



# California Commissioning Collaborative Advisory Council Meeting Minutes

**March 25, 2010**

SMUD Customer Service Center

9 a.m. – 3:15 p.m.

## Attendees

### Advisory Council

Don Frey, LightLouver, Inc.  
James Bryan, Arden Realty  
Greg Cunningham, Enovity  
Keith Forsman, PG&E  
Ed Jerome, EnerNOC  
David Jump, QuEST  
Michael Lo, SCE  
Tod McKelvy, Berding Weil

### Board of Directors

Jim Parks, SMUD  
Bruce Baccei, SMUD  
Dan Burgoyne, State of California DGS  
Tav Commins, California Energy Commission  
Richard Conrad, DGS  
Greydon Hicks, PG&E  
Chuck Poindexter, San Diego Gas & Electric  
Glenda Towns, So Cal Gas

## CCC Staff and Consultants

Phil Welker, California Commissioning Collaborative (Executive Director)  
Eliot Crowe, California Commissioning Collaborative  
Brenda Hopewell, California Commissioning Collaborative  
Misti Bruceri, CCC Consultant  
Jim Flanagan, CCC Consultant

## Guests

John	Beck	EMC Engineers
James	Becker	3QC
Martha	Brook	California Energy Commission
Nick	Burton	Harmonics Limited
Beth	Chambers	California Energy Commission
Erik	Dyrr	KEMA
Erik	Emblem	3E International Incorporated
Hannah	Friedman	PECI
Mugi	Lukito	SCE
Ann	McCormick	Newcomb Anderson McCormick
Andy	Mitchell	Commissioning Agents, Inc.
Denise	Nicholson	McKinstry
Nathalie	Osborn	McKinstry
Steve	Prey	Caltrans Energy Conservation Program
Alex	Teplitsky	Total Facility Optimization
Amelia	Schamle	Quest
David	Adams	Climatec
Penelope	Shibley	Sabiro
Glen	Jacobs	Matrix

## Welcome, Introductions, and Announcements

Don Frey called the meeting to order at 9:30 a.m. Attendees introduced themselves.

- Martha Brook provided a short update on the ARRA stimulus funding update.
- Don Frey spoke about CCC Board and Advisory Council membership: Gregg Ander of SCE, Norm Bourassa of CEC, Jim Rosier of Equal Air Balance, and Jon Wimer of NCEMBT have stepped down and were thanked for their past contributions. New members are being sought.
- Tav Commins provided a short update on the Title 24 training initiative - the next training sessions for building inspectors are on April 22nd and 23rd, and further training sessions are planned throughout the year.
- Don Frey announced the National Conference on Building Commissioning (NCBC) would be held on May 25th & 26th in Chicago ([www.peci.org/ncbc/2010](http://www.peci.org/ncbc/2010)).
- Dan Burgoyne passed on comments received from some city building departments regarding the 'CalGreen' code requirement for commissioning. A concern has been raised around the requirement for certified commissioning agents without guidance on what certification is acceptable. Dan suggested this as an opportunity for the CCC to provide assistance/guidelines, and Martha Brook of the CEC echoed this request.

## Report-out on Monitoring Systems Survey

*Misti Bruceri, CCC Consultant & Don Frey, LightLouver, LLC*

Misti Bruceri presented the results of a monitoring survey she completed as part of the CCC's policy initiative.

The survey was directed primarily to commissioning providers to determine how providers typically acquire and use data, what impact each methodology has on Commissioning, and what problems come with the different methodologies.

The second phase of this survey was to determine the code requirements related to data acquisition and identify the challenges and options for the future, including code revisions.

Don Frey led a follow up discussion around how this research should feed into code development. Key discussion points:

- Determining cost effectiveness of monitoring requires an assessment of the potential savings. A comment was made that Title 24 needs to be cost effective as a whole, but not necessarily every measure. However, in practice individual measures are not approved unless they are cost-effective.
- On a related topic, one experienced Cx provider said that it can be challenging to find a 'mess of wires' when setting up monitoring for a project. Guidelines to address this challenge would be appreciated.
- Suggestion was made that monitoring could be introduced as an 'optional' measure, or that there could be options on top of a basic monitoring requirement. However, the State wants to reduce 'optional' requirements, in order to make the standards clearer.
- Need to consider not only the physical monitoring aspect but also the means of diagnosing faults (this can be manual or automatic).

