

**July 30, 2013**

**STATEMENT OF WORK: COMPRESSOR REPLACEMENT PROJECT, BLDG 100; MEDICAL AIR, DENTAL AIR, LAB AIR AND CONTROL AIR COMPRESSORS AND COMPONENTS**

**Scope:** Project will involve complete removal and replacement of Medical Air, Dental Air, Lab Air and Control Air electrical and mechanical components with all new systems. This will include the below requirements:

- All systems must be continuously left in operation until final connections are made to minimize health risks to patients and staff.
- Medical, Dental, and Lab Air systems require 3<sup>rd</sup> party verification and certification for use with patients.
- Contractor must have backup compressors or bottled gas supplies available for use while individual projects are in progress.
- Final connections and systems shutdowns must be scheduled a minimum of two weeks in advance to allow Palo Alto Division to properly schedule work with Nursing and Surgical Services.
- Shut down of Medical Systems must be made after hours or on weekends to minimize impact on patients and staff.
- Contractor shall individually schedule and remove/replace each discrete system; starting with Lab Air compressors, then proceeding in turn to Medical Air System, Control Air system and ending with Dental Air system.
- Dental Air systems may be turned off and worked on after business hours and on weekends if the Contractor desires to do so.
- Contractor shall purchase and install one MST0503-4-5-K Medical Air compressor system for use as backup during compressor replacement project. At conclusion of project, MST0503-4-5 system will be property of VA to be used elsewhere on station and become Government Furnished Property.

**Compressor requirements for project are:**

**I. Temporary Air System**

- a) Purchase, ship, receive and install a new triplex scroll Powerex medical air system Model Number MST0503-4-5-K with dryer in a central location.
- b) Inspect, start and test the new temporary system.

- c) This system will be used as a temporary supply as the medical air, control air and the lab air systems are removed and replaced.

## **II. Control Air System**

- a) Purchase and ship new Powerex system Model Number LST1505-4-5-K.
- b) Shut down and remove the remaining control air compressor, dryer, receiver and controls.
- c) Install the new Powerex LST1505-4-5-K control air system. Included in this system are the following:
- Nine 5hp scroll compressor pumps configured in triplex format
  - Control/Power panel programmed for staged compressor operation, with HMI Display
  - 200 gallon receiver with anti corrosion lining
  - Dual desiccant dryer system with purge control
  - CO2 and dew point monitors
  - System frame
  - PBMI Screens, (Electronic Control Screen with Ethernet Interface)
  - High temperature shut down switches
  - See Control Air Specifications page, attached, for additional details and inclusions
- d) Connect the new control air system to the existing electrical service. Connections to be to NEC standards.
- e) Connect the new system piping to the existing building piping. All piping joints to be brazed by NFPA certified brazier.
- f) Test all alarms and controls.
- g) Provide factory trained personal for start up the new system. Remove the old system from the premises.
- h) Disconnect temporary system

## **III. Medical Air System**

- a) Purchase and ship new Powerex system Model Number MSQ1505-4-5-K. Connect the temporary air unit to the medical air system.
- b) Start up the new temporary system to supply medical air in place of the existing unit.
- c) Shut down and remove the existing medical air system including compressors, dryers, receiver, piping and controls.
- d) Install the new Powerex MSQ1505-4-5-K medical air system. Included in this system are:
- Twelve 5hp scroll compressor pumps configured in four-plex format
  - Control/Power panel programmed for staged compressor operation
  - 200 gallon receiver with anti corrosion lining

- Dual desiccant dryer system with purge control.
- CO2 and dew point monitors
- System frame
- PBMI Screens, (Electronic Control Screen with Ethernet Interface)
- High temperature shut down switches
- See Medical Air specifications page, attached, for additional details and inclusions
- Specifications Page, Attached, for Additional Details
- Connect the medical air system to the existing electrical service. Connections to be to NEC standards.

e)Connect the new system piping to the existing building piping. All piping joints to be brazed by NFPA certified brazier.

f)Test all alarms.

g)Provide factory trained personal for start up the new system.

h)Provide third party certification/verification of new medical air system and bring on line. Shut down the temporary system and disconnect the temporary medical air piping. Remove the old system from the premises.

#### **IV. Lab Air System**

- a) Purchase and ship new Powerex system Model Number LST1005-4-5-K. Connect the temporary air unit to the Lab Air system.
- b) Start up the new temporary system to supply Lab Air in place of the existing unit.
- c) Shut down and remove the existing Lab Air system including compressors, dryers, receiver, piping and controls.
- d) Install the new Powerex LST1005-4-5-K Lab Air system. Included in this system are:
  - Twelve 5hp scroll compressor pumps configured in triplex format
  - Control/Power panel programmed for staged compressor operation,
  - 200 gallon receiver with anti corrosion lining,
  - Dual desiccant dryer system with purge control.
  - CO2 and dew point monitors.
  - System frame
  - PBMI Screens, (Electronic Control Screen with Ethernet Interface)
  - High temperature shut down switches
  - See Medical Air Specifications Page, Attached, for Additional Details

e)Connect the lab air system to the existing electrical service. Connections to be to NEC standards. Connect the new system piping to the existing building piping. All piping joints to be brazed by NFPA certified brazier.

f)Test all alarms.

g)Provide factory trained personal for start up the new system. Provide third party certification of new medical air system and bring on line. Shut down the temporary system and disconnect the temporary medical air piping.

h)Remove the old system from the premises.

