

## SECTION C - DESCRIPTION / SPECIFICATIONS / WORK STATEMENT

**C.1.** The American Embassy in Majuro, Republic of the Marshall Islands requires the Contractor to maintain the following systems in a safe, reliable, and efficient operating condition. The contractor shall provide regular monthly scheduled preventive maintenance and emergency repair services for the generator sets by experienced and qualified technicians. The contractor shall perform 6 (six) monthly inspection visits and maintenance checks for each generator during the period of March, 2021 through July, 2021. The first monthly visit will be to perform the annual schedule (Exhibit A), followed by five monthly visits to perform the monthly schedule (Exhibit A).

**C.2.** The characteristics of the generators covered under this contract are as follows:

<b>No</b>	<b>LOCATION</b>	<b>ASSEMBLER</b>	<b>MODEL</b>
1	Chancery	Caterpillar	D150-8
2	Amb Residence	Caterpillar	D60-6
3	Residence Area	Caterpillar	D60-8S
4	Residence Area 2	Caterpillar	D40-6S

**C.3.** The contractor shall impose on his staff the applicable quality control requirements of this contract. He shall be directly responsible that all workmanship shall meet the specific requirements of this contract. All workmanship shall be in accordance with the best craft and industry practice and the maintenance standards specified herein.

**C.4.** The contractor shall provide all necessary managerial, administrative supervision and direct labor personnel, as well as all transportation, equipment, tools, apparatus, and test instruments, supplies, and materials required to perform inspection, maintenance, and component replacement as required to maintain the systems in accordance with this work statement. The contractor shall provide monthly preventive maintenance inspections and emergency repair services for the generator sets. The monthly visits shall be scheduled for regularly timed intervals, preferably during the first week of each month. The contractor shall utilize the annual and monthly preventive maintenance checklist provided as Exhibit "A" to this contract. The preventive maintenance checklists shall be fully completed and signed by the contractor during each monthly visit and shall be submitted to the COR for review and approval.

**C.5.** The contractor's work and responsibility shall include, but shall not be limited to, all planning, visits, programming, contractor administration, and management necessary to assure that all operations of preventive maintenance and repair services are conducted in accordance with the contract requirements and all applicable laws, labor laws, regulations, and in accordance with standard industry practices.

**C.6.** The COR shall be informed immediately:

1. Whenever abnormalities arise this would preclude the equipment from being fully operational.

2. If the contractor identifies any defective components during the monthly inspection.

In addition, all deficiencies shall be noted and reported in writing to the COR upon completion of the inspection or service visit.

**C.7.** This contract covers only labor charges for preventive maintenance excluding spare parts and expendable items. All spare parts replaced by the contractor and any major repairs shall be billed separately. The contractor agrees to submit prior estimates for approval of the COR. Approval of these repairs is at the discretion of the COR.

**C.8.** The US Government reserves the right to make repairs or perform preventive maintenance to this equipment without prior approval of the contractor. It is agreed by both parties that no preventive maintenance of the equipment under this contract will be made by technicians not belonging to the contractor and/or the government.

**C.9.** The contractor shall review the equipment located in the terms of this contract and provide the Government with a list of spare parts to be ordered within thirty (30) days of the effective date of this contract.

**C.10.** Disposal of used oil, fuel, battery and other toxic substances. The Contractor is responsible for proper disposal of toxic/hazardous substances. All material shall be disposed of according to Government and Local law. After proper disposal the contractor must show proof of authorized disposal of these toxic/hazardous substances.

**C.11.** It is understood and agreed by both parties that no equipment under this contract shall be shut down by the contractor for either preventive maintenance or repair without prior COTR approval.

**C.12.** Contractor is obliged when performing assigned work at embassy site or U.S. government properties to provide his personnel with adequate working clothes, shoes, and personal protective equipment based on task specific hazards.

**C.13.** Contractor will comply with industry safety standards.

## **Exhibit A: Maintenance Interval Schedule (Standby Generators)**

### **Notes:**

- This is a basic generic list. Manufacturers recommendations should be followed and supersede recommendations in this list. If available, the manufacturer's maintenance schedule can be taken directly from equipment operations and maintenance manual and placed here.
- Generators experiencing periods of prime usage and those operating in in severe environments may require more frequent maintenance.
- Before each consecutive interval is performed, all maintenance from the previous intervals must be performed.

