



## WHPA Goal 2: CQM Standard 180 User Guide Working Group Thursday June 30, 2015 Meeting Notes

### Call to Order

The first planning meeting was called to order at 10:07 am PDT by Dale Rossi, Chair of this working group and a representative of Field Diagnostic Services Inc. (FDSI).

### Roll Call

The Chair considered one member of each organization to be a voting member for this new working group, He intends to work toward consensus on all decisions. 10 of 18 voting members in attendance would constitute a quorum. 7 voting members attended this meeting. In addition, 2 non-voting members, 0 guests and 1 staff were present for a total of 10 attendees.

P = Present at meeting				
A = Absent from meeting; if proxy has been assigned it will be noted below.				
Although Voting Members have been designated by Staff, this group acts primarily by consensus.				
<b>CQM Maintenance Task Working Group Voting Members</b>				
ACCA (Air Conditioning Contractors of America)	Donald	Prather	Contractor Association	P
AHRI	Warren	Lupson	HVAC Manufacturer Association	
Aire Rite AC & Refrigeration	Don	Langston	Contractor (Nonresidential)	
BELIMO	Darryl	DeAngelis	Controls (Manufacturer or Distributor)	
BMI (BuildingMetrics, Inc.)	Pete	Jacobs	Energy Efficiency Program Consultant	
CLEAResult (formerly PECD)	Michael	Blazey	Energy Efficiency Program Consultant	
FDSI (Field Diagnostic Services Inc.)	Dale	Rossi	Third Party Quality Assurance Providers	P
GWP (Goodheart-Willcox Publisher)	Sandy	Clark	Educator, Trainer	P
Honeywell ECC, Commercial Buildings, Trade	Michael	Lawing	Controls (Manufacturer or Distributor)	P
HSGS (Honeywell Smart Grid Solutions)	Shayne	Holderby	Energy Efficiency Program Consultant	P
Marina Mechanical	Denny	Mann	Contractor (Nonresidential)	
National Comfort Institute	Jeff	Sturgeon	Educator, Trainer	
Richard Danks Consulting - FacilityPro	Richard	Danks	Other Stakeholder	
SCE (Southern California Edison)	Steve	Clinton	California IOU	
Charles Segerstrom, Energy Efficiency Consulting	Charles	Segerstrom	Energy Efficiency Program Consultant	
Tre' Laine Associates	Pepper	Hunziker	Energy Efficiency Program Consultant	P
UC Davis EEC (Energy Efficiency Center)	Kristin	Heinemeier	Research Organization	P
Western Allied Corporation	Mike	Gallagher	Contractor (Nonresidential)	
<b>CQM Maintenance Task Working Group Non-Voting Members</b>				
CLEAResult	Mike	Withers	Energy Efficiency Program Consultant	P
HSGS (Honeywell Smart Grid Solutions)	Steve	Varnum	Energy Efficiency Program Consultant	
SCE (Southern California Edison)	Todd	Van Osdol	California IOU	P
SCE (Southern California Edison)	Scott	Higa	California IOU	
<b>CQM Maintenance Task Working Group Guests</b>				
California Public Utilities Commission (CPUC) - Energy Division			California PUC	
Adrienne Thomle, Consulting**	Adrienne	Thomle+		
<b>WHPA Staff (Non-Voting)</b>				
BBI (Better Buildings Inc.)	Mark	Lowry	WHPA Executive Advisor/BBI COO	
BNB Consulting/WHPA Staff	Bob	Sundberg	Energy Efficiency Program Consultant	P (scribe)
Empowered Solutions/WHPA Staff (WHPA Co-Director)	Shea	Dibble	Energy Efficiency Organization	

\*\* 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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*To avoid repetition, the name of the member organization will not be repeated in the body of the minutes past the first identification with the name of the representative participant.*

### Welcoming and Member Introductions

None.

### New Business.

Dale Rossi and other participants reported on discussions held at the ASHRAE/ACCA Standard 180 Committee meetings held at the ASHRAE Summer Technical Session meetings. See section below.

### Approve Previous Meeting Draft Notes

The June 23 meeting draft notes were distributed June 28. No revisions were received from attendees. The finalized meeting notes would be posted to the WHPA website by Bob Sundberg.

### ACTION Items

June 23 ACTION: Shayne Holderby, HSGS, would invite a school district energy manager to participate on a future WG conference call. He would also try to access that school districts Standard 180 based maintenance program documentation. Ongoing.

June 23 ACTION: Dale Rossi would attend the Standard 180 Committee meetings and report back on what was discussed and decided. COMPLETED.

June 23 ACTION: Pepper Hunziker volunteered to produce a first draft for a table/grid along with help from Sandy Clark. Dale Rossi would help edit the straw man draft. Michael Lawing volunteered to review a value proposition table/grid. COMPLETED.

