

**ANNEXURE -2**

**Name of Work:** Annual Maintenance and Service Contract of 750 kVA DG sets along with supply of consumables/spares on need basis at NRSC Shadnagar.

**Details of DG sets**

DG	Details of Engine				Details of Alternator			
	Make	Model	Rating	Sl. No.	Make	Model	Rating	Sl. No.
DG 1	Perkins	4006-23-TAG2A	632 kW	DGBF8109U22990U	Stamford	HCl634W1	750kVA	N10L23050
DG 2				DGBF8109U22992U				N10L21850
DG 3				DGBF8109U19719U				N10L23328
DG 4				DGBF8109U19755U				N10L23069

**Name of work:**Annual Maintenance and Service Contract of 750 kVA DG sets along with supply of consumables/spares on need basis at NRSC Shadnagar.

**Scope of Work:**

**General**

- a) To carry out the preventive maintenance of DG sets once in a month and B & C checks, as per recommendations of OEM.
- b) Minimum 12 visits/ year/engine shall be attended by agency for preventive maintenance of DG sets.
- c) The agency shall attend breakdown calls (one visit/year/engine) within 24hrs of intimation during the contract period.
- d) To diagnose the faults and replacement of accessories / spares / consumables as recommended by OEM during the period of contract. However, items required for replacement will be provided by NRