

Green Building and Whole Building Commissioning Tools Training

Description

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The green building is the new philosophy to design, construct and operating the different types of the buildings

Whole building commissioning is also developed in USA match with the design and implement green building. This tool originally was developed for HVAC systems, is being extended to all building systems: the current concept of total building commissioning. I

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Many major companies and government agencies now require the commissioning process on new construction and renovation projects. Owners of institutional, commercial and industrial buildings and large multi-unit residential buildings must use proven quality management tools and process systems that match their needs, meet their budgets and schedules, and reduce operating problems in new and renovated buildings or plants.

The main elements of the green building will be discuss in all phases of the building construction.

In this course you consider the primary goals of the building commissioning process: reduced building and process construction cost as well as increased quality and value. You also learn how to achieve these goals by introducing more effective planning and communication techniques that are applied from project conception through at least one year of building occupancy or process operations.

The main strategic plan for the green building will be illustrated in this course.

The course enhances your understanding of this important tool, by describing how the commissioning process clearly establishes the owner’s project goals and reduces conflicts, construction change orders, end-of-project conflicts, punch lists, and modifications during the first year of operations. When you implement the commissioning process you ensure as a building owner that you receive high-quality building systems, effective operations and maintenance manuals, and well-trained operating staff.

The whole building commissioning process must integrate with other construction delivery methods, project management by the owner, bid and build design projects, agency construction management, and design-build. It enhances the existing skills of design, construction, and operating professionals.

Course Objective

To discuss what the green building and the total building commissioning process is, why there is a need for it and how it differs from current procedures.

Course Outline

- Registration and Coffee
- Welcome And Introduction

The green building and whole Building Commissioning Process

- Green building concept
- What is Green Building?
- Why is it important?
- The Goals of Green Building.
- Sustainability and Green Building.
- Characteristics of Green Building.
- Definition of commissioning
- Benefits of the whole building commissioning process
- Comparison to existing process of delivering constructed projects
- The commissioning process team
- ·Commissioning process versus commissioning, verifying and validating.
- Commissioning process versus contractor’s commissioning

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Discussion Groups – **Defining Process Needs the Total Building Commissioning Process – Contracting Options**

- Commissioning authority as owner’s representative
- Commissioning authority as contractor’s representative
- Responsibility for specifications
- Contractor as the commissioning agent
- ·Consultant as the commissioning agent
- Strategic Area 1: Sustainable sites
- Strategic Area 2: Water Conservation.
- Strategic Area 3: Energy Efficiency.
- Strategic Area 4: Material Resources.
- Strategic Area 5: Indoor Environmental Quality.
- Strategic Area 6: Innovation
- Needs assessment
- LEED Standards

Planning (Or Pre-Design) Phase Commissioning Tasks In New Construction

- Hiring a commissioning provider.
- RFQ/RFP Exercise
- How to set up and evaluate

New Construction – Design Phase

- Review of design intent
- Writing commissioning specifications
- Scope
- Roles and responsibilities
- Scheduling
- Listing of tests, methods
- Developing a commissioning plan
- Refreshments and Networking
- Respond to bidders questions
- Evaluate bid documents
- Participate in pre-construction meeting and or partnering session

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New Construction – Construction Phase

- Scope meetings to finalize plan
- Relation to schedule
- Clarifying contractors' responsibilities, including testing agencies and manufacturers
- Clarifying definitions and steps: start-up vs. testing vs. verification
- Schedule off site commissioning tests as necessary
- To inspect or not to inspect
- Perform pre-test checklists and start up equipment as available to ensure readiness for functional testing during acceptance
- Owner's familiarization and training

Review of New Construction Steps

- Conception or pre-design phase
- Design phase
- Construction/installation phase
- Verification phase
- Refreshments And Networking

Verification Phase New Construction

- Execute functional tests and diagnostics
- Modes of operation
- Testing whole systems
- Sample forms
- Fix deficiencies

- Retest and monitor as needed
- Operator training
- Review O&M manuals
- Building acceptance by owner

Post – Acceptance Phase New Construction

- Prepare and submit final report
- Perform deferred tests (if needed)
- Develop re-commissioning plan/schedule

Investigation and implementation of Phase Retro-Commissioning

- Perform site assessment
- Obtain or develop missing documentation
- Develop and execute diagnostic monitoring and test plans
- Implement repairs and improvements
- Retest and monitor for results Fine-tune improvements as needed
- Revise estimated energy savings calculations

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