California Commissioning Collaborative
Advisory Council Meeting

June 12, 2008
## Agenda

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speaker(s)</th>
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<tr>
<td>9:30 AM</td>
<td>Welcome, Introductions, and Announcements</td>
<td>Don Frey</td>
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<tr>
<td>9:40 AM</td>
<td>PIER Proposal Update</td>
<td>Kirstin Pinit</td>
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<tr>
<td>10:00 AM</td>
<td>PG&amp;E Chiller Project Case Study</td>
<td>Ken Gillespie</td>
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<tr>
<td>10:30 AM</td>
<td>BREAK</td>
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<td>10:45 AM</td>
<td>Building Owners and Managers Association of California</td>
<td>Bill Roberts, Tod McKelvy</td>
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<tr>
<td>11:15 AM</td>
<td>What's Unique About Commissioning Data Centers?</td>
<td>Richard Greco</td>
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<tr>
<td>12:00 PM</td>
<td>LUNCH</td>
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<tr>
<td>1:00 PM</td>
<td>Energy Charting And Metrics Tool Demo</td>
<td>Bill Koran</td>
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<tr>
<td>1:45 PM</td>
<td>Energy Efficiency in Commercial Food Service</td>
<td>Don Fisher</td>
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<td>2:30 PM</td>
<td>NCBC Town Hall Report</td>
<td>Kirstin Pinit</td>
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<tr>
<td>2:50 PM</td>
<td>Wrap - Up</td>
<td>Don Frey</td>
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<td>3:00 PM</td>
<td>Advisory Council Meeting Adjourns</td>
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Introductions & Announcements
PIER Proposal Update

- PIER Technical Innovations – mechanism for PIER funding into CCC
- Three-year proposal, ~$950K
- Commissioning-related research program
- Review committee will provide feedback on topics and scopes developed by CCC staff
  - David Jump, QuEST
  - Greydon Hicks, PG&E
  - Paul Ham, Target
  - James Bryan, Arden Realty
  - Others?
PIER Proposal Update

• Topic areas:
  – Policies and Standards
  – Measurement and Verification
  – Persistence
  – Tool Development
  – Training and Education
  – Market Research
PIER Proposal Update

Policies and Standards

• Objective: Support the regulatory agencies in California with relevant research to further energy efficiency codes and standards.
  – Improving current Acceptance Test requirements, compliance, and enforcement
  – Acceptance testing and verification of packaged HVAC systems
  – Cost-effectiveness/savings potential for advanced standards (design-phase, day lighting, natural/mixed mode ventilation Cx)
PIER Proposal Update

Retrocommissioning Verification Methods

- Objective: Continue development of practical guidance and tools to verify the installation of RCx measures and savings achieved through RCx.
  - Develop guidelines for additional verification methods
  - Pilot and refine guidelines
  - Develop resources to assist in selecting and implementing appropriate verification methods (e.g. case studies)
PIER Proposal Update

Persistence
• Investigate issues surrounding persistence of RCx benefits and the methods and tools currently used to ensure persistence. Develop/propose potential strategies for improving persistence.
  – Qualitative study of measure persistence – why measures fail or are defeated; recommended actions to improve persistence
  – Characterization of persistence tracking tools, software, methods

Tool Development
• Objective: Further existing work done in this area to provide practical and market-ready tools that assist commissioning providers in providing consistent, effective, and cost-efficient services.
  – Continue development of standardized calcs for RCx
  – Guidance for owners and providers to clarify RCx scopes
PIER Proposal Update

Training and Education

• Objective: Strengthen the commissioning industry by promoting the practice as a career path for students and professionals in related fields.
  – Explore the marketing messages and vehicles that can be used to connect commissioning concepts and career paths with environmental issues
  – Develop a commissioning internship/mentoring program plan and pilot
PIER Proposal Update

Market Research

• Objective: Gain a more sophisticated understanding of the market for commissioning specific building types and market sectors.
  – Continue market sector specific research on owner decision-making process
  – Develop case studies that highlight owner decision-making and motivations (builds off of latest Owner Outreach materials)
PIER Proposal Update

