

## Specifications for Preventive and Complete Maintenance of Generators

### Purpose:

This request for bids is for a 5-year contract for preventive and complete maintenance of three (3) Caterpillar generators for the Tennessee Department of Mental Health and Substance Abuse Services, Middle Tennessee Mental Health Institute (MTMHI). The bid should include labor, materials, and equipment to perform services and work as specified. The equipment covered are the three Caterpillar generators at the locations as stated. The current equipment is as described, or as listed on the equipment list; however, the list is not intended to limit contracted services to specific components.

### Respondent Site Visit:

All Respondents are encouraged to visit the facility and become familiar with the equipment, its present condition, and its mode of operation to obtain information concerning all aspects of what the services entail. The State of Tennessee is not responsible for errors and/or omissions in bidders' pricing due to the Respondent not completing a site visit.

**Date: June 4, 2024**  
**8:00 a.m. CDT By appointment only**

Point of Contact for site visit: Steve Smithson, Director of Maintenance  
Telephone Number: (615) 902-7655

Onsite service locations: Middle Tennessee Mental Health Institute Complex

Middle Tennessee Mental Health Institute – Main Building  
221 Stewarts Ferry Pike  
Nashville, TN 37214

Forensic Services Program Building (FSP)  
261 Stewarts Ferry Pike  
Nashville, TN 37214

Dietary Services Building (DSB)  
231 Stewarts Ferry Pike  
Nashville, TN 37214

### Contractor Requirements:

1. The Contractor must have trained personnel, qualified to work on the equipment/system(s) as specified in the Scope of Work.
  - A. At the State's request, the contractor may be required to furnish evidence of trainings and/or certifications.
  - B. Only trained personnel shall perform the work.
2. The Contractor must hold a current Contractor CE license or LLE license. At the State's request, the contractor may be required to provide copies of license.

3. The Contractor must have employees to receive and act on service call twenty-four (24) hours a day, seven (7) days a week, including legal state holidays.
  - A. Response time shall be no more than one (1) hour from notification to the contractor by MTMHI during normal business hours, and two (2) hours during non-business hours, weekends, or holidays.
  - B. Telephone responses shall be no more than (2) hours from notification to the contractor by MTMHI, twenty-four (24) hours a day, seven (7) days a week regardless of business hours, non-business hours, or holidays.
  - C. Non-emergency service response shall be no more than four (4) hours from notification to the contractor by MTMHI excluding non-business hours and legal state holidays.
4. The Contractor must have all equipment, tools, materials, and supplies necessary to perform the responsibilities of the contract. All parts, materials, and supplies used must be new.
5. The Contractor must have a supply of stock replacement parts for immediate use. Additionally, the contractor must have access to non-stock replacement parts. Manufacturer parts, manufacturer-approved parts, or equivalent, as per the brand(s) must be used to maintain the integrity of the equipment.

**Scope of Work:**

The Contractor shall provide preventive and complete maintenance services for three (3) Caterpillar generators. The services include inspection, preventive maintenance, testing, repair, technical support and emergency services. The services may also include minor revisions and modifications, additions, retrofits, upgrades, software upgrades, equipment monitoring, and calibration services. The omission of detailed specifications does not limit the quality of service rendered and only the best commercial practices are acceptable. All repairs, maintenance testing, and inspections must be performed in accordance procedures of the manufacturer and in a craftsman like manners.

1. Preventive maintenance shall include (1) annual and three (3) quarterly preventive maintenance services calls each year as well as annual diesel fuel testing and annual generator load bank test.
  - A. Annual Preventive Maintenance Service Specifications
    1. Fuel System:
      - A. Change fuel filter elements
      - B. Pump off water and sediment from the main fuel tank
      - C. Drain water and sediments from the day tank
      - D. General inspection of all components
      - E. Check fuel pressure at the cylinder head (if applicable)
      - F. Check the fuel level in the main fuel tank
      - G. Check the operation of the day tank
      - H. Add sufficient fuel additives to inhibit bacterial growth and adsorb condensate water in the main fuel tank
    2. Lubrications System:
      - A. Change the oil in the engine (contractor to furnish appropriate oil)
      - B. Change oil filters (contractor to furnish appropriate filter elements)
      - C. Check and record engine oil pressure
      - D. Check the engine for oil leaks
      - E. Leave mark-up oil with MTMHI (contract shall leave one (1) quart of appropriate oil per engine cylinder)
    3. Cooling System:
      - A. Check the engine water pump
      - B. Check all the cooling system hoses
      - C. Check and clean all louvers
      - D. Clean the external core of the radiator
      - E. Check the coolant level

