



GUIDELINE

ASHRAE Guideline 1.4-2019
(Supersedes ASHRAE Guideline 1.4-2014)

Preparing Systems Manuals for Facilities

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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 Systems Manual serves as the building-systems resource and technical operations manual for the facility. It contains information and documentation on the building's planning, design, construction, and commissioning, along with operational requirements, maintenance information, training and testing documentation for the use of building operations, and maintenance and optimization of the facility over its useful life.

The format and content of the Systems Manual provided in this guideline can be used effectively in both new construction and for assembling a manual for an existing building, even if the building is not commissioned. For existing facilities, the Systems Manual will have multiple sections, depending on the Owner's Current Facility Requirements and the number of systems focused on during the facility development, renovation, or repair process.

During the construction process, the Systems Manual incorporates project requirements, design documentation, construction details, evaluation and testing results, and training programs as the information becomes available. Additionally, the recommended operations and maintenance procedures and ongoing documentation requirements are assembled and included. Changes to the manuals are expected as the building maintenance systems are developed and changes to the systems occur.

Guideline 1.4 has been updated to make its content consistent with that of all current associated ASHRAE commissioning standards and guidelines. The guideline's title has been revised to clarify its role in the Commissioning Process. Section 3, "Definitions," has been moved to ASHRAE/IES Standard 202 and ASHRAE Guideline 0 to accommodate future changes (additions, deletions, and revisions) in definitions common to all ASHRAE commissioning guidelines and standards.

1. PURPOSE

This guideline provides procedures for producing a Systems Manual as a resource for training, operations, maintenance, and upgrading of facilities.

2. SCOPE

This guideline applies to information from planning, commissioning, design, construction, testing, and training activities, and operations planning for new, renovated, and existing facilities, equipment, and assemblies.

3. DEFINITIONS

Definitions for general Commissioning Process (Cx) terms can be found in ANSI/ASHRAE/IES Standard 202, *Commissioning Process for Building and Systems*, and ASHRAE Guideline 0, *The Commissioning Process*. No additional related terms are defined herein.

4. SYSTEMS MANUAL CONTENT AND ORGANIZATION

4.1 Introduction. The Systems Manual contains information on the Owner's initial and current facility and project requirements, and documentation of building design and construction, along with testing and training documentation, operational requirements, and maintenance information for the use of building occupants, operators, and maintenance staff, and for optimization of the facility performance over its useful life.

The format and content of the Systems Manual provided in this guideline can be effectively used in both new construction and for assembling a Systems Manual for an existing building, even if the building is not commissioned.

4.2 Systems Manual Content Preparation. The Systems Manual is intended to

- provide necessary information to the facility occupants and operating staff, and the maintenance function to understand the design and construction of the facility (new or existing) and how to operate and maintain the building;
- assemble the facility planning, design, construction, and testing results for building systems in one set of documents and provide the format for updating this information;
- provide a documentation source to be used in training materials; and
- provide documentation for building performance improvement and Ongoing Commissioning (OCx).

4.3 Systems Manual Documentation Organization

4.3.1 The Systems Manual process captures project requirements, design and construction documentation, evaluation and testing results, and training programs as the information becomes available. Additionally, the recommended operations and maintenance procedures and ongoing documentation requirements are assembled and included. Changes to the manuals are expected as the building maintenance systems are developed and changes to the systems occur. This information is normally available during new construction to support the application of Cx as defined in ASHRAE/IES Standard 202 and ASHRAE Guideline 0.

4.3.2 The Systems Manual should be organized as follows. The six major documentation assembly subjects are labeled as "Parts" of the Systems Manual in this guideline. These headings may also be called *sections*, *chapters*, *divisions* or another term that is compatible with the project documentation requirements.

Part 1. Executive Summary

Part 2. Facility Design and Construction

- Owner's Project Requirements
- Basis of Design Requirement
- Facility Design Drawings
- Facility and Equipment Specifications
- Facility/Project Record Documents (or directions to their location)

Part 3. Building, Systems, and Assemblies Information

- Contract Changes
- Approved Submittals