setting goals and objectives. In a



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practical sense, this would occur during part of the sales cycle with a client. That initial maintenance program discussion would normally start with a sales person. Then, move to outlining goals for the program. Next, the sales person would need to meet with the techs and implementation team to insure they understood program goals and the work got done the way it was expected. He asked Marc Pickett to comment.

Marc Pickett, AMS – if the sales force didn't have a full understanding of the standard, they wouldn't be able to sell it effectively. It was essential for the sale force to be very knowledgeable regarding what the standard required.

Dale Rossi expressed concern about a sales person meeting with the customer to establish performance objectives and condition indicators. He thought that was too technical to trust to a non-technical sales person.

Don Langston understood that concern which was a basis for why they needed to develop this user guide to help sales staff as well as their customers. He found it personally challenging to get customers to engage in discussions about program goals and details like condition indicators and anything like quantifiable evaluation metrics. Establishing baseline data to be compared with at the end of some agreed timeframe like one or two years. Those were the sorts of things he thought were essential and which needed to be fleshed out in a user guide.

Dale Rossi agreed with everything Don had said but noted that Don, in his opinion, was an owner who was very technically oriented. Not a typical sales person. His experience with maintenance sales people was that few were technically capable or oriented and they would mostly screw up this intended dialogue. You'd really need someone with more of a technical orientation, like Don was, to have this go right.

Pepper Hunziker, Tre' Laine Associates, wondered if this wasn't just an alignment issue within the service provider firm. That roles and responsibilities needed to be clearly understood and assigned for participation at the right point while sharing a common understanding for the overarching goals of implementing Standard 180. There had to be appropriate participation, handoffs and follow-up. Part of the value for a user guide would be for how to emphasize that need for coordinated effort. She'd heard of many disconnects from current participants in this area.

Don Langston – he'd noted in SCE program feedback that this coordination of efforts was a missing element in the current program. The missing piece included no required follow-up once goals were established regarding energy consumption and savings. That disconnect left nothing to trigger future discussions with customers about what was being gained, the value of having implemented this QM approach. He asked Gretchen Egging to comment about the SCE program.

Gretchen Egging, CLEAResult – she'd also observed this disconnect, that a technician often would not be able to talk about CQM the way a sales person would.

Dan Stradford, NADCA – agreed with Dale Rossi's comments about this communication being a "sales" activity. He understood Standard 180 to be a technical document and this discussion was focused on how to sell an owner on adopting Standard 180. The sales people are the ones to get people to move, to change. One parallel would be the campaign against littering he remembered from years before. That was a marketing effort, not put on by those who cared about the environment. He understood there was a downside to having a sales person leading this effort. They were focused on results, getting that sale. You didn't want a sales person selling what the customer



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didn't need. They might not understand the technical side of this. He thought that a large element of this user guide would be sales and marketing. "Pain points" and the terminology used in the working group was sales language. It would be wise to consider that when trying to motivate people to participate.

CQM Committee 2017 Goals – Don Langston

Don Langston thought that the goals for the committee involved the goals for each of the working groups. There was a technical aspect to the guide as well as dealing with the value proposition and customer communications. They would be looking for volunteers to help with each of these aspects.

Bob Sundberg, WHPA staff – many of the attendee comments seemed to be parts of a continuum along which a Standard 180 program would be developed, implemented and improved with evaluations and metrics over time. Years ago when this committee first tackled the standard, Section 5 maintenance task lists were considered to be the "technical" parts of the standard which most new-comers jumped to, jumped right over sections 3 and 4. Today several folks had referred to Section 5 as being a technical section with requirements. This indicated to him a maturing understanding of the author's intent for the standard. Customer communications to establish performance objectives and metrics for evaluation as well as a method for actually implementing that maintenance program were both necessary, just needing to be done in sequence, step 2 after step 1 was accomplished. It was critical for anyone in sales who discussed this with a customer to focus on developing the customer's goals first, not just rush to sell a maintenance agreement. That sales person also had to have an adequate grasp of the technical aspects of doing maintenance itself in order to help develop a maintenance plan. The purpose of this user guide was to cover all of that ground. To give each participant a "guide" about their role, the overall and detailed parts of the process and supply some concrete examples for "how" to accomplish each phase in that process. He was fascinated with how this group had covered all of that ground.

