The Commissioning Process for Delivering Quality Constructed Projects

Daily Agenda: In-person Courses

**MONDAY**

7:30  
*Registration / Check-in*

8:00  
Welcome and Introductions

8:30  
Overview of the Commissioning Process (CxP)
- What is the ASHRAE Guideline 0 commissioning process?
- Current best practice
- What is a quality delivery process?
- Benefits of the commissioning process
- What occurs in each phase of project delivery?

11:15  
Pre-Design Phase Commissioning Tasks (Part 1)
- Developing the owner’s project requirements (OPR)
- Owner’s workshop: preparation and participants, Nominal Group Technique (NGT), procedures and results

12:00  
*Lunch*

1:00  
The Owner’s Project Requirements Workshop
- Executing an OPR workshop
- Determining which questions to ask – project success criteria
- Class activity: workshop in action

3:15  
Developing the OPR Document
- Review of key OPR concepts
- Typical information required
- Steps in document creation
- Review of example document

4:30  
Pre-Design Phase Commissioning Tasks (Part 2, continues on Tuesday)
- Planning the CxP effort
- Commissioning plan fundamentals, key milestones, structure
- Evaluating the benefits of pre-design phase involvement
- The CxP as a strategic quality plan

5:00  
*Daily Adjournment*

**TUESDAY**

8:00  
continue Pre-Design Phase Commissioning Tasks (Part 2)

8:30  
Workshop: Defining CxP Needs
9:45 CxP Activities in the Design Phase
• Pre-design meetings
• Design checklists
• Basis of design development
• CxP design review process
• CxPlan update

10:45 Design Review Workshop
• Group workshop using the four steps of a CxP design review procedure

12:00 Lunch

1:00 Design Review Workshop continues

1:30 Commissioning Specifications
• Format options
• Types of requirements: contractor participation; maintainability; checklist implementation; shop drawings, training, and systems manual; testing and verification

3:00 Commissioning Process Checklists
• Purpose, goals
• Use in all project phases
• Construction checklists: development, tracking methods, verification, statistical sampling, checklist work session

4:00 Systems Manual and Training
• Systems manual (role in all phases)
• Training (role in all phases)

4:55 Daily Adjournment

5:00 University of Wisconsin CxP Certification Exam Review (part 1, for 1 hour)

WEDNESDAY

8:00 Construction Phase CxP Tasks
• Pre-construction activities (pre-bid, workshops, partnering)
• Cx meetings and coordination, role of the CxA
• Tracking commissioning activities
• Cx schedule
• Testing
• Commissioning reports
• Benefits/issues log

9:30 Commissioning Process Tests
• Developing test protocols
• Confirmation of readiness
• Implementation steps
• Documentation

10:30 Test Development Workshop
11:20 Integrating CxP with Contractor Efforts
  • Quality processes
  • Overlaps and gaps

12:00 Lunch

1:00 Electronic and Web-Based Commissioning Tools
  • Computer tools for site tracking
  • Electronic systems manuals

1:30 Acceptance Phase, First Year of Operation, and Beyond
  • Training
  • Systems manual
  • Project CxP report(s)
  • Warranty review and seasonal testing
  • On-going commissioning

2:00 Analyzing the Benefits of Commissioning: Case Studies
  • Scope of commissioning
  • Detailed cost analysis
  • Benefits and lessons learned

2:45 Special Topics in the CxP
  • Review of LEED Cx process
  • Review of existing building Cx process

4:00 Course Adjourns