

SECTION 23 08 00
COMMISSIONING OF HVAC

PART 1 - GENERAL

1.1 SUMMARY

- A. Related Documents: Drawings and general provisions of Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
- B. Work Included:
1. Coordination and Cooperation with Commissioning Agent and participation in the commissioning process indicated in Section 019113.
 2. Providing for commissioning work in the project construction schedule.
 3. Commissioning work shall be a team effort to ensure that all mechanical equipment and systems have been completely and properly installed, function together correctly to meet the design intent, and document system performance parameters for fine-tuning of control sequences and operational procedures. Commissioning shall coordinate system documentation, equipment start-up, control system calibration, testing and balancing and performance testing.
 4. The commissioning team shall be made, up of representatives from the owner, design professionals, major equipment suppliers, and construction trades. The trades represented on the commissioning team shall include, but not be limited to, sheet metal, piping and fitting, controls, test and balance, and electrical. The lead person for each trade who will actually perform or supervise the work is to be designated as the representative to the commissioning team.
- C. Related Sections:
1. Section 23 00 10 – HVAC General Requirements
 2. Section 23 05 00 – Common Work Results for HVAC
 3. Section 23 05 53 – Identification for HVAC Piping and Equipment
 4. Section 23 05 93 – Testing, Adjusting, and Balancing for HVAC
 5. Section 23 09 00 – Instrumentation and Control for HVAC
 6. Section 23 20 00 – HVAC Piping and Pumps
 7. Section 23 30 00 – HVAC Air Distribution
 8. Section 23 70 00 – Central HVAC Equipment
 9. Section 23 80 00 – Decentralized HVAC Equipment
 10. Section 24 00 10 – Commissioning Requirements of HVAC Systems

1.2 SUBMITTAL DATA:

- A. Require all equipment suppliers to provide data required by the Commissioning Agent of type and in quantities as indicated in Section 24 00 10.

1.3 CONTRACTOR RESPONSIBILITIES:

- A. General: Division 23 contractor responsibilities shall include active participation in the commissioning process as defined in Section 24 00 10 to facilitate successful completion of the contract. Ensuring all subcontractors and equipment suppliers cooperate in the Commissioning process. The Contractor shall coordinate with the Commissioning Agent to produce complete, operating systems, properly adjusted and tuned for comfortable operation and optimum efficiency.
- B. Commissioning is primarily the responsibility of the Commissioning Agent indicated in Section 24 00 10, with support for start-up, testing, and support for commissioning, the responsibility of Division 23 contractor. The commissioning process does not relieve Division 23 contractor from participation in the process or diminish the role and obligations of Division 23 contractor to complete all portions of the work in a satisfactory and fully operational manner. In general, Division 23 is to perform all check-outs, start-ups, testing, adjusting and balancing with the Commissioning Agent witnessing all tests and performing verification tests as follow-up. The Commissioning Agent will also serve as an additional reviewer of all equipment and material installations for compliance with the Contract.
- C. Division 23 contractor shall be an active member of the Commissioning Team composed of representatives from the Owner, Architect/Engineer, Contractor, contractor's trades and major equipment suppliers.
- D. See Section 24 00 10 for additional Division 23 responsibilities.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.1 DIVISION 23 COMMISSIONING RESPONSIBILITIES:

- A. Identify a Division 23 Contractor's representative to the Commissioning team within one month after award of Contract. The representative shall have authority to make decisions on behalf of the Contractor.
- B. Participate in Commissioning Meetings designated by the Commissioning Agent.
- C. Performance verification tests shall be conducted as appropriate during cooling season and during heating season. Provide qualified personnel for participation in commissioning tests including seasonal testing required after initial commissioning.

- D. Provide qualified personnel from each trade for participation in commissioning meetings as designated by the meeting agenda.
- E. Participate in resolving issues identified by the Commissioning Agent.
- F. Correct identified deficiencies to fulfill contract and warranty requirements.
- G. Provide copies of all Contract documentation to the Commissioning Agent.
- H. Participate in Owner Training as set up by the Commissioning Agent.
- I. Inspect, check and confirm the correct and complete installation of all equipment in accordance with verification checklists as provided by, or as approved by the Commissioning Agent. Contractor's standard quality control verification checklists may be used, however minimum requirements shall be as indicated under Section 24 00 10, system Verification Checklists. Copies of all Contractor's completed, signed verification checklists shall be furnished to the Commissioning Agent.
- J. Notify Commissioning Agent a minimum of 2 weeks in advance of scheduled equipment and system verifications and start-ups. See Section 24 00 10 for listing of systems and subsystems to be evaluated by the Commissioning Agent in the commissioning process.
- K. Notify Commissioning Agent a minimum of 2 weeks in advance of start-up of Testing, Adjusting and Balancing (TAB) work. Arrange and attend meeting between Commissioning Agent and TAB agency for review of TAB procedures, TAB work plan and TAB schedule.
- L. Notify Commissioning Agent a minimum of 2 weeks in advance of controls work of Section 23 09 00 for the following procedures:
 - 1. Point-to-point wiring check-out,
 - 2. Owner verification of controls graphics, setpoints and alarms,
 - 3. System start-up and check-out,
 - 4. Initial system tuning,
 - 5. Owner training.
- M. Correct all construction and equipment deficiencies found during the commissioning process where in accordance with the Contract. Where any correction, improvement or change is outside of the Contract, as agreed by the Commissioning Team, prepare and submit a contract change proposal for the work in a timely manner. The Owner may elect to accept, reject or negotiate such contract change proposals.

END OF SECTION 23 08 00

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