- F. Check and record freeze protection and add appropriate antifreeze if necessary (contractor will furnish appropriate antifreeze)
  - G. Add rust inhibitor to the cooling system
  - H. Check the condition of the belts
  - I. Check for adequate fresh air to the engine
  - J. Check for the condition of the fan hub
  - K. Check the operation of the water jacket heater
  - L. Check and record the operating temperature, and verify that the operating temperature is in the correct range
4. Exhaust System:
    - A. Check the condition of mufflers, exhaust lines, supports, and all connections
    - B. check the condition of the turbocharger (if applicable)
    - C. Check for exhaust leaks
  5. Air Intake System:
    - A. Check air inlet restriction
    - B. Check air box pressure (if applicable)
    - C. Check crankcase pressure (if applicable)
    - D. Check exhaust restriction
    - E. Clean crankcase breather pads (if applicable)
    - F. Clean the blower screen (if applicable)
    - G. Check all air system piping
    - H. Check the condition of dry type air cleaner element
  6. Control System:
    - A. Check the operation of all gauges and meters
    - B. Clean the control cabinet
    - C. Check the operation of all controls
    - D. Check the shut-down system for correct operation
  7. Engine Electrical Starting System
    - A. Check the condition of the batteries
    - B. Clean batteries and cables
    - C. Add distilled water, as required to maintain proper electrolyte
    - D. Check the operation of the float charger
    - E. Check battery voltage, 1.42 VDC per cell
    - F. Lubricate the starter motor, if necessary
  8. Generator:
    - A. Blow out with low-pressure air
    - B. Check the condition of the bearings
    - C. Check the main breaker for operation (if applicable)
    - D. Check the cables from the generator to transfer the switch
    - E. Visually check the transfer switch for proper condition and operation
    - F. Clean the interior of the transfer switch enclosure, as necessary
  9. General:
    - A. Check for unusual conditions for vibration, deterioration, leakage, high surface temperature, or noise
    - B. Run the generator under emergency conditions if possible. If not, run the generator under test conditions
    - C. Leave the control panel in automatic mode
    - D. Record all readings, and give the record to the designated MTMHI employee
    - E. Notify MTMHI of additional service work required that's not specifically covered by these annual maintenance requirements
- B. Quarterly Annual Preventive Maintenance Service Specifications
1. Fuel System:
    - A. Drain water and sediment from fuel filters
    - B. Perform general inspection on all components
    - C. Check fuel pressure at the cylinder head (if applicable)

