**DETAILED DEFINITION OF MAINTENANCE**

 The service and maintenance to be carried out on four generators **(48, 50,110 and 250) KVA** and will be based on **preventive maintenance and Breakdown Calls.**

* 1. **Preventive Service maintenance**:-

The entire equipment will be checked four times yearly as per manufacturer’s recommendations, this will be done every three (3) months or 250 hour interval from date of first service whichever comes first. During the visits, a series of checks and security maintenance will be carried out on the equipment: The Generators shall be serviced as per the following service checklist and a signed copy shall be left on site. Generator Preventive service Checklist Procedure/Check list

* Confirm Report to the office and notify the Manager/Supervisor of the intention to service equipment.
* Advise on the likely duration and the effect on business
* Ensure to change to all safety wear before proceeding to the equipment room Isolate equipment (Mechanical/Electrical), as applicable
* Drain engine oil
* Replace the oil filter
* Re-fill with fresh engine oil.
* Check to confirm level
* Clean Fuel filter. (Replace every 6months/every other service)
* Clean Air filter. (Replace every 6months/every other service)
* Check for oil and fuel leaks in joints and tighten if necessary Check v-belt state and tightness. Confirm multi belt uniformity. Replace all if necessary. Do not replace part.
* Coolant level top up
* Every 6 months, drain Radiator, flash/clean and refill with coolant
* Clean and check all components in control panel especially contactors, timers and relays, ensure neither loose contact nor wire.
* Check battery voltage, water level and top up as necessary
* Check earthing, check and cleaning of electrical panels and relays
* Inspect circuitry confirming that all connections are firm and cable in good condition
* Clean the generator externally.
* Restore isolating equipment
* Stimulate power failure and /or phase failure and check good running of the equipment and power per phase for generator set with auto
* Check and ensure all gauges and meters are working Analyze and advice on condition of engine performance
* Fill a service card and attach it conspicuously
* Instruct staff member on routine daily checks for oil and Battery water levels
* Prepare service report. Specify any items that need follow up for closure and have it signed and stamped by dealer.

**1.2 Breakdown calls**

This involves attendance during contracted hours, upon request by Samaritan's Purse or their agents, to carry out a repair of a defective or broken down equipment. The request for repairs will be addressed to CONTRACTOR by Email, phone call, message or other agreed modes of communication.

 **2. GENERAL CONDITIONS OF MAINTENANCE**

Before the commencement of the works under this Contract, the following conditions will have to be fulfilled:

* A joint inventory and examination of the equipment shall be carried out by CONTRACTOR and Samaritan's Purse and a list drawn and agreed upon.
* Equipment will have been installed in accordance with manufacturer's recommendations and in good running condition. If this is not the case, CONTRACTOR will, upon an agreed cost with Samaritan's Purse put the affected equipment in order before the commencement.
* The general maintenance of the equipment will ensure the following:
* Evidence of security
* No lack of oil or water
* Run generator on full load and check on each phase and record.
* Enough ventilation in the room
* Check and correct any oil leaks, replacement of worn out seals
* Check mountings
* Check radiator support brackets
* Replacement or addition of radiator coolant
* Replace radiator rubber hoses and clips and cap
* Replace bar timers and sensing relays and magnetic switches
* Replace control fuses and contactor coils
* Check and inspect top gasket
* Check and inspect oil pressure switch
* Check and replace exhaust system
* Check and service charging alternator
* Check and service starter motor
* Clean fuel injector nozzles
* Check condition of fuel lift pump and water pumps
* Checking and changing of oil, including tank/engine flushing when necessary
* Checking and repair of exhaust system, including mounting, painting and replacement of exhaust flap.
* Checking and servicing of engine charging alternator
* Checking and servicing of engine starter motor
* Replacement of 12V push clip relay
* Replacement of 240V/12V DC Relay, where and when necessary
* Checking and report on condition of the inter phase module
* Checking and report on condition of the Thermostat
* Cleaning of fuel injector nozzles; and advice as necessary
* Check the condition of heavy duty battery, and advice as necessary
* Checking and report on condition fuel lift pump and water pump
* Carry out general inspection of generator set report.
* CONTRACTOR shall ensure that materials used and works done are in accordance with regulations in force.
* Where equipment requires an overhaul, CONTRACTOR shall provide a report to enable Samaritan's Purse to take decision for its repair to be effected.
* Where the equipment was not sold by CONTRACTOR, the spare parts will be acquired from the local agents. If this is not readily available, CONTRACTOR will not be held responsible for any delays and may offer to replace the equipment upon an agreed quotation to Samaritan's Purse.
* Every new piece of equipment to be included in the Contract shall be inspected before being listed.
* At the end of the contract, the contractor shall ensure that all equipment are in good working condition. Any repairs necessary to be carried out by a different contractor during takeover of the equipment shall be at the expense of the outgoing contractor