



Goal 2: Commercial Quality Maintenance Committee Tuesday February 9, 2016 Meeting Summary Notes

Call to Order

The meeting was called to order at 10:04 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 13. 7 voting members, 7 non-voting members and 2 guest and staff attended this meeting. A total of 16 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
ASHRAE (American Society of Heating, Refrigeration and Air Conditioning Engineers)	Richard	Danks	Engineering Society	
CLEAResult (formerly CSG)	Liz (Elizabeth)	DeSouza	Energy Efficiency Program Consultant	
FDSI (Field Diagnostic Services Inc.)	Dale	Rossi	Third Party Quality Assurance Providers	P
Honeywell ECC (Commercial Buildings, Trade Sales)	Mike	Lawing	Controls (Manufacturer or Distributor)	P
HSGS (Honeywell Smart Grid Solutions)	Shayne	Holderby	Energy Efficiency Program Consultant	
Marina Mechanical	Denny	Mann	Contractor (Nonresidential)	
CLEAResult (formerly PECE)	Monica	Thilges	Energy Efficiency Program Consultant	P
PG&E (Pacific Gas and Electric Company)	Jeanne	Duvall	California IOU	
SCE (Southern California Edison)	Scott	Higa	California IOU	P
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	Jim	Scarborough	Engineering Society	
BELIMO Aircontrols, Inc	Vanessa	Castro	Controls (Manufacturer or Distributor)	
BELIMO Aircontrols, Inc	Darryl	DeAngelis	Controls (Manufacturer or Distributor)	
Brownson Technical School	Bill	Brown	Educator, Trainer	
BuildingMetrics Inc. (BMI)	Pete	Jacobs	Energy Efficiency Program Consultant	
Clean Energy Horizons	Norm	Stone	Energy Efficiency Program Consultant	
Climate Pro Mechanical	Ken	Robinson	Contractor (Nonresidential)	
CLEAResult (formerly PECE)	Michael	Blazey	Energy Efficiency Program Consultant	
CLEAResult (formerly PECE)	Steve	Clinton	Energy Efficiency Program Consultant	P
CLEAResult (formerly PECE)	Duane	Whitehurst	Energy Efficiency Program Consultant	
CLEAResult (formerly CSG)	Michael	Withers	Energy Efficiency Program Consultant	P
Honeywell ECC (Commercial Buildings, Product Management)	Adrienne	Thomle	Controls (Manufacturer or Distributor)	P
HVACRedu.net	Jeff	Taylor	Educator, Trainer	
KEMA/DNV-GL	Timothy	Devine	Energy Efficiency Program Consultant	
MAS Service/ Dba JB Mechanical	John	Billheimer	Contractor (Nonresidential)	
PG&E (Pacific Gas and Electric Company)	Eddie	Gorbis	California IOU	
Richard Danks Consulting	Richard	Danks	Other Stakeholder	P



