

# ADDENDA

**ANSI/ASHRAE/IES Addendum e to  
ANSI/ASHRAE/IES Standard 202-2018**

# Commissioning Process for New Buildings and New Systems

Approved by ASHRAE and the American National Standards Institute on December 29, 2023, and by the Illuminating Engineering Society on December 21, 2023.

This addendum was approved by a Standing Standard Project Committee (SSPC) for which the Standards Committee has established a documented program for regular publication of addenda or revisions, including procedures for timely, documented, consensus action on requests for change to any part of the standard. Instructions for how to submit a change can be found on the ASHRAE® website ([www.ashrae.org/continuous-maintenance](http://www.ashrae.org/continuous-maintenance)).

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**Illuminating**  
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ASHRAE obtains consensus through participation of its national and international members, associated societies, and public review.

ASHRAE Standards are prepared by a Project Committee appointed specifically for the purpose of writing the Standard. The Project Committee Chair and Vice-Chair must be members of ASHRAE; while other committee members may or may not be ASHRAE members, all must be technically qualified in the subject area of the Standard. Every effort is made to balance the concerned interests on all Project Committees.

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- participation in the next review of the Standard,
- offering constructive criticism for improving the Standard, or
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## FOREWORD

Addendum e clarifies the distinction between a Preliminary Cx Report and a Final Cx Report. Originally, this distinction did not exist, but practice has shown that waiting until the end of the warranty phase to provide a Cx Report is too long to be feasible on most projects. The owner needs to be able to pay retention to contractors, and consultants need to file green building rating system credits with rating systems providers; these actions are typically performed at substantial completion. For this reason, the standard now recognizes a preliminary report, to be completed at substantial completion, and a final report to be issued at the end of the warranty.

The addendum also distinguishes Cx Progress Reports as a separate set of documents that do not have to be combined to provide the Final Cx Report; they can be entirely separate documents.

Lastly, while the Issues and Resolution Log and Cx Progress Reports can be issued together (e.g., after a job walk), this is not a requirement. Cx Progress Reports can be issued without updates to the Issues Log, and the Issues Log can be updated without creating a Cx Progress Report. This addendum clarifies that distinction.

**Informative Note:** In this addendum, changes to the current standard are indicated in the text by underlining (for additions) and ~~striking through~~ (for deletions) unless the instructions specifically mention some other means of indicating the changes.

## Addendum e to Standard 202-2018

**Modify Section 3 as follows. The remainder of Section 6 remains unchanged.**

### 3. DEFINITIONS

[ ... ]

**Final Cx Report:** a document that records the activities and results of the Cx and includes an executive project summary, lessons learned, confirmation of receipt of all major required deliverables, and resolution of all major issues to the satisfaction of the Owner, no later than the expiration of the warranty period, that is developed from the final Cx Plan with all of its attached appendices.

[ ... ]

**Preliminary Cx Report:** a document that records the activities and results of the Cx to allow the Owner to make a decision on whether to accept a project as substantially complete and to provide documentation to the authority having jurisdiction (AHJ) to obtain a temporary certificate of occupancy (TCO) or certificate of occupancy (CO).

[ ... ]

**Modify Section 4 as follows. The remainder of Section 4 remains unchanged.**

### 4. UTILIZATION

[ ... ]

#### 4.2.2 Cx Activities and Deliverables

##### Cx Progress Reports

Activity	Deliverable
Initiate Cx	Roles and Responsibilities
↓	↓
Decide Project Requirements	OPR
↓	↓
Develop Cx Plan	Cx Plan
↓	↓

