

Emergency Generator Maintenance – Specifications
Department of Intellectual and Developmental Disabilities
Middle Tennessee Regional Office
Middle Tennessee Community Homes

The State of Tennessee, Department of Finance and Administration, Division of Intellectual Disabilities Services hereinafter shall be referred to as the “state” or “agency”.

The service recipient refers to the agency end user consumer, or using department, and hereinafter shall be referred to as the “agency authority” or “using department”.

The service provider hereinafter shall be referred to as the “contractor” or “vendor”.

The contract technical specifications and/or equipment specifications were submitted by, or have been reviewed and approved by, the agency authority end user.

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General Scope of Contract

A (5) year contract is requested due to the fact that the services needed are repetitive, thus allowing uninterrupted service at a stable price.

This is a comprehensive contract to provide labor, materials and equipment to perform services and work as specified on the emergency generators as listed in section XVI.

Services include inspection, preventive maintenance, testing, repair, and emergency service. Repair services shall include any/all peripheral equipment that is a component of the equipment under contract.

Contract specified service (planned maintenance): service provided as per predetermined specifications, e.g. inspection and preventive maintenance (see sections XII, XIII, XIV and XV). This service will have detailed written procedure in section. The contract specified service shall be invoiced at the awarded unit price. Hourly rates and parts do not apply.

Emergency and non-emergency service shall be invoiced at the awarded hourly labor rate that applies, and parts, when applicable, at the parts cost that applies.

The agency shall maintain control of the equipment covered by this contract, with full preoperative determining if/when the contractor shall be called to perform work. Agency personnel will make all decisions as to whether the agency maintenance department or the contractor will perform a repair.

The contractor shall install parts at the appropriate awarded hourly labor rate.

The absence of detailed specification or the omission of detailed description does not limit the quality of service rendered and shall be recognized as meaning that only the best commercial practices are to prevail and that only first quality materials and workmanship are to be used and will be acceptable. Work shall comply with all industry standards and guidelines.

All services must be performed in accordance with the contract's procedures or as detailed in the specifications. Work shall comply with all industry standards and guidelines.

I. General Information

- A. A site visit is required. The contractor should visit the site and become familiar with the equipment, its present condition, and its mode of operation, obtaining information concerning all aspects of what the job entails.
Agency contact: David L. Moss (615) 416-0281
- B. The State of Tennessee is not responsible for errors and/or omissions in bidders pricing due to the contractor not having made a site visit.
- C. All services will be coordinated with agency personnel, and scheduled at a mutually agreed upon time.
- D. No work shall commence without prior approval from authorized agency personnel.
- E. The contractor shall sign in and sign out with agency personnel when arriving and leaving agency facilities or grounds.
- F. An estimate of cost will be required for work other than contract specified, unless otherwise authorized by agency personnel.
 - 1. The agency may accept a verbal field estimate, or may request a written estimate be submitted.
 - 2. Estimates must be broken down according to the lines of the contract.
 - 3. A parts list and parts cost will be included in an estimate, when applicable.

4. The time involved in providing an estimate will be charged at the regular, holiday or emergency time rate and the estimate time will be charged separately.
 5. Repair cost cannot exceed the amount estimated without justification from the contractor and approval from authorized agency personnel.
 6. Job estimates will be monitored by agency personnel for accuracy.
- G. The contractor shall perform the services as described, at the intervals as specified each contract year.
1. The "contract year" is a twelve (12) month period that begins on the effective date of the contract.
- H. All services and repair must be performed in accordance with the equipment manufacturer's recommended procedures or as detailed in contract specifications.
1. If available, copies of equipment maintenance manuals will be provided to the contractor if requested.

II. General Service Information

- A. Contract specified service (planned maintenance) – inspections, testing, preventive maintenance.
1. Contract specified service shall be provided at the frequency and during the time period(s) specified for each service.
 2. Service shall be provided in accordance with contract specifications.
 3. Contract specified service shall be 100% fulfillment of the specifications listed on 100% of the equipment listed for that service, per each scheduled occurrence.
- B. Emergency Service
1. The contractor shall provide unlimited emergency calls.
 2. Emergency service will be utilized when the equipment/system(s) under contract ceases to operate as it is designed to, causing facility operating hazards, or endangerment to life or property.
 - a. Authorized agency personnel will make the determination whether or not a requested service is an emergency.
 3. Emergency service work shall be billed according to the established hourly rate schedule that applies.
- C. Repair service, non-emergency
1. Upon request by the agency for non-emergency repair, the agency will notify the contractor, requesting dispatch of a repair technician, or personnel to provide an estimate of cost.
 2. The contractor shall dispatch appropriate personnel to perform the repair or provide an estimate as requested.
 3. The agency will pay for one technician to perform the service requested unless otherwise agreed upon.
- D. Once work has commenced on a job, it shall continue uninterrupted during regular business hours, until the job is completed satisfactorily, unless otherwise agreed upon by agency personnel.

