



**Goal 2: Residential Quality Installation Committee
May 25, 2016 Meeting Notes**

Call to Order

The meeting was called to order at 10:06 am PDT by Buck Taylor, Chair, Roltay, Inc.

Roll Call

5 of 9 voting members are needed for a quorum. 8 of 9 voting members, 8 non-voting members and 7 guests/staff attended. There were 23 total attendees at this meeting. Bob Sundberg facilitated the online Webex and call conference, recorded the meeting and produced summary meeting notes.

P = present at meeting				
A = absent voting member; if proxy has been assigned it will be noted below.				
WHPA Goal 2: RQI Committee VOTING Members				Roll Call
ACCA (Air Conditioning Contractors of America)	Wes	Davis	Contractor Association	P
Benningfield Group	Russ	King	Third Party Quality Assurance Provider	P
DNV GL Energy Services (formerly KEMA)	Zachary	Connolly	Energy Efficiency Program Consultant	P
Energy Analysis Technologies	Chris	Ganimian	Third Party Quality Assurance Provider	P
Mechanical Systems Design & Consulting (MSDC)	Jeff	Henning	Educator, Trainer	
NCI (National Comfort Institute)	Scott	Johnson	Educator, Trainer	P
Henry Bush Plumbing, Heating and Air Conditioning and Home Energy Solutions (Redlands Plumbing & Heating & AC)	Tyler	Miner	Contractor (Residential)	P
Roltay Inc.	Buck	Taylor (Chair)	Other Stakeholder	P
Superior Air	Larry	Kapigian	Contractor (Residential)	P
WHPA Goal 2: RQI Committee NON-VOTING Members				
ASHRAE			Engineering Society	
BuildingMetrics	Pete	Jacobs	Energy Efficiency Program Consultant	
Building Performance Institute	Jeremy	O'Brien	Certifying Body	P
CEC (California Energy Commission)	Samuel	Lerman	Government	
CEC (California Energy Commission)	Jeff	Miller	Government	
CPUC/ED (California Public Utilities Commission - Energy Division)			California PUC	
Clean Energy Horizons, LLC	Norm	Stone	Energy Efficiency Program Consultant	P
Davis Energy Group	David	Springer	Energy Efficiency Organization	
EPA/ENERGY STAR	Chandler	Von Schrader	Government (Other than CPUC)	
ICF International	Casey	Murphy	Energy Efficiency Program Consultant	P
Misti Bruceri & Associates, LLC	Misti	Bruceri	Energy Efficiency Program Consultant	
PG&E (Pacific Gas and Electric Company)	David	Bates	California IOU	
PG&E (Pacific Gas and Electric Company)	Marshall	Hunt	California IOU	
PG&E (Pacific Gas and Electric Company)	Swapna	Nigalye	California IOU	P
Quinn-Murphy Consulting LLC	Patrick	Murphy	Educator, Trainer	
Sacramento Municipal Utility District	Ravi	Patel	Publicly Owned Utility	



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(SMUD)				
SDG&E (San Diego Gas & Electric)	Collin	Smith	California IOU	P
SDG&E (San Diego Gas & Electric)	Jeremy	Reefe	California IOU	P
SCE (Southern California Edison)	Lori	Atwater	California IOU	P
SCE (Southern California Edison)	Anne Marie	Blankenship	California IOU	
SCE (Southern California Edison)	Scott	Higa	California IOU	
SCE (Southern California Edison)	Steve	Clinton	California IOU	
SCE (Southern California Edison)	Jarred	Ross	California IOU	
SoCalGas (Southern California Gas Company)	Harvey	Bringas	California IOU	P
ZONEFIRST	Richard	Foster	Controls (Manufacturer or Distributor)	
WHPA Goal 2: RQI Committee Pending Candidates				
WHPA Goal 2: RQI Committee NON-VOTING Guests				
Air Conditioning Contractors of America (ACCA)	Glenn	Hourahan	Contractor Association	
Air Conditioning Contractors of America (ACCA)	Donald	Prather	Contractor Association	
Aire Rite Air Conditioning and Refrigeration	Don	Langston	Contractor (Nonresidential)	
Benningfield Group	Lynn	Benningfield		
Building Performance Institute	John	Jones	Certifying Body	
California Public Utilities Commission (CPUC) - Energy Division	Pete	Skala	California PUC	
CDH Energy	Hugh	Henderson	Energy Efficiency Organization	P
CLEARresult (formerly PECl)	Michael	Blazey	Energy Efficiency Program Consultant	
CLEARresult (formerly CSG)	Mike	Withers	Energy Efficiency Program Consultant	
Field Diagnostic Services	Dale	Rossi	Third Party Quality Assurance Provider	
Galawish Consulting	Elsia	Galawish	Energy Efficiency Program Consultant	P
ICF International	Ben	Bunker	Energy Efficiency Program Consultant	
Johnson Consulting**	Katherine	Johnson+		
Johnson Controls Inc. (JCI)	Bryan	Rocky	HVAC Manufacturer	P
KEMA / DNV-GL **	Jarred	Metoyer+		
National Comfort Institute	Rob	Falke	Educator, Trainer	
NIST (National Institute of Standards and Technology)	Piotr	Domanski** +		
NIST (National Institute of Standards and Technology)	Vance	Payne***+		
PG&E (Pacific Gas and Electric Company)	Chris	Li+	California IOU	
PG&E (Pacific Gas and Electric Company)	James	Tuleya	California IOU	
PG&E (Pacific Gas and Electric Company)	Mary	Anderson+	California IOU	
PG&E (Pacific Gas and Electric Company)	Sam	Choe+	California IOU	
PG&E (Pacific Gas and Electric Company)	Robert	Davis	California IOU	
PG&E (Pacific Gas and Electric Company)	Leif	Magnuson		
SCE (Southern California Edison)	Andres	Fergadiotti+	California IOU	P