Dale Rossi thought there might be a misunderstanding about the use of the term "technical" in this context. In his earlier comments he hadn't used the term technical to refer to any refrigeration or other mechanical or machine related procedure but about technical compliance with the standard. Section 4 was the most important part of the standard and he considered it a "technical" section in this regard. What did it mean to have a performance objective? What was a condition indicator? How would you measure, record and track energy use? These were all technical items and procedures which needed to be established but we not air conditioning or other mechanical maintenance items. He thought that consideration for this section would come in after the sale was made.

Don Langston – there was a blurred line, a transition between those early "sales" and customer communications activities being handed off to "technically" developing the details of a maintenance program. But, he thought it was critical to have a sales force trained with the right prompting questions in order to establish those program goals which could be measured. That would be a high value goal for a working group to include when working on Section 4.

Bob Sundberg, WHPA staff – suggested they consider how many efforts this committee could support and how to encourage all members to participate and support these working groups.

Don Langston thought that the user guide group Dale had led as well as the customer communications work Jan had let were givens for 2017. The next step would be to send out individual invitations to participate, see which effort each committee member would be willing to support. Quite a few members had supported past groups but there were also a lot of committee members who attended some committee meetings but hadn't supported any of



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the working group efforts yet. He was looking for highly committed participants and not just a lot of people sitting in the stands.

Jan Peterson, XCSpec, offered to continue and lead in the effort she'd been working on.

Marc Pickett, AMS – had been more of a guest this first year but intended to step up and support working group efforts.

Pepper Hunziker, Tre' Laine Associates – offered to help wherever it made sense.

Scott Higa, SCE – indicated he'd attend as much as his work allowed and have another SCE representative attend and participate when he couldn't.

Pepper Hunziker suggested the committee spend a little time identifying gaps expertise to address specific work problems to help folks better understand their purpose and, hopefully, bring more of them in to participate. Bring in more contractors where they might be helpful or sales oriented members to support those efforts.

Don Langston agreed that the suggestion should be addressed at the next monthly meeting. First, they could tee up a couple of the bigger topics and then address gaps before sending each working group off to work on their own. The next step would be to poll all members and guests to see where they were interested to commit to participating on a working group.

ACTION: Don Langston requested Bob Sundberg send out a poll to all committee members and guests to see which of the three identified working group topics they would be willing to participate on and support.

Donald Prather suggested the Dale's user guide working group be fast-tracked and started as soon as funding was approved by the Executive Committee. Don thought that was a phenomenal idea and agreed. Dale Rossi agreed to lead that working group in 2017.

Dale Rossi asked Don to comment on the importance of 2017 as a deadline for WG work products.

Don Langston – he had no desire to rush a work product. Whatever they get done in 2017 will be benchmarked as their work product for that year. The intent is to make progress toward their goals even if it takes until 2018 or later to accomplish them entirely.

Scott Higa, SCE – establishing progress milestones with expected dates might be helpful for participants to get a better grasp on what the working group intended to accomplish. For example, defining the subject matter expertise gaps by a certain date or after a certain number of meetings.

Don Langston agreed and thought that was something for each of the groups to work out over the next 30 to 45 days. He was pretty certain they would not accomplish everything within 2017 but make the most progress they could.

Closing Comments/Adjournment

Don Langston suggested the next full committee meeting be scheduled for Tuesday February 14. The committee might move to bi-monthly meetings once working groups were established and launched.



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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
- 2017 ASHRAE/ACCA Standard 180 Committee meeting update
- Working group planning
 - User Guide,
 - Customer Communications and
 - Commercial Maintenance Data Specification
- Identify “gaps” in expertise needed for WGs to function effectively, recruit needed participants
- 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

January 10 ACTION: Don Langston requested Bob Sundberg send out a poll to all committee members and guests to see which of the three identified working group topics they would be willing to participate on and support.