Green Buildings Action Team—Commissioning Workgroup White Paper

Roadmap to Achieving the Commissioning Goals of the Green Buildings Initiative

EXPANDED OUTLINE

OUTLINE

Executive Summary

1.1 Introduction (broad summary of who, what, why, when, and how)
1.2 Work Group responsibilities and tasks
1.3 Commissioning Goals and Desired Outcomes (presented as a table or other graphic)

1.3.1 Recognition of Importance and Value of Cx and RCx
- Overview of Goal
- Overview Accomplishments
- Overview Recommendations
- Overview Indicators of Success

1.3.2 Development of Methodology and Practice
- Overview of Goal
- Overview Accomplishments
- Overview Recommendations
- Overview Indicators of Success

1.3.3 Prevalence of Commissioning
- Overview of Goal
- Overview Accomplishments
- Overview Recommendations
- Overview Indicators of Success

1.3.4 Availability of Training
- Overview of Goal
- Overview Accomplishments
- Overview Recommendations
- Overview Indicators of Success

1.3.5 Availability of Qualified Labor Force
- Overview of Goal
- Overview Accomplishments
- Overview Recommendations
- Overview Indicators of Success
1 Introduction and History
1.1 Brief historical perspective (California emphasis)
   • Review history of market/industry studies
1.2 Research summary
1.3 Indicators of need
1.4 Executive Order S-20-04

2 Recognition of Importance and Value of Cx and RCx
2.1 Accomplishments
   • Forum for Training Owners
   • Published Commissioning Guides
   • Conducted Discussions with Real Estate and Owners
   • Developed Scope for Market Research
   • Achieved Interim Results from Market Research Project
   • Developed Scope for Decision-Maker Training
   • Resources for Owners on CCC website
2.2 Recommendations
   • Follow on Funding for Market Research
   • Decision-Maker Training
   • Case Studies and Demonstration Projects
   • Outreach to Owner Groups and Decision-Makers
   • Quantify Benefits
2.3 Indicators of Success
   • Number of owners attending NCBC, CCC meetings, applying to commissioning programs
   • Number of Commissioning Guidelines requested/distributed to owners
   • CCC website hits (resources for owners) and requests for information
   • Owners asking for and attending training courses

3 Development of Methodology and Practice
3.1 Accomplishments
   • Published Support for Utility Cx/RCx Programs
   • Developed Scope for Guidelines for Verification of Savings
   • Achieved Interim Results from Guidelines for Verification of Savings
   • Developed Scope for Retrocommissioning Toolkit
   • Achieved Interim Results from Retrocommissioning Toolkit
   • Developed Cx Database Structure
   • Title 24 – revision to standards, forms and manual, training courses for code officials, providers, and designers
   • CCC Meetings
   • CCC Website
   • CCC Library
   • CCC Newsbriefs
3.2 Recommendations

- Followon Funding for Guidelines for Verification of Savings
- Followon Funding for Guidelines for Retrocommissioning Toolkit
- Pursue coherence and clarity in the area of commissioning certification
- Develop targeted commissioning processes and tools to standardize investigation and implementation of specific measures

3.3 Indicators of Success

- Adoption of CCC Guidelines by other organizations
- Statewide consistency in commissioning program process and documentation
- Widespread use of Retrocommissioning Toolkit
- CCC website hits (resources for providers) and requests for information
- Number of providers attending CCC meetings
- Number of Commissioning Guidelines requested/distributed to providers
- Number of certified commissioning providers
- Emergence of a clear and obvious choice of certification program for particular types of projects

4 Availability of Training for Practitioners

4.1 Accomplishments

- FEMP Training
- Researched and Wrote Training Strategy Report
- ACEEE Paper
- Developed Scope for Evaluation of Training and Education Opportunities
- Interim Results from Evaluation of Training and Education Opportunities Project

4.2 Recommendations

- Survey to assess how well needs are being met currently
- Support for Community College curriculum development
- Controls Training and other specific technical training courses
- Operator/facility manager training

4.3 Indicators of Success

- Number of training courses available
- Attendance at training courses
- Training available at a range of skill levels and scope/content
- Survey results show that training needs are being met

5 Availability of Qualified Individuals and Firms

5.1 Accomplishments

- Research into number of provider firms in California
• Research into number of providers needed
• Provider list on website

5.2 Recommendations
• Publicize career opportunities
• Mentorship (individuals and firms)
• Apprenticeship
• Scholarship

5.3 Indicators of Success
• Number of provider firms participating in commissioning programs
• Diversity of provider firms (utilized for complex and simple jobs)
• Number of qualified firms and individuals to perform commissioning projects
• Number of providers holding certification that are most relevant for the types of projects occurring in California
• Commissioning programs have sufficient number of qualified providers to fulfill program goals
• Availability of in-house staff able to perform commissioning and persistence activities
• Number of designated in-house commissioning leads
• Number of in-house positions with commissioning-related job descriptions/responsibilities
• Number of commissioning-related jobs in California

6 Outlook for Penetration of Commissioning in California

6.1 Accomplishments
• State of the Industry – What’s the big picture for Commissioning in California
• Case Studies and Demonstration Projects
• Retrocommissioning program matrix (number and scale of programs increasing)

6.2 Recommendations
• Next steps for moving the industry forward
• Updated market penetration study

6.3 Indicators of Success
• Number/percent of existing buildings commissioned
• Number/percent of new buildings commissioned
• Square footage/percent of square footage commissioned
• Dollars spent on commissioning
• Energy savings resulting from commissioning
• Number of building types and market sectors served by commissioning programs