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SDG&E (San Diego Gas and Electric Company)	Jeremy	Reefe	California IOU	
SDG&E (San Diego Gas and Electric Company)	Robert	Nacke	California IOU	
SMW (Sheet Metal Workers) Local # 104	Randy	Young	Organized Labor	
Sacramento Municipal Utility District	Bruce	Baccei	Publically Owned Utility	P
SCE (Southern California Edison)	Steve	Clinton	California IOU	
SCE (Southern California Edison)	Andres	Fergadiotti	California IOU	
Transformative Wave	Joe	Schmutzler	Controls (Manufacturer of Distributor)	
Transformative Wave	Justin	Sipe	Controls (Manufacturer of Distributor)	
XCSpec	Jeff	Aalfs	Controls (Manufacturer of Distributor)	P
XCSpec	Janet	Peterson	Controls (Manufacturer of Distributor)	P
WHPA Goal 2: CQM Committee Invited Guests and Staff				Roll Call
AirTest Technologies	Mike	Schell	HVAC Manufacturer	
American Commissioning Group	Craig	Hofferber	Third Party Quality Assurance Provider	
Bay Controls	Stephan	Parry	Controls (Manufacturer of Distributor)	
CalCERTS	Barbara	Hernesman	Certifying Body	
California Public Utilities Commission (CPUC) - Energy Division	Carmen	Best	California PUC	
California Public Utilities Commission (CPUC) - Energy Division	Lola	Odunlami	California PUC	
California Public Utilities Commission (CPUC) - Energy Division	Pete	Skala+	California PUC	
Honeywell ECC	Daniel	Jones	Controls (Manufacturer or Distributor)	
Honeywell Smart Grid Solutions (HSGS)	Eddy	Saleh+	Energy Efficiency Program Consultant	
Honeywell Smart Grid Solutions (HSGS)	Steve	Varnum	Energy Efficiency Program Consultant	P
HVACRedu.net	Chris	Compton	Educator, Trainer	
ICF (ICF International)	Emily	Pearce	Energy Efficiency Program Consultant	
ICF (ICF International)	James	Jackson	Energy Efficiency Program Consultant	
Integrity Mechanical Systems Corp.	Susan	Siegert	Contractor (Nonresidential)	
LAUSD (Los Angeles Unified School District)	Steve	Granados	Government (Other than CPUC)	
Mark Cherniack Emeritus	Mark	Cherniack	Emeritus	
Pax-Sun Engineering, Inc.	Tom	Paxson	Other Stakeholder	
PG&E (Pacific Gas and Electric Company)	Mary	Anderson	California IOU	
PG&E (Pacific Gas and Electric Company)	Robert	Davis	California IOU	
SCE (Southern California Edison)	Tara	Becnel	California IOU	
SCE (Southern California Edison)	Ryan	Cho+	California IOU	
SCE (Southern California Edison)	Brett	Close	California IOU	
Service All-Stars	Shaheda	Lodhi	Contractor (Nonresidential)	
UC Davis Energy Efficiency Center	Kristin	Heinemeier	Research Organization	
STAFF				
BBI (Better Buildings Inc.)	Dale	Gustavson	WHPA Executive Advisor	
BNB Consulting/WHPA Staff, host, admin. support & scribe	Bob	Sundberg	WHPA Staff	P



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Empowered LLC	Shea	Dibble	WHPA Co-Director
CLEAResult	Paul	Kyllo+	WHPA Senior Advisor

** 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 Scott Higa	Record meeting attendees, finalize past meeting minutes, review status of meeting action items.
Welcome new members & guests, review new candidates	Don Langston and Scott Higa	New members and invited guests welcomed. Decision made on suggested revisions to candidate options and the review process.
CQM Program Updates SCE/PG&E/SDG&E	Monica Thilges, Shayne Holderby	Gain a current understanding of IOU CQM program status, progress, developments and issues.
ASHRAE/ACCA January Standard 180 Meetings	Don Langston	Member understanding of the re-activated Standard 180 Committee and Subcommittees status and progress.
Calif. Assembly Bill 802 & Senate Bill 350	Don Langston, Norm Stone and others	CPUC/ED AB 802 Workshop Friday November 6 comments. Potential impact of AB 802 for IOU claimed savings work papers and CPUC/ED program evaluation and SB 350 on state savings goals
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 December 8 meeting draft notes were distributed December 10. Final minutes would be posted to the CQM Committee site.

Review Status of Action Items from Previous Meeting

September 2015 ACTION: Pete Jacobs volunteered to investigate what the impacts might be for IOU claimed savings if the current CPUC/ED assumed 100% compliance with HVAC equipment installations was reduced to a much lower, possibly low double digit, % from CPUC permitting and compliance rates research. Pending. Postponed.

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

October ACTION: Pete Jacobs would address the questions of how a reduced level of Title 24 compliance, lower than the current 100% compliance assumption guideline in work papers, might impact the amount of claimed savings which an IOU could claim on a future work paper. The impact on a revised RQI one as well as a CQM work paper which the IOUs could develop. Postponed.

