



WHPA Goal 2: CQM Standard 180 User Guide Working Group Tuesday June 20, 2017 Meeting Notes

Call to Order

The meeting was called to order at 10:04 am PDT by Bob Sundberg, WHPA staff, on behalf and at the request of Don Langston, CQM Committee Chair.

Roll Call

The Chair considered one member of each organization to be a voting member for this working group. 9 of 17 voting members in attendance would constitute a quorum. 7 voting members, 0 non-voting members, 0 guests and 1 staff were present for a total of 8 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. | | | | |
| CQM User Guide Working Group Voting Members | | | | |
| ACCA (Air Conditioning Contractors of America) | Donald | Prather | Contractor Association | P |
| Air Management Industries | April | Yungen | Contractor (Nonresidential) | |
| Aire Rite AC & Refrigeration | Don | Langston | Contractor (Nonresidential) | |
| AMS (American Mechanical Services) | Marc | Pickett | Contractor (Nonresidential) | |
| Charles Segerstrom, Energy Efficiency Consulting | Charles | Segerstrom | Energy Efficiency Program Consultant | P |
| CLEARresult (formerly PECCI) | Todd | Van Osdol | California IOU | P |
| FDSI (Field Diagnostic Services Inc.) | Dale | Rossi | Third Party Quality Assurance Providers | |
| GWP (Goodheart-Willcox Publisher) | Sandy | Clark | Educator, Trainer | P |
| Honeywell E&ES, Commercial Buildings, Trade | Michael | Lawing | Controls (Manufacturer or Distributor) | P |
| HSE (Honeywell Smart Energy Solutions) | Shayne | Holderby | Energy Efficiency Program Consultant | |
| Marina Mechanical | Denny | Mann | Contractor (Nonresidential) | |
| National Comfort Institute | Jeff | Sturgeon | Educator, Trainer | |
| Richard Danks Consulting - FacilityPro | Rick | Danks | Other Stakeholder | P |
| SCE (Southern California Edison) | Scott | Higa | California IOU | P |
| Tre' Laine Associates | Pepper | Hunziker | Energy Efficiency Program Consultant | |
| Western Allied Corporation | Mike | Gallagher | Contractor (Nonresidential) | |
| Warren Lupson and Associates | Warren | Lupson | Other Stakeholder | |
| CQM User Guide Working Group Non-Voting Members | | | | |
| BELIMO | Darryl | DeAngelis | Controls (Manufacturer or Distributor) | |
| BMI (BuildingMetrics, Inc.) | Pete | Jacobs | Energy Efficiency Program Consultant | |
| Brownson Technical School | Bill | Brown | Educator, Trainer | |
| CLEARresult (formerly PECCI) | Michael | Blazey | Energy Efficiency Program Consultant | |
| HSGS (Honeywell Smart Grid Solutions) | Steve | Varnum | Energy Efficiency Program Consultant | |
| PG&E | Christian | Weber | California IOU | |
| SCE (Southern California Edison) | Steve | Clinton | California IOU | |
| SMUD (Sacramento Municipal Utility District) | Bruce | Baccei | Publicly Owned Utility | |
| XCSpec | Janet | Peterson | Controls (Manufacturer or Distributor) | |
| | | | | |
| Adrienne Thomle, Consulting** | Adrienne | Thomle+ | | |
| AirTest Technologies | Mike | Schell | HVAC Manufacturer | |
| HVACRedu.net | Chris | Compton | Educator, Trainer | |
| Little Caesar's ** | Wendy | Gallo+ | | |
| | | | | |
| WHPA Staff (Non-Voting) | | | | |
| BBI (Better Buildings Inc.) | Mark | Lowry | WHPA Executive Advisor/BBI COO | |
| BNB Consulting/WHPA Staff | Bob | Sundberg | Energy Efficiency Program Consultant | P (scribe) |



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| | | | | |
|---|------|--------|--------------------------------|--|
| 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*

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

No new members or guests.

Don Langston indicated that he would not be able to attend in person but requested that the WG meet and continue to discuss the topics and scope for their 2017 work product after being updated on progress of the User Guide Customer Communications WG by Jan Peterson.