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SCE (Southern California Edison)	Sean	Gouw	California IOU	
SCE (Southern California Edison)	Ryan	Cho+	California IOU	
Tre' Laine Associates	Pepper	Hunziker	Energy Efficiency Program Consultant	P
WHPA Staff				
BBI (Better Buildings Inc.)	Mark	Lowry	WHPA Executive Advisor/BBI COO	
BNB Consulting/WHPA staff support	Bob	Sundberg	Energy Efficiency Program Consultant	P
Empowered LLC	Shea	Dibble	WHPA Co-Director	
WHPA emeritus staff	Mark	Cherniack		

*** Organization is Not a Member of the WHPA; + Individual is NOT Registered with the WHPA*

(P) following 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; the individual names of meeting participants will be used.

Approve Minutes of Previous Meeting

April 16 meeting draft notes were distributed April 27. No revisions or corrections were received. Finalized and approved meeting notes would be posted to the WHPA site under the RQI Committee.

AGENDA

Topic	Discussion Leader	Desired Outcome
Welcome, roll call, previous meeting minutes, new members, candidates and guests, new business topics	Buck Taylor and Bob Sundberg	Produce an accurate record of all attendees, finalize and approve past meeting minutes, welcome new members and guests, identify new business.
Review previous Action items and meeting agenda	Buck Taylor	Resolve older items, determine status of current action items, finalize meeting agenda items.
New Business	Buck Taylor	Make committee aware of new RQI program and/or policy issues
CA NEWS Update: AB802-CPUC Baseline White Paper comments/responses; HVAC1 Upstream program evaluation posted; HVAC6 Residential Permit/Code Compliance Ph1 partial results; PG&E HPHI study; CPUC study – 2013 & 2014 HU Impact final evaluation.	Buck Taylor and Bob Sundberg, CPUC staff or representative	Keep committee members aware of posted documents related to program studies and policy issues and changes.
EUC/Home Upgrade/Adv. HU and RQI program coordination update	Swapna Nigalye, Lori Atwater, Collin Smith	Members understand status of program integration; incentive level realignment or other program revisions/plans for revision.



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CA EECC & IOU business plan development process status – deadline delayed from Sept. 1 to Nov. 1.	Swapna Nigalye, Lori Atwater, Collin Smith	How can this committee provide its best input for IOU HVAC RI sector strategy and/or program planning?
WE&T Committee update: efforts to promote ResQI	Pepper Hunziker	Inform members of WE&T Committee efforts to promote awareness of and ACCA Standards 5/9 training inclusion in HVAC training programs statewide on RQI practices.
RQI Committee 2016 Goals	Buck Taylor	Review Goals/Implementation Plan delivered to EC
Set next meeting date, time and tentative agenda items	Buck Taylor and Bob Sundberg	Meetings are normally scheduled the third Wednesday of each month.

Welcome New Members and New Guests; consider new member candidates

Welcome Jeff Miller, CEC, new guest member.

