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CONTENTS

ASHRAE Guideline 1.5-2025
Application of the Commissioning Process for Smoke Control Systems

SECTION	PAGE
Foreword	2
1 Purpose	2
2 Scope	2
3 Utilization	3
4 Nomenclature	3
5 Predesign Phase	3
6 Design Phase	7
7 Construction Phase	11
8 Occupancy/Operations Phase	17
9 Postacceptance Phase	20
10 References	20
Informative Appendix A: Acceptance Plan	21
Informative Appendix B: Specifications	22
Informative Appendix C: Example Checklists	25
Informative Appendix D: Crosswalk	31

Preview

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 standard. It is merely informative and does not contain requirements necessary for conformance to the standard.)

FOREWORD

The Commissioning Process (Cx) is a quality-oriented process for verifying and documenting that the performance of facilities, systems, and assemblies meet defined objectives and criteria. The Cx Project (CxP) Team uses a variety of methods and tools to verify that a project is achieving the Owner's Project Requirements (OPR), including code requirements and inspections of the authority having jurisdiction (AHJ) throughout the delivery of the project.

Cx procedures and requirements are fully covered in ASHRAE Standard 202 and ASHRAE Guideline 0. Those documents provide adequate guidance for implementing the Cx for all building smoke control assemblies and systems for both new and existing buildings.

To further assist Owners, Design Teams, CxP Teams, contractors, and building/facility engineering, operations, and maintenance (EOM) teams or staff, supporting Cx technical guidelines have been developed or are under development. This guideline provides specific guidance on applying the Cx to smoke control systems in buildings and facilities.

Guideline 1.5 incorporates committee experience on projects where smoke control systems and components were expected to work from the day the project was turned over to the Owner, while meeting the requirements of Owners, occupants, users, and facility operations maintenance service organizations at a high level of satisfaction.

Emphasis is placed on documentation of the OPR at the inception of a project and the proper transfer of this information from one party to the next throughout the life of a project. Cx has been structured to coincide with the phases of a generic project with Predesign, Design, Construction, and Occupancy/Operations Phases. Beginning the Cx at project inception will achieve maximum benefits. If circumstances require Owners to adopt the Cx during the Design, Construction, or the first year of the Occupancy/Operations Phase of a project, later implementation must capture the information that would have been developed had the Cx begun at project inception or during the Predesign Phase. This is required for successful Occupancy/Operations Phase documentation and Ongoing Cx of the smoke control systems and components for the life of the facility.

Due to the integration and interdependency of most facility systems, a performance deficiency in one system can result in less-than-optimal performance by other systems. Although Guideline 1.5 focuses on smoke control systems, successful total-building Cx will carefully validate interfaces and possible interferences between all building systems. Even if smoke control is the primary focus of Cx, coordination among disciplines is essential for success.

***Note:** This document references annexes hosted on the ASHRAE website. Annexes are documents that constitute a subordinate, informative part of more than one commissioning standard or guideline. They are maintained as unique documents and referenced by number in relevant commissioning standards and guidelines.*

For example, the annex describing the issues and resolution log is used in multiple documents, as it applies in most applications of the Cx. It is therefore referenced by multiple standards and guidelines in the ASHRAE SSPC 300 family but exists as a single document for easier maintenance and better clarity.

All annexes in the ASHRAE SSPC 300 family of publications can be accessed at www.ashrae.org/XXXXXX.

1. PURPOSE

1.1 The purpose of this guideline is to describe the technical requirements for the application of the Commissioning Process (Cx), described in ASHRAE Guideline 0 [1] and Standard 202 [2], that will verify that the smoke control system fulfills the Owner's Project Requirements (OPR).

2. SCOPE

2.1 The procedures, methods, and documentation requirements in this guideline describe the application of the Commissioning Process (Cx) for each project delivery phase, from Predesign through Occupancy/Operations, for all types and sizes of smoke control systems, to support Cx Activities described in ASHRAE Guideline 0 [1] and Standard 202 [2]. Requirements include the following:

a. Smoke control systems to fully support the Cx Activities
b. Verification during each phase of the Cx
c. Acceptance during each phase
d. Documentation during each phase

Preview