

SECTION 22 05 08
COMMISSIONING – PLUMBING SYSTEMS

PART 1 - GENERAL

1.1 SCOPE:

- A. The purpose of commissioning is to verify that the systems are installed as specified and in accordance with good practice, and are performing in a manner to provide satisfactory results and optimal efficiencies throughout the entire installation.
- B. The Contractor, Sub-contractor and appropriate vendors shall cooperate with the Owner's appointed commissioning agent.
- C. The plumbing contractor shall verify completion of all work that will affect the operation of the systems prior to commissioning.
- D. All systems shall be pre-tested by the Contractor prior to formal commissioning and the Contractor shall notify the commissioning agent when systems are ready. The Contractor is in no way relieved of the normal testing and factory start up requirements as specified elsewhere.

1.2 RELATED DOCUMENTS:

- A. General and related provisions under Division 01.
- B. Documents under Divisions 21, 23 and 28.

2.0 PRODUCTS

2.1 SCHEDULE AND REPORT SHEETS:

- A. The Contractor shall be responsible to test and demonstrate all of the systems to be commissioned including the following:
 - 1. All equipment and systems specified under other sections of this specification and/or as shown on drawings.
- B. Commissioning, testing and reporting shall not commence until the systems are completely installed, permanent power is connected and the systems are tested.
- C. The Contractor shall designate a representative from each discipline to participate in the commissioning process.
- D. Commissioning shall be a three part enterprise.
 - 1. The systems installation shall be reviewed by the authorized commissioning agent to ensure the equipment and systems are installed in accordance with the drawings and specifications. This includes, but not limited to, verifying equipment model numbers, critical dimensions/clearances, piping and valve arrangements, and configurations, installation of supports, vibration isolation devices, controls, power wiring, etc.
 - 2. Start-up of major equipment. Start up forms must be completed and signed by the authorized agent and the installing contractor. The authorized agent shall attach to forms, any factory check lists which are used as part of the start-up procedure.

2. Actual review and explanation of the operation of all systems in the presence of the Owner's Representatives and maintenance staff. This part shall not be performed until items 1 and 2 above are completed and the authorized commissioning agent is satisfied that the systems are installed and operating according to the specifications. The systems shall be operated through their full range and the operation of all control and safety devices shall be demonstrated. A copy of the commissioning report, including all checklists completed in item 2 above, shall be available. Periodic tests shall be performed to confirm the systems are operating properly.
3. Plumbing Systems to be commissioned include water heater, domestic hot water recirc pump and mixing valve, sump pump.

PART 3 - EXECUTION

3.1 PROCEDURE:

- A. Commissioning shall consist of a team concept that includes periodic commissioning meetings with the involved trades for each system and the authorized agent. A checklist shall be completed for each piece of equipment along with any pertinent comments regarding the installation or performance. Any piece of equipment found to be installed or operating incorrectly shall be repaired by the Contractor and re-commissioned. A copy of the start-up checklists completed by the factory authorized personnel shall be attached to the commissioning checklist.
- B. The final commissioning shall consist of a witnessing of the operation of each system in the presence of the Authorized Agent, the Contractor, the Construction Manager and an authorized Owner's Representative. The purpose of this final commissioning is to ensure that all parties are satisfied with the operation of the system and have a full understanding of the systems operation. The authorized agent shall compile all of the commissioning checklist in a three ring binder organized by type of equipment and tag number. A summary of the commissioning process shall be included, which shall list the personnel involved, issues that were handled during the process and any other pertinent comments or documentation. Once the commissioning is complete, this binder shall then be turned over to the Owner for his records.
- C. Complete O&M Manuals shall be submitted for review prior to commissioning.

3.2 GUARANTEE:

- A. Guarantees referred to in other sections of this specification begin only after the final commissioning report is signed by the Owner's representative.

END OF SECTION