April 28 ACTION: IOU staff were requested to have program staff and/or implementers participate on this WG. Invitations for participation provided to each primary IOU program manager. COMPLETED.

STATUS: Steve Clinton, SCE program training, agreed to seek out working group participants from the program side of their staff. Jeanne Duvall, PG&E, indicated that she would have a new program staff member participate after they completed orientation. Ongoing.

May 26 ACTION: Todd Van Osdol, SCE, agreed to provide get together with Scott Higa to locate examples of the reporting tools which the program provided customers and examples of reports delivered to customers. To be provided at WG meeting dealing with customer facing reporting, topic #5. Ongoing.

STATUS: Todd had located several customer reports. He still needed Scott Higa's approval in order to share them with this working group. Dale Rossi suggested the SCE program customer reports be shared when the 5<sup>th</sup> topic was being addressed, customer facing reporting. To be provided at WG meeting dealing with customer facing reporting, topic #5. COMPLETED.

May 26 ACTION: Todd Van Osdol, SCE, would work with Scott Higa to gather information obtained through EMI conducted customer interviews which revealed reasons why customers would consider continuing HVAC Optimization maintenance practices after IOU program incentives expired. Ongoing.

STATUS: Todd Van Osdol and Scott Higa would deliver findings from the EMI conducted customer interviews at the 4<sup>th</sup> topic meeting, communicating the value proposition. Ongoing.

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<b>AGENDA</b>		
<b>Topic</b>	<b>Discussion Leader</b>	<b>Desired Outcome</b>
Welcome, Roll Call, Member Introduction, Approve Past Meeting Notes, Review Action Items, New Business, Meeting Agenda	Chair, WHPA Staff	Record attendees, welcome any new members, approve previous meeting minutes, review status of any open Action items, planned agenda and bring up any new business items for the WG to consider addressing.
Review 6/23 meeting notes	Bob Sundberg	All members would understand what was discussed at the previous meeting and provide final revisions or corrections.
Report on ASHRAE/ACCA Standard 180 Committee meetings	Dale Rossi/others	Members provided with an update of Standard 180 Committee decisions and progress.
Standard 180 base maintenance Value Proposition		Brainstorm value proposition for key stakeholders and discuss which should be included in a user guide.
Set next meeting date/time, assign actions and proposed agenda and adjourn.	Chair, WHPA Staff	Clear understanding of member responsibilities for the next meeting. Next meeting date/time established.

**User Guide Summary Outline – Dale Rossi**

The following list provided topics that the working group intend to explore in the current effort

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

**ASHRAE Summer Session Standard 180 Committee Update – Dale Rossi et al**

Dale Rossi, FDSI and Chair, commented about the Standard 180 Committee meetings.

- He indicated that there was some initial confusion about whether they were to work on a Standard 180 User Manual or to revise the actual standard. Whether a user guide was even required if the standard could be revised in sufficiently clear language.
- There was some controversy over Section 5 and the maintenance task tables about a third column. Donald Prather, Kristin Heinemeier and Dale Rossi were directed to produce a “red-lined” proposal for the entire standard for the next meeting.
- Dale Rossi provided proposed changes for sections 3 & 4 which the group reviewed.
- Section 5 already existed as a red-lined document under review.

Kristin Heinemeier, UC Davis, added that she had a dissenting opinion regarding the need for a user manual. She proposed that if the current standard was revised, streamlined and made more clear and unambiguous, that it could stand on its own and not require a user manual. She wanted the standard to more clearly state what was actually required in understandable terms. Specific enough for clear direction but not so specific that it would only apply in a narrow range of applications. She thought it needed to be clear enough for most people to implement.

The group discussed the need for a user manual at some length. There were several comments that even if the standard would be revised in clearer language, many users unaccustomed with code intended standards language would benefit from there being a user manual which could provide templates and concrete examples to help them translate conceptual language into their world.

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Donald Prather, ACCA, agreed with Kristin's intent. But, he knew that there were many people who really needed situations worked out for them in order to understand how they would apply in their circumstances. No matter how simple and clear you tried to make a standard, you needed to go two or three levels down to reach everybody who would benefit from understanding the intent of this standard. That's what a user manual could provide. The user manual would take what was obvious to those familiar with standards and make it clear to those unfamiliar with this sort of language. Many out there would understand the concepts in a standard. But, there were a lot of folks out there they were trying to reach who needed a step-by-step guide to understand its intent.

Dale Rossi agreed, that it was much easier to edit something you were given than to have to invent it on your own. After his six to seven years of studying that standard, he'd finally begun to understand more of its intent. A user manual would help others avoid that long process and understand it sufficiently to begin applying it more immediately. A user guide or manual would be very helpful, he was convinced, no matter how you wrote this standard. He didn't think it had to be one position or the other. Kristin's suggestion was right but a user manual would be helpful. The subject was big enough and complex enough that it wasn't possible to address all possible users and applications even with eloquent and concise revisions. The full range of business models, building types and system applications would benefit from some more concrete examples for users to start from.