### **A. Monthly Schedule**

1. Conduct visual inspection around generator.
  - Check for evidence of leaks, damage, lose or missing hardware.
  - Inspect engine and generator wiring harness for wear and damages.
  - Inspect supports and spring isolators for soundness and stability.
  - Inspect unit for corrosion.
  - Hoses and Clamps - Inspect/Replace if needed.
  - Belts - Inspect/Adjust/Replace if needed.
  - Inspect all fuel, oil, and water piping for secure mounting.
  - Inspect exhaust piping and muffler insulation.
2. Batteries.
  - Battery charger – Inspect operation and clean.
  - Battery electrolyte level and specific gravity – Check and adjust. Add distilled water as needed.
  - Perform battery load test.
  - Clean battery terminals and lugs (apply grease on terminal connections).
3. Fluids and Filters.
  - Cooling System Coolant Level - Check and adjust.
  - Coolant conditioner (DCA/SCA) – Check and adjust to specs.
  - Jacket Water Heater - Check proper operation.
  - Engine Oil Level - Check and add if needed.
  - Fuel/water separators – Drain water.
  - Engine Air Cleaner Service Indicator – Check, clean filter if needed.
4. Generator Room.
  - Fuel tanks – Inspect and treat fuel if needed, check fuel level, drain water and sediment.
  - Automatic fuel system -Check operation and control panel.
  - Space Heater/Room exhaust fan - Check for proper operation.
  - Air intake/exhaust – Ensure nothing obstructs airflow; louvers are free and operate properly.
  - Exhaust condensate trap – drain condensate.
5. Control Panel.

- Electrical Connections - Check tightness
  - Clean and remove dust from panel.
6. ATS.
    - Clean and remove dust.
    - Inspect seals.
    - Note date of last battery change. (Replace if 2 years or older).
    - Tighten connections.
    - Check for hot spots.
  7. Run unit – No load.
    - Run the generator with no load for 15 minutes.
      - Remote Start Panel-Inspect and test operation. Inspect and clean.
      - Check the generator for unusual conditions, such as: excessive vibration, leaks, excessive smoke.
      - Verify all gauges and indicators are normal and functioning properly.
      - Check all indication lights, replace any defective bulbs.
  8. Start unit and run under load for 1 hour.
    - Note: Unit should be run under facility load if permissible. If not, unit should be run with a minimum 80% load with load bank.
    - Automatic Start/Stop – Inspect.
    - Check ATS operations and calibrate TDES, TDNE, TDEN, and TDEC if necessary. Observe and record retransfer/cool down time.
    - Check automatic open and close shutter-stats and thermatic fans.
    - Generator Set Vibration – Inspect.
    - Read and record all gauges/meters.
    - Record load readings – Voltage, amps, frequency, power factor.
    - Check exhaust for excessive black or white smoke.
    - Check turbocharger for vibrations or any abnormal noise during operation.
    - Check generator bearing for noise and overheating.
    - Check exhaust manifold, muffler, and piping for leaks and secure mountings.
  9. Additional.
    - Ensure Generator/ATS is left in proper position for automatic start and transfer.
    - Clean generator and generator room. Wash radiator if necessary.
    - Annotate date, hours and maintenance in Generator log, fill out maintenance checklist and report deficiencies to COR.
    - Perform any additional maintenance tasks as recommended in the manufacture’s operation and maintenance manuals.
    - Submit Service Inspection and Test Report to COR.

## **B. Annual Schedule**

1. Conduct Monthly PM service
2. Engine Air Cleaner Elements – Replace.
3. Engine Crankcase Breather – Clean.
4. Engine Oil Sample - Obtain and perform analysis. Submit report to COR.

5. Engine Oil and Filter – Replace.
6. Fuel Filters and Water Separators – Replace.
7. Obtain fuel sample at day tank and storage tank for analysis.
8. Radiator – Clean (pressure wash).
9. Intake louvers and ducts – Inspect/Clean (pressure wash).
10. Fan Drive Bearing – Lubricate.
11. Magnetic Pickups - Clean/Inspect.
12. Cooling System Coolant Sample - Obtain
13. Cooling System Supplemental Coolant Additive (SCA) - Test/Add
14. Coolant filter – Change if applicable
15. Crankshaft Vibration Damper - Inspect
16. Engine Protective Devices - Check
17. Engine Valve Lash - Inspect/Adjust
18. Turbocharger – Inspect/Check; Check end play and radial clearance on the turbine wheel and shaft.
19. Clean and lubricate fuel pump linkages if applicable.
20. Fan bearing – Inspect/Grease.
21. Clean dust and vacuum all the controls, meters, switching mechanism components, interior buswork, Remote Start control panel, Annunciator and connecting lugs of the ATS.
22. Inspect/Check buswork and supporting hardware for carbon tracking, cracks, corrosion, or any type of deterioration.
23. Check all control wiring and power cables (especially wiring between or near hinged door) for sign of wear and deterioration.
24. Check the cabinet interior for loose hardware – tighten connections.
25. Check the grounding rod, clean the connections and measure the grounding resistance. The value of the grounding resistance must be reported to the COR.