October ACTION: Norm Stone, Clean Energy Horizons, would check with IOU legislative departments to learn about their assessments of this bill and how it could impact their approach to claiming energy savings. Postponed.



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Welcome New Members and Guests; Consider Pending Members

None.

New Business - Don Langston

None.

IOU CQM Program Updates

SCE CQM program summary (Monica Thilges of CLEAResult):

Monica Thilges, CLEAResult, reported.

- Program changes had been well received and they were looking forward to a fairly strong 2016.
- With the strong push at 2015-year end, there was a bit of a slowdown in new activity in January.
- The number of units with economizers was far below previous reports and was expected to return to approach the typical 50% as the year progressed.

Dale Rossi, FDSI, asked whether there were any incentives for HVAC systems which already had a VFD for adding ADEC or/or DCV?

Monica referred Dale back to the CLEAResult staff person he had made the original inquiry with for an answer.

SCE CQM HVAC – January

	Jan 2016	2016 YTD
New contractors	0	77 (PTD)
New customers	1	1
New buildings – check cut	2	2
% of units w/ economizers	15%	15%
New tonnage – check cut	89	89
Units w/ CSA – check cut	43	43
Units w/ DCV/VFD – check cut	0	0
Units w/ ADEC w/ CSA – check cut	32	32
kWh – check cut	39,185	39,185
kW – check cut	15	15

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

Shayne Holderby, HSGS, did not attend the meeting but provided update comments for Scott Higa to share with the group.

- One field was revised to read "New/Active Contractors" to indicate the number of new contractors that month and also a YTD active contractor total count. "Enrolled contractor" counts didn't accurately reflect participation. "Active" meant contractors who had enrolled customers within the previous 6 months.
- They were not able to provide "total tonnage" from their system, only total units.
- January savings and units was far below expectations believed primarily due to weather and a requirement to perform refrigeration testing to submit applications for payment.
- Pipeline still strong. Expecting far better results during February they'll report at the March meeting.



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PG&E CQM HVAC – January

	Jan 2016	2016 YTD
New/Active Contractors	1	36
New customers – app submitted	2	2
New buildings – app submitted	2	2
% of units w/ economizers	-	91%
New tonnage – app submitted		
Units w/ CSA - app submitted	11	11
Units w/ DCV/VFD - app submitted	0	0
Units w/ ADEC w/ CSA - app submitted	0	0
kWh - app submitted	39,232	39,232
kW - app submitted	-6	-6

Don Langston, Aire Rite AC & Refrigeration reminded attendees that the document reporting format was one the IOU participants had revised to provide committee members with key performance indicators of interest.

SDG&E CQM Program Update

Don Langston asked Mike Withers, CLEAResult, whether he could provide any updates for the SDG&E programs.

Mike Withers, CLEAResult, indicated that their program implementation contract had not yet been completed so they were still somewhat in limbo.

ASHRAE/ACCA Standard 180 January meetings - Don Langston

Don Langston stated that a full Standard 180 Committee meeting was held on Friday from 2 to 6 pm. Rich Danks, Dale Rossi and Mike Lawing were also present. Don asked them for their comments on proceedings and direction of the full committee.

Dale Rossi, FDSI, indicated that his primary participation was to present the tables which their working groups had developed. The process for evaluating the suggestions was still being developed.

Don Langston asked Richard Danks, Richard Danks Consulting, to provide a short summary of his past participation and involvement with ASHRAE, Standard 180 and the HVAC industry.

- Worked in design, construction and construction management of mechanical systems (HVAC, plumbing, process piping).
- Spent about 10 years supervising HVAC work and the steam power plant at a very large hospital in Cleveland.
- Spent about 20 years at NASA working across a whole spectrum of facilities management responsibilities.
- Longtime member of ASHRAE since about 1977.
- Past Chair of Technical Committee 82, Centrifugal Chillers. Ten to twelve years ago he started participating in Operations and Maintenance Management.
- Participated in development of Standard 180 2008 and all revisions.
- Contributed to ASHRAE Applications Handbook Chapter 39.
- Chaired a research team for the Construction Research Institute regarding design for maintainability. Integration of downstream processes and use into the design process.
- Predecessor to Bob Baker as the ASHRAE representative at the WHPA.

