



Building Commissioning (Part 1 of 2)

In this edition of the Code Outreach Program, we will provide an overview of the commissioning requirements of the State Energy Code by providing some general information on the commissioning process and how it relates to scenarios that a code enforcement official (CEO) may encounter.

As defined in the 2020 Energy Conservation Construction Code of New York State (2020 ECCCNY), building commissioning is “a process that verifies and documents that the selected building systems have been designed, installed, and function according to the owner’s project requirements and construction documents, and to minimum code requirements.”

When Commissioning is Required

Section C106.2.6 of the 2020 ECCCNY indicates that the final inspection shall include, among other documentation, verification that “activities associated with the required *building commissioning* have been conducted and findings of noncompliance corrected.”

Per Section C408.2 of the 2020 ECCCNY, the construction documents “shall clearly indicate provisions for *commissioning*” and identify the systems to be commissioned. The following mechanical systems and service water-heating systems are exempt from system commissioning:

1. “Mechanical systems and service water heater systems in buildings where the total mechanical equipment capacity is less than 480,000 Btu/h (140.7 kW) cooling capacity and 600,000 Btu/h (175.8 kW) combined service water-heating and space-heating capacity.”
2. “Systems included in Section C403.5 that serve individual *dwelling units* and *sleeping units*.”

Commissioning Plan Document

At the beginning of the construction phase, a registered design professional or an approved agency shall develop a Commissioning Plan that includes:

- A narrative description of the commissioning activities and responsibilities of appropriate parties.
- A listing of equipment, appliances, and systems to be commissioned; a description of tests to be performed.
- Conditions under which the tests shall be performed to verify winter and summer design conditions and full outside air conditions.
- Measurable criteria for functional testing and performance verification.

A list of these items can be found in Section C408.2.1 of the 2020 ECCCNY. The Commissioning Plan is typically a living document that is continuously updated throughout the construction and commissioning process. Whenever any changes are made during construction that result in a change in commissioning activities or responsibilities of appropriate parties, the Commissioning Plan should be revised accordingly.

HVAC Systems Testing, Adjusting, and Balancing

According to Section C408.2.2 of the 2020 ECCCNY, after completion of all phases of work and prior to the final acceptance of mechanical systems, air and hydronic systems shall be balanced in accordance with generally accepted engineering standards. Some examples of accepted engineering standards include those published by the Associated Air Balance Council (AABC), National Environmental Balancing Bureau (NEBB), Sheet Metal and Air Conditioning Contractors’ Association (SMACNA), or manufacturer requirements and recommendations. Fans with fan motors of 1 horsepower or less and hydronic system pumps with pump motors of 5 horsepower or less do not need to be provided with a means for balancing. A copy of the balancing report and all documentation shall be provided to the building official upon request per Section C408.2 of the 2020 ECCCNY.

Responsibilities

It is important to note that the commissioning process does not alleviate or override the CEO’s duties and responsibilities, even though there may be some overlap between the roles of the parties performing commissioning activities and the CEO.