

Essential Project Attributes Of Building Commissioning Guidance Document

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Introduction

The following attributes described are called “essential”, because we believe that they are, in fact, essential to every effective commissioning process. Applying additional commissioning best practices may enhance the process or add commissioning value. However, we believe that not including any of these Essential Attributes renders a process that becomes something other than formal commissioning. As a result, we will incorporate these Essential Attributes of Building Commissioning into every project for which we serve as a project’s Commissioning Authority (CxA), as defined in this document.

In order to clarify context for these *Essential Attributes*, and because the scope of commissioning varies between projects, we define the basic purpose of commissioning as follows: It is our premise that, “The basic purpose of building commissioning is to provide documented confirmation that building systems function in compliance with criteria set forth in the Project Documents to satisfy the Owner’s operational requirements and needs. Commissioning of existing systems may require the development of new functional criteria to address the owner’s current systems performance requirements.”

Essential Attributes

1. The Commissioning Authority (CxA) leads the commissioning process and makes the final recommendations in consultation with other stakeholders to the owner regarding functional performance of the commissioned building systems.
2. The CxA is an objective, independent advocate of the Owner. If Viscon Systems has other project responsibilities, or is not under direct contract to the Owner, a conflict of interest exists. Wherever this occurs, the CxA discloses, in writing, the nature of the

conflict and how the conflict will be managed.

3. In addition to having good written and verbal communication skills, the CxA has current engineering knowledge, and extensive hands-on field experience regarding:
 - Building systems commissioning,
 - Technical knowledge of building systems,
 - Building systems start-up, balancing, testing and troubleshooting,
 - Operation and maintenance procedures,
 - The building design and construction processes,
 - Automated monitoring and control systems
4. For each project, the commissioning purpose and scope are clearly defined in the CxA contract.
5. The CxA recommends the commissioning roles and scope for all members of the design and construction teams be clearly defined in:
 - Each design consultant's contract,
 - The construction manager's contract,
 - General Conditions of the Specifications,
 - Each section of the specifications covering work to be commissioned, and
 - The specifications for each system and component for which the suppliers' support is required.
6. Each project is commissioned in accordance with a written commissioning plan that is updated as the project progresses. The commissioning plan:
 - Identifies the systems to be commissioned,
 - Defines the scope of the commissioning process,
 - Defines commissioning roles and lines of communications for each member of the project team, and
 - Estimates the commissioning schedule.
7. On new building commissioning projects, the CxA reviews systems installation for commissioning related issues throughout the construction period.
8. All commissioning activities and findings are documented as they occur. Issues are tracked through resolution and acceptance. These reports are distributed as they are generated and included in the final report.

9. The functional testing program objectively verifies that the building systems within the commissioning scope of work perform interactively in accordance with the Project Documents. Written, repeatable test procedures, prepared specifically for each project, are used to functionally test components and systems in all modes of operating conditions. These tests are documented to clearly describe the individual systematic test procedures, the expected systems response or acceptance criteria for each procedure, the actual response or findings, and any pertinent discussion.
10. The CxA provides constructive input for the resolution of system deficiencies.
11. Every commissioning project is documented with a commissioning report that includes:
 - An executive summary including an overview of the implemented commissioning process, the systems commissioned, the major findings and the operating condition of the systems at the completion of functional testing,
 - Issues that were discovered and the measures taken to correct them,
 - Unresolved operational issues that were accepted by the owner, along with related recommendations,
 - Operational and ongoing commissioning recommendations⁷ based on information discovered during commissioning,
 - Functional test procedures and results,
 - Reports that document all commissioning field activities as they progress, and
 - A description and estimated schedule of required deferred testing
12. The CxA provides a document management system for the project stakeholders using the Quicx platform by Chinook Systems.

References

- I. Building Commissioning Association (BCxA) essential attributes
<https://www.bcxa.org/about-us/essential-attributes.html>
- II. ASHRAE Guideline 0-2103 The Commissioning Process
- III. ASHRAE Guideline 0.2-2015 Commissioning process for Existing Systems and Assemblies
- IV. REHVA Quality Management For Buildings