

**DEPARTMENT OF VETERANS AFFAIRS**

**Justification and Approval**

**For**

**Other Than Full and Open Competition**

**1. Contracting Activity:**

Department of Veterans Affairs  
Lebanon VA Medical Center  
1700 S. Lincoln Ave.  
Lebanon, PA 17042

**2. Nature and/or Description of the Action Being Processed:**

Contractor shall furnish management, supervision, labor transportation, equipment, and materials, and perform work to include general construction, alterations, mechanical and electrical work, and certain other items as required by project drawings and specifications for:

**PROJECT NO. #595-CSI-004**

**VACO – LEBANON VA MEDICAL CENTER**

**RENOVATION OF MAIN LABORATORY – B1**

This acquisition is a firm-fixed price construction buy.

**3. Description of Supplies/Services Required to Meet the Agency's Needs:**

- a. Emergency Power System Transfer Switches – ASCO Power Technologies ASCO 7000 Series Automatic Transfer Power Switches: The furnishing, installation, and connection of ASCO Power Technologies ASCO 7000 Series Automatic Transfer Power Switches including, power supplies, and wiring.

**PART 2 - PRODUCTS**

**2.1 CLOSED-TRANSITION AUTOMATIC TRANSFER SWITCH**

**A. General:**

1. Automatic transfer switch shall be ASCO (Automatic Switch Company) Series 7000 or approved equal.
2. Automatic transfer switch shall be provided, with power monitoring communications and controls consisting of serial modules, connectivity module, microprocessor based metering annunciator with software package.
3. Comply with UL, NEMA, NEC, ANSI, IEEE, and NFPA.
4. Automatic transfer switches are to be 4-pole draw-out construction, electrically operated, mechanically held open contact type, without integral overcurrent protection. Automatic transfer switches utilizing automatic or non-automatic molded case circuit breakers, insulated case circuit breakers, or power circuit breakers as switching mechanisms are not acceptable.
5. Automatic transfer switches shall be completely factory-assembled and wired such that only external circuit connections are required in the field.
6. Ratings:

- a. Phases, voltage, ampere rating, poles, and withstand current rating shall be as shown on the drawings.
  - b. Transfer switches are to be rated for continuous duty at specified continuous current rating on 60Hz systems.
  - c. Maximum automatic transfer switch rating: 800 A.
7. Markings:
- a. Markings shall be in accordance with UL 1008.
  - b. Markings for the additional withstand test specified below shall be included in the nameplate data.
8. Tests:  
Automatic transfer switches shall be tested in accordance with UL 1008. The contacts of the transfer switch shall not weld during the performance of withstand and closing tests when used with the upstream overcurrent device and available fault current specified.
9. Surge Withstand Test:  
Transfer switches utilizing solid-state devices in sensing, relaying, operating, or communication equipment or circuits shall comply with IEEE C37.90.1.
10. Housing:
- a. Enclose automatic transfer switches in wall- or floor-mounted steel cabinets, with metal gauge not less than No. 14, in accordance with UL 508, or in a switchboard assembly in accordance with UL 891, as shown on the drawings.
  - b. Automatic transfer switch components shall be removable without disconnecting external source or load power conductors.
  - c. Finish: Cabinets shall be given a phosphate treatment, painted with rust-inhibiting primer, and finish-painted with the manufacturer's standard enamel or lacquer finish.
  - d. Viewing Ports: Provide viewing ports so that contacts may be inspected without disassembly.
- B. Automatic transfer switches shall include the following features:
- 1. Operating Mechanism:
    - a. Actuated by an electrical operator.
    - b. Electrically and mechanically interlocked so that the main contact cannot be closed simultaneously in either normal and emergency position.
    - c. Normal and emergency main contacts shall be mechanically locked in position by the operating linkage upon completion of transfer. Release of the locking mechanism shall be possible only by normal operating action.
    - d. Contact transfer time shall not exceed six cycles.
    - e. Operating mechanism components and mechanical interlocks shall be insulated or grounded.
  - 2. Contacts:
    - a. Main contacts: Silver alloy.
    - b. Neutral contacts: Silver alloy, with same current rating as phase contacts.
    - c. Current carrying capacity of arcing contacts shall not be used in the determination of the automatic transfer switch rating, and shall be separate from the main contacts.
    - d. Main and arcing contacts shall be visible for inspection with cabinet door open and barrier covers removed.
  - 3. Manual Operator:

Capable of operation by one person in either direction under no load.

