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ASHRAE Guideline 0-2019
The Commissioning Process

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NOTE

Approved addenda, errata, or interpretations for this guideline can be downloaded free of charge from the ASHRAE website at www.ashrae.org/technology.

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(This foreword is not part of this guideline. It is merely informative and does not contain requirements necessary for conformance to the guideline.)

FOREWORD

The Commissioning Process (Cx) is a quality-focused process for enhancing the delivery of a project by achieving, validating, and documenting the performance of facility elements in meeting the objectives and criteria of the Owner. Cx extends through all phases of new or major renovation projects, from predesign to Owner occupancy and operation, with tasks during each phase to ensure verification of design, construction, and operator training.

Whereas ASHRAE/IES Standard 202 defines the minimum acceptable Cx for a project, ASHRAE Guideline 0 outlines best practices and establishes the order of phases in which the components of the Cx are best implemented. It provides a template for Cx Plans for specific facility elements or assemblies, and establishes common content that serves as a uniform method for achieving different levels of commissioning and meeting varying Owner's requirements. The guideline also serves as the foundation for authoring technical commissioning guidelines more narrowly targeted and focused on specific applications.

Appendices are included to assist in further understanding the Cx. Based on specific project experiences, they suggest ways to improve current practices and illustrate a variety of Cx applications, with examples for developing the Owner's Project Requirements, Basis of Design, design criteria, design concepts, verification and functional performance testing requirements, operator training, and more.

This 2019 edition of ASHRAE Guideline 0 updates terminology to reflect an evolving whole-building Commissioning Process (Cx) and harmonizes terminology and its usage with that of ASHRAE/IES Standard 202.

1. PURPOSE

1.1 The purpose of this guideline is to describe a Commissioning Process (Cx) capable of verifying that the facility and its systems meet the Owner's Project Requirements (OPR).

2. SCOPE

2.1 The procedures, methods, and documentation requirements in this guideline describe each phase of the project delivery and the associated Commissioning Processes from predesign through occupancy and operation, without regard to specific elements, assemblies, or systems.

2.2 This guideline provides the following:

a. Overview of Commissioning Process Activities
b. Description of the Commissioning Processes for each project phase
c. Requirements for acceptance during each phase
d. Requirements for documentation during each phase
e. Requirements for training of operations and maintenance (O&M) personnel

3. UTILIZATION

3.1 The application of this guideline depends on the OPR and how the project is designed, built, and operated. The process described in this guideline is written for a generic project and must be adapted to each specific project.

3.2 This guideline describes the Cx and is supplemented by companion technical guidelines. A technical guideline describes the specific details to properly implement the Cx relative to a specific facility system or assembly. Informative Appendix A in this guideline provides the required format for developing technical guidelines for the Cx.

4. DEFINITIONS

4.1 Terminology

acceptance: a formal action, taken by a person with appropriate authority (which may or may not be contractually defined), to declare that some aspect of the project meets defined requirements, thus permitting subsequent activities to proceed.

Basis of Design (BoD): a document that records the concepts, calculations, decisions, and product selections used to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document includes both narrative descriptions and lists of individual items that support the design process.

checklists: verification checklists that are developed and used during all phases of the Cx to verify that the OPR is being achieved. These include checklists for general verification, plus testing, training, and other specific requirements.

Commissioning Process (Cx): a quality-focused process for enhancing the delivery of a project. The process focuses on verifying and documenting that all of the commissioned systems and assemblies are planned, designed, installed, tested, operated, and maintained to meet the OPR.

construction checklist: a form used by the Project Team to verify that appropriate materials and components are on-site, ready for installation, correctly installed, functional, and in compliance with the OPR. See *checklists*.

construction documents: these include a wide range of documents that vary from project to project and with the Owner's needs, regulations, laws, and jurisdictional requirements. Construction documents usually include the project manual (specifications), plans (drawings), and general terms and conditions of the contract.

Construction Team: this consists of professionals responsible for providing materials and labor to construct the systems and assemblies in the project. Where a construction project follows a design/build approach, the Construction Team includes licensed design professionals who are part of the Design Team.

contract documents: include a wide range of documents that vary from project to project and with the Owner's needs, regulations, laws, and jurisdictional requirements. Contract documents frequently include price agreements, the construction management process, subcontractor agreements or requirements, requirements and procedures for submittals, changes, and other construction requirements, timeline for completion, and the construction documents.