

SECTION 23 08 00.01**DVA/USACE PROJECTS COMMISSIONING OF HVAC SYSTEMS****SPEC WRITER NOTES:**

For Projects with USACE as the Design and/or Construction agent, use this specification section 23 08 00.01 in lieu of specification section 23 08 00. Also, coordinate with the USACE PM for applicable UFGS GENERAL REQUIREMENTS sections.

Delete between // --- // if not applicable to project. Also delete any other item or paragraph not applicable in the section and renumber the paragraphs. The spec writer shall review the Physical Security Design Manual for VA Facilities to determine and include in this section any Mission Critical or Life Safety requirements called out.

PART 1 - GENERAL**1.1 DESCRIPTION**

- A. The requirements of this Section apply to all sections of Division 23.
- B. This project will have selected building systems commissioned. The complete list of equipment and systems to be commissioned is specified in Section 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIREMENTS. The commissioning process, which the Contractor is responsible to execute, is defined in Section 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIRMENTS. A Commissioning Agent (CxA) appointed by the Government and Commissioning Manager (CxM) as indicated in Section 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIRMENTS will manage the commissioning process.

1.2 RELATED WORK

- A. UFGS GENERAL REQUIREMENTS sections
- B. Section 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIREMENTS
- C. UFGS Section 01 33 00 SUBMITTAL PROCEDURES

1.3 SUMMARY

- A. This Section includes requirements for commissioning the Facility exterior closure, related subsystems and related equipment. This

Section supplements the general requirements specified in Section 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIREMENTS.

- B. Refer to Section 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIREMENTS for more details regarding processes and procedures as well as roles and responsibilities for all Commissioning Team members.

1.4 DEFINITIONS

- A. Refer to Section 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIREMENTS for definitions.

1.5 COMMISSIONED SYSTEMS

- A. Commissioning of a system or systems specified in Division 23 is part of the construction process. Documentation and testing of these systems, as well as training of the VA's Operation and Maintenance personnel in accordance with the requirements of Section 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIREMENTS and of Division 23, is required in cooperation with the DVA/USACE and the CxA and CxM..
- B. The Facility exterior closure systems commissioning will include the systems listed in Section 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIREMENTS:

1.6 SUBMITTALS

- A. The commissioning process requires review of selected Submittals that pertain to the systems to be commissioned. The CxA will provide a list of submittals that will be reviewed by the CxA and CxM. This list will be reviewed and approved by the VA prior to forwarding to the Contractor. Refer to UFGS Section 01 33 00 SUBMITTAL PROCEDURES for further details.
- B. The commissioning process requires Submittal review simultaneously with engineering review. Specific submittal requirements related to the commissioning process are specified in Section 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIREMENTS.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 CONSTRUCTION INSPECTIONS

- A. Commissioning of HVAC systems will require inspection of individual elements of the HVAC systems construction throughout the construction period. The Contractor shall coordinate with the CxA and CxM in accordance with Section 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIREMENTS and the Commissioning plan to schedule HVAC systems inspections as required to support the Commissioning Process.

3.2 PRE-FUNCTIONAL CHECKLISTS

- A. The Contractor shall complete Pre-Functional Checklists to verify systems, subsystems, and equipment installation is complete and systems are ready for Systems Functional Performance Testing. The CxM will prepare Pre-Functional Checklists to be used to document equipment installation. The Contractor shall complete the checklists. Completed checklists shall be submitted to the DVA/USACE, CxA, and CxM for review. The CxM and CxA may spot check a sample of completed checklists. If the CxM and CxA determine that the information provided on the checklist is not accurate, the CxM will return the marked-up checklist to the Contractor for correction and resubmission. If the CxM and CxA determine that a significant number of completed checklists for similar equipment are not accurate, the CxM in coordination with CxA will select a broader sample of checklists for review. If the CxM and CxA determine that a significant number of the broader sample of checklists is also inaccurate, all the checklists for the type of equipment will be returned to the Contractor for correction and resubmission. Refer to SECTION 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIREMENTS for submittal requirements for Pre-Functional Checklists, Equipment Startup Reports, and other commissioning documents.

3.3 CONTRACTORS TESTS

- A. Contractor tests as required by other sections of Division 23 shall be scheduled and documented in accordance with UFGS GENERAL REQUIREMENTS sections. All testing shall be incorporated into the project schedule. Contractor shall provide no less than 7 calendar days' notice of testing. The CxM will witness selected Contractor tests at the sole discretion of the CxM and CxA. The CxA and other Government representative(s) may choose to participate in some or all the testing procedures as observers. Contractor tests shall be completed prior to scheduling Systems Functional Performance Testing.

3.4 SYSTEMS FUNCTIONAL PERFORMANCE TESTING:

- A. The Commissioning Process includes Systems Functional Performance Testing that is intended to test systems functional performance under steady state conditions, to test system reaction to changes in operating conditions, and system performance under emergency conditions. The CxM will prepare final and detailed Systems Functional Performance Test procedures for review and approval by the CxA and COR.

The Contractor shall review and comment on the tests prior to approval. The Contractor shall provide the required labor, materials, and test equipment identified in the test procedure to perform the tests. The CxM will witness and document the testing. The Contractor shall sign the test reports to verify tests were performed. See Section 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIREMENTS, for additional details.

3.5 TRAINING OF VA PERSONNEL

- A. Training of the VA operation and maintenance personnel is required in cooperation with the COR, VA Resident Engineer, and CxM. Provide competent, factory authorized personnel to provide instruction to operation and maintenance personnel concerning the location, operation, and troubleshooting of the installed systems. Contractor shall submit training agendas and trainer resumes in accordance with the requirements of Section 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIRMENTS. The instruction shall be scheduled in coordination with the COR and VA Resident Engineer after submission and approval of formal training plans. Refer to Section 01 91 00.01 DVA/USACE Projects GENERAL COMMISSIONING REQUIREMENTS and Division 23 Sections for additional Contractor training requirements.

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