4. Replaceable Parts:
  - a. Include the main and arcing contact individually or as units, relays, and control devices.
  - b. Switch contacts and accessories shall be replaceable from the front without removing the switch from the cabinet and without removing main conductors.
5. Sensing Relays:
  - a. Undervoltage Sensing for Each Phase of Normal Source: Sense low phase-to-ground voltage on each phase. Pickup voltage shall be adjustable from 85 to 100% of nominal, and dropout voltage is adjustable from 75 to 98% of pickup value. Factory set for pickup at 90% and dropout at 85%.
  - b. Adjustable Time Delay: For override of normal-source voltage sensing to delay transfer and engine start signals. Adjustable from zero to six seconds, and factory set for one second.
  - c. Voltage/Frequency Lockout Relay: Prevent premature transfer to generator. Pickup voltage shall be adjustable from 85 to 100% of nominal. Factory set for pickup at 90%. Pickup frequency shall be adjustable from 90 to 100% of nominal. Factory set for pickup at 95%.
  - d. Time Delay for Retransfer to Normal Source: Adjustable from 0 to 30 minutes, and factory set for 10 minutes to automatically defeat delay on loss of voltage or sustained undervoltage of emergency source, provided normal supply has been restored.
  - e. Test Switch: Simulate normal-source failure.
  - f. Switch-Position Pilot Lights: Indicate source to which load is connected.
  - g. Source-Available Indicating Lights: Supervise sources via transfer switch normal- and emergency-source sensing circuits.
  - h. Normal Power Supervision: Green light with nameplate engraved "Normal Source Available."
  - i. Emergency Power Supervision: Red light with nameplate engraved "Emergency Source Available."
  - j. Transfer Override Switch: Overrides automatic retransfer control so that automatic transfer switch shall remain connected to emergency power source regardless of condition of normal source. Pilot light indicates override status.
  - k. Engine Starting Contacts: One isolated and normally closed and one isolated and normally open; rated 10 A at 32-V dc minimum.
  - l. Engine Shutdown Contacts: Time delay adjustable from zero to five minutes, and factory set for five minutes. Contacts shall initiate shutdown at remote engine-generator controls after retransfer of load to normal source.
  - m. Engine-Generator Exerciser: Programmable exerciser starts engine-generator(s) and transfers load to them from normal source for a preset time, then retransfers and shuts down engine-generator(s) after a preset cool-down period. Initiates exercise cycle at preset intervals adjustable from 7 to 30 days. Running periods are adjustable from 10 to 30 minutes. Factory settings shall be for 7-day exercise cycle, 20-minute running period, and 5-minute cool-down period.
6. Controls:
  - a. Control module shall provide indication of switch status and be equipped with alarm diagnostics.

- b. Control module shall control operation of the automatic transfer switches.
- 7. Factory Wiring: Train and bundle factory wiring and label either by color-code or by numbered/lettered wire markers. Labels shall match those on the shop drawings.
- 8. Annunciation, Control, and Programming Interface Components: Devices for communicating with remote programming devices, annunciators, or control panels and paralleling switchgear shall have open-protocol communication capability matched with remote device.
- 9. Auxiliary Contacts:
  - a. Provide contacts as necessary to accomplish the functions shown on the drawings, as specified herein, and as designated in other sections of these specifications, as well as one spare normally open contact and one normally closed contact.
  - b. Provide remote contact to bypass retransfer time delay to normal source.
- 10. In-Phase Monitor: Factory-wired, internal relay controls transfer, so that it occurs only when the two sources are synchronized in phase. The relay compares phase relationship and frequency difference between normal and emergency sources and initiates transfer when both sources are within 15 electrical degrees, and only if transfer can be completed within 60 electrical degrees. Transfer is initiated only if both sources are within 2 Hz of nominal frequency and 70% or more of nominal voltage.
- 11. Programmed Neutral Switch Position: Switch operator has a programmed neutral position, arranged to provide a midpoint between the two working switch positions, with an intentional, time-controlled pause at midpoint during transfer. Pause is adjustable from 0.5 to 30 seconds minimum and factory set for 0.5 seconds, unless otherwise indicated. Time delay occurs for both transfer directions. Pause is disabled unless both sources are live.