- E. Generally, work will be scheduled during regular business hours; however, it may be necessary to change the work schedule to accommodate conditions at the agency. If this is necessary, the agency will arrange an agreeable work schedule with the contractor. Agency contact: David L. Moss (615) 416-0281

III. Response Time

- A. On-site service response time shall be defined as a service technician who can perform the service requested, on-site at the agency location, within the time frame specified.
- B. Emergency service response – (Emergency status is determined by the Agency): No more than two (2) hours from notification to the contractor by the agency, twenty-four (24) hours a day, seven (7) days a week, regardless of weekends, and legal state holidays.
- C. Non-emergency service response: No more than twenty-four (24) hours from notification to the contractor by the agency, excluding weekends and legal state holidays.

IV. Checklist

- A. A printed checklist must be completed and left with authorized agency personnel at the time service is completed. The following information will be included in the checklist:
 - 1. All findings which concern the state of, or operation of the equipment.
 - 2. Any recommendation for repair or additional service.
- B. The work report must be itemized and contain the following information:
 - 1. Description of work performed.
 - 2. Labor hours (time in/time out).
 - 3. List of parts used, when applicable.
- C. The work report must reference the purchase order number assigned to the service provided.
- D. The agency will provide a checklist form that must be completed by the contractor service technician, at the time service is rendered.
- E. When requested, the contractor shall provide prior to use, a material safety data sheet (MSDS) for any supplies, materials, and/or substances used in the performance of work done at agency facilities or on agency grounds, for which a MSDS is required.

V. Contractor Requirements

- A. The contractor must have trained personnel, taught to work on the equipment/system(s) as described or as listed, and perform the services as requested.
 - 1. Training: technicians must industry trained to work on the equipment as described and/or listed.
 - 2. At the state's request, the contractor may be required to furnish evidence of training.
 - 3. All work shall be performed by trained personnel.

- B. The contractor must have sufficient personnel to provide uninterrupted service.
- C. The contractor must have personnel to evaluate jobs, and submit estimates of cost.
- D. The contractor must have employees to receive and act on service calls twenty-four (24) hours a day, seven (7) days a week, including holidays. An automated answering system will not be acceptable as a contact.
- E. The contractor shall hold all current licenses and/or permits, if required to perform the tasks under contract.
 - 1. At the state's request, the contractor may be required to furnish copies of licenses and/or permits.
- F. The contractor must have access to, and bring all equipment, materials, supplies, and tools necessary to meet the responsibilities of the contract.
- G. The contractor must have a supply of stock replacement parts available for immediate use.
- H. The contractor must have access to non-stock replacement parts.

VI. Site Clean-Up

- A. The contractor shall clean the work area of all waste or debris generated by the contractor during the performance of a service call, leaving the work site clean at the end of each work day.
- B. Waste or debris generated by the contractor will be removed from the work site and disposed of properly in accordance with federal, state and local laws and regulations, by the contractor.
- C. The contractor must clean a work area of any unsafe materials and/or debris, and remove or secure all tools, when the contractor leaves a work area unattended.

VII. Parts Requirement and Part Cost

- A. Generator replacement and repair parts must be manufacturer parts according to the generator brand.

All parts, materials, supplies and equipment will be billed at vendor/contractor's cost, minus any applicable sales or use tax pursuant to Tennessee Code Annotated, Section 67-6-209, plus fifteen percent (+15%). Reference Standard Term & Condition titled "Taxes". The vendor shall submit as backup documentation a copy of the original purchase invoice(s) as proof of cost for parts, materials, supplies, and equipment. This backup documentation must accompany the invoice in order for the agency to process payment. If the vendor/contractor cannot produce a copy of the original purchase invoice as proof of cost, the state may verify current market value and if necessary, adjust the invoice to reflect fair market price.

Discounts, including prompt payment discount offered by suppliers, must be credited to the state in determining the actual cost of the parts, materials, supplies and equipment used for this contract.

- B. All parts, materials, and supplies used in the performance of contract work must be new.