Approve Previous Meeting Draft Notes

The April 27 meeting draft notes were distributed May 9. Members were asked to provide any additional suggested revisions or corrections after which finalized meeting notes would be posted to the WHPA website by Bob Sundberg.

ACTION Items

None.

New Business – Don Langston

None.

AGENDA

| Topic | Discussion Leader | Desired Outcome |
|--|---|--|
| Welcome, Roll Call, Member Introduction, Approve Past Meeting Notes, Review Action Items, New Business, Meeting Agenda | Bob Sundberg, WHPA Staff, for Don Langston, Chair | 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. |
| WG goals, scope, direction and leadership | Bob Sundberg, WHPA Staff, for Don Langston, Chair | Members share a clear understanding for the goals of this WG and determine WG Chair |
| STD 180 User Guide Customer Communications WG Update | Jan Peterson | Update this WG on what portion of the User Guide the CC WG has chosen to focus on – if that is covered by other WG, what should this WG focus on? |
| Scope, Topics and Sequence for 2017 Work Product | Bob Sundberg, WHPA Staff, for Don Langston, Chair | Note how previous standards user guides were organized and structured |
| Rotating Working Group Chair Leadership | Bob Sundberg, WHPA Staff, for Don Langston, Chair | Solicit volunteers to lead this WG on a rotating basis |
| Confirm next meeting date/time, assign actions and proposed agenda and adjourn. | Bob Sundberg, WHPA Staff, for Don Langston, Chair | Clear understanding of member responsibilities for the next meeting. Next meeting date/time established. |

With Don Langston not being able to attend, Bob Sundberg facilitated the WG discussion. The proposed agenda was reviewed.



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Scott Higa, SCE – he thought that from hearing Jan Petersons update for the other user guide WG there might be good opportunities for collaboration and further communication.

Scope, Topics and Sequence for 2017 Work Product – Bob Sundberg/WHPA Staff for Don Langston, Chair

Rick Danks, Richard Danks Consulting – the WG had discussed the philosophy and intent of Standard 180 at previous meetings. The standard spelled out that the responsibility for developing and implementing a maintenance program was the owner/responsible party. He expected that this user guide would include some emphasis on the things which a typical owner would need to be aware of as they attempted to “operationalize the standard.” He’d observed that much of the WHPA efforts focused on an owner and contractor/service provider perspective. Much of the work product produced to date seems to have been intended to be from a contractor perspective in their role helping the owner understand what it meant to be compliant with the standard. That seemed to cloud the issue of who was responsible for compliance.

Bob Sundberg, WHPA staff – with very few building owners/managers aware of ASHRAE/ACCA or Standard 180, he thought that the CQM Committee and WG efforts seemed to naturally begin with a service provider/contractor being the one who had to initiate this discussion about more comprehensive maintenance practices and benefits as well as introducing the owner/responsible party to Standard 180. The User Guide Customer Communications (CC) WG had also been addressing this issue of responsibility. James Graening had presented a commercial contractor training module which focused on the questions and topics which he thought a contractor needed to cover with a prospective new customer in the first stage meetings. From his contractor training perspective, it was very important that a contractor lead this discussion to adequately address benefits of more comprehensive maintenance. His operating assumption was that most owners didn’t have a grasp of the value to be gained by improving their maintenance program and also that his trained contractors needed to be able to differentiate their services adequately from lesser approaches. The WG took that perspective into account and all the suggested topics/questions. The user guide would not be a contractor training manual. There needed to be owner education but development of a maintenance program needed to be a collaborative effort, as they interpreted the standard in Section 4. But, the CC WG intended that their user guide work product would emphasize that the owner/responsible party was ultimately responsible for whatever program would be implemented.

The work product produced by this WG could reinforce that message of owner responsibility as it developed its explanation of and examples of how a maintenance program could be developed.

Rick Danks – he’d observed that the work of the WGs seemed to be focused on how the contractor would engage an owner. He’d noticed an absence of focus on there being a responsibility of the owner for their own maintenance program. He questioned whether there had been sufficient mention of the role which Standard 180 expected of the owner.