## **2.2 SEQUENCE OF OPERATION**

- A. The specified voltage decrease in one or more phases of the normal power source shall initiate the transfer sequence. The automatic transfer switch shall start the engine-generator(s) after a specified time delay to permit override of momentary dips in the normal power source.
- B. The automatic transfer switch shall transfer the load from normal to emergency source when the frequency and voltage of the engine-generator(s) have attained the specified percent of rated value.
- C. Engine Start: A voltage decrease, at any automatic transfer switch, in one or more phases of the normal power source to less than the specified value of normal shall start the engine-generator(s) after a specified time delay.
- D. Transfer to Emergency System Loads: Automatic transfer switches for Emergency System loads shall transfer their loads from normal to emergency source when frequency and voltage of the engine-generator(s) have attained the specified percent of rated value. Only those switches with deficient normal source voltage shall transfer.
- E. Transfer to Equipment Branch Loads: Automatic transfer switches for Equipment Branch loads shall transfer their loads to the generator on a time-delayed, staggered basis, after the Emergency System switches have transferred. Only those switches with deficient normal source voltage shall transfer.
- F. Retransfer to Normal (All Loads): Automatic transfer switches shall retransfer the load from emergency to normal source upon restoration of normal supply in all phases to the specified percent or more of normal voltage, and after a specified time delay. Should

the emergency source fail during this time, the automatic transfer switches shall immediately transfer to the normal source whenever it becomes available. After restoring to normal source, the engine-generator(s) shall continue to run unloaded for a specified interval before shut-down.

- G. Exercise Mode: Transfer to emergency power source shall be accomplished by remote manual test switches on a selective basis.

### **2.3 REMOTE ANNUNCIATOR AND CONTROL SYSTEM**

- A. Include the following functions for indicated automatic transfer switches:
1. Indication of sources available, as defined by actual pickup and dropout settings of automatic transfer switch controls.
  2. Indication of switch position.
  3. Indication of switch in test mode.
  4. Indication of failure of digital communication link.
  5. Key-switch or user-code access to control functions of panel.
  6. Control of switch-test initiation.
  7. Control of switch operation in either direction.
  8. Control of time-delay bypass for transfer to normal source.
- B. Malfunction of remote annunciator and control system or communication link shall not affect functions of automatic transfer switches. Automatic transfer-switch sensing, controlling, or operating functions shall not depend on remote panel for proper operation.
- C. Remote annunciation and control system shall include the following features:
1. Controls and indicating lights grouped together for each transfer switch.
  2. Label each indicating light control group. Indicate the transfer switch it controls, the location of switch, and the load that it serves.
  3. Digital Communication Capability: Matched to that of automatic transfer switches supervised.
  4. Mounting: Flush, modular steel cabinet, unless otherwise indicated.
- D. Interconnecting Communications Protocol and Media: Automatic transfer switches and the remote annunciator and control system shall be network interconnected per the requirements of Section 27 15 00, COMMUNICATIONS HORIZONTAL CABLING. Provide all necessary fiber optic media, raceways, hardware, software, and programming necessary to establish interconnection between automatic transfer switches and remote annunciator and control system. All equipment shall share a common open communications protocol.

### **2.4 SPARE PARTS**

Provide six control fuses for each automatic transfer switch with a different rating.