### Cx Progress Reports

Activity	Deliverable
Design Approach to Requirements	BoD
↓	↓
Set Contractor Cx Requirements	Cx Specifications
↓	↓
Review Design to Requirements	Design Review Report
↓	↓
Review Submittals	Submittal Review Report
↓	↓
Observe and Test	Construction Checklists and Reports
↓	↓
Resolve Issues	Issues and Resolution Log
↓	↓
Assemble Systems Manual	Systems Manual
↓	↓
Conduct Training	Training Plans and Records
↓	↓
<u>Assemble Preliminary Cx Report</u>	<u>Preliminary Cx Report</u>
↓	↓
<u>Postoccupancy Operation and Closeout Phase</u>	End of Warranty Cx Progress Report
↓	↓
Assemble <u>Final Cx Progress Report</u>	<u>Final Cx Progress Report</u>

[ ... ]

***Modify Section 5 as follows. The remainder of Section 5 remains unchanged.***

## **5. INITIATING THE COMMISSIONING PROCESS**

[ ... ]

**5.2.10 Issues and Resolution Log and Cx Progress Reports.** The Owner shall require the development and use of ~~Cx Progress Reports~~ and issues and resolution logs as required in the OPR and Section 13 of this standard. The Owner shall review Cx issues and resolution logs ~~and Cx Progress Reports~~, participate in collaborative team resolution, and provide direction when needed.

**5.2.11 Cx Progress Reports.** The Owner shall require the development and use of Cx Progress Reports as required in the OPR and Section 13 of this standard. The Owner shall review the progress reports and provide direction when needed.

[ ... ]

***Renumber Sections 5.2.11 through 5.2.14 accordingly.***

[ ... ]

**5.2.16 5.2.15 Preliminary Cx Progress Report and Final Cx Report.** The Owner shall require, by agreement, the development and delivery of a Preliminary Cx Progress Report and a Final Cx Report, and that deliverables be provided in accordance with Section 17 of this standard. The Owner shall ensure that specific entities are designated for the development and assembly of these reports, ~~the Cx Progress Reports.~~

***Modify Section 6 as follows. The remainder of Section 6 remains unchanged.***

## **6. OWNER'S PROJECT REQUIREMENTS**

[...]

**6.2.3** The OPR document shall address the following for the commissioned systems:

[...]

- i. Project documentation, Cx Progress Reports, Preliminary Cx Report, Final Cx Report, Systems Manual requirements and formats

[...]

~~r. Cx Progress Report formats and distributed intervals~~

[...]

***Modify Section 13 as follows. The remainder of Section 13 remains unchanged.***

## **13. ISSUES AND RESOLUTIONS DOCUMENTATION**

**13.1 Introduction.** Issues identified during the Cx Process shall be documented and any open or continuing items listed in an issues and resolution log, ~~and Cx Progress Reports.~~

[...]

**13.2.4** The issues and resolution log ~~and Cx Progress Reports~~ shall be distributed to the Project Team at intervals prescribed in the Cx Plan.

[...]

***Modify Section 14 as follows. The remainder of Section 14 remains unchanged.***

## **14. SYSTEMS MANUAL**

[...]

**14.2.3** The following shall be included in the Systems Manual:

### **Section 1—Executive Summary**

1.1 Copy of Preliminary Cx Report

1.2 Copy of Final Cx Report

[...]

### **Section 6—Cx Progress Reports**

[...]

~~6.7 Preliminary Cx Report prior to issue of certificate of occupancy~~

~~6.8 Final Cx Report at the completion of the Cx~~

[...]

***Modify Section 17 as follows. The remainder of Section 17 remains unchanged.***

## **17. COMMISSIONING REPORTS**

**17.1 Introduction.** A Preliminary Cx Progress Report shall be provided to summarize the Cx around the time of substantial completion and initial occupancy. This report shall assist the Owner in deciding whether the commissioned equipment and systems are ready for occupancy. The report may also be required to allow the authority having jurisdiction (AHJ) to determine whether a temporary certificate of occupancy (TCO) or certificate of occupancy (CO) can be issued. A Final Cx Report shall be issued on completion of the closeout phase, at the end of warranty. This report shall detail activities during the Postoccupancy Operations Phase and list issues closed and deliverables received during this period, and the building operation for delivery to the building Owner and other required recipients.

[...]

