

STANDARD

**ANSI/ASHRAE/IES Addendum a to
ANSI/ASHRAE/IES Standard 202-2013**

Commissioning Process for Buildings and Systems

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FOREWORD

Addendum a to Standard 202-2013 changes the term “Commissioning Authority” to “Commissioning Provider” throughout the standard.

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

Addendum a to Standard 202-2013

Modify Section 3 as follows.

3. DEFINITIONS

Commissioning Provider (Cx Provider) Authority (CxA): an entity identified by the owner who leads, plans, schedules, and coordinates the Commissioning Team to implement the Commissioning Process.

Modify Section 4 as follows.

4.3 Acceptance. The process for each activity and deliverable shall include an acceptance step as defined in the OPR and Cx Plan. This step shall formalize the acceptance of the commissioning deliverable by the owner or client. Under this standard, the Cx Provider-CxA is not required to accept designer's or contractor's work on behalf of the owner or jurisdiction.

Modify Section 5 as follows.

5.1.2 Project Team Selection-Commissioning Process Providers. The owner is responsible for selecting qualified Cx Process professionals. The Cx Provider-CxA directs the Cx Process and shall be an objective advocate of the owner.

[. . .]

5.2.5 Checklists. The owner shall require, by agreement, the Cx Team including the Cx Provider-CxA and design and construction service providers to develop, utilize, and complete Cx procedures and written Cx observation and testing checklists in accordance with the Cx Plan.

[. . .]

5.2.15 Warranty Period Commissioning. The owner shall require, by agreement,

- Cx Provider CxA performance of Cx during the warranty period,
- updating the systems manual based on modifications to operations to meet the OPR, and
- updating the OPR to meet changes in the owner's objectives and criteria.

Modify Section 6 as follows.

6.3.1 The OPR shall be reviewed by the Cx Provider-CxA and approved by the owner during predesign. Updates to the OPR made during subsequent project activities shall also be formally accepted by the owner.

Modify Section 7 as follows.

7.2.1 The Cx Provider-CxA shall, with input from the owner's project team, develop the initial Cx Plan at the initiation of the project. The Cx Plan shall be updated and expanded during design and construction as the project evolves.

Modify Section 8 as follows.

8.2.2 The design team shall submit the BoD to the owner and Cx Provider-CxA for review at each milestone defined by the OPR and Cx Plan.

8.2.3 The owner and Cx Provider-CxA shall evaluate each BoD submittal for the following

- Design and design assumptions in agreement with the OPR.
- Requirements for updating of the BoD.
- Requirements for sustainable design certification when required.
- Consideration of design alternatives at each phase.
- Requirements that systems, assemblies, and equipment be located and installed to be commissionable and maintainable.
- Opportunities for improved performance

8.2.4 The Cx Provider-CxA shall document and track issues related to the BoD using the Cx issues and resolution log, including issues identified by the owner and members of the design team.

8.2.5 The design team shall work with the owner and Cx Provider-CxA to resolve Cx issues.

Modify Section 10 as follows.

10.2.1 The Cx Provider-CxA shall perform a review of the commissioned systems and assemblies in the design documents to evaluate compliance with the OPR. Design review shall be completed prior to the issuing of construction documents for systems being commissioned. The OPR and the Cx Plan shall define any sampling strategies for design review.

[. . .]

10.3.1 The owner shall approve the Cx Provider-CxA document review report and the design team's response before the start of construction.

Modify Section 11 as follows.

11.2.2 The Cx Provider-CxA shall identify construction submittals to be provided by the contractor for the systems being commissioned.

11.2.3 The Cx Provider-CxA shall review the construction submittals concurrently with the designers and provide comments to the designer.

11.2.4 The designer shall consider the Cx Provider's-CxA's comments and provide direction to the contractor in accordance with the designer's best professional judgment. A copy shall be provided to the Cx Provider-CxA.