Scott Higa, SCE – he’d perceived the same gap in previous user guide WG discussions and work products. The emphasis to date had been on how a contractor could communicate Standard 180 compliance as well as the value proposition for implementing a Standard 180 based maintenance approaches. Part of the gap he saw was the owner not being informed on how to validate and verify compliance. He thought it would be valuable to provide the owner guidance on how to develop (maintenance program) performance objectives and condition indicators to track their progress toward those performance objectives. He hoped that the user guide working groups would focus on providing that guidance as well as how to develop metrics to help track progress towards those objectives. And, that if those objectives were not being achieved, there was some degree of accountability for program revision for both parties. There was an owner responsibility for due diligence to determine whether the contractor was doing what they stated. That was the “owner gap” as he perceived it.

Rick Danks – thought that Scott had stated very well that there was an owner responsibility both for implementation as well as for program evaluation.



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Michael Lawing, Honeywell E&ES – his role at Honeywell involved contractor development. To help their firms grow as profitable businesses. Part of that involved introducing advanced technologies. It also involved how they would present and position their firm’s offerings to customers. Why would the customer need or benefit from higher efficiency and more reliable operation? One gap he’d observed over several years was a large gap in contractors being aware of the benefits and need for Standard 180 based QM. Title 24 installation requirements were the law. But, after installation, there really hadn’t been any established standards for maintenance. He’d seen a role for these user guide efforts to help inform and transform contractor practices toward better maintenance. But, besides filling this contractor understanding gap, he’d expected the user guide groups work products would also help inform the owners to see and understand the objectives of better maintenance, to change the culture within their organization to quantify, document and communicated maintenance program progress. Part of the challenge for this user guide was to develop a value proposition for contractors to talk with their customers and promote this QM practice. Then, to develop a reason for the owner to take a contractor’s advice and implement this sort of program and track progress to see the results over time. Both levels and audiences needed to be addressed in the user guide. He saw development of the value proposition for both audiences to be a primary focus. Buildings often had many decision-makers who needed to be reached. Language for their various value propositions needed to be individualized. Much of what he focused on was how to develop those brief “elevator speeches” of a minute or two to capture the attention of C-suite decision-makers and lead to next steps or actions.

Sandy Clark, GWP – thought Mike’s remarks were well said. It was important for the user guide to address the value proposition for each of the parties involved in this process, whether they were contractors or owners or facility managers. To clearly answer the question, “what’s in it for me?” To also address how a contractor’s technician or facility staff could state their case for why these practices should be adopted.

Bob Sundberg, speaking in his role as a past Honeywell commercial maintenance sales representative – for commercial/institutional buildings, 35 years later, he was surprised to find that so little had changed. Buildings with predominantly packaged/RTU equipment determined levels of maintenance primarily on a bid price, not on operational efficiency, reliability or other quantifiable factors. Those buildings also had multiple decision-makers, not one owner. Those decision-makers often had conflicting or mutually exclusive objectives and goals against which they were evaluated. Reduced energy consumption (energy manager), lowest contract cost (supply management), reduced capital expenditures (CFO), comfort/highest leased space retention (facility/property manager). Most of those decision-makers were evaluated on shorter term results and how little they were spending for their function right now. Supply managers weren’t responsible for reduced capital expenditures or energy consumption so those goals often were completely ignored. Their goal was to try and get the lowest contract cost for what they assumed was the same or an adequate level of maintenance. Mike Lawing earlier had emphasized how each of these decision-makers needed to be addressed with a value proposition in a language they spoke that would convince them to consider, possibly to adopt this practice and champion it within their organization.

Bob Sundberg, WHPA staff – he then shared the User Guide Working Group’s 2016 work product. He began by sharing online the work product table of contents which outlined the topics covered by the group that year. The sequence followed the general sequence of sections in the standard, itself.



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2016 Standard 180 UG WG final report



CQM Standard 180 User Guide Working Group Report – User Guide Preparation 1

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Then, the group reviewed the list of next steps in the Conclusions section, proposed for 2017 efforts for that WG. The proposed work was divided into three parts. See copy below.