Proposal Process

• Phase 1
  – Topic selection, general scopes and budgets (review committee to provide feedback on topics and scopes)
  – RFQ to update/expand CCC’s list of pre-qualified contractors

• Phase 2
  – Full scopes, budgets and teaming
  – RFP selection process to match scopes and contractors
PIER Proposal Update

Contractor Selection

• RFQ for qualified providers to be released ASAP, responses due early July
  
  Evaluation Criteria
  – Experience, including current significant activities
  – Positive references
  – Project management capabilities
  – Key personnel’s experience, education and projects to date

• RFP in Phase 2 to propose on specific project scopes
PIER Proposal Update

Next Steps

• PIER RFP expected this week
• Contact info@cacx.org if you would like to be on review committee for Phase 1 research topics
• CCC’s RFQ to be released ASAP
PG&E Chiller Project Case Study

Ken Gillespie
PG&E
Break

10:30-10:45
Building Owners and Managers Association of California

Bill Roberts
Economic Sciences Corporation

Alfred “Tod” McKelvy, Jr.
Berding & Weil, LLP
What’s Unique about Commissioning Data Centers?

Richard Greco
California Data Center Design Group
Lunch

12:00-1:00
Energy Charting And Metrics Tool Demo

Bill Koran
Quest
Energy Efficiency in Commercial Food Service

Don Fisher
PG&E Food Service Technology Center
NCBC Town Hall Report

- CCC sponsored commissioning industry “Town Hall Meeting” April 24 at NCBC
- About 70 participants
- One-hour interactive discussion on challenges and opportunities facing the industry
- One-hour breakout session in small groups to develop vision statements for the industry
NCBC Town Hall Report

Primary Themes

• Standardization
  – Universal understanding of scopes

• Persistence
  – Ongoing process for life of building

• Training for Commissioning Providers
  – Professional credibility, recognition and certification

• Market Outreach / Communication
  – External awareness program to sustain the market
Sample Vision Statement

• “There will be a building industry where clarity about the specific services required for specific buildings that will deliver owner operating requirements is common and expected in the marketplace.”
Sample Vision Statement

• “Maintaining performance of buildings as standard practice: Ongoing process for life of building to maintain performance using mandates and incentives to drive market. Training O&M staff to maintain performance; professionalize building operations industry.”
NCBC Town Hall Report

Sample Vision Statement

• “Promote the commissioning process as one that values energy savings and facility operational improvements on equal footing.”
NCBC Town Hall Report

Collective Vision for the Industry

• High performance is about **lifecycle** and **quality**
• **Leadership** for consistency and standardization
• **Professionalization** of Cx Agents and building operators
• **Relevance** to broad economic, energy and climate issues
NCBC Town Hall Report

How do we get there?

• High performance is about lifecycle and quality
  – Explore role of incentives and mandates
  – Understand barriers to persistence and overcome them

• Leadership for consistency and standardization
  – A leadership organization steps up or is created

• Professionalization of Cx Agents and building operators
  – Differentiate or consolidate certifications and training

• Relevance to broad economic, energy and climate issues
  – Achieve sophisticated understanding of owners’ drivers
  – Outreach and branding efforts tie Cx to these issues
NCBC Town Hall Report

Next Steps

• White paper will capture the state of the industry and a collective vision for where we are going
  – To be completed this month – watch for an email from NCBC
Future Agenda Topics – August 28

• Topics of Interest
  – Verification Methods for RCx (results of program EM&V, status of guideline development)
  – Other?

• Discussion:
  – Technician role in Cx process
  – Ideas?
Upcoming Meetings

Thursday, August 28
Hosted by SMACNA and Sempra Utilities
• Southern California Joint Apprenticeship Training Center
• 633 North Baldwin Park Blvd.
  City of Industry, CA

Thursday, November 6 – (SMUD)
Adjourn

Thanks to PG&E for hosting the meeting today!