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Don Langston added that Rich was the secretary for the Standard 180 Committee of which he was the Vice-Chair. Tom Paxon was the committee Chair. Other WHPA members present included Donald Prather, Mike Lawing, Adrienne Thomle, Kristin Heinemeier, Pete Jacobs, Robert Davis of PG&E and Mike Gallagher.

- He thought the full committee was well diversified with many representatives from California and the WHPA.
- Before his passing, Bob Baker had been the ASHRAE primary representative to the WHPA and had served as the Executive Committee Co-Chair. Richard Danks was taking Bob's place on this committee. Richard Danks clarified that Ron Jarnagin, past ASHRAE President, would be elected as a new Executive Committee Co-Chair.
- Richard Danks added that a lot of the full Standard 180 Committee's work dealt with the Equipment Table regarding inspection response and frequency as well as adding a third column. There was also going to be work on producing a better transition from Section 4 to 5 and reducing repetitiveness in Section 5. They were using a "basecamp" tool online to have one person manage the revisions with input from the twenty or so members to be more effective than trying to facilitate edits and revisions in a meeting. The chairs of subcommittees presented to the full committee as well.
- Don Langston provided an overview status for the Subcommittees like Equipment Tables, Section 4 led by Kristin Heinemeier and the User Manual Subcommittee chaired by Don.
- The next semi-annual ASHRAE meeting would take place in St. Louis in June.
- Donald Prather added that from his perspective the focus of the WHPA was strictly on energy savings while for focus of the Standard 180 effort intended to address operational, comfort and other issues.

Working Group Updates

Dale Rossi, FDSI and past Chair of the Maintenance Task WG and User Manual WG, indicated that there hadn't been any WG meetings since the end of 2015. He thought both had been very productive and was disappointed that their efforts could not be continued yet.

Don Langston asked Dale for his recommended next steps.

Dale Rossi thought that everyone's assumption was that work of the User Manual WG would continue in 2016.

Don Langston indicated that he understood that further work on recommendations for a Standard 180 User Manual would depend on a better understanding of Section 4 which dealt with customer communications and implementation of the standard.

Dale Rossi agreed with Don's comments about the importance of Section 4. The predominance of Standard 180 based utility programs which he was aware of around the country seemed to focus almost exclusively on Section equipment maintenance task tables. He thought that the communication concepts in Section 4 were highly valuable and, for the most part, overlooked in utility program design and implementation.

Donald Prather, ACCA, agreed that if utility programs were going to really address market transformation, they needed to reach beyond the task tables in Section 5 and address the communications requirements addressed in Section 4.

Don Langston added that when he as a contractor and many others first purchased and read through Standard 180, most immediately went to the individual equipment maintenance task tables. In his case, his firm was promoting and delivering maintenance well above this minimum standard. What he and many others had entirely missed were the implications spelled out in Section 4. At the ACCA annual meeting in March, he'd been asked to lead a workshop on



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where Standard 180 was at and the degree of industry acceptance. A lot of what he planned to cover was the customer communications outlined in Section 4 and what was involved in setting maintenance plan goals. That sort of better understanding of the intent of the standard would help a standard based maintenance program and maintenance agreements get beyond just a list of tasks to be checked off. Utility programs could help bring that forward as well as including energy savings efforts as part of those goals.

California Legislative Assembly Bill 802 & Senate Bill 350

No one had updates for legislative and CPUC progress regarding implementation of the two bills.

CQM Committee 2016 Goals

The committee didn't have any Executive Committee approved overall SMART Goals for 2016 from which to proceed with refining committee goals.

Scott Higa, SCE, asked about what process needed to be followed in order to coordinate efforts of a CQM User Manual Working Group with the Standard 180 User Manual Subcommittee efforts.