### Review of Proposed Revisions to Standard 180 Sections 3 Definitions – Dale Rossi

- Proposed need for definition – condition.
- Proposed definition for “condition indicator” including key sentence “they include the method of inspection and the criteria for judging acceptable or unacceptable condition.”
- Proposed revised definitions for “maintenance program” which would be a building level document and “maintenance plan” which would be a system or component /unit level document.
- Revisions for “performance” and “performance objective” definitions

### Review of Proposed Revisions to Standard 180 Section 4 Implementation – Dale Rossi

- 4.2 Proposed revisions to “maintenance program” that would contain four essential elements: equipment inventory; performance objectives; maintenance plans; documentation plan.
- 4.2.1.a Inventory – a detailed list which shall uniquely identify each system or component which would be required in order to accomplish other essential elements of a maintenance plan.

Dale Rossi clarified that the standard and a Standard 180 User Manual would state the requirement that there must be a unique means to identify each system or component. The user guide, such as one this group would develop, would attempt to provide several examples of ways to provide that unique identification that meet the requirement.

Shayne Holderby, HSGS, asked whether any equipment could be exempted from this inventory. Dale's understanding was that the current standard did NOT offer the option to exempt any systems or components from the building inventory. To offer that option would require a change and revision to the current standard, Kristin Heinemeier, UC Davis, and others suggested situations where there might be multiple service providers, including OEM staff, addressing separate HVAC systems or components with separate maintenance plans. Dale's understanding was that since the responsible party was responsible for the maintenance program and maintenance plan or plans, they could engage several, even competing parties to carry out those maintenance plan. Others spoke of those other service providers being the ones who would come up with maintenance plans for each type of system or component.

Shayne Holderby stated that the standard did identify the “responsible party” as the one responsible for the maintenance program and plans but that in reality, with very few exceptions, it was a service provider who proposed the maintenance program and plans in the form of a contract proposal. His program had an unusual situation where he believed the proposed maintenance plans met the standard's requirements but not the overall maintenance program.

The group discussed the situation in which some of the equipment was being excluded from the overall maintenance program. Did the excluded equipment have to have the same performance objectives as other equipment managed

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within the program? Who was responsible for coordinating and maintaining that written record of goals and review against goals? Were the maintenance tasks suggested by a manufacturer substandard or not compared with the tasks identified in Standard 180, Section 5?

Donald Prather, ACCA, thought that the manufacturer suggested tasks would be more detailed than the general ones in the standard. More specific to their equipment than 180 could.

- 4.2.2.c – Required actions. A new proposed requirement. The tasks defined in the tables needed to be discussed, defined and incorporated into the maintenance plans.
- 4.2.2.d – Inspection and Maintenance Task Frequencies. The investigation stage and identification of unacceptable conditions or performance. What needed to be done if/when unacceptable conditions or performance is discovered.
- 4.2.2.e – Documentation. Suggested addition of 4<sup>th</sup> requirement.
- 4.4 – Revision of the Maintenance Program. Dale believed strongly that the program needed to be reviewed at least annually as a minimum. The responsible party as well as service provided could recommend changes.

### Communicating the Value Proposition - brainstorming session – Dale Rossi

**ACTION:** Dale Rossi requested that Bob Sundberg send the draft Value Proposition Matrix table out to all members and guests. Completed June 30.

Dale Rossi provide and orientation to the draft table developed by Pepper Hunziker. The table was organized in market segments in rows and their characteristics in columns.

Three kinds of buildings, market segments, were identified: building owner operators; chains; school system owner operators. Dale suggested the first market segment name be revised to owner occupied and the last to MUSH (municipal, university, school, hospital) which would cover non-profit and public/institutional buildings. He suggested adding a fourth segment, landlord for buildings with lease tenants which would include REIT properties, many shopping centers and class A office buildings. Mostly those managed by property management firms.

The group discussed the proposed column headings: key benefits; key deterrents/pain points; means to resolve pain points; decision makers; documentation and resources to support presentation of value proposition (VP). They also discussed whether the table might address benefits to the service provider in addition to its main function of addressing benefits to the responsible party for a market segment of buildings.

Shayne Holderby thought that all of the individual benefits to a service provider would fall under on main heading, ROI or return on investment for their firm. Dale Rossi suggested there would be value in breaking out the individual benefits, reasons like contractor differentiation, increased gross revenue and net profit, more satisfied customers, reduced turnover/customer retention rate. Benefits different from the building owners.

Donald Prather, ACCA, asked if Dale was trying to establish this other set of benefits so they could identify why proposing Standard 180 based maintenance would benefit them? Did this WG need to develop a similar table but one focused on highlighting benefits for some different types or levels of service providers? What was in it for them, for their firm? Dale Rossi responded, that's what the group needed to decide.

