

01 91 13 – COMMISSIONING

PART 1 - GENERAL

1.01 REQUIREMENTS

Complete the processes of commissioning selected equipment and systems as specified. These should be listed in a companion section following this section. The absence of such a section does not negate the commissioning responsibilities. In the absence of such a section, review the specifications for commissioning requirements and provide a summary list as a submittal to the Designer for approval prior to performing the required commissioning.

1.02 SUBMITTALS

- A. Functional Performance Testing: Prepare and submit to the Designer Functional Performance Testing Procedures for approval of equipment and systems. Contractor will use forms provided in this section of the specifications. Testing procedures will be detailed step-by-step and specific to each system. The approved procedures will be used to conduct the Functional Performance Testing. Functional Performance Testing will be completed prior to Substantial Completion.
- B. Commissioning Data: Upon completion of the Functional Performance Testing, the Contractor will submit to the Designer the commissioning section of the Operation and Maintenance Binder. The binder will be divided into sections. The binder will contain copies of the manufacturer's installation and start-up procedures utilized by the installer and/or contractor, completed Functional Performance Testing Procedures and associated forms from Sections 23 08 xx and 26 08 xx, signed Functional Performance Test Certificates, and equipment and maintenance records for equipment and systems operated prior to Owner acceptance.

1.03 ROLES:

- A. Designer, using its Consultants will:
 - 1. Review and approve the contractors Functional Performance Testing Procedures.
 - 2. Report on field observations and report deficiencies to the contractor.
 - 3. Observe the Contractor's Functional Performance Testing.
 - 4. Report on Functional Performance Testing deficiencies, ensure sign off on completion of testing, and perform recheck of deficiencies.
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 - 3. Perform and maintain a maintenance and service log for equipment and systems that are being operated prior to Owner acceptance.
 - 4. Provide manpower, supplies, testing instruments, etc. required to perform Functional Performance Testing.

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5. Perform, in the presence of the Designer/Consultants and Owner, Functional Performance Testing.
6. Prepare three sets of Commissioning Data for Designer review and approval.

1.04 SYSTEMS TO BE COMMISSIONED:

- A. The following mechanical systems and associated equipment are to be commissioned as specified. These include but are not limited to:
 1. Mechanical (HVAC) air and water
 2. Associated controls and building automation
 3. Domestic hot water
- B. The following Electrical systems and associated equipment are to be commissioned as specified. These include but are not limited to:
 1. Electrical panel boards.
 2. Power circuits.
 3. Lighting levels.
 4. Generator and/or back-up power sources.

PART 2 – PRODUCTS (Not used)

PART 3 – EXECUTION

3.01 COMMISSIONING CONSTRUCTION PHASE:

Complete the following commissioning activities during the construction phase of the project. Submit for review and provide notification of activities.

- A. Manufacturer's system/equipment start-up procedures.
- B. Specified manufacturer's and/or independent testing agency reports.
- C. Project schedule that included dates for start-up of equipment and systems, and Functional Performance Testing.
- D. Minimum seven day notification of code required testing and specified cleaning of systems.
- E. Minimum seven day notification of system and equipment start-up.
- F. Control submittal on systems and equipment including drawings, sequences and programming.
- G. Prepare detailed Functional Performance Testing Procedures for systems and equipment. Utilize the forms provided in this section of the specifications. Procedures will be detailed, step-by-step, and include description of expected results

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- I. Prepare a list of all system and equipment warranties specified in the contract documents. Provide the warranty item and the contract document section number.