



**GUIDELINE**

**ASHRAE Guideline 4-2008 (RA 2013)**  
(Reaffirmation of ASHRAE Guideline 4-2008)

# **Preparation of Operating and Maintenance Documentation for Building Systems**

Approved by the ASHRAE Standards Committee on June 21, 2008, and reaffirmed January 26, 2013; and by the ASHRAE Board of Directors on June 25, 2008, and reaffirmed January 29, 2013.

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#### NOTE

Approved addenda, errata, or interpretations for this guideline can be downloaded free of charge from the ASHRAE Web site at [www.ashrae.org/technology](http://www.ashrae.org/technology).

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## FOREWORD

*This is a reaffirmation of ASHRAE Guideline 4-2008. This guideline was prepared under the auspices of ASHRAE. It may be used, in whole or in part, by an association or government agency with due credit to ASHRAE. Adherence is strictly on a voluntary basis and merely in the interests of obtaining uniform guidelines throughout the industry.*

*The changes made for the 2013 reaffirmation were:*

- *References were updated*
- *Minor editorial changes were made*
- *Added "Informative" to the references to the appendices*

## 1. PURPOSE

To guide those responsible for the design, construction, and commissioning of building HVAC&R systems in the preparation and delivery of operating and maintenance (O&M) documentation that

- a. is simple to prepare and update,
- b. is delivered on time,
- c. is easy to use, and
- d. provides accurate and relevant information.

## 2. SCOPE

This guideline covers the format, content, delivery, and updating of building HVAC&R systems O&M documentation that is normally provided by the design and construction team members.

## 3. DEFINITIONS

Many of the terms used in this guideline and recommended for use in the O&M documents are defined in *ASHRAE Terminology of Heating, Ventilating, Air Conditioning & Refrigeration*.<sup>1</sup> Others are defined in ASHRAE Guideline 0, *The Commissioning Process*,<sup>2</sup> and ASHRAE Guideline 1.1, *HVAC&R Technical Requirements for The Commissioning Process*.<sup>3</sup> Additional terms are defined below:

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

***building project:*** a task with the objective of delivering a base building or a building shell that must be fitted-out before it is suitable for occupancy.

***commissioning authority:*** an entity identified by the owner who leads, plans, schedules, and coordinates the commissioning team to implement the commissioning process.

***design authority:*** a prime consultant, usually an architect, responsible for the quality of the design that is proposed to meet the owner's requirements.

***design intent:*** see *Basis of Design*. Both terms are commonly used.

***designer:*** a member of the project team involved in providing design solutions to meet the owner's requirements and in preparing construction and O&M documents during the conceptual design, the completion of construction documents (the design), the construction, and the operational stages of the project delivery.

***electronic documentation:*** as used in this guideline, a compilation of electronic files relevant to all components and systems of a project. The documentation adheres to the content requirements described by this guideline and has an overall structure and search capabilities that allow navigation, access, and search of all files contained through networked, stand-alone, and/or portable devices.

***fit-out project:*** a project through which furnishings, including partitions, furniture, and tenant equipment (e.g., copy machines, fax machines, personal computers) are delivered.

***O&M designer:*** a designer specializing in the O&M aspects of a project.

***O&M documentation:*** a comprehensive set of documents providing information pertaining to a specific facility, including information regarding the design, operation, and maintenance of the facility.

***owner:*** the person or legal entity that will own the delivered facility or an agent representing the owner. The owner defines the project requirements.

***Owner's Project Requirements:*** a written document that details the functional requirements of a project and the expectations of how it will be used and operated. This includes project goals, measurable performance criteria, cost considerations, benchmarks, success criteria, and supporting information. The term *Project Intent* is used by some owners for their commissioning process instead of Owner's Project Requirements.

***Preliminary Operating Manual:*** an elaboration of the design intent that includes operating information developed during the construction documents (design) stage.

***project brief:*** see *Owner's Project Requirements*. Both terms are commonly used.

***project delivery stages:*** the progressive stages in the development of a project marking the delivery of a distinct product: planning, conceptual design, construction document preparation, construction, operation, and evaluation.

***systems manual:*** a system-focused composite document that includes the operations manual, the maintenance manual, and additional information of use to the owner during the occupancy and operations phases.