

**Commissioning Agent Services for
Upgrade Emergency Fuel Oil Transfer System
Project Number: 541-16-502
October 18, 2016**

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1.0 SCOPE OF WORK

1. The A/E (Architect/Engineer) shall provide all Commissioning Agent Services and serve as an independent Commissioning Agent for VA Project No. 541-16-502 “Upgrade Emergency Fuel Oil Transfer System” at the Wade Park Campus of the Louis Stokes Cleveland VAMC, Cleveland, Ohio.
2. The A/E shall perform these services in FULL ACCORDANCE WITH the Department of Veterans Affairs “Whole Building Commissioning Process Manual” and TIL - Master Construction Specifications (PG-18-1), Section 01 91 00 – General Commissioning Requirements. Commissioning Services may include, (but may not be limited to) the services outlined below. Refer to the “Whole Building Commissioning Process Manual” for a complete description of the Commissioning Services to be provided. The manual is available at: <http://downloads.va.gov/files/CFM-TIL/Cx-RetroCx/>
3. The major scope items for this construction project include:
 - a. Replace two existing fuel oil transfer pump packages with new pump packages complete with PLC controls and interface with the existing emergency generator control system.
 - b. Demolition of abandoned natural gas piping and associated masonry work as needed, and adding a ventilation system in location for one of the new fuel oil transfer pump packages.
 - c. Alter existing piping and add new piping to the emergency generator fuel day tanks which will provide a redundant fuel oil supply to all five emergency generators.
 - d. Revise the existing remote fuel oil alarm panel in the boiler plant control room to include adding memory cards, I/O capability, etc. to add new points as necessary to interface with the new fuel oil pump package controls.

This project is a single-phased construction project with a 360-day duration. However, the construction shall be accomplished such that two fuel oil transfer pumps sets are operational at all times during construction. Only one emergency generator is permitted to be shut down at any one time. Each emergency generator shutdown shall not exceed eight hours in length.

Completion of Commissioning Agent Services will be dependent upon the award of the construction contract. The construction contract is planned to start in the first half of 2017.

4. The VA has ownership of the rights at the date of closeout submittal to all CAD files, and facility data developed for the project. The VA may make use of this data following any deliverables.

2.0 GENERAL

1. Commissioning is a systematic process of verifying that the building systems perform interactively according to the construction documents and the VA's operational needs. The commissioning process shall encompass and coordinate the system documentation, equipment startup, control system calibration, testing and balancing, performance testing and training. Commissioning during the construction, and post-occupancy phases is intended to achieve the following specific objectives according to the contract documents:
 - a. Verify that the applicable equipment and systems are installed in accordance with the contract documents and according to the manufacturer's recommendations.
 - b. Verify and document proper integrated performance of equipment and systems.
 - c. Verify that Operations & Maintenance documentation is complete.
 - d. Verify that all components requiring servicing can be accessed, serviced and removed without disturbing nearby components including ducts, piping, cabling or wiring.
 - e. Verify that the VA's operating personnel are adequately trained to enable them to operate, monitor, adjust, maintain, and repair building systems in an effective and energy-efficient manner.
 - f. Document the successful achievement of the commissioning objectives listed above.

The Commissioning Agent shall be working through, and reporting to the VA COR.