Of the next steps, #2 was focused on presenting the value proposition for a Standard 180 based maintenance approach (contractor focused). That effort could be managed by a WG focused on initial customer meetings and discussions about program objectives as well as technical aspects of maintenance which would need to be addressed.

Conclusion

This document was made to think through some key parts of Standard 180 and to document the experience of various stakeholders when selling and implementing Standard 180-based maintenance. The next step is to start producing the User Guide. The story arc of the proposed User Guide might be:

1. Introduction to and overview of Standard 180
2. Selling Standard 180-based maintenance
 - a. The value proposition
 - b. Qualifying the customer
 - c. The sales process
3. Making a maintenance program
4. Implementing a maintenance program
5. Measurement, data collection, and report making
6. Validating Standard 180-based maintenance
7. Conclusion

Given the fact that this is all volunteer work and the effort required to produce the content envisioned in the document, the Working Group makes two requests:

1. The envisioned work will need as much time to work as possible. Please allow this work to start early in the next year.
2. Because of the effort involved and skills needed to produce the content, the Working Group proposes that the effort be divided into three tasks that could be worked in parallel to produce a distributable version 1 User Guide at the end of 2017. The three tasks are:
 - a. The sales aspects of the guide, including part of the validation step
 - b. The technical aspects of the guide, the Standard, implementing, reporting, part of the validation step
 - c. The tasks of putting together a distributable document, formatting, editing, pictures and graphs, and producing the finished document.

A User Guide Customer Communications Working Group had been formed to address this portion of the user guide. It would raise the topics and questions, like budgets, current issues/concerns and the previous approach, which needed to be discussed by the owner & staff or their contractor in order to establish a more comprehensive program. The



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balance of the steps could be the focus of this User Guide (technical) WG – addressing Section 4 and practical efforts for how to implement a Standard 180 based programs. In his opinion, both efforts were necessary for a complete user guide. Each part could stress the responsibilities of the owner or their designated representative, the concern that Rick had raised. He thought that the plan for 2017 which Dale Rossi, past Chair, and the WG had proposed still made a lot of sense. His understanding was that this user guide project was intended to address communicating an understanding of how to implement this standard. The output could then be considered by audiences both within and outside of utility programs.

Scott Higa, SCE – pointed out that a lot of work had been devoted to addressing the value proposition during the previous year in developing that customer interview work product by the full CQM Committee. He thought that this year's efforts by a dedicated WG would be a continuation of that direction. The User Guide WG Conclusion Section Next Steps identified and clarified two major focuses which were proposed. The first one related to sales/agreement/validation/value proposition and the second one focused on a clearer understanding of the intent of the standard for all parties and more of a technical implementation process for compliance with the standard. The final, third, portion would be a work effort to merge the previous two into a distributable document.

Donald Prather, ACCA – he thought this was a good plan because the average building owner and facility manager didn't know much, if anything, about ASHRAE or ACCA, that Standard 180 existed or what it was about. Many didn't even understand that they or their organization were even responsible for having a maintenance program. A large portion of managers just addressed repairs as/when needed, a "pay as you go" approach. That was their attitude toward HVAC equipment. Treat it like any other appliance. Most didn't have a mind set to consider and set goals for space comfort, reducing downtime, decreasing repairs or extending equipment life. Often, they just looked for a lowest up-front contract cost.

Rick Danks – then it came down to what assumptions were made about owners in this user guide. Was the group of owners Donald had just described been designated as the target audience or was it intended for a broader spectrum of owners?

Bob Sundberg, WHPA staff – the User Guide Customer Communications WG had already begun to develop a grid which would include a limited list of market segments/building types as well as multiple owner perspectives for each. Perspectives like

- 1) skeptical/uninformed/minimal maintenance or run to failure approach/limited to contract initiation,
- 2) open, receptive to potentially beneficial more comprehensive approaches to maintenance,
- 3) motivate, strongly interested to seek out new technologies, practices and establish program goals with tracking and program evaluation.

The UG CC Work Group would be focusing on the sales/value proposition parts of a user guide, this WG, the established UG (technical) WG, would focus on providing guidance and examples of how one might implement the standard. Ideal, these two related efforts would be merged into one "user guide" document, as Scott had just pointed out which was the UG WG proposed 2017 efforts.