VIII. Charge Schedule

- A. Legal state holidays are defined as official holidays proclaimed by the commissioner of the Department of Personnel of the State of Tennessee.
- B. Charge rates will be inclusive of all expenses, including; personnel, labor, travel cost, vehicle, fuel, trip charge, equipment, overnight accommodations or overnight associated expenses. No additional costs will be levied.
- C. Hourly Rate Charge
 - 1. Regular time rate applies to service provided during regular business hours as specified:
Regular Business Hours
Monday through Friday
7:00am – 3:30 pm
Excluding legal state holidays
 - 2. Premium time rate applies to service provided outside of regular business hours and legal state holidays.
 - a. Authorized agency personnel must approve premium time rate prior to work being performed.
 - 3. Holiday premium time rate applies to service performed on legal state holidays.
 - a. Authorized agency personnel must approve holiday premium time rate prior to work being performed.
- D. Contract specified service (planned maintenance) charge.
 - 1. Contract specified service charge will be all inclusive, and bid as a unit price.
 - a. unit price includes expenses as listed in section VIII (B.)
 - 2. Contract specified service charge will include; incidental preventative maintenance parts, materials, and supplies necessary to perform the tasks described and will also include oil, oil filters, fuel filter elements, fuel additives, antifreeze, breather pads, radiator caps, dry air cleaner element (air filter), distilled water, rust inhibitor, etc.
 - 3. Contract specified service work performed before or after regular business hours will not incur additional charges.
 - 4. Multiple or return trips necessary to complete a contract specified service will have no additional charge.

IX. Time Verification

- A. The contractor service technician shall be required to log-in and log-out actual time worked with an authorized agency representative, for all on-site service provided.
- B. The contractor service technician must sign out and sign in for a lunch period if/when taken during a workday.
- C. The contractor service technician must sign out if/when the service technician leaves the agency premises for any reason, and sign in upon return to the agency premises.
- D. The agency will pay the hourly rate for actual time worked only.
- E. Time verification is required for hourly rate payment.

X. Invoice Requirements

- A. The invoice for payment must be submitted to the agency financial services department:
 - Division of Intellectual and Developmental Disabilities
 - 400 DEADERICK STREET
 - 9TH FLOOR
 - NASHVILLE TN 37243-1403
- B. The invoice for payment shall reference the work order number and the purchase order number assigned to the requested service/job.
- C. The invoice for payment must describe the work performed and be itemized as per the contract lines.
- D. A copy of the original invoice(s) incurred with the procurement of chargeable parts, materials, and supplies must be provided as documentation for proof of cost.
 - 1. Parts invoices must accompany the invoice for payment.
 - 2. Parts reimbursement will be made to the contractor only. Payment will not be made by the agency to the contractor's suppliers.

XI. Warranty Period/Coverage

- A. Services requiring the contractor to return to the job site due to equipment/system(s) failure with reference to services previously provided by the contractor will be at no charge to the agency.
- B. The contractor shall absorb all cost incurred for replacement, repair, or corrections made to agency equipment/system(s) due to:
 - 1. Faulty equipment or parts under warranty that were installed by the contractor.
 - 2. Equipment/system(s) failure due to the contractors poor workmanship.
- C. The agency shall be given manufacturer warranty agreements for equipment, parts, and materials used by the contractor on the equipment/system(s) under contract, when applicable.
- D. The contractor shall warranty parts and labor one (1) year against defects.

XII. Maintenance Schedule

- A. Contract specified service planned maintenance.
- B. Contract specified service inspection and preventive maintenance service shall be as per specifications on equipment as stated (see sections XII, XIII, XIV and XV).
- B. Equipment includes all generators as listed on the agency equipment list See section XVI).
- C. Contract specified service shall include incidental preventative maintenance parts, materials, and supplies as described in sections XII, XIII, XIV and XV.
- D. Contract specified service shall be performed as follows:
 - 1. Annual – When notified by facilities manager.
 - 2. Quarterly – When notified by facilities manager.

