



California
Commissioning
Collaborative

Industry Standard Practice for O&M: What do we know?

Moderator: Don Frey, CCC Advisory Council Chair

Wednesday, December 16, 2015

Welcome!

Web-Meeting Notes

- All participant lines are muted
- Please submit questions via the Q&A box in Webex

California Commissioning Collaborative (CCC)

- Non-profit organization established in 2004
- Co-funded by PG&E, SDG&E, SCE, SoCal Gas, & SMUD

CCC Activities

- Encourage information-sharing and networking through meetings and online forums
- Support ongoing success and development of utility EBCx programs in CA
- Develop tools, guidelines, and other resources
- Conduct commissioning-related R&D

2016 Meeting Dates

Date	Format
January 27	Webinar: Investor Confidence Project

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Today's Presentation:

Industry Standard Practice for O&M: What do we know?

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Industry Standard Practice for O&M: What do we know?

Phil Jordan & Beth Littlehailes

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Agenda

- Purpose
- Background & Summary
- Discussion of Literature
- Conclusion & Recommendation

Purpose

- Conduct research to answer the question:

What is industry standard practice (ISP) in regards to commercial building operations and maintenance (O&M)?

Background

- CA EE programs use a baseline of code or ISP for determining energy savings
 - CA State codes: Title 24, Title 20
 - Federal codes (ex. CFR)
 - ISP studies

Background

- Until now, baseline in utility RCx programs has been as-found condition
- CPUC has challenged this in recent guidance
 - Incentives cannot be paid for “routine maintenance”
 - Baseline should be code or ISP

Summary

- What we knew:
 - Existing codes don't cover O&M
 - There is no ISP study for O&M
- What we found:
 - There is no source or study to indicate commonly adopted O&M practices
 - There are standards and recommended practices, along with anecdotal evidence that they are not followed

Literature

- Although lacking enforcement mechanisms, there is no shortage of standards and best practice guides
- Resources are suggestive of current standard practice (but not definitive)

Let's discuss the more prominent
resources

Literature ASHRAE Standard 180

- Comprehensive – Standard Practice for Inspection and Maintenance of Commercial Building HVAC Systems
- Detailed/thorough requirements for system/equipment types, less detailed for others (including controls)

Literature BOMA Guidebook

- BOMA Preventive Maintenance Guidebook
- Robust set of best practices for maintaining efficient buildings

Suggestive nugget:

Refers to “all too common” random maintenance and reactive maintenance.

Literature FEMP O&M

- O&M Best Practices guide for FEMP
- Best practice guidance for O&M

Suggestive nugget:

Reactive maintenance is the predominant mode of maintenance in the United States.

Literature GSA O&M

- GSA Building Operations and Maintenance SOW template
- Minimum requirements for O&M for all Public Building Service regions
- Relevant to GSA buildings but not clear that wider industry has adopted

Literature IFMA O&M Report #32

- IFMA O&M Benchmarks – Research Report #32
- Provides cost data related to O&M (resource for facilities when setting budgeting and contract reqs.)

Suggestive nugget:

Continuing decline in budget allocation for routine maintenance.

Conclusion & Recommendation

- Without statewide or federal mechanisms in place to enforce O&M standards, we recommend that an ISP study be conducted per the CPUC ISP Guide
- This ISP study would help to define the baseline for RCx measures

Conclusion & Recommendation

Economizers – Air-Side

- ❑ Check condition of OA sensor, RA sensor, or change-over controller
- ❑ Check condition of economizer controller
- ❑ Check dampers for proper condition
- ❑ Check condition of economizer damper motors
- ❑ Assess field-serviceable bearings
- ❑ ...

AB 802

- Potential impact on baseline approach
- “... increase the energy efficiency of existing buildings based on all estimated energy savings ... taking into consideration the overall reduction in normalized metered energy consumption as a measure of energy savings.”
- September 1, 2016 implementation (interim guidance by January 1, 2016)

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 “All Panelists”

Thank you for participating!

Please respond to the webinar survey which will appear in your browser at the conclusion of the event.