

STATEMENT OF WORK (SOW)

Generator PM

Coatesville VA Medical Center

March 9, 2016

REVISED April 06, 2016

1. Contract Title Emergency Generator Yearly PMs and Load-bank Testing FY16 and beyond

2. Background JCAHO requirements require yearly testing of any emergency generators that do not meet 30% load requirements during monthly checks and the completion of industry standard preventative maintenance.

3. Scope Perform 4.5Hr Load-bank tests on three (3) separate Generators (14, 63, and T21 generators). Scope shall include all parts, equipment, travel time and labor required to provide annual Preventative Maintenance (PMs) and conduct Load-Bank Testing for:

a. Building 14, Stewart and Stevenson, M# Spectrum 250DSE, S# 6R-0601543, 277/280V, 250kW

b. T-21, Stewart and Stevenson, M# 220DSE, S# NA, 120-480V, 200kW, Mobile generator

c. Building 63, McGraw-Edison, M# SFTA I870929377, 240V, 3phase, 3Wire Delta, 200kW

4.5Hr test should be run as follows (25%-1/2 hr., 50%-1/2 hr., 75%-1 hr., and 100%-2.5Hrs.). Standard readings should be every 15 minutes and test results provided.

Bid must also include full preventative maintenance service on the three (3) separate generators 14, 63, and T-21 generators. The two (2) Automatic Transfer Switches associated with these generators must also be included which are in buildings 14 and 63.

This service should include a yearly inspection and performance of the following items:

Battery & Battery Charger System

- Check battery charger functions
- Cable connections, termination cleanliness and security
- Check electrolyte level, vent caps of all cells in the starting batteries
- Battery Conductance Test

Fuel System

- Inspect main tank/day tank fuel level
- Inspect day tank controls and pumps. Test operate day tank controls (where available)
- * Change fuel filters – replace all fuel filters (engine primary and secondary filters) at each scheduled service interval
- * Check fuel transfer pumps – test the operation of the fuel transfer pump at each scheduled service interval by pressing the test button and observing the results. Check for leaks.



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* Drain water separators – water separators should be drained at each scheduled service interval

- Inspect all fuel hoses, clamps, pipes, components, and fittings
 - Inspect governor linkage
 - Visually inspect rupture/containment basin
 - Water I~ Fuel Test - Sub-base, day tanks
- Test function of fuel and tank monitoring systems

Engine Cooling System

- Inspect all hoses and clamps for leaks, coolant level and condition
 - Inspect radiator cap, radiator thermostat for operation and filler neck condition
 - Inspect drive belts, observe alignment and deflection
 - Observe coolant heater operations
 - Utilize DCA test strip to record coolant properties
 - Inspect radiator surfaces, shrouds, and barriers for obstruction
 - Visually inspect low temperature after cooler coolant
- * Change coolant filter – the diesel coolant additive water filters shall be replaced at scheduled service interval
- Perform laboratory coolant sampling'

Engine & Lubrication System

- Inspect lubrication system (visually check oil level)
- Inspect crankcase ventilation system
- Inspect spark ignited ignition system

Intake/Exhaust System

- Inspect air cleaner element and entire intake system. Replacement of additional air filter elements will be quoted separately.
 - Inspect exhaust system piping connections to include rain cap associated with air intake system at each scheduled service interval
- * Clean crankcase breather element – remove and clean the crankcase breather element at each scheduled interval.
- Inspect louver operations

Generator Controls & Power Connections

- Visually inspect all engine mounted wiring, senders, and devices
- Visually inspect all control mounted components and wiring
- Lamp test all lights and indicators
- Visually inspect breaker and power connections
- Manually operate generator main breaker(s) open and closed*

Generator Operations

- Start and observe generator and equipment operations



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- Verify engine and generator safeties for proper operation
- System test with or without load

Automatic Transfer Switch

(Paralleling Switchgear, Bypass Switchgear, Manual Transfer Switches)

- Visually inspect all power and control wiring
- Visually inspect switch mechanism and enclosure
- Visually inspect controls and time delays settings
- Verify function of exercise clock

FULL SERVICE (Includes Inspection)

Operational & Functional Review of Generator Critical Components

- Inspect engine cooling fan & fan drives for excessive wear or shaft wobble
- Check all pulleys, belt tensioners, slack adjusters & idler pulleys for travel, wear & overall condition
- Inspect/lubricate drive bearings, gear or belt drives, Lovejoy and other shaft connecting hardware

Lubrication Oil and Filtration Service

- Change engine lubrication oil
- Change primary lubrication and bypass filters
- Change fuel filters
- Post lube service operation of Generator (unloaded) at rated temperature
- * Check hydraulic/mechanical governor oil level – on engines equipped with mechanical or hydraulic governors, the oil level shall be checked at each scheduled service interval.
- Perform oil sampling for laboratory analysis

5. Risk Control Test and inspection days must be coordinated with COR and Coatesville VA Medical Center (see paragraphs 7 and 8 below).

6. Place of Performance

All work will be performed at the VA Medical Center Coatesville.

7. Period of Performance All testing must be completed by May 29th of each contract year. All contractor work is to be performed outside of the normal working hours of Monday – Friday 8am – 430pm. All work shall be coordinated with the technical POC.

8. Point of Contact



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Minimum of 3 week notice must be given for coordination for the COR and or Technical POC to obtain and coordinate the WRITTEN APPROVAL from the Chief of Engineering in order to proceed with Generator and Load Bank Testing to ensure coordination throughout the CVAMC Campus.