Review past Action items

April 2016 ACTION: Lori Atwater, SCE, committed to having the IOU leads provide the RQI Committee members with a summary of the IOUs HVAC ResQI strategy. Ongoing.

April 2016 ACTION: Jeremy Reeve requested that Bob Sundberg, WHPA staff, send out an email for the IOU leads to talk with Buck prior to their IOU lead meeting. Following discussion with Buck, the IOU leads would develop a summary document on the IOU business development planning process for the May committee meeting. See meeting agenda discussion below. COMPLETED.

April 2016 ACTION: IOU program leads (Lori Atwater/SCE, Swapna Nigalye and Leif Magnuson/PG&E, Collin Smith/SDG&E) would provide committee chair and staff with IOU HU program manager and HU Working Group contact information as well as other key HU representatives (ICF or other implementer staff) going forward. Ongoing.

April 2016 ACTION: Once provided with HU/Advanced HU contact information, Chris Ganimian would contact the HU Working Group co-directors to request attending a future RQI Committee meetings and coordinate RQI Committee members possibly attending HU program related meetings. Pending

April 2016 ACTION: Pepper Hunziker, Tre' Laine Associates, agreed to inform RQI Committee members about efforts of the WE&T Committee related to training/education efforts to standardize on RQI practices. Pepper was going to reach out to other IOU groups to gain a better understanding of where their programs were at with respect to incorporating ACCA Standard 5 requirements in their training. She re-committed to provide an update at the May meeting. COMPLETED.

New Business

DOE Sponsored Energy Workshop May 12 on Residential CAC and CHP Installation Roadmap – Chandler von Schrader, Buck Taylor & others updated members on topics covered at the workshop.



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Buck Taylor, Chair, summarized that the workshop was DOE's effort to suggest a roadmap be established to address quality installation issues. He wanted to withhold further comments until he received some output from the workshop. Casey Murphy and Hugh Henderson had also attended.

Casey Murphy, ICF, shared that the DOE wanted to develop a roadmap for 2016 through 2030 on how residential quality installation practices could be improved. The May 12 workshop was the first attempt to begin defining the needs, the advanced technologies which might help facilitate QI, similar to the business plans being developed by IOUs in California for their ten year planning cycle. Chandler Von Schrader made a presentation on the Energy Star Verified Installation effort. DOE staff presented some of the resources at their disposal to tackle barriers. DOE labs resources might be directed to address some of those barriers. DOE committed to post both their roadmap as well as interim reports which he and Buck would commit to keeping the group informed about.

ACTION: Casey Murphy and Buck Taylor would keep committee members informed regarding all DOE Quality Installation related developments and documents (roadmaps and interim reports).

Hugh Henderson, CDH Energy, added that Building America might be another source for assessment studies which were needed.

<http://energy.gov/eere/buildings/building-america-bringing-building-innovations-market>

CA News Updates

- AB802-CPUC Baseline White Paper comments/responses;
- HVAC1 Upstream program evaluation posted;
- HVAC6 Residential Permit/Code Compliance Ph1 partial results;
- PG&E HPHI study;
- CPUC study – 2013 & 2014 HU Impact final evaluation

California Energy Efficiency Coordinating Committee – IOU business plan development

Jeremy Reeve, SDG&E, updated the group that the IOU business plan September 1 deadline had been postponed to November 1. Because that would be a hectic time of the year for all parties and the CPUC would likely be requesting comments and input from other stakeholders, he was unsure how soon the IOUs would receive CPUC responses. After an approval of IOU business plans is received, the IOUs could then begin drafting program implementation plans.

IOU Update on Status of Coordinating RQI and Home Upgrade Programs – collaborative promotion of RQI as preferred installation practice; inequality of contractor/homeowner incentives for same energy efficiency measure of HVAC equipment installation – Lori Atwater/SCE; Swapna Nigalye/PG&E; Collin Smith/SDG&E

Jeremy Reeve, SDG&E, commented that the committee's work on their SMART Goals would involve the coordination and integration of the EUC Home Upgrade and RQI program offerings. The IOUs would look closely at meeting discussions and meeting notes as well as any formal documents on that topic which were produced. The committee's comments on what it thinks about what that process should include. They would look closely at all committee output which would need to be all encompassing and represent all perspectives and biases related to the topic.

Pepper Hunziker, Tres' Laine Associates, asked Jeremy whether there were going to be any Home Upgrade program managers or representatives at future meetings who could shed some light on what actually occurs in their program where this topic and its issues was to be discussed?



