

## B.3 STATEMENT OF WORK

### 1. PROJECT DATA:

TITLE: UPS SERVICE

BUILDING/FACILITY: VAMC BOSTON, WEST ROXBURY CAMPUS, BUILDING 1 and 2, PENTHOUSE, 1400 VFW PARKWAY, WEST ROXBURY, MA 02132 AND VAMC BOSTON, JAMAICA PLAIN CAMPUS, BUILDNG 1, 150 SOUTH HUNTINGTON AVE, JAMAICA PLAIN MA

COTR: JOHN CULLEN

### 2. General Description of Work:

The Contractor shall provide all supervision, personnel, material, parts, equipment, supplies, labor and transportation in performing preventive maintenance and emergency repair services on the Uninterrupted Power Supply systems. The WEST ROXBURY, BROCKTON AND JAMAICA PLAINS UPSs provide backup power and allow the transfer critical patient care systems to emergency power. The batteries and UPS's require maintenance in accordance with the manufacturer's specifications.

The preventative maintenance shall take place twice per year. The preventative maintenance visits shall be separated by approx. 6 months.

**Period of Performance:** This will be a firm-fixed price, base year + four option years (with an additional 6 month option) award. The estimated Period of Performance is as follows:

Base Year: 09/01/2016-08/31/2017

Option Year 1: 09/01/2017-08/31/2018

Option Year 2: 09/01/2018-08/31/2019

Option Year 3: 09/01/2019-08/31/2020

Option Year 4: 09/01/2020-08/31/2021

**Quality Assurance:** Please see attached Quality Assurance Surveillance Plan

### Facility Addresses:

Brockton Campus  
940 Belmont Street  
Brockton, MA 02301

Jamaica Plain Campus  
150 South Huntington Avenue  
Jamaica Plain, MA 02130

West Roxbury Campus  
1400 VFW Parkway  
West Roxbury, MA 02132  
Phone: 617-323-7700

### 3. Equipment Schedule:

- a. WR-Eaton Model 9315 (BLDG 2, BASEMENT), 80kVA, sn EW113ZBA03 w 40 batteries;
- b. WR-Toshiba Model 4200F(BLDG1, PH), sn 110303889 w 24 batteries;
- c. WR-Toshiba Model 4200F (BLDG1, PH), sn 090201648 w 24 batteries;
- d. WR-Toshiba Model 4200F(BLDG 1, PH), sn 121100140 w 24 batteries;

- e. WR-GE 100kVA (MRI BLDG), sn PO10022030842G w 40 batteries;
- f. WR-Liebert 30kVa, SN# 47J3B00002, 24 batteries;
- g. WR-GEC SG-150, SN# P01504512B892Q, 40 batteries;
- h. WR-Toshiba 4400S3K250XA0, SN# 151100173, 24 batteries;
- i. JP-Eaton Model 9390 (15<sup>th</sup> floor-Bldg 1), 80kVA, sn ED255CBB02, 40 batteries;
- j. JP- Eaton Model 9390 (Bldg 1, RM SBB2A), 80kVA, sn ED272CAB06, 40 batteries;
- k. JP- Eaton Model 9390 (MRI Bldg), 160kVA, sn EA305CBA01, 40 batteries; AND
- l. BR-MGI (Bldg 2, Rm B001B), 80kva, 40 batteries.

#### **4. Emergency Services and Battery Replacement**

- a. This contract includes the option purchase emergency repair services/parts not covered under the final contract and to purchase and install additional batteries should they need to be replaced. The pricing/quote for the emergency services and/or the battery replacement installation shall be requested at the time of need, in accordance with the labor rates provided below and all work shall be preapproved by the COR and CO prior to commencement of work.

Please note, the amount of emergency repairs and battery replacements are unknown at this time. These services are not guaranteed and will fluctuate based on the need and severity of the situation.

- b. Based on the cost of the emergency services and/or battery replacement, and prior to commencement of work, all additional work will be authorized via a Government Purchase Card transaction, a dually signed modification or via an additional separate order accompanied by an authorized obligation number.
- c. Emergency Services
  - 1. Labor Rates:
    - i. Emergency labor hourly rate for normal business hours - \$
    - ii. Emergency labor hourly rate for after hours and Saturdays - \$
    - iii. Emergency labor hourly rate for Sundays and Holidays - \$
  - 2. Parts Discount (if applicable):
    - i. \$

#### **5. General Requirements:**

Maintenance on Eaton, GE, Toshiba and MGI systems shall be performed by qualified personnel. All checks are designed to be performed during off line operation and in the bypass mode. All checks or processes may not be applicable to all equipment types or models. Checks that do not apply will be denoted as "N/A" on the technician's field report.