XIII. Annual Maintenance Specifications

- A. Fuel System:
 - 1. Change fuel filter elements.
 - 2. Pump off water and sediment from main fuel tank.
 - 3. Check fuel pressure at cylinder head (if applicable).
 - 4. Check fuel level in main fuel tank.
 - 5. Drain water and sediment from day tank.
 - 6. Check operation of day tank.
 - 7. Add sufficient fuel additives to inhibit bacterial growth and absorb condensed water in main fuel tank.
 - 8. Conduct a general inspection of all components of the fuel system.
- B. Lubrication System:
 - 1. Change oil in engine.
 - 2. Change oil filters.
 - 3. Check and record engine oil pressure.
 - 4. Check engine for oil leaks.
 - 5. Leave agency make-up oil (one (1) quart per engine cylinder).
- C. Cooling System:
 - 1. Check engine water pump.
 - 2. Check all cooling system hoses.
 - 3. Check and clean all louvers.
 - 4. Clean external core of radiator.
 - 5. Flush and clean internal radiator.
 - a. Refill with proper water/antifreeze ratio.
 - 6. Check condition of radiator cap, replace as needed.
 - 7. Check and record freeze protection.
 - 8. Add rust inhibitor to cooling system.
 - 9. Check condition of belts.
 - 10. Check for adequate fresh air to engine.
 - 11. Check condition of fan hub.
 - 12. Check operation of water jacket heater.
 - 13. Check and record operating temperature, verify that the operating temperature is in the correct range.
- D. Exhaust System:
 - 1. Check condition of mufflers, exhaust lines, supports and all connections.
 - 2. Check condition of turbocharger (if applicable).
 - 3. Check for exhaust leaks.
- E. Air Intake System:
 - 1. Check air inlet restriction.
 - 2. Check air box pressure (if applicable).
 - 3. Check crankcase pressure (if applicable).
 - 4. Check exhaust restriction.

5. Replace crankcase breather pads (if applicable).
 6. Clean blower screen (if applicable).
 7. Check all air system piping.
 8. Replace dry type air cleaner element(s), or service oil bath.
- F. Control System:
1. Check operation of all gauges and meters.
 2. Clean control cabinet.
 3. Check operation of all controls.
 4. Check shut-down system for correct operation.
- G. Engine Electrical Starting System:
1. Check condition of batteries.
 2. Clean batteries and cables.
 3. Add distilled water to maintain proper electrolyte level, as required.
 4. Check operation of float charger.
 5. Check battery voltage, 1.42 VDC per cell.
 6. Lubricate starter motor, if necessary.
- H. Generator:
1. Blow out with low pressure air.
 2. Check condition of bearings.
 3. Check main breaker for operation (if applicable).
 4. Check cables from generator to transfer switch.
 5. Visually check transfer switch for proper condition and operation.
 6. Clean interior of transfer switch enclosure, as necessary.
- I. General:
1. Check for unusual condition for vibration, deterioration, leakage, high surface temperature or noise.
 2. Run cool generator by shutting down main breaker in building. Load transfer to be made in less than ten (10) seconds. If this method is not possible, run generator under test conditions.

Important note: Notify the maintenance department contact person prior to shutting down the main breaker.
 3. Leave control panel in automatic mode.
 4. Record all readings and present to agency representative.
 5. Notify agency personnel of additional service work that is required, but not specifically covered by these annual maintenance specifications.

XIV. Quarterly Maintenance Specifications

- A. Fuel System:
1. Drain water and sediment from fuel filters.
 2. Check fuel pressure at cylinder head (if applicable).
 3. Check fuel level in day tank.
 4. Perform general inspection on all components.
- B. Lubricating System:

1. Check oil level and fill to proper level when necessary.
 2. Check and record engine oil pressure.
 3. Check engine for oil leaks.
- C. Cooling System:
1. Check all cooling system hoses.
 2. Check coolant level and add antifreeze when needed.
 3. Check freeze protection and add antifreeze when needed.
 4. Check condition of belts.
 5. Check operation of water jacket.
 6. Check for adequate fresh air to engine.
- D. Exhaust System:
1. Check condition of exhaust system.
 2. Check for exhaust leaks.
- E. Air Intake System:
1. Check air inlet piping.
 2. Check condition of air filter element (or oil bath).
- F. Control System:
1. Check operation of all gauges and meters.
 2. Check operation of all controls.
- G. Engine Electrical Starting System:
1. Clean batteries and cables.
 2. Add distilled water to maintain proper electrolyte level, as required.
 3. Check operation of float charger.
 4. Check and record battery voltage.
- H. Generator:
1. Check main circuit breaker for operation (if applicable).
 2. Visually check transfer switch for proper condition and operation.
- I. General:
1. Check for any unusual conditions or vibration, deterioration, leakage, high surface temperature, or noise.
 2. Run cool generator by shutting down main breaker in building. Load transfer to be made in less than ten (10) seconds. IF this method is not possible, run generator under test conditions.
 - A. Important Note: Notify the maintenance department contact person prior to shutting down the main breaker
 3. Leave control panel in automatic mode
 4. Record all readings and present to agency representative.
 5. Notify agency personnel of additional service work that is required but not specifically covered by these quarterly maintenance specifications.

