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

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Today’s Presentation:

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

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Program Manager, CLEAResult
Industry Standard Practice for O&M: What do we know?
Phil Jordan & Beth Littlehales
December 16, 2015
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.