##### **1. Visual Inspection**

- a. Inspect all printed circuit board connections for cleanliness, swab contacts if necessary.
- b. Inspect all power connections for signs of overheating
- c. Inspect all subassemblies, bridges and legs for signs of component defects or stress
- d. Inspect all DC capacitors for signs of leakage
- e. Inspect all AC capacitors for signs of leakage
- f. Inspect and inventory all customer-owned spare parts
- g. Inspect for, and perform as required, any open engineering changes
- h. If work is completed under a PowerTrust™ Ultra contract, inspect battery monitoring

system

## **2. Internal Operating Parameters**

- a. DC Ground Detection Offset (if applicable)
- b. Inverter leg current average balance (if applicable)
- c. Output filter current average phase balance
- d. Rectifier bridge current average leg balance
- e. AC Protection settings are checked
- f. DC Protection settings are checked
- g. Input and Output Frequency and Voltage Bandwidth settings are checked
- h. Verify DC filter capacitance
- i. Verify AC tank and trap filter capacitance
- j. Power Supply voltages and waveforms

## **3. External Operating Parameters**

- a. System Input Voltages (all phases)
- b. System Input Currents (all phases)
- c. DC Charging Voltages (float and equalize), record settings, adjust to nominal
- d. Rectifier phase on and walk up
- e. Inverter phase on and walk up
- f. Adjust all panel meters to measured values
- g. System Bypass Voltages (all phases)
- h. Manual and UV Transfer Testing, verify uninterrupted transfer waveform (if applicable)
- i. Outage simulation, and battery capability testing, and verify charger current limit
- j. Generator operation and interface verification (if applicable)

## **4. Environmental Parameters**

- a. UPS area ambient temperature and condition of ventilating equipment
- b. General Cleanliness of UPS Power Module
- c. General Cleanliness of UPS area
- d. Replace all air filters
- e. Clean control panel/CRT screen

## **5. Battery Cabinet Checks**

- a. General appearance of Battery System (all types)
- b. General cleanliness of Battery System area (all types)
- c. Inspect cells for physical abnormalities
- d. Inspect all DC connections for abnormalities
- e. Battery System area ambient temperature and condition of ventilating equipment
- f. For internal batteries only measure and record:
  - i. Overall battery float voltage
  - ii. Charger output current and voltage
  - iii. Negative terminal temperature of one cell/battery per battery cabinet shelf or rack tier
  - iv. Momentary load testing of cells < 100 watts (e.g. 9E, 9x55, **not** 9330)

## **6. Monitoring System Parameters**

- a. Alarm archive review and printing

- b. Alarm lamp test-local and remote (if applicable)
- c. Replace all open monitor bulbs
- d. If work is completed under a PowerTrust Ultra contract, inspect battery monitoring system
- e. Review Battery Test in history (if applicable)

## **7. General**

- a. Customer Consultation
- b. Verbal Recommendations
- c. General Observations

Following the Preventive Maintenance inspection, a written report will be provided detailing the results of the inspection, and making specific recommendations toward future remedial action, upgrades, or sparing.

**Battery Maintenance of Battery Equipment** includes, and is expressly limited to, those tasks set forth below. Due to the size and type of battery, testing and work procedures vary between battery jars above and below 100 watts per battery; work procedures may vary by UPS or related device and battery type and may be limited by safety requirements. All additional work is not covered under this service contract. A proposal shall be submitted to the contracting officer and shall be billable at the applicable rates.

### **Performed During Each Preventive Maintenance Visit:**

#### **Below**

#### **100W/Jar 100W+/Jar**

##### **A. Measure and Record the following:**

1. Individual cell/battery float voltages and overall float voltage
2. Charger output current and voltage
3. AC ripple current and voltage imposed on the battery.
4. Internal ohmic values of each cell/battery or perform continuity test of each cell/battery
5. Connection Resistance of 10% of the inter cell/battery connection
6. Ambient temperature
7. Negative terminal temperature of one cell/battery per battery cabinet shelf or rack tier

##### **B. Visually inspect conditions and appearance of the following:**

1. Connection terminals inter cell/battery connectors, cables and associated hardware
2. Cell/battery covers, containers, and post
3. Battery racks or cabinets and associated components and hardware
4. Cell/battery jar or cover, noting any excessive distortion

##### **C. Perform cleaning of all accessible surfaces as required**

#### **Performed Once Per Calendar Year:**

The yearly maintenance procedure should include all of the above with the addition of the following:

1. Measure and record the connection resistance of 100% of the inter cell/battery connections.
2. Re-torque any connection where the resistance is above 20% of the average.

##### **E. Reporting Each Preventive Maintenance Visit:**

1. The technician(s) will issue the customer a verbal report summarizing the condition of the battery and identifying any critical issues before leaving the customer's site.

2. A detailed report containing all readings and observations will be sent to the customer within five business days.

#### **6. CONTRACTOR PERSONNEL BADGES AND PARKING**

1. An access badge will be given to the contractor's employee upon entrance into VA buildings. The contractor employee must safeguard the access badge and immediately report any lost, stolen, or destroyed badges to the facility POC. All contract personnel must properly display their access badges. Access badges must be worn at or above the waist (facing forward.). The contractor's employees must return the access badge(s) to the facility POC or designee at the end of each pick up process.
2. It is the responsibility of the contractor's personnel to park in the appropriate designated parking areas. Parking information shall be coordinated with each facility POC.
3. VA Medical Center does not validate or make reimbursement for parking violations of the contractor's personnel under any circumstance.

#### **7. INTERFERENCE TO NORMAL FUNCTION:**

1. Contractor may be required to interrupt their work at any time so as not to interfere with the normal functioning of the facility, including utility services, fire protection systems, and passage of facility patients, personnel, equipment and carts.
2. In the event of an emergency, contractor services may be stopped and rescheduled at no additional cost to the government.
3. Contractor personnel shall inform the facility POC or the designee of the need to gain access to secured areas. If access is required to secure areas, prearranged scheduling will be made with the facility POC or designee.