XV. Load Bank Testing of all Emergency Generators

- i. All diesel powered generators shall be exercised as required by the facility with the available emergency power system service load with supplemental loads as follows :
 - 1. 25% of nameplate rating for 30 (thirty) minutes, followed by
 - 2. 50% of nameplate for 30 (thirty) minutes followed by
 - 3. 75% of nameplate for 60 (sixty) minutes
 - 4. For a total of 2 (two) continuous hours
- ii. All Natural Gas and/or Propane Powered Generators shall be tested for the duration of at least 4 (four) hours, as required by the facility.
- iii. The load should be with the load running at the time of the test. The test shall be initiated by opening all switches or breakers supplying normal power being used.
- iv. Time Delays:
 - 1. Load tests of generator shall include complete cold start.
 - 2. Time Delays should be as follows:
 - a. On start: 1 second minimum
 - b. Transfer to emergency: no minimum
 - c. Return to normal: 5 (five) minutes
 - d. Shutdown: 5 (five) minutes minimum

XVI. Equipment List

Middle TN Regional Equipment List:

	Generator Brand/ Model Serial Number	Engine Fuel Cooling	Location
MTROC 1	Onan 140kw Model# 1400 DFD-4R8-10 S/N 35C-818121	Cummins Diesel Water Cooled	One Canon Way
MTROC 2	Kohler 20 KW Model# 20R0P61 S/N 084088	Perkins Diesel Water Cooled	Fir Cottage
MTROC 3	Kohler 30 KW Model# 30ROZ81 S/N 086016	White Diesel Water Cooled	½ Walnut
MTROC 4	Kohler 125 KW Model# 125ROZ81 S/N 131382	White Diesel Water Cooled	Progress House
MTROC 5	Onan 45KW Model # 45.ODJY- 15R S/N J77027006	Allis Chalmers Diesel Water Cooled	Clinch
MTROC 6	Onan 45 KW Model # 45.OKJY- 15R S/N J77027007	Allis Chalmers Diesel Water Cooled	Canny Fork/Cumberland
MTROC 7	Onan 45 KW Model # 7165-700 S/N J770270005	Allis Chalmers Diesel Water Cooled	Stones/Harpeth
MTROC 8	Kohler 30 KW Model# 30ROZ81 S/N 34425570	White Diesel Water Cooled	Percy Priest/Old Hickory
MTROC 9	Caterpillar 200 KW Model # 97A 01259 S S/N CD-201- J36104D18CPYNC	Caterpillar Diesel Water Cooled	Steam Plant/Boiler
MTROC 10	Kohler 750 KW Model # S/N 700RE0ZDE LM17968	Kohler Diesel Water Cooled	Harold Jordan Center
MTROC 11	Kohler 150 KW Model #150ROZ81 S/N 120891	John Deere Diesel Water Cooled	Cypress, Magnolia, Rosewood ½ Walnut

Middle Tennessee Community Homes Generator List:

ID#	GENERATOR BRAND/MODEL SERIAL NUMBER	ENGINE FUEL COOLING	LOCATION
TG1	Generac 80KW SG0080AG189.ON18HPSYA 8336085	Natural Gas / Water	889 Tulip Grove Road Hermitage, TN, 37076
TG2	Generac 80KW SG0080AG189.ON18HPSYA 8336082	Natural Gas / Water	895 Tulip Grove Road Hermitage, TN, 37076
EH1	Generac 80KW SG0080AG189.ON18HPSYA 8336083	Natural Gas / Water	3156 Earhart Road Hermitage, TN, 37076
EH2	Generac 80KW SG0080AG189.ON18HPSYA 8336084	Natural Gas / Water	3160 Earhart Road Hermitage, TN, 37076
EH3	Cummings 85KW GGHG- 1515435 G150852274	Natural Gas / Water	3207 Earhart Road Hermitage, TN, 37076
EH4	Cummings 85KW GGHG- 1515435 G150852275	Natural Gas / Water	3209 Earhart Road Hermitage, TN, 37076
Wilford	Cummings 85KW GGHG- 1515443 G150852272	Natural Gas / Water	2410 Wilford Drive Nashville, TN, 37214
Dennywood	Cummings 85KW GGHG- 1515443 G150852271	Natural Gas / Water	328 Dennywood Drive Nashville, TN, 37214
Saundersville	Cummings 85KW GGHG- 1515443 G150852273	Natural Gas / Water	4937 Saundersville Road Old Hickory, TN, 37138