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Jeremy replied that that was going to be the roadmap. That was part of what these committee meetings would help get started, out the gate. Developing the steps and tasking regarding what Buck and the committee thought it would take to have that occur. That might turn into calls with the EUC/HU team which Bob Sundberg could facilitate. That might include the EUC stakeholder group, which was much like the WHPA. They had talked about the complexity of bringing all these stakeholders together since the 2009 timeframe on developing one comprehensive document on an integrated plan. He'd prefer to have this committee first address its 2016 SMART Goal activities and then address those which involved HVAC, whole building and EUC.

Pepper Hunziker asked Jeremy whether he was aware of any documents which the EUC/HU team had drafted on gaps or recommendations they'd made?

Jeremy Reeve replied that there had been many whole building market transformation documents developed over years. But, he expected the development and work on the committee SMART Goals to drive that conversation. It wasn't a process he could lead or coordinate. The IOUs could be asked many specific questions about how next to proceed. The good news was they now had more time on their side. It would take considerable time for the IOUs to put together their residential plans which could easily reach 25 pages at the strategic high level which many now realized the CA EECC efforts were focused at. Following those business plans, the implementation plans would probably be several hundred pages from each IOU. The past HU and RQI program plans were each about 35 pages. Now, the IOUs would need to include and integrate plans for both programs. He asked Buck to provide some ideas about how he thought the committee could drive this issue.


Buck Taylor, Roltay Inc. and Chair, thanked Jeremy for his help in clarifying the process. Buck wanted to address this topic further when they dealt more directly with the committee's 2016 goals a little later in the meeting when they would deal with that agenda item.

Lori Atwater, SCE, joined the meeting in time to provide a short update. The RQI program was continuing at a reduced clip. They were contributing to the business plan discussions. One important issue was that they realized that they'd need to find a pathway to reach more contractors. And, while IOU programs needed to be cost effective and produce savings, there was also a large challenge to expand good programs statewide with consistent operation.

WE&T Update – Pepper Hunziker

Buck Taylor asked Pepper to provide comments about the training and awareness activities of the WE&T Committee regarding ACCA Standards 5 & 9, the basis for quality installation.

Pepper Hunziker, Tres' Laine Associates, commented that the ACCA standards were a kind of cultural change. Most in the industry, she'd concluded, were not oriented toward that level of craftsmanship. The WE&T Committee had been working closely with the chancellor's office regarding K through 12 and community colleges to re-align their curricula toward what industry had considered critical content and the areas of greatest need. She'd been working closely with Jim Caldwell on the committee who was also a member of the WHPA Council of Advisors.

	<p>The California Community Colleges Chancellor's Office, in conjunction with other state and federal agencies, is working to assist students who have been affected by the recent regulatory actions involving Corinthian colleges. Our 113 colleges, which serve 2.1 million students, are ready to help students who wish to pursue their educational goals at community college.</p>	<p>Jim Caldwell</p>	<p>Statewide Director/Sector Navigator</p>
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He was very engaged and had been bringing WHPA work products back to various working groups and committees. She then provided a summary of the SCE RQI program efforts to train, mentor and evaluate participant's understanding of the ACCA standards.

Bob Sundberg, WHPA staff, asked Pepper what activities and efforts the WE&T Committee was engaged in, outside of current RQI program efforts, to promote better understanding of ACCA Standard 5 & 9 and incorporation of training on the standard in HVAC school curricula? Was she or the committee aware of any training on those standards at the > 100 state community colleges, union training centers, university HVAC programs or private HVAC oriented schools?

Pepper mentioned that she was aware that training on those standards was being conducted by NCI as well as HVACR.edu online coursework. The state chancellor was aware of those national standards and that industry was recommending it be incorporated in the fundamental levels of HVAC coursework. She wasn't aware of any specific classes offered on those standards.

Scott Johnson, NCI, added that IHACI training 33 course modules started being peppered with introductions to ACCA Standard 5 & 9 starting around 2010. NCI offered a design course for contractors which included specific training on the tools needed for installation compliance with ACCA Standard 5. Glendale Community College started recognizing the IHACI coursework for credit, which included introductions to Standard 5, about 2010 or 2011.

