Lebanon VA Medical Center
Lebanon, PA 17042

Construction Scope of Work

Upgrade DDC HVAC Controls Bldg 1

595-26-105

All submittals provided to the government by: 60 days after Notice to Proceed (NTP) issued
Construction Complete by: 330 days after NTP issued
Contracting Officer: TBD
Contracting Officers Representative (COR) Matthew Donmoyer

- The contractor shall furnish all Management, Supervision, Labor, Transportation, Equipment and Materials and perform work to include demolition, general construction, alterations, mechanical and electrical work, and certain other items as required by project drawings and specifications to complete this scope of work for Project No. 595-26-105 Upgrade DDC Controls Building 1. The project scope is to replace Building 1 Direct Digital Controls (DDC) and Pneumatic Controls with new Direct Digital Controls and integrate them onto the existing campus wide Distech Tridium Niagara server. Project shall be completed in accordance with VA Criteria and Specifications, NFPA (National Fire Protection Association), and EPA (Environmental Protection Agency) requirements.

- Offeror shall be prepared for a 330-day schedule as indicated below in the Project Schedule. Offeror shall be required to perform some work during normal business hours and some work after hours so as not to interfere with the operations of the hospital. Working hours shall be at the discretion of the government. Offeror may propose an alternate schedule, in addition to the 330-day schedule, which will be reviewed by the VA. Schedules shall indicate the following:
  - o Phasing plans for coordination of activities taking place in offices evening shift.
  - o Construction services including:
    - Mobilization
    - Demolition
    - Controller replacement, steam valve replacement
    - Procurement and installation of equipment
    - Provisions for overtime or shift work shall be included in the contract offer.

-- Project Scope --

The project to upgrade the DDC controls in building 1 shall include the following:

- Replace all components of the Delta Controls building automation system in

Building 1 with Distech Controls with integration onto existing Tridium Niagara building automation server.

- Hot Water System
- Chilled Water System
- Low Pressure Steam heat exchangers
- Ground floor system router
  - (3) Blower coils - South entrance
  - (7) VAV boxes - Pathology
- First Floor – Pneumatic Change over
  - Fan Coil Units – Admin suite/corridors (11)
  - Blower Coils – (21)
- Second Floor Router
  - (33) VAV boxes – A-Wing & B-Wing
  - (14) VAV boxes – Oncology C-Wing
  - (16) Radiant Heat Panels – Oncology C-Wing Chemo Beds
- Third Floor Router
  - (15) Fan Coils A-Side
  - (27) Reheat Coils B-Side
- Fourth Floor Router
  - (39) Reheat Coils A-Side
  - (21) Fan Coils B-Side
- Fifth Floor Router
  - (37) Fan Coil Units
- Kitchen Room Router 125B
- Radiology AHU-1/Hot Water Reheat
  - VAV boxes (26)
  - Radiology reheat pump system (1)
- Radiology AHU-2
  - VAV boxes (11)
- AC-1 (A-Side)
- AC-2 (B-Side)
- AC-3 (Outside on roof)
- AC-4 (old SPS)
- AC-5/Reheat 6th Floor
  - (18) VAV boxes
  - (1) Sixth floor reheat heat exchanger
- AC-6 (Serves room 453)
- AC-7 (Kitchen)
- AC-8 (Kitchen prep offices)
  - VAV boxes (9)
- AC-9 (Elevator)
- AC-11
- AC-12
  - VAV box (1)
  - Reheat coils (4)
- AC-14 CT Scan Outside Ground
- ERU-1 New Laboratory
  - VAV boxes (18)
- AHU-1 Front Entrance by carport
- RTU-1 Rehabilitation suite

        - VAV boxes (37)
- Replace existing wall radiant heat pneumatic steam valves with DDC electronic steam valves (Base qty. of 500)
    - Wiremold from ceiling to wall radiator
    - Controlled by associated room controller
    - Price per radiant heater valve replacement for adding or deducting of original count of 500
- Bacnet/IP communication buss has been installed by in-house VA electric shop
- All Bacnet /IP communication risers are installed to include network switches and are currently operational on the campus Distech Controls Tridium server.
- All existing equipment end-devices (sensors, limit switches, pressure switches, air flow monitoring, etc.) may be reused if operational. If any are inoperable, create deficiencies log for in-house VA HVAC shop replacement.
- Conduct site investigations during submittal process to verify existing conditions
- Provide a full set of building automation control drawings to include flow diagrams, sequence of operations, valve schedule, control panel layout, wiring diagram detail, points list, and bill of materials during the submittal process and update as an as-built at the end of the project
- Make sequence of operations changes to incorporate energy savings and to update for building usage changes. Provide documentation to support these changes during the submittal process
- Replace unions, nipples on both sides of steam valve, utilize existing hand valve
- Replace any deteriorated wiring. Existing wiring can be used if it meets NEC standards
- Existing plenum free aired wiring can remain if being reused
- Do not use existing boxes or controllers as Junction Boxes. They all shall be removed
- Any factory controls where necessary to meet modern standards and must integrate via Bacnet/IP or Bacnet/MSTP into new Distech Tridium server.
- All work shall comply with the National Fire Protection Association (NFPA) 70 (National Electrical Code), 70B, 70E, 72, 99, 101, and 13, the VA Electrical, HVAC and Plumbing cal Manuals and Occupational Safety and Health Administration (OSHA) regulations.
- Everything that controls, consumes, or can consume electric shall have a label. Label shall have circuit identification, panel it is fed from, and where the panel is located.
- Installation will be required to occur during times that will minimize impact to the patients, staff and hospital in general.
- Collaboration between contractor, COR and Lebanon VAMC Air Conditioning shop will be greatly encouraged during the project.
- Construction shall be addressed in phases to allow operations to continue during construction. Heating and cooling shall always be maintained for the building. Phasing shall be determined at the initial project schedule for review. Phasing must work within budget and allow the VA to continue operations at minimal interference

-- Project Schedule --

EXPECTATION: *Submit review packages so they are received on the noted day*

SUBMISSIONS:

Submit review packages so they are received on the noted day (calendar days after NTP) or earlier:

All submittals required by specification sections and this SOW .....60 days

Begin Construction on or before .....120 days

Complete Construction on or before .....330 days

Note: The issuance of the Notice to Proceed (NTP) for construction period will be at the first Project Team (PT) Meeting. The Construction Contractor shall be required to attend and take minutes of each PT meeting. Minutes shall be submitted electronically to the Project Manager and Contracting Officer within three calendar days of each meeting for approval and to be added to the official contract file.

ATTACHMENT "A"

Specifications (All downloadable from the VA Technical Information Library (www.cfm.va.gov/TIL) unless otherwise noted)

01 00 00	**Lebanon General Requirements (attached)**
01 35 26	**Lebanon Safety Requirements (attached)**
01 33 23	**Shop Drawings, Product Data, and Samples**
01 45 00	**Quality Control**
01 45 29	**Testing Laboratory Services**
01 91 00	**General Commissioning Requirements**
02 41 00	**Demolition**
07 84 00	**Firestopping**
23 05 11	**Common Work Results for HVAC**
23 05 93	**Testing, Adjusting, and Balancing for HVAC**
23 07 11	**HVAC Insulation**
23 08 00	**Commissioning of HVAC Systems**
23 09 23	**Direct-Digital Control System for HVAC (attached)**
26 05 11	**Requirement for Electrical Installations**
26 05 19	**Low-Voltage Electrical power Conductors and Cables**
26 05 26	**Grounding and Bonding for Electrical Systems**
26 05 33	**Raceway and Boxes for Electrical Systems**

Existing Floor and Mechanical Plans