2. Commissioning Agent's Responsibilities
 - a. Organize and lead the commissioning team.
 - b. Attend pre-construction meeting and provide a brief overview of the commissioning process.
 - c. Prepare the duration schedule of commissioning activities for inclusion into the commissioning plan and coordination with the contractor's construction progress schedule.
 - d. Prepare the commissioning plan. See Paragraph 1.11-A of TIL - Master Construction Specifications (PG-18-1), Section 01 91 00 – General Commissioning Requirements, for further information.
 - e. Review and comment on selected project submittals provided by the VA COR, for general conformance with the construction documents. Review and provide comments to the VA COR on the ability to test and operate the system and/or equipment, including providing gages, controls and other components required to operate, maintain, and test the system. Review and provide comments to the VA COR on performance expectations of systems and equipment and interfaces between systems relating to the construction documents.
 - f. At the beginning of the construction phase, conduct an initial construction phase coordination meeting for the purpose of reviewing the commissioning activities and establishing tentative schedules for operation and maintenance submittals; operation and maintenance training sessions; TAB work; Pre-Functional Checklists, Systems Functional Performance Testing; and project completion.
 - g. Observe construction and report progress, observations and issues. Observe systems and equipment installation for adequate accessibility for maintenance and component replacement or repair, and for general conformance with the construction documents.
 - h. Prepare project specific Pre-Functional Checklists and Systems Functional Performance Test procedures.
 - i. Coordinate with TAB contractor, perform TAB agenda review, and perform TAB verification.
 - j. Coordinate Systems Functional Performance Testing schedule with the contractor.
 - k. Witness selected systems startups.
 - l. Verify selected Pre-Functional Checklists completed and submitted by the contractor.
 - m. Witness and document Systems Functional Performance Testing.

- n. Compile test data, inspection reports, and certificates and include them in the systems manual and commissioning report.
- o. Review and comment on operation and maintenance (O&M) documentation and systems manual outline for compliance with the contract documents.
- p. Develop and prepare Systems Manuals for all commissioned systems.
- q. Review operation and maintenance training program developed by the Contractor. Verify training plans provide qualified instructors to conduct operation and maintenance training.
- r. Prepare commissioning Field Observation Reports and Commissioning Issues Log and maintain updated Issues Log as construction and commissioning progresses.
- s. Prepare the Final Commissioning Report.
- t. Return to the site at 10 months into the 12 month warranty period and review with facility staff the current building operation and the condition of outstanding issues related to the original Systems Functional Performance Testing. Also interview facility staff and identify problems or concerns they have operating the building as originally intended. Make suggestions for improvements and for recording these changes in the O&M manuals. Identify areas that may come under warranty or under the original construction contract. Assist facility staff in developing reports, documents and requests for services to remedy outstanding problems.
- u. Assemble the final commissioning documentation, including the Final Commissioning Report and Addendum to the Final Commissioning Report.

3. Commissioning Agent Qualifications

- a. The Commissioning Agent shall either be certified by the NEBB, or the TABB, or be a member of ACG, or be certified as a Certified Building Commissioning Professional by the AEE, or the Commissioning Agent shall provide and utilize the services of a Commissioning Authority that meets the above qualifications as a sub-consultant to the Commissioning Agent for performance of all commissioning services for the VA under this project.
- b. The certification shall be maintained for the entire duration of duties specified herein. If, for any reason, the firm loses subject certification during this period, immediately notify the Contracting Officer and submit another Commissioning Firm for approval. Any firm that has been the subject of disciplinary action by the ACG, the NEBB, the AEE, or the TABB within the five years preceding Contract Award is not eligible to perform any duties related to the HVAC systems, including Commissioning. All work specified in Statement of Work to be performed by the Commissioning Agent shall be considered invalid if the Commissioning Agent or sub-consulting Firm loses its certification prior to Contract completion and must be performed by an approved successor. These Commissioning services are to assist the VA in performing the quality oversight for which it is responsible. The Commissioning or sub-consulting Firm shall be an agent acting of and for the VA and shall be financially and corporately independent of all other sub-contractors.

4. Trade Association Definitions

- a. AABC: Associated Air Balance Council
- b. ACG: Associated Air Balance Council Commissioning Group
- c. AEE: Association of Energy Engineers
- d. NEBB: National Environmental Balancing Bureau
- e. SMACNA: Sheet Metal and Air-Conditioning Contractors' National Association
- f. TABB: Testing, Adjusting, and Balancing Bureau

3.0 REFERENCES

1. Department of Veterans Affairs, Whole Building Commissioning Process Manual. This document can be found at <http://downloads.va.gov/files/CFM-TIL/Cx-RetroCx/>
2. TIL - Master Construction Specifications (PG-18-1), Section 01 91 00 – General Commissioning Requirements. This document can be found at <http://www.cfm.va.gov/TIL/spec.asp>
3. Construct Project Specifications: Available upon request.
4. Construction Project Drawings: Available upon request.

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