CA NEWS Update Summary – Buck Taylor, Bob Sundberg

Bob Sundberg, WHPA staff, reviewed current regulatory, legislative and IOU program recent news and postings. The items included:

- AB802 – CPUC Baseline White Paper posting & CPUC Administrative Law Judge directive to collect and comment on stakeholder and public comments on the White Paper
- HVAC1 Upstream Program impact evaluation study
- HVAC6 Residential Permit/Code Compliance Phase 1 study partial results
- Links to PG&E High Performance HVAC Installation study at the EUC/Home Upgrade website
- CPUC final study – 2013 & 2014 Home Upgrade Impact evaluation

Most of the studies had previously been emailed to all committee members and guests with links to their source locations.

CPUC Administrative Law Judge Ruling seeking comments on CPUC Energy Efficiency Policy (Baseline)
<http://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M159/K980/159980778.PDF>

CPUC Energy Efficiency home page:
<http://www.cpuc.ca.gov/egyefficiency/>

CPUC Energy Efficiency Baseline home page:
<http://www.cpuc.ca.gov/general.aspx?id=4130>

HVAC1 and HVAC6 – type exact text into the Search Text box at the bottom right of screen:
<http://www.energydataweb.com/cpuc/search.aspx>

Click here to sign up for state energy efficiency weekly updates:



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<http://eecoordinator.info/contact-us/>

EUC/Home Upgrade – PG&E High Performance HVAC Installation site. Study description and also draft documents regarding measuring equipment and protocols, data collection form and retrofit performance levels for HP installations. <http://homeupgrade.org/grow-business/highperformance/>

Buck Taylor, Chair, commented on HVAC6 Permit/Code Compliance study that after reading through the initial study, he was a little concerned about how they selected their sampling. There were an alarming number of sample sites which didn't meet the duct sealing requirements. It was a surprise to learn that more non-permitted jobs met the duct sealing requirement than permitted jobs. Those and similar findings could have an impact on the savings IOU programs could claim because of a raised baseline. How could you justify an energy efficiency program to support meeting code requirements when research supported that those without permits scored higher than those who pulled permits? It raised a question in his mind what impact compliance with AB802 would have on baselines. It was one of the topics he wanted addressed when the group discussed goals and future committee work.

Lori Atwater, SCE, added that in the Permit/Code Compliance study, none of the non-permitted jobs sampled had load calculations done. Buck Taylor concluded that this indicated that there had been no effort to engineer/design the system or evaluate for system performance.

RQI 2016 Goals – Buck Taylor

Buck Taylor, Chair, shared the three SMART Goal topics recently approved for this committee:

- 2016 SMART Goal Topics:
 1. Develop a 2016-17 communication plan to communicate RQI needs to influence policy and implementation
 2. Assist in the integration of RQI and Whole House while protecting the integrity of QI fundamentals
 3. Provide input into appropriate business plans as requested

SMART Goals.

SMART is a methodology to develop goals that are:

- **Specific,**
- **Measurable,**
- **Action-Oriented,**
- **Realistic, and**
- **Time-Based**

Draft of 2016 RQI Committee Implementation Plan

Committee Description/Mission: The Residential Quality Installation (RQI) Committee establishes goals, standards, and criterion to meet the RQI objectives established in the California Energy Efficiency Strategic Plan Goal 2: "Quality HVAC installation and maintenance becomes the norm. The marketplace understands and values the performance benefits of quality installation and maintenance." The committee addresses program and marketplace barriers to RQI through:

- Assisting in the development of an appropriate baseline for IOU claimed energy savings.
- Supporting the work paper process to assign fair and accurate measure savings.
- Working with program evaluators to identify an agreed upon approach for system performance evaluation to improve alignment between EM&V efforts and the IOU programs.



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- Developing customer-focused messaging to be used in the marketplace describing RQI benefits.

These efforts are intended to improve recognition of RQI measures with the regulators, IOUs and end-use customers, and to attain an extended, scalable program reach.

Goal #1: Launch 2016 RQI Committee

Goal #2: Update August 2012 White Paper: Changes Requires to Achieve QI and Include a New Section Outlining a Communication Plan that Communicate RQI Needs to Influence Policy and Implementation by December 31, 2016

Buck informed that group that he and Bob had held a goal planning meeting recently with Ellen Steiner, staff member responsible for coordinating development of committee and working group goals. Executive Committee, Council of Advisor members and committee/working group chairs met November 4 & 5, 2015 for an in person annual leadership meetings. Breakout groups were formed to produce draft goals for each active committee for the Executive Committee to consider as it identified overall WHAP goals for 2016. Buck was not chair at this time so he was uninvolved with that activity.

