Advanced HVAC Systems

Don Frey, Moderator & CCC Advisory Council Chair
Principal, LightLouver LLC, www.lightlouver.com

August 9, 2012
## Agenda

<table>
<thead>
<tr>
<th>Agenda Item</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Welcome</td>
<td>Don Frey, LightLouver LLC</td>
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<tr>
<td>Retrofitting Existing Buildings for Energy Efficiency and Improved Operational Control</td>
<td>Harry Sim Cypress Envirosystems</td>
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<tr>
<td>&quot;I've found a paradise that's trouble proof, up on the roof…&quot; - Rooftop Unit Performance Monitoring/FDD Fault Detection &amp; Diagnostics for rooftop HVAC units: Technology, code requirements, and commissioning</td>
<td>Mark Cherniack New Buildings Institute</td>
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<tr>
<td>Q&amp;A and Closing Comments</td>
<td>Don Frey, LightLouver LLC</td>
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</table>
Welcome!

Web-Meeting Notes

- All participant lines are muted
- Please submit questions via the Chat feature to Don Frey
  - Find the Chat button at the top center of your screen (menu will expand down when hovered over)
  - Include the name of which speaker your question is for
California Commissioning Collaborative (CCC)

- Non-profit organization established in 2004 to:
  - Improve market understanding of commissioning
  - Address the economic drivers for commissioning
  - Strengthen California’s commissioning infrastructure
  - Expand market intelligence for the commissioning industry

- Co-funded by PG&E, SDG&E, SoCal Gas, & SMUD, with additional project funding provided by the California Energy Commission
California Commissioning Collaborative (CCC)

- Board of Directors
  - Representatives from the CA utilities that fund the CCC

- Advisory Council
  - Utility, real estate, building services organizations and professionals
  - Advise the Board on technical issues and market intelligence
CCC Activities

• Encourage information-sharing and networking through meetings and online forums

• Support ongoing success and development of utility Existing Building Commissioning (EBCx) programs in CA

• Conduct commissioning-related research and development projects
New Tools on CCC Website

Facility Operations Assessment Toolkit

• Assess a commercial building purchase
• Determine potential for O&M improvements
• Beyond benchmarking
• Evaluate ROI of EBCx
# Upcoming Event

Verification of Savings Guidelines Webinar Series

Email [info@cacx.org](mailto:info@cacx.org) to RSVP.

<table>
<thead>
<tr>
<th>Topic</th>
<th>Speaker</th>
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</tr>
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<td>Guidelines Overview and Selecting a Method</td>
<td>David Jump, QuEST</td>
<td>Aug. 30</td>
<td>12:00-1:00 Pacific</td>
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<td>Method 1: Engineering Calculations with Field Verification</td>
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<td>Sept. 6</td>
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Today’s Presentations:

Retrofitting Existing Buildings for Energy Efficiency and Improved Operational Control
Harry Sim
Cypress Envirosystems

"I've found a paradise that's trouble proof, up on the roof..." - Rooftop Unit Performance Monitoring/FDD
Mark Cherniack
New Buildings Institute
Retrofitting Existing Buildings for Energy Efficiency and Improved Operational Control

Harry Sim
Cypress Envirosystems
"I've found a paradise that's trouble proof, up on the roof…" - Rooftop Unit Performance Monitoring/FDD

Mark Cherniack
New Buildings Institute
Q&A

• Please submit questions via the Chat box
  • Look for menu at the top center of your screen (it will expand down when you move your mouse over it) and select Chat box
  • Send questions to “Don Frey”
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## 2012 Meeting Dates

<table>
<thead>
<tr>
<th>Date</th>
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</tr>
</thead>
<tbody>
<tr>
<td>October 18, 2012</td>
<td>Webinar</td>
</tr>
<tr>
<td>December 6, 2012</td>
<td>In-person, host TBD</td>
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### Verification of Savings Guidelines Webinar Series

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Thank you for participating!

www.cacx.org

Let us know what you thought of the meeting.
Please respond to the post-meeting survey. A link will be emailed to you.