11.2.5 In the event that the owner does not retain the designer for construction administration services, the owner shall do the following:

- a. Require the Cx Provider-CxA to review the construction submittals for the systems being commissioned concurrently with the owner or owner's representative and provide comments to the owner or owner representative.
- b. Consider the Cx Provider's-CxA's comments and provide direction to the contractor in accordance with the owner's best professional judgment. A copy shall be provided to the Cx Provider-CxA.

[. . .]

11.3.1 The Cx Provider-CxA shall maintain a record of all Cx submittal reviews and shall submit a written report to the owner and design authority. If it is determined that any reviewed submittals do not comply with the OPR, that submittal shall be provided to the owner to determine if the system or equipment shall be accepted or rejected.

Modify Section 12 as follows.

12.2.2 Checklists and test procedures with necessary report forms shall be developed before equipment or assembly installation. All completed checklists and test reports shall be included in the final Cx Report.

- a. Project-specific construction checklists and Cx Testing procedures shall be established for review by owner and appropriate team members.
- b. The test procedures shall list the entities responsible for executing each of the tests.
- c. Whenever a test data result is required for a specific system or assembly, there shall be an item in the associated construction checklist for the test data to be submitted to the Cx Provider-CxA.
- d. Sampling procedures shall be utilized if required and defined in the OPR, the Cx Plan, or the Cx Specifications.

[. . .]

12.2.4 The Cx Provider-CxA shall conduct a commissioning kick-off and scoping meeting with the Cx Team to explain Cx procedures and coordinate commissioning activities at the beginning of the construction process and at other times as necessary.

[. . .]

12.2.6 Executing Test Procedures

- a. Once construction checklists and test procedures are established, the responsible entities shall execute relevant test protocols and repeat testing as necessary until equipment, systems, or assemblies being tested pass all tests.
- b. The Cx Provider-CxA directs, witnesses, and documents the tests conducted by the Cx Team as required by the Cx Plan.
- c. Completed test reports shall be submitted to the project team for review and the Cx Provider-CxA for Evaluation.

Modify Section 13 as follows.

13.2.1 The Cx Provider-CxA and Cx Team shall develop a formal issues and resolutions log with supporting documentation.

Modify Section 14 as follows.

14.3.1 The contents of the preliminary systems manual, Sections 2 through 4, shall be reviewed and evaluated by the Cx Provider-CxA prior to training of operational and maintenance personnel and occupants in accordance with the OPR.

Modify Section 15 as follows.

15.3.1 The training plan, the execution of the training plan, and the delivery of instruction shall be reviewed for acceptance by the Cx Provider-CxA and owner. The training plan shall be submitted and accepted prior to the delivery of any instruction. Evaluation or survey of the participants shall be as defined in the OPR and contract documents.

Modify Section 16 as follows.

16.2.2 The seasonal, delayed, and incomplete testing of facility systems and assemblies shall be completed. The Cx Provider-CxA shall determine when the Cx Testing shall be performed based on weather conditions, load conditions, or occupant interactions that are required to complete the activities for all systems and assemblies being commissioned.

16.2.3 The general contractor or owner shall coordinate contractor callbacks to resolve issues identified during the Cx Process and provide written documentation to the Cx Provider-CxA that the issues have been resolved and/or the owner has accepted the final conditions.

Modify Section 17 as follows.

17.3 The final Cx Process progress report shall include the following:

1. Executive summary.
2. Copy of the final Cx Process plans.
3. Copy of design and submittals review reports.
4. Completed copy of the approved supplier, contractor, and Cx Provider-CxA Evaluations, and Cx start-up and test forms, including those utilized during the occupancy and operations activity.
5. Copy of all Cx Progress Reports.
6. Copy of all issue and resolution logs including the descriptions of the issues and the measures taken to correct them. A discussion of systems or assemblies that do not perform in accordance with the OPR.
7. For all incomplete issues, delayed or seasonal tests including a resolution plan approved by the owner identifying who is responsible for resolution.

17.4 Acceptance

17.4.1 The Cx Provider-CxA shall submit the Cx Report to the owner and others as required by the OPR and jurisdictional requirements for review and acceptance.

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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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