## **V. Dental Air**

A dental air shut down is required to remove the existing system and install the new system. This shut down will be coordinated with the facilities management. The required shutdown will be a few days in length. Most work will take place after normal hospital business hours however this is not guaranteed.

- a) Purchase and ship new Powerex triplex system Model Number MST1505HP-4-5-K-SPL. Shut down and remove the existing dental air system.
- b) Install a new Powerex dental air system - Model Number MST1505HP-4-5-K-SPL. Included in this system are:
  - Nine 5hp high pressure scroll compressor pumps configured in triplex format,
  - Control/Power panel programmed for staged Compressor Operation,
  - Receiver with Anti Corrosion Lining,
  - Dual Desiccant Dryer System with Purge Control.
  - CO2 and Dew Point Monitors.
  - System Frame
  - PBMI Screens, (Electronic Control Screen with Ethernet Interface)
  - High Temperature Shut Down Switches
  - See Specifications Page, Attached, for Additional Details
- c) Connect the new dental air system to the existing electrical service. Connections to be to NEC standards.
- d) Connect the new system piping to the existing building piping. All piping joints to be brazed by NFPA certified brazier with purging where appropriate as required by NFPA 99, 2005.
- e) Test all alarms and controls
- f) Provide factory trained personal for start up the new system. Perform a certification inspection on the new system and provide a certification report. Remove the old system from the premises.

### **Notes and Terms:**

- The temporary Powerex triplex medical air unit will be the property of Palo Alto VAMC. This system will meet the med air needs of Building 7.
- Off shift hours are included for dental air removal and installation. Installation of other systems is during normal business hours.
- All components, piping and labeling will meet NFPA 99 guidelines.
- The VA to provide daily burn permits when required for brazing with a 1 hour wait period, maximum. Longer wait periods for burn permits will result in additional charges. Shutdowns will be coordinated with the hospital personnel.
- Pricing includes all labor, materials, shipping and taxes.

- Systems will be invoiced upon delivery. The 2<sup>nd</sup> invoice will occur once half the systems are installed.
- Payment of invoices is due 30 days from invoice date.

**Exhibits:**

- Refer to Attached Specification Sheet for each individual system
- For each system Contractor Shall:
  - Isolate each compressor electrically and with mechanical valves using proper LOTO procedures.
  - Individually demo each unit in turn.
  - Remove old unit from Basement Mechanical Room and turn over to VA M&R Shops.
  - Provide and install new electrical connections as required.
  - Provide and install new piping as required.
  - Install and test each new unit in turn.
  - Calibrate and set all pressure regulators and safety devices along with alarm systems.
  - Connect each unit to existing piping with proper certification of all installed piping and systems.
  - Each new control panel shall be connected and tested with all alarms functional per NFPA 99 rules and regulations for Medical Gas systems.
  - Complete systems (multiple pumps) shall be again tested as a whole system when installation is complete to verify proper operation.
  - All work shall be performed by licensed electricians and Medical Gas Installers.
  - Commission each new system and provide Medical Gas Inspector certification of air purity.
  - Contractor shall provide daily trash and debris removal for worksite.
  - Contractor will supply and install barricades and signage to conform to station safety rules and to prevent injury to staff and patients.
  - Contractor shall provide daily logs during the duration of the project.
  - Contractor shall provide work schedule before commencing work.
  - Contractor will furnish all tools and equipment to complete work.
  - Contractor will schedule all work through Engineering Service Pipefitting Shop.
  - Contractor will provide daily cleanup of work site and remove all excess materials at end of work day.
  - Contractor will have on hundred twenty (120) days from award of contract to complete work.
  - Contractor will obtain temporary security badges or ID daily for all employees through Police Service, Bldg 100 1<sup>st</sup> floor, F-wing, PAD.
  - The contractor, their personnel, and their subcontractors shall be subject to all Federal Laws, regulations, standards, and VA Directives and Handbooks regarding information and information system security as delineated in this contract. VA sensitive data will be protected in accordance within the guidelines spelled out in VA Handbook 6500 rules of behavior.
  - The C&A requirements do not apply and a Security Accreditation Package is not required.
  - All compressors shall have a one year (1) extended warranty included as part of the installation project.