#### **4. Statutory Authority Permitting Other than Full and Open Competition:**

- (X) (1) Only One Responsible Source and No Other Supplies or Services Will Satisfy Agency Requirements per FAR 6.302-1;
- ( ) (2) Unusual and Compelling Urgency per FAR 6.302-2;
- ( ) (3) Industrial Mobilization, Engineering, Developmental or Research Capability or Expert Services per FAR 6.302-3;
- ( ) (4) International Agreement per FAR 6.302-4
- ( ) (5) Authorized or Required by Statute FAR 6.302-5;
- ( ) (6) National Security per FAR 6.302-6;
- ( ) (7) Public Interest per FAR 6.302-7;

**5. Demonstration that the Contractor's Unique Qualifications or Nature of the Acquisition Requires the Use of the Authority Cited Above (applicability of authority):**

- a. Emergency Power System Transfer Switches – ASCO Power Technologies ASCO 7000 Series Automatic Transfer Power Switches: Restriction of sources for this acquisition is justified in accordance with FAR 6.302-1, the item is peculiar to one manufacturer. Although there are other manufacturers of Emergency Power System Transfer Switches, that equipment is not compatible with the system currently in place throughout the medical center. The ASCO Power Technologies ASCO 7000 Series Automatic Transfer Power Switches are exclusively used at this facility and it is in the VA's best interest to maintain consistency of the life safety system. Use of other manufacturers would lead to storing additional inventory, functioning issues due to non compatibility with existing equipment, multiplicity of service contracts, and increased training and operator requirements.

**6. Description of Efforts Made to ensure that offers are solicited from as many potential sources as deemed practicable:**

The AE designing this project made every effort to specify generic items, however in design process only the products listed above meet the unique design criteria of this construction project. There is no restriction on suppliers of the products specified, only on the manufacturer. While these products are specified, most can be procured from multiple sources.

**7. Determination by the Contracting Officer that the Anticipated Cost to the Government will be Fair and Reasonable:**

It is anticipated that the prime construction contractor will obtain multiple quotes from various suppliers for the specified items, thus ensuring fair and reasonable price determination.

**8. Description of the Market Research Conducted and the Results, or a Statement of the Reasons Market Research Was Not Conducted:**

No market research was conducted as the prime contractor for these products is responsible for purchase/procurement of specified products. It is anticipated that prime construction contractor will be able to obtain price competition for these items.

**9. Any Other Facts Supporting the Use of Other than Full and Open Competition:**

These items are specified as design criteria to complete a unique atmosphere and work environment. Deviation from these products would jeopardize the aesthetic feel and functionality of the design.

**10. Listing of Sources that Expressed, in Writing, an Interest in the Acquisition:**

See Section VI above.

**11. A Statement of the Actions, if any, the Agency May Take to Remove or Overcome any Barriers to Competition before Making subsequent acquisitions for the supplies or services required:**

The products specified for this construction project are the only products that meet the Government's needs for the specified design. There is no restriction on suppliers of the products specified, only on the manufacturer. In the future the VA will continue to urge AE design firms to write specifications that allow for more diverse product placement and less restrictive requirements.

12. **Requirements Certification:** I certify that the requirement outlined in this justification is a Bona Fide Need of the Department of Veterans Affairs and that the supporting data under my cognizance, which are included in the justification, are accurate and complete to the best of my knowledge and belief.

Richard McKeary Assistant Chief Engineer March 14, 2012  
for Thaddeus Kocuba Date  
Chief of Engineering  
Lebanon VA Medical Center

13. **Approvals in accordance with FAR 6.304**

a. **Contracting Officer's Certification (required):** I certify that the foregoing justification is accurate and complete to the best of my knowledge and belief.

Seth J. Custer 3/14/12  
Seth J. Custer Date  
Chief of Contracting  
Lebanon VA Medical Center

b. **Network Contracting Manager's Delegate Certification (required):** I certify that the foregoing justification is accurate and complete to the best of my knowledge and belief.

Robert Del Campo 14 MARCH 2012  
Robert Del Campo Date  
Construction Team Manager  
NCO 4