After Buck reviewed the EC approved topics and discussed goals and implementation plans with Ellen Steiner and Bob Sundberg, he thought that most of what the committee had worked on over the last four years might benefit from either a revision of the 2012 white paper which outlined barriers to transforming market standard practices to quality installation or to have the committee author a new white paper. Some of those issues included current baseline methodology against which IOU program savings was calculated, research methodology for accurate home comparisons, compliance issues, training and resource issues and so forth. This was his idea which he wanted to have discussed along with other ideas for goals by the entire committee. The white paper idea was not yet proposed and certainly could not be entirely completed by the end of the year. No outcomes, work products or milestone dates had yet been established for any goals.

Buck added that there hadn't really been any feedback to the committee for the initial 2012 White Paper on Barriers to Adoption of RQI. He didn't have an idea whether very many people had read it or understood what the committee was trying to convey at that time. But, he thought an examination of the degree of progress on the issues identified in the 2012 White Paper would be beneficial as well as what new issues and gaps had emerged since its distribution. He asked attendees for their comments.

Chris Ganimian, Energy Analysis Technologies, stated that he was all in favor of revising and re-issuing the White Paper. He was willing to volunteer and believed that IOU engineering staff would be willing to help out as well.

Jeremy Reefer, SDG&E, committee the IOU members to help in this process. He also thought it would be a win to engage their engineering staff when needed and appropriate.

Buck Taylor agreed that the committee and working its goals could really benefit IOU business planning and program implementation planning. But, he expressed the concern that if the committee contributed to or provided suggestions and guidance on the IOU business plans or input that the IOUs would seek on those or program implementation plans that would result in requests for proposals (RFPs) in the future, would those member contributions create a conflict of interest for members of this or any other WHPA committee?

CPUC ED IOU Business Planning Guidance – conflicts of interest

Buck Taylor expressed his concern that helping the IOUs with development of their business plans or program implementation plans could create a conflict of interest for members and preclude them from future work for IOUs.



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Jeremy Reefer, SDG&E, stated, yes it would, in his opinion. That was where the challenge had been for years with what the WHPA could contribute and not cross that line. He recalled that there was a CPUC guidance document that identified and called out a conflict of interest for participants in both the business planning and program planning process. The concern was that participants would have a competitive advantage on a future RFP.

EECoordinator site with links to CPUC guidance on IOU business plan development – for link to download Word document.

<http://eecoordinator.info/correction-released-by-cpuc-on-business-plan-guidance/#more-2918>

Jeremy offered to check with his legal and sourcing team.

Buck requested a simple document or presentation that would give the committee better insight into potential conflict circumstances so they could screen and properly identify activities for members which could create a conflict of interest for their work. And, since there was public access to all committee meeting notes, where could you draw the line for what could be contributed and where a conflict of interest would exist. Buck didn't want to put any committee member's work in peril through participation. This seemed to him to be more of a formal issue above the level of one committee or one IOU.

Jeremy Reefer suggested that Bob Sundberg draft a memo to inform Mark Lowry, WHPA Executive Advisor, that the issue was raised during this committee meeting and to request guidance for how staff should respond for this and all other committees. From an IOU sourcing standpoint, it might appear to that staff that the WHPA committees were similar if not the same as the CA EECC and its subcommittees where participation had already received guidance on conflicts of interest. He recalled that CPUC spokespersons had stated that stakeholders participating in the business planning process and commenting would constitute a conflict.

Buck Taylor requested that Bob Sundberg inform Mark Lowry, Executive Advisor, that this issue of potential conflict of interest be raised with the Executive committee for their response and guidance or for the EC to take the matter up for all WHPA committees and working groups. They should all be made aware of the potential for conflicts of interest involved in IOU development of business plans and program implementation planning.

ACTION: Buck Taylor, RQI Committee Chair, directed Bob Sundberg, WHPA staff, to inform Mark Lowry, WHPA Executive Advisor, that this committee was concerned about members and the committee participating in IOU business development planning as requested and also later in the IOU program implementation planning process and discussions. Bob Sundberg was to request that Mark Lowry have this matter brought before the Executive Committee for discussion and their response and guidance back to this committee and to inform all committees and chairs about the concern for a conflict of interest. **COMPLETED.** Memo sent to Mark Lowry May 25.

Buck Taylor asked attendees whether they agreed with his recommendation and Chris Ganimian's support comment that they proceed with a planned goal to revise the barriers to RQI market transformation white paper or had any other comments or goal suggestions to make to the committee.

