

STATEMENT OF WORK (SOW)  
for

**Emergency Generator Yearly PMs and Loadbank Testing at the Butler VAMC.**

**1. 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.

**2. Scope.** Task 1- Perform 4.5Hr Loadbank tests on 4 separate Generators (#2 Gen, #7 Gen, #21 Gen, and #30 Gen. Contractor shall provide all parts, equipment, travel time etc., and labor required. 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. Testing must be completed by Dec. 15, 2016.

Task 2- Bid must also include full preventative maintenance service on 7 separate generators #2, #3, #4, #7, #21, #30 and #99 generators. 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)
- 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
- Optional - fuel sample for laboratory analysis\*

**Engine Cooling System**

- Inspect all hoses and clamps for leaks, coolant level and condition
- Inspect radiator cap 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
- Optional -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
- Inspect exhaust system and rain cap
- 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
- 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 genset (unloaded) at rated temperature

**3. Risk Control** – Test and inspection days must be coordinated with the VA COR or Technical POC. Normal business hours are Monday- Friday, 7:00 AM – 3:30PM, excluding Federal Holidays.

4. Place of Performance.

All work will be performed at the VA Butler Healthcare.

#### **5. List of Generators and associated Automatic Transfer Devices**

- Cummins Model: 400.0 DFEH-4221173 S/N: D100113079 Size: 400kW ATS Qty: 4 (building #2/generator #2)
- Kohler Model: 100REOZJE S/N: 2832676 Size: 100kW ATS Qty: 3 (building #21/generator 21)
- Cummins Model: 250.0 DQDAA-4280031 S/N: D100113074 Size: 250kW ATS Qty: 3 (building #3/generator #3)
- Cummins Model: 175.0 DSFAC-4239141 S/N: D100117402 Size: 33.5kW ATS Qty: 2 (building #4/generator #4)
- Cummins Model: 175.0 DSGAD-1321728 S/N: B130462361 Size: 175kW ATS Qty: 2 (building #30/generator #30)
- Cummins Model: 350.0 DFEG-10094833 S/N: B120299232 Size: 350kW ATS Qty: 3 (building #7/generator #7)
- Caterpillar Model: LC6 S/N: G6B16057 Size: 500kW ATS Qty: 5 (building #99/generator #99)