## PEIR Program Advisory Committee (PAC) Meeting

*Eliot Crowe, CCC Program Manager & Beth Chambers, CEC Contract Manager*

Eliot Crowe and Beth Chambers presented updates and highlights on the CCC PIER Projects (see below). This presentation included information about the California Energy Commission's recent 'Block Grant' awards, and the departure of Norm Bourassa from CEC to join LBNL. Chris Scruton will be taking over Norm's role at CEC.

Eliot Crowe gave brief updates on the following projects:

- Project 2 – *Integrating Energy Information into Commercial Real Estate Transactions* – The background research, development of a pilot plan, and initial pilot recruiting have been completed. In the coming months the recruitment will be finalized, pilots will be conducted, and an outreach plan will be developed.
- Project 3 – *EBCx Tools Development* – Two TAG meetings has been held, measures have been selected for the savings calculation tools, and calculation tool specifications have been drafted. Proposed updates to the Energy Charting and Metrics (ECAM) tool have been confirmed, and

updates have commenced. In the coming months the calculation tool specs will be finalized and development will begin, and the ECAM updates will be finalized.

- Project 6 – *Evaluation of Title 24 Enforcement, and Effectiveness of Acceptance Tests* – Two work plans have been developed and the kick-off TAG meeting was held. In the coming months participants will be recruited, phone interviews and site visits will be conducted for evaluating Title 24 enforcement and also the effectiveness of certain acceptance tests.

Some comments from the Advisory Committee relating to these projects:

- California's Climate Action Team will be making recommendations in June - These may be of interest/relevance to these projects
- Project activities should be aligned with California's AB32 legislation where appropriate
- PG&E was approached by appraisers in relation to energy assessment forms that could align with Property Condition Assessments - this may be relevant to Project 2.

As part of the PAC meeting, extended highlights were presented for 2 of the PIER projects

### **PIER Project Highlight: Energy Performance Tracking Best Practices**

*Hannah Friedman, PECl (Principal Investigator)*

Hannah Friedman offered a progress update on the PIER project 4, *Improving Persistence of Retrocommissioning Benefits*. The objective of this research is to gain a better understanding of persistence of RCx measures, become familiar with the types of performance tracking systems that are available, develop case studies, and ultimately to develop a practical guide. This research will become relevant to utilities as they consider whether to include performance tracking programs in their portfolios, and how savings better persist if these systems are utilized. Literature review, phone interviews, fault detection & diagnostic tool research, are the primary information gathering tools for this project.

Friedman offered explanations on the typical cycle of performance tracking, emphasizing the need for action rather than simply using tracking as an end in itself. In addition, explanation of the various types of systems was presented, noting that there are many overlaps in the functionality of tools.

Through a literature review, Friedman determined that persistence tracking is not currently a part of most efficiency programs, and that there is a lack of several important details, including: cost vs. benefit, operator time requirements, training, and how to act on the resulting data. No user-friendly performance tracking guides currently exist.

Through phone interviews Friedman gathered a better understanding of what tools and practices are being used in the field. Friedman also reviewed the Fault Detection and Diagnostic (FDD) tools that are being reviewed.

Discussion points following this presentation:

- A utility RCx program manager stated a desire for guidance to support persistence, to cover the human element not just the tools themselves
- Earlier SMUD persistence research was cited, which emphasized the value of good quality training for building staff at the end of a retrocommissioning project.
- Regarding the use of energy performance tracking tools to determine savings within a utility program approach, there is a challenge in that savings traditionally need to be reported on a measure-by-measure basis.
- Following on from the above point: A balance needs to be struck whereby the accuracy and volume of information required by an owner is appropriate for their energy costs, eg. For low cost and/or low savings measures, a building owner doesn't need a high degree of accuracy in order to make an investment decision.
- CalTrans sites have reporting 'dashboards' which act as a good stimulus for action as building managers "don't want to end up in the bottom third" when ranked against other buildings.
- The work of Johnson Controls in developing dashboards at the system level for Missouri State may be of relevance to this project, and is worth following up.
- Management structures for leased buildings should be considered when developing the performance tracking guideline and making recommendations.