Jeremy Reefer commented that IOU staff understood that these WHPA committees had a limited number of remaining one hour meetings in 2016. Their goal might be to outline or complete a "straw man" for such a white paper revision and understandably not expect to complete such a large undertaking this year. He understood while participating on other committees that it was an involved and complicated process developing these sorts of documents. This outline could lay the groundwork for a healthy conversation during the next year as the document was developed.



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Buck Taylor agreed. He knew this committee wanted to provide input to IOUs that had been and would be requested on past and new issues they would include in this white paper. Past efforts had appeared to fall on deaf ears outside the IOUs so it would benefit both parties to provide that input in a public document which the IOUs could refer to when in discussions with regulators as well as potentially be a valuable resource for utility discussions outside California. There needed to be a record of industry comments regarding certain regulatory work orders, studies and IOU dispositions which he personally believed to be flawed. Creating policy and restricting IOU program development, implementation and claims for energy savings based on these flawed conclusions needed an industry response and challenge.

Buck Taylor again asked attendees whether they agreed with the goal of revising and updating the 2012 White Paper to highlight the issues and barriers which were slowing down IOW program expansion and transforming the market to QI being the predominant industry practice and improve progress trying to meet goals of the 2020 state strategic plan. Or, were there additional ideas for goals which the committee should also be considering. Did they need to formalize guidance regarding education for the WE&T Committee? Was this level of HVAC education only done within utility programs or should greater effort be made to push national standards education out further? Should a guidance document be created by this committee regarding what it considered were educational concepts which were critical to achieving this higher level of energy efficient installations? He was looking for ideas which the committee could accomplish prior to the utilities asking for input and potentially creating a conflict of interest situation.

Chris Ganimian thought that the committee should work on the whole idea of how to bring the QI standard to the masses whether within a White Paper revision or as another effort. It had been expressed several times in earlier committee meetings that what was being done in SCE territory was not easily duplicated broadly statewide. They could bring their learnings about the hurdles to broad adoption for the benefit of those in other marketplaces and states that would be interested to start or expand programs based on QI standards.

Buck Taylor agreed and thought that the educational hurdle, the training required for tomorrow's techs to be capable of standards based installations, was a large one. Education wasn't free. And, the industry infrastructure just didn't exist to support those techs once in the field at this higher level of engineering and system design and technical support that would not only help them meet code but also achieve meeting the national standard.

Buck also took issue with a common misunderstanding that if you met code you also met ACCA Standard 5 because you did a Manual J. Meeting code is mostly documenting installation. Properly implementing Manual J included another level of capability. Even some of their best contractors still made mistakes, some critical and others not so critical. Another barrier is that you can't hold contractors accountable unless there is code support for system design and an infrastructure in place to assist contractors whose installations hadn't met design requirements. That's the function which ACCA Standard 9 was developed to perform. Boots on the ground and trained eyes reviewing the documents to insure compliance. Current code practices just doesn't do that.

Chris Ganimian agreed. He thought that Standard 9 was what made Standard 5 work. Without enforcement and contractor mentoring, Without enforcement and reinforcement, programs and installation compliance was doomed to failure. These concepts, especially on the design side, are very foreign to most contractors. Many adopted commissioning pretty readily. But, implementing design concepts was like speaking Chinese to most guys.

The group then discussed that issue/barrier of the level of training which code/building officials had. It was generally agreed that few had the current knowledge and most didn't have the time or interest to develop the degree of HVAC expertise required to enforce QI standards for design and installation.



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Buck Taylor stated that in the commercial installation world proper installation depended upon stamped engineering design and installation documents presented to the code official. The design engineers actually had a higher level of responsibility and expertise than the code officials. Code officials could simply look for the engineer's stamp and assume that the design was correct.

Chris Ganimian stated that having code officials better educated on design requirements was admirable. But, unless you had contractors trained properly on sizing, design and installation, you'd still have capable code officials trying to inspect, note flaws and then correct in retrospect all of the contractor's design errors. Both had to be addressed, hand in hand.

Buck Taylor agreed. There was no current infrastructure in place, other than in a utility program, where a contractor could turn for the needed mentoring and support or who would be looking over their shoulder to help insure they weren't taking shortcuts after completing their standards training. All of that infrastructure costs money. Many contractors have stated that they want to hear their customers demanding this higher level of installation. In the DOE May 12 workshop there was a healthy debate over whether it was or should be the contractor who led the market or should be the customer.