- D. Check the fuel level in the day tank
  - 2. Lubricating System:
    - A. Check the oil level and fill to proper level (contractor shall furnish appropriate oil)
    - B. Check and record engine oil pressure
    - C. Check the engine for oil leaks
  - 3. Cooling System:
    - A. Check all cooling system hoses
    - B. Check the coolant level
    - C. Check freeze protection and add antifreeze if needed (contractor shall furnish appropriate antifreeze)
    - D. Check the conditions of the belts
    - E. Check the operation of the water jacket
  - 4. Exhaust System:
    - A. Check the condition of the exhaust system
    - B. Check for exhaust leaks
  - 5. Air Intake System:
    - A. Check air inlet piping
    - B. Check the condition of the air filter element (or oil bath if applicable)
  - 6. Control System:
    - A. Check the operation of all gauges and meters
    - B. Check the operation of all controls
    - C. Check the shut-down system
  - 7. Engine Electrical Starting System:
    - A. Clean batteries and cables
    - B. Add distilled water, as required, to maintain proper electrolyte level (contractor shall furnish distilled water)
    - C. Check the operation of the float charger
    - D. Check and record battery voltage
  - 8. Generator:
    - A. Check the main circuit breaker for operation (if applicable)
    - B. Visually check the transfer switch for proper condition and operation
  - 9. General:
    - A. Check for any unusual condition of vibration, deterioration, leakage, high surface temperature, or noise
    - B. Run the generator in emergency conditions, if possible. If not, run the generators under test conditions
    - C. Leave the control panel in automatic mode
    - D. Record all readings and give the record to the designated MTMHI employee
    - E. Notify the agency of any additional service work required that's not specifically covered by these quarterly maintenance requirements
2. Annual Diesel Testing:
    - A. Shall be conducted in accordance with ASTM D975.
    - B. Test results and completion dates must be documented and retained.
    - C. Results must be remediated as necessary.
  3. Annual generator load bank test shall be a four-hour test with thirty percent (30%) load for thirty (30) minutes, fifty percent (50%) load for thirty (30) minutes, and seventy-five percent (75%) load for the duration of the test.
  4. Scheduled Service (planned maintenance)
    - A. Scheduled Service, inspection, and preventive maintenance service shall be as per specifications on equipment as stated. Shall be provided at the frequency. If services cannot be fulfilled at the time stated, services will be provided at a mutually agreeable

alternate time. All efforts will be made to not interrupt the preventive maintenance schedule as follows:

1. Annually:
    - A. MTMHI Main Building – September
    - B. FSP – December
    - C. DSB – March
  2. Quarterly:
    - A. MTMHI Main Building – December, March, June
    - B. FSP – March, June, September
    - C. DSB – June, September, December
  - B. Shall be one hundred percent (100%) fulfillment of the service specifications on the contract. Scheduled Service, inspection, and preventive maintenance service shall be as per specifications on equipment as stated.
  - C. Hourly rate does not apply.
5. Emergency Service
- A. Will be utilized when the equipment under the contract ceases to operate as it is designed to, causing facility operating hazards, or endangerment to the life of the property.
  - B. The Contract shall provide unlimited emergency service and telephone technical assistance twenty-four (24) hours a day, seven (7) days a week, including weekends and legal state holidays.
  - C. MTMHI will determine whether or not a requested service is an emergency.
  - D. Shall be billed according to the established hourly rate schedule.
6. Call-As-Needed –hourly rate charge
- A. MTMHI will contact the Contractor for Call-As-Needed Service. During the communication a service description will be given, and a service schedule shall be established.
  - B. The Contractor shall dispatch the appropriate personnel to perform the service.

**Equipment List/Description:**

1. In addition to the equipment as listed below, components for the equipment whose function is required for proper operation will be maintained and covered for repair.
2. Equipment List/ Description

<b>BRAND/MODEL SERIAL NUMBER</b>	<b>TYPE</b>	<b>LOCATION</b>
Caterpillar / 3508	Caterpillar	MTMHI
SR - 4	Diesel	221 Stewarts Ferry Pk
S/N 5UA 02260	Water Cooled	Nashville, TN 37214
Caterpillar / 3406	Caterpillar	FSP
SR - 4	Diesel	261 Stewarts Ferry Pk
S/N 58KF - 00888	Water Cooled	Nashville, TN 37214
Caterpillar / 3406	Caterpillar	DSB
400 - KW	Diesel	231 Stewarts Ferry Pk
SN 4RG02193	Water Cooled	Nashville, TN 37214

**Additional Conditions:**

1. Invoicing
  - A. Invoices shall be submitted for payment to the address listed below within thirty (30) days for service:

Middle Tennessee Regional Mental Health Institute  
Attn: Financial Services  
221 Stewarts Ferry Pike  
Nashville, TN 37214-3325