**Key Decision:** should the WG develop a second, parallel table of benefits to contracting firms that would result from their proposing maintenance based on Standard 180.

Dale Rossi thought that benefits for contractors would just be another market segment they could address on the same table. He thought that utility program developers and implementers had to sell contractors on offering Standard 180 based maintenance. Developing the VP for contractors would be a huge benefit for programs trying to expand their impact on the contracting community. He didn't think they needed to add another segment for technicians, that they



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did what they were directed to do to keep their jobs. And, service providers did what they needed to do to keep their customers or did what they thought they needed to do. But, if you (a utility program) wanted contractors to sell this approach, they would have to be convinced that it was good for them.

Shayne Holderby volunteered to provide a summary of contractor/contracting firm benefits for the WG.

**ACTION:** Shayne Holderby, HSGS, would provide the WG with summary of benefits to a contracting firm for proposing and delivering maintenance based on Standard 180.

On the column heading discussion, Shayne Holderby thought that the “pain points” referred to issues and problems faced by the owner or responsible party. Others agreed. It was NOT pain which resulted from adopting Standard 180. Deterrents belonged in another column to capture reasons why and owner or responsible party would choose to not adopt a standard 180 based maintenance approach.

Dale Rossi thought that this group could spend most of the rest of their resource time completing this matrix which he thought would be a very valuable resource.

The group wondered whether it would be of benefit to develop the VP for program developers and their implementers. Shayne Holderby thought that those benefits were already very apparent to that audience and the WG would make the most useful progress concentrating on end user segments and even the contractor VP.

Dale Rossi asked attendees whether they would be willing to take their copy of this table and begin to help filling it in. Not entirely, but with the ideas which came to them for the next meeting. They could send their ideas ahead to Dale and Bob to partially populate the table in advance of the next meeting or just bring their ideas to the next meeting.

Shayne Holderby volunteered to populate the contractor row.

Bob Sundberg, WHPA staff, asked whether the group could come up with a volunteer scribe to revise and update the table on an ongoing basis? Unresolved.

Dale asked attendees whether they thought that completing a VP matrix could be the one major deep dive topic the group should take on. He personally thought that tackling this topic would create the greatest value the WG could contribute.

Donald Prather thought that the other four topics depended on what the final standard revisions would eventually be. This one was definitely needed and independent of whatever the Standard 180 Committee would do to revise the standard.

Dale added that the topic around customer facing reporting was also independent of revisions to the standard, but they should probably have a much clearer understanding of the VP before they tackled that remaining topic. That reporting would probably be based on the metrics and analysis of VP related benefits.

Shayne Holderby agreed that gaining a better understanding of the underlying VP would probably contribute the most in helping drive adoption of the standard. Sandy Clark, GWP, agreed.

Key Decision: attendees reached consensus that focusing on completion of their Value Proposition Matrix would be the primary task for the WG going forward.

### Closing Comments/Adjournment

Dale Rossi summarized their decision to move ahead and concentrate on completing a VP Matrix table as a main focus for the next several weeks.



## WHPA Goal 2: CQM Standard 180 User Guide Working Group Thursday June 30, 2015 Meeting Notes

The next meeting was scheduled for Thursday June 30 at 10 am PDT. Their agenda would be to focus on completing the Value Proposition Matrix.

The Chair adjourned the meeting at 11:02 am PDT.

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### Action Items and Key Decisions

May 26 ACTION: Todd Van Osdol, SCE, agreed to provide get together with Scott Higa to locate examples of the reporting tools which the program provided customers and examples of reports delivered to customers. To be provided at WG meeting dealing with customer facing reporting, topic #5. Ongoing.

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STATUS: Todd Van Osdol and Scott Higa would deliver findings from the EMI conducted customer interviews at the 4<sup>th</sup> topic meeting, communicating the value proposition. Completed June 30.

June 23 ACTION: Shayne Holderby, HSGS, would invite a school district energy manager to participate on a future WG conference call. He would also try to access that school districts Standard 180 based maintenance program documentation. Ongoing.

June 30 ACTION: Dale Rossi requested that Bob Sundberg send the draft Value Proposition Matrix table out to all members and guests. Completed June 30.

June 30 Key Decision: should the WG develop a second, parallel table of benefits to contracting firms that would result from their proposing maintenance based on Standard 180. Dale Rossi suggested they see if time permitted their addressing this additional market segment player.

STATUS: Not resolved.

June 30 Key Decision: attendees reached consensus that focusing on completion of their Value Proposition Matrix would be the primary task for the WG going forward.

June 30 ACTION: Shayne Holderby, HSGS, would provide the WG with summary of benefits to a contracting firm for proposing and delivering maintenance based on Standard 180.