## **PIER Project Highlight: Guidelines for Verifying Existing Building Commissioning Project Savings**

*David Jump, QuEST (Principal Investigator / Project Manager)*

David Jump offered information on the Verification of Savings Guideline PIER project. The purpose of this project is to provide guidance for EBCx projects on verification methods and selecting and implementing appropriate methodologies; ultimately, the purpose is to establish higher levels of confidence in the benefits of existing building commissioning. There is strong support from service providers, program managers, technical reviewers, and program evaluators to standardize this methodology and increase confidence in verification's accuracy.

The components of this project include:

- Convene a Technical Advisory Group
- Pilot the Option B/C (Interval Data) Verification Methodology
- Develop Methods Matrix and Evaluation Framework
- Apply the Evaluation Framework to evaluate ten verification methods
- Develop method selection procedure
- Complete Final "Guideline for Verifying Existing Building Commissioning Project Savings"
- Conduct Industry Outreach Activities

At this point the evaluation framework, a detailed outline, 2 tag meetings, and the selection of pilot firms have been completed. The next phases include collecting feedback from the pilot projects and creating a draft of methodology chapters. An overall project schedule was presented.

Discussion points following this presentation:

- Providing guidance around the required level of expertise will be helpful for newer practitioners, and will also help owners determine the scale of the cost (based on the assumption that higher required skill level is connected to higher cost)
- Q: Will the guidelines be directed more at owners or Cx practitioners? A: Mainly practitioners, but it should provide some guidance to owners also.
- Q: When will the guidelines be completed? A: Targeting the end of 2010.

## **California's Benchmarking / Asset Rating Initiative**

*Martha Brook, CEC*

Martha Brook presented highlights of California's benchmarking / asset rating initiative. Brook reviewed the purpose, concerns and status of the performance rating disclosure legislation AB 1103. The California Home Energy Rating Certification system was also discussed in relation to UK rating systems.

Discussion points following this presentation:

- Q: What is the definition of a "Building", eg. Would a strip mall count as a single building or a collection of buildings? A: This is a common challenge; this is often a case of whatever is defined in the deeds, eg. In the case of a large mall with "anchor" stores such as Macy's/Sears, the anchor stores may well be excluded from the mall when considering benchmarking.
- Q: On a numerical scale, if "0" equates to net zero energy use, what happens if a building actually provides energy to the grid, ie. It is even better than zero energy use? A: This will be considered in the benchmarking standard, but is not defined yet.

## **CCC Policy Initiative – Tactical Update**

*Brenda Hopewell, PECI*

Brenda Hopewell offered the results of her calls to Advisory Council members and the resultant information about what direction the AC would like to see the CCC take in terms of policy. Brenda first reviewed the CCC Policy Point of View, which includes:

- Building standards
- Short-term CPUC policy opportunities
- Long-term CPUC policy opportunities

- Expanding commissioning provider and market capacity
- Overarching topics

In Ms. Hopewell's conversations with AC members the top concerns were:

- EM&V: standardized calculations and commonly accepted practices/protocols
- Whole building performance and incentives for demonstrated savings
- Training/qualifications issues

Discussion points following this presentation:

- Dan Burgoyne of DGS is on the Working Group for Operations, and would appreciate support/guidance from the CCC.

## 2010 Projects Planning

*Don Frey, Advisory Council Chair*

Don Frey presented the purpose and results of the recent online survey to Advisory Council members. The goal of this exercise is to determine the direction for additional available funds in the CCC's 2010 budget, and to use the expertise of the Advisory Council to help direct those funds.

The first round of the survey indicated the importance of training and education for owners, managers and operators, the concerns over a shortage of qualified engineers to perform Cx and the depressed economy. In the second round of this survey training and education again stood out as a primary concern, along with some discussion of the CALGreen standards, and an expansion of the CCC's web presence.

## Wrap - Up

*Don Frey*

Don Frey presented the CCC Meeting schedule for the remainder of 2010:

Date	Host	Location
June 10	SCE	Irwindale
September 16	PG&E	TBD
December 2	Sempra (SoCal Gas)	Downey

The meeting adjourned at 3:15 p.m.