Rick Danks – did that explanation for user guide audiences and efforts point to a single size user guide or three separate or multiple ones for different audiences?

Michael Lawing, Honeywell E&ES – he envisioned a one page summary for each building type/perspective that could provide a summary value statement and drill down through the essential questions/responses to provide examples of potential discussions. He could picture a one page summary for each followed by a deeper dive with more detailed explanations for key points which needed to be addressed.

Bob Sundberg, WHPA staff – the UG CC team was discussing development of a narrative, example of initial meeting discussions, between the service provider and prospective customer for each building type/market segment and end



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user perspective. When reviewing this user guide, an end user could look over the different narratives and select one that most closely matches their building type/market segment as well as their perspective and current approach to maintenance, then just walk through that section to see how a possible discussion might proceed. He wasn't quite sure whether there was value in having this WG tackle those portions of a user guide which could provide examples of establishing goals/objectives, goal metrics and a program process for tracking & evaluating results and program revision.

Donald Prather, ACCA – the group continued to refer to this work product as a “user guide.” Maybe it would be more accurate to title it HVAC System Management? Change to the title to something that might get them to open the book rather than title it “Standard 180 User Guide” when most owners would probably never have heard of this standard. Owners might see a notice about this book put out to help me manage my HVAC system. He thought the WG might have a better chance, by retitling, to reach the audience which could really use this resource. Changing the title might get them to open the book and, at least, take a look.

Michael Lawing – call it whatever you need to get them to take a look and migrate to a new practice. He thought they'd done most of the work including tables. They still needed to address the validation piece and get a first draft out there. They could refine and build on it in future versions.

Scott Higa – this sounded like the team was bringing up ideas about how to format and present the distributable document, the final work product.

Rick Danks – he agreed that trying to make this “user guide” follow the format and sequence of Standard 180 might not be the most effective way to deliver a clear message to California end users – gee folks, here's a guide to help you save energy and reduce many of your other HVAC related costs while improving your work space. He thought Donald's suggestion might diverge from what the ASHRAE/ACCA Standard 180 Committee was aiming for with development of a comprehensive Standard 180 User Manual. But, Donald's suggestion for re-titling the effort might be more effective in capturing the intended audience's attention. He reminded the group that from his understanding of Standard 180, the focus of the standard was on stating what was required. Not on how to accomplish that requirement. Table 5-22 for Rooftop Units, Task A stated the need to check filters for particulate accumulation. It did not tell anyone how to do that. That could, certainly, include a visual inspection. But, it didn't rule out and didn't intend to rule out checking by some other means, such as measuring pressure drop across those filters to see if the condition had degraded since a previous inspection.

Bob Sundberg, WHPA staff - Maybe the work proposed for 2017 could be picked up and moved ahead, as Scott Higa seemed to suggest earlier. The Customer Communications group could continue to tackle #2 and this group could tackle #s 3, 4, 5 & 6 as modules and get as far as they could this year. Bob suggested he distribute the two 2016 work products to everyone and that they compare what the interview/value proposition work product had covered against the User Guide WG work product and the Conclusion/Next Steps identified at the end of that document. They could continue to try to make progress during WG meetings or have individuals take ownership for some of those modules to work offline between scheduled meetings.

ASHRAE STD 180 User Guide Customer Communications WG – Jan Peterson

Jan Peterson was unable to attend. Update covered by Bob Sundberg, WHPA staff for that WG, during the previous discussion.

Review Structure of Standard 180, Section 4 – Don Langston

Not addressed.



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Closing Comments/Adjournment

Bob Sundberg, WHPA staff – once the meeting draft notes were distributed and the Standard 180 Committee had met in Long Beach CA on June 23, he was confident that Don Langston would propose when this WG should meet next.

The next meeting was not scheduled at this time.

The meeting was adjourned at 11:06 am PDT.

* * * * *

Action Items and Key Decisions

ACTION: Bob Sundberg, WHPA staff, would distribute the two CQM Committee and User Guide WG 2016 work products to members. All members were asked to compare the work accomplished by each against the proposed work for 2017 located in the Conclusion section of the Standard 180 User Guide WG final report.