

919 - Building / Systems Commissioning and Testing

919.1 Pre-functional Testing: Pre-functional checks are important to ensure and document that the commissioned equipment and systems are connected and operational. In addition, pre-functional tests allow the functional performance testing to proceed without unnecessary delays. Each piece of commissioned equipment shall receive full pre-functional checkout by the Contractor. In general, the pre-functional testing for a commissioned system must be successfully completed prior to formal functional performance testing of equipment or subsystems of the system.

The Commissioning Process requires that the pre-functional checks for commissioned systems be documented in writing by the installing contractor. Pre-functional checks shall be documented by means of start-up plans and pre-functional checklists. **See Commissioning Sections 019113-1 through 019113-9.1 for Commissioning information**

919.2 Functional Testing: Functional testing is the dynamic testing of commissioned systems (rather than just components) under full operation (e.g., the chiller pump is tested interactively with the chiller functions to see if the pump ramps up and down to maintain the differential pressure set point). Commissioned systems are tested under various modes, such as low cooling or heating loads, high loads, component failures, varying occupancy levels, varying outside air temperatures, fire alarms, power failures, etc. The systems are run through all of the control system's sequences of operation and components are verified to be responding as the sequences state. Additional information on functional testing is presented in **Section 019113-8 Systems Commissioning and Testing Overview.**

919.3 Facility Staff Participation: The Using Agency's facilities operating staff are encouraged to attend and participate in the testing process. The facility staff will be notified when the commissioning events will occur, in accordance with the Commissioning Plan.