- B. Invoices shall include the following information:
    - i. The work order number and the purchase order number assigned to the service/job when applicable.
    - ii. Describe the work performed which is to be itemized as per the contract commodity lines.
    - iii. When applicable, parts invoice(s) must accompany the invoice for payment.
      - 1. The contractor shall submit as backup documentation a copy of the original purchase invoice (s) as proof of cost for chargeable parts, materials, and supplies. This backup documentation must accompany the job invoice order for MTMHI to process payment for service performed.
      - 2. When chargeable parts, materials, and supplies are utilized from the contractor's stock, a copy of the original purchase invoice (s) shall be required as documentation to substantiate cost.
      - 3. If the contractor cannot produce a copy of the original purchase invoice as proof of cost for repair parts, materials, and supplies, the state may verify current market value and if necessary, adjust the job invoice to reflect fair market price.
  - C. All invoices for hourly rate payment must correspond to the sign-in and sign-out time sheets utilized at MTMHI for time verification.
2. Security and Safety Requirements
- A. The Contractor must report to the MTMHI Main Building Maintenance Department when arriving on the property, or as instructed by MTMHI's designee.
  - B. The Contractor's staff shall sign in upon arrival and sign out when leaving the premises. Additional sign in and sign out are required at the FSP Building Security Desk, and at the Dietary Services Building.
    - i. A job number or description of the job task shall be entered on the sign-in log.
    - ii. Contract staff may be required to provide a picture identification for inspection upon entering the facilities.
  - C. Sign in instructions will be given as necessary if service will be provided at times other than regular business hours.
  - D. The Contractor's staff shall wear appropriate identification (as determined by MTMHI) while on state property.
  - E. State and MTMHI security and safety requirements and policies must be adhered while on the premises. This includes, but is not limited to: key control, tool control, compliance with prohibitory contraband items, and smoking policies.
  - F. The Contractor shall ensure all vehicles, equipment, tools, chemicals, and supplies used while on MTMHI premises are under the Contractor's control at all times, including while vehicles are in parking areas or on complex roads and drives.
  - G. MTMHI is a tobacco-free campus, and the use of tobacco products are prohibited while on MTMHI property.
  - H. Handling of materials – all materials, including waste and excess used is the total responsibility of the contractor. All use, removal, and disposal must be in accordance with all federal, State, and local laws and regulations.
3. Estimate of costs will be required for work other than scheduled services unless otherwise stated by MTMHI.
- A. MTMHI may accept a verbal field estimate. However, it must be followed up with a written estimate.
  - B. Estimates must be broken down according to the line items of the contract.

- C. When applicable, the estimate shall include an estimate of the time involved and the number of technicians required to complete the job.
  - D. When applicable, a parts list and parts cost shall be included in the estimate.
  - E. Repair costs shall not exceed the amount estimated without justification from the contractor and approval from MTMHI's designee.
  - F. The time involved in providing an estimate shall be charged at the regular time rate and must be invoiced separately.
4. Hourly rate charge
- A. MTMHI will shall pay for one (1) technician to perform the service requests unless the contractor has prior written approval from MTMHI designee.
  - B. MTMHI will pay the hourly rate for time worked only. Time worked will be verified by the sign in/sign out log.
    - i. The Contractor technician shall sign out and sign in for lunch period.
    - ii. The Contractor technical shall sign out anytime the technician leaves the premises for any reason, and sign-in upon return to the premises.
5. Reports
- A. A work report must be complete and left with MTHMI designee at the time Scheduled and Call-As-Needed Services are completed. The report must be itemized and include the following information:
    - i. Description of work performed;
    - ii. All findings which concern the state of or the operation of the equipment;
    - iii. Any recommendations for repair or additional service;
    - iv. Labor hours (time-in /time-out); and
    - v. List of parts used, if applicable.
  - B. The work report must reference the purchase order number assigned to the service provided, when applicable.
  - C. When requested, prior to use at MTMHI premises, the Contractor shall provide a Material Safety Sheet (MSDS) for substances or materials for which a MSDS is required.
6. When performing quarterly or annual services or repairs, a service ticket must be left with MTMHI Maintenance Department.