Scott Johnson, NCI, said he'd doubled his efforts recently to try and reach chapters of IAPMO, the international association of code officials. That had resulting in a number of local jurisdictions actually asking for on-site HVAC training. He was campaigning for the day that a consumer would contact a building inspection authority who would inform them that not all installations were created equal. That they could hand out a document outlining installation processes intended to meet national standards.

<http://www.iapmo.org/Pages/IAPMOgroup.aspx>

Tyler Miner, Henry Bush Plumbing, Heating and AC, stated that in his work with over 20 code officials, not one had expressed that they had the time or interest to learn more about HVAC. At the end of the day all they wanted to see was a piece of paper with a HERS stamp on it for the HVAC installation. He was amazed whenever they even took a look at the equipment and installation. He didn't think it was the building inspection departments job to lead that education effort beyond informing consumers to some degree. He agreed with earlier statements made about the importance of consumer education through the DOE and other avenues. He suggested what was needed was to create consumer need and demands to meet national standards. That would peek contractor interest and future compliance. Getting the word out that not all installations were created equal in campaigns would be a big part of the solution.

Next Steps/Closing Comments/Adjournment

Buck Taylor summarized that they'd gotten an action item to accomplish with the Executive Committee. He thought that they should probably delay further work on the SMART Goals with Ellen Steiner until they received EC feedback. He could inform Ellen of that decision.

Bob Sundberg suggested the EC Committee meeting was normally the 2nd Wednesday each month which would be June 8. If they held their meeting on the 8th, this committee might be able to get some feedback, though probably not a decision or action, in time for their June meeting, normally the 3rd Wednesday, which would be June 15. He suggested that during this interim, committee members should forward their ideas regarding 2016 goals to Buck and himself. He would compile a list of the suggested goals which could be reviewed in June or at a future committee meeting. He



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could also send all members/guests the EC approved goal topics as well as the goals which had been proposed at the November 4/5 2015 WHPA meetings.

Buck agreed and made that request to all committee members.

ACTION: Buck Taylor asked all committee members to email any/all goal concepts and statements to Buck and Bob Sundberg to be considered at the next committee meetings. Bob Sundberg was directed to send out the current EC approved goal topics, tentative committee goals and the goals which were proposed at the November 4/5 2015 WHPA In Person Meetings.

Several attendees mentioned conflicts for Wednesday June 15. The next meeting was tentatively set for Wednesday June 22 at 10:00 to 11:30 am PDT - for 1.5-hour. Meetings were normally scheduled for the 3rd Wednesday of each month.

Tentative agenda items for the next meeting would include:

- Discuss EC feedback on the issue of potential conflicts of interest
- RQI C. 2016 Goals
- TBD

Buck Taylor adjourned the meeting at 11:38 am PDT.

* * * * *

ACTION Item summary below.

Summary of Action Items and Key Decisions (from above)

May 25 ACTION: Buck Taylor, RQI Committee Chair, directed Bob Sundberg, WHPA staff, to inform Mark Lowry, WHPA Executive Advisor, that this committee was concerned about members and the committee participating in IOU business development planning as requested and also later in the IOU program implementation planning process and discussions. Bob Sundberg was to request that Mark Lowry have this matter brought before the Executive Committee for discussion and their response and guidance back to this committee and to inform all committees and chairs about the concern for a conflict of interest. COMPLETED. Memo sent to Mark Lowry May 25.

May 25 ACTION: Buck Taylor asked all committee members to email any/all goal concepts and statements to Buck and Bob Sundberg to be considered at the next committee meetings. Bob Sundberg was directed to send out the current EC approved goal topics, tentative committee goals and the goals which were proposed at the November 4/5 2015 WHPA In Person Meetings.

PAST ACTION ITEMS:

April 2016 ACTION: Lori Atwater, SCE, committed to having the IOU leads provide the RQI Committee members with a summary of the IOUs HVAC ResQI strategy. Ongoing.

April 2016 ACTION: IOU program leads (Lori Atwater/SCE, Swapna Nigalye and Leif Magnuson/PG&E, Collin Smith/SDG&E) would provide committee chair and staff with IOU HU program manager and HU Working Group contact information as well as other key HU representatives (ICF or other implementer staff) going forward. Ongoing.



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April 2016 ACTION: Once provided with HU/Advanced HU contact information, Chris Ganimian would contact the HU Working Group co-directors to request attending a future RQI Committee meetings and coordinate RQI Committee members possibly attending HU program related meetings. Pending