Richard Danks responded that he believed that WHPA efforts to develop a User Manual for their constituency and community, that could be done apart from any ASHRAE/ACCA Standard 180 efforts. Normally ASHRAE would develop a work statement for a user manual or guide, put it out for bid to do the actual work and oversee its development. It would take an additional 18 months or so if there was a finished product in place for a user guide or manual to be reviewed and approved by various other committees and bodies, many of which only met twice a year. That was a very slow process. He thought this WHPA committee had identified the need, had traction and had started to define what such a manual could include.

Donald Prather offered that Bob Baker had already address some of those issues in helping establish a Standard 180 User Manual Subcommittee to help develop a user manual specification. The last he'd heard, Don Langston, chair of that subcommittee, was holding up their effort to see that form that changes in the standard were taking.

Don Langston stated that at the Standard 180 Committee meeting there was a lot of open discussion yet about Section 4 upon which a Standard 180 User Manual would depend. From Richard's comments, the WHPA could proceed on development of a proposed user manual intended to be complimentary with the version which would be developed by the Standard 180 Committee and User Manual Subcommittee.

Pepper Hunziker, Tre' Laine Associates, asked whether they could make use of the WHPA working group's recommendations at a technician's level. Not be held up by issues related to revisions or clarification of Section 4. Focus more on a user manual for Section 5. Bob Baker had clarified that user guides and manuals did not need to follow the normal ANSI approval process.

Richard Danks clarified that almost every existing ASHRAE user guide was titled a "design guide" focused on engineering the life cycle of any HVAC piece of equipment or system. All of the work related to Standard 180 was really breaking new ground both because it dealt with maintenance of existing equipment and systems and because it put the responsibility on the owner or responsible party, the first ASHRAE standard to do that. He thought that a user manual for this standard would need to modular because there were so many stakeholders and you'd need to deal with each one at a time. He committee to take Pepper's request back to the committee regarding expanding ASHRAE emphasis horizontally over to the technician side. ASHRAE was also involved with a building performance alliance and their stakeholders and other energy efficiency related agencies like the NEEA that were interested to get better information regarding operations down to the technician level to operated high performance buildings.



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Dale Rossi, FDSI, wanted to respond to Pepper's comments about a user guide oriented to technicians and not addressing Section 4. The existing 2012 standard version of Section 5 made very general recommended maintenance tasks. Section 5 task descriptions didn't detail the type of conditions or performance that needed to be addressed which needed to be addressed and agreed to in Section 4 to provide guidance. The part that was missing in Section 5 was any definition of correct condition or correct performance. Their CQM Maintenance Task Working Group had worked to help provide some of that definition. But, condition indicators and performance goals were still items that needed to be addressed in Section 4 which needed to be negotiated between an owner a service provider.

Pepper responded that she'd intended to mean couldn't the WHPA working group develop a work product to present to the ASHRAE Standard 180 Committee and User Manual Subcommittee for their consideration. How could that effort not be done in isolation but in sync with the ASHRAE effort?

Adrienne Thomle, Honeywell ECC, offered that there were guidelines published by ASHRAE for the development of user guides which could be consulted. Also, that Richard Danks was correct that ASHRAE put the actual work for developing a user guide or manual out for independent party bid based on an ASHRAE developed product specification.

Donald Prather stated that another perspective for development of a user manual would be for how a utility program could set up a program based on this standard. When the Standard 180 Committee agreed to how a user guide would be designed and which stakeholders and perspectives it would address, that would provide the foundation for what the contracted party would develop.

Closing Comments/Adjournment

Don Langston thought the discussion was very valuable but they were approaching the top of the hour. Being respectful for everyone's time and other commitments, he suggested they plan hold the next meeting the 2nd Tuesday in March. Coordinating the WHPA effort with ASHRAE was critical and they would continue the discussion then.

Tentative agenda items:

- IOU monthly updates
- CQM User Manual Working Group efforts and how to coordinate with ASHRAE

The meeting was formally adjourned at 11:02 am PST.

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Summary of NEW Action Items and Key Decisions