**17.2.2** The Final Cx Report shall include the final Cx Plan and the results of the implementation of that plan. The report shall include an executive summary describing the Cx and identifying the systems and assemblies commissioned. The report shall identify the location of the final OPR and Basis of Design (BoD) documents or contain a copy if these documents are not otherwise available. ~~The location of the project record drawings shall be identified.~~

**17.2.3** For electronic document delivery, locations of documents may be identified by hyperlinks to cloud-based documents as agreed to by the Owner.

**17.3** The ~~final~~ Preliminary Cx Report shall include a copy or the location of the following:

- a. Executive summary
- b. ~~Copy of the final~~ Final Cx Plans
- c. Ongoing Cx Plan
- d. ~~Copy of design~~ Design and submittals review reports
- e. ~~Completed~~ Completed copy of the approved supplier, contractor, and Cx Provider (CxP) evaluations, and Cx start-up and test forms, including those utilized during the occupancy and operations activity
- f. Record drawings of commissioned systems
- g. Warranties for commissioned systems
- h. ~~Copy of all~~ All Cx Progress Reports
- i. ~~Copy of all~~ All issues and resolution logs, including the descriptions of the issues and the measures taken to correct them, and a discussion of systems or assemblies that do not perform in accordance with the OPR
- j. ~~For all incomplete issues, delayed or seasonal tests including a resolution plan approved by the Owner identifying who is responsible for resolution~~
- k. A listing of incomplete deliverables and open issues for resolution during the closeout phase

**17.4** The Final Cx Report shall include a copy or the location of the following:

- a. All of the elements of the Preliminary Cx Report
- b. Update to the executive summary, including recommendations for acceptance of the project by the CxP, and lessons learned for future projects
- c. Description of issues resolved during the Postoccupancy Operations Phase
- d. Description of deliverables received during the Postoccupancy Operations Phase
- e. Remaining issues that could not be resolved during the Postoccupancy Operations Phase and recommendations for addressing these issues in Ongoing Cx

#### **17.5** ~~17.4~~ Acceptance

**17.5.1** ~~17.4.1~~ The CxP shall submit the Prefinal and Final Cx Report to the Owner and others as required by the OPR and jurisdictional requirements for review and acceptance.

## **POLICY STATEMENT DEFINING ASHRAE'S CONCERN FOR THE ENVIRONMENTAL IMPACT OF ITS ACTIVITIES**

ASHRAE is concerned with the impact of its members' activities on both the indoor and outdoor environment. ASHRAE's members will strive to minimize any possible deleterious effect on the indoor and outdoor environment of the systems and components in their responsibility while maximizing the beneficial effects these systems provide, consistent with accepted Standards and the practical state of the art.

ASHRAE's short-range goal is to ensure that the systems and components within its scope do not impact the indoor and outdoor environment to a greater extent than specified by the Standards and Guidelines as established by itself and other responsible bodies.

As an ongoing goal, ASHRAE will, through its Standards Committee and extensive Technical Committee structure, continue to generate up-to-date Standards and Guidelines where appropriate and adopt, recommend, and promote those new and revised Standards developed by other responsible organizations.

Through its *Handbook*, appropriate chapters will contain up-to-date Standards and design considerations as the material is systematically revised.

ASHRAE will take the lead with respect to dissemination of environmental information of its primary interest and will seek out and disseminate information from other responsible organizations that is pertinent, as guides to updating Standards and Guidelines.

The effects of the design and selection of equipment and systems will be considered within the scope of the system's intended use and expected misuse. The disposal of hazardous materials, if any, will also be considered.

ASHRAE's primary concern for environmental impact will be at the site where equipment within ASHRAE's scope operates. However, energy source selection and the possible environmental impact due to the energy source and energy transportation will be considered where possible. Recommendations concerning energy source selection should be made by its members.

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As an industry leader in research, standards writing, publishing, certification, and continuing education, ASHRAE and its members are dedicated to promoting a healthy and sustainable built environment for all, through strategic partnerships with organizations in the HVAC&R community and across related industries.

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