

SUMMARY OF: FUNCTIONAL PERFORMANCE TESTING, COMMISSIONING AND FINAL INSPECTION REQUIREMENTS FOR 2018-IECC

Functional Performance Testing and Commissioning (Cx) - IECC

Prior to the final mechanical and plumbing inspections, the *registered design professional or approved agency shall provide evidence of mechanical systems commissioning and completion in accordance with the provisions of the IECC.*

Construction document notes shall clearly indicate provisions for commissioning and completion requirements in accordance with this section and are permitted to refer to specifications for further requirements. Copies of all documentation shall be given to the owner or owner's authorized agent and made available to DPS upon request.

The following systems are exempt from 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 that serve individual dwelling units and sleeping units.*

A report of test procedures and results identified as "Final Commissioning Report" shall be delivered to the building owner or owner's authorized agent. The report shall be organized with mechanical system and service hot water system findings in separate sections to allow independent review. The report shall include the following:

1. Results of functional performance tests.
2. Disposition of deficiencies found during testing, including details of corrective measures used or proposed.
3. Functional performance test procedures used during the commissioning process including measurable criteria for test acceptance, provided herein for repeatability.

Exception: Deferred tests that cannot be performed at the time of report preparation due to climatic conditions.

C408.1.1 Building operations and maintenance information. The building operations and maintenance documents shall be provided to the owner and shall consist of manufacturers' information, specifications and recommendations; programming procedures and data points; narratives; and other means of illustrating to the owner how the building, equipment and systems are intended to be installed, maintained and operated. Required regular maintenance actions for equipment and systems shall be clearly stated on a readily visible label. The label shall include the title or publication number for the operation and maintenance manual for [each] particular model and type of product.

Required regardless of the applicability of Cx requirements.

C408.2.2 Systems adjusting and balancing. HVAC systems shall be balanced in accordance with generally accepted engineering standards. Air and water flow rates shall be measured and adjusted to deliver final flow rates within the tolerances provided in the product specifications. Test and balance (TAB) activities shall include air system and hydronic system balancing (following the **AABC National Standards for Total System Balance** - or - **NEBB Procedural Standard for Testing, Adjusting and Balancing of Environmental Systems**). Full commissioning, as required, shall be conducted following the ASHRAE Standard-0).

➤ *TAB reports shall be provided to DPS prior to scheduling final inspections for occupancy approval.*

Commercial Energy - Building Final Inspection Approval

C105.2.6 Final inspection. *The final inspection shall include verification of the installation and proper operation of all required building controls, and documentation verifying activities associated with required building commissioning have been conducted in accordance with Section C408.*

550 Energy Final Inspection – Building Permit

C408.2.4 Preliminary commissioning report. A preliminary report of *commissioning* test procedures and results shall be completed and certified by the *registered design professional* or *approved agency* and provided to the building owner or owner's authorized agent. The report shall be organized with mechanical and service hot water findings in separate sections to allow independent review. The report shall be identified as "**Preliminary Commissioning Report**" and shall include the completed **2018 IECC – Cx/FPT Compliance Checklist (Fillable Form)** and shall identify:

1. Itemization of deficiencies found during testing required by this section that have not been corrected at the time of report preparation.
2. Deferred tests that cannot be performed at the time of report preparation because of climatic conditions.
3. Climatic conditions required for performance of the deferred tests.
4. Results of functional performance tests.
5. Functional performance test procedures used during the commissioning process, including measurable criteria for test acceptance.

C408.3 Lighting system functional testing. Controls for automatic lighting systems shall comply with this section.

C408.3.1 Functional testing. Prior to passing final inspection, the *registered design professional* shall provide evidence that the lighting control systems have been tested to ensure that control hardware and software are calibrated, adjusted, programmed and in proper working condition in accordance with the *construction documents* and manufacturer's instructions. Functional testing shall be in accordance with Sections C408.3.1.1 through C408.3.1.3 for the applicable control type.

- Please forward all required documentation to: mark.nauman@montgomerycountymd.gov or ye.jiang@montgomerycountymd.gov

2018 IECC - Cx/FPT Compliance Checklist

BUILDING PERMIT NUMBER:

Project Name:

Project Address:

Commissioning/Testing Authority:

Commissioning Plan (Section C408.2.1)

Commissioning Plan was used during construction and includes all items required by Section C408.2.1

Systems Adjusting and Balancing (TAB) has been completed

HVAC Equipment Functional Testing has been executed. If applicable, deferred and follow-up testing is scheduled to be provided on:

HVAC Controls Functional Testing has been executed. If applicable, deferred and follow-up testing is scheduled to be provided on:

Economizer Functional Testing completed. Deferred and follow-up test is scheduled to be provided on:

Lighting Controls Functional Testing has been executed. If applicable, deferred and follow-up testing is scheduled to be provided on:

Service Water Heating System Functional Testing has been executed. If applicable, deferred and follow-up testing is scheduled to be provided on:

Manuals, record documents and training have been provided and completed (Mandatory)

Preliminary Commissioning Report submitted to owner and includes all items required by Section C408.2.4

Final Commissioning Report submitted to owner and includes all items required by Section C408.2.5

I hereby certify that the commissioning provider has provided me with evidence of mechanical, service water heating and lighting systems commissioning in accordance with the 2018 IECC.

Signature of Building Owner or Owner's Representative:

_____x_____

* Provide a completed copy of this Checklist to DPS prior to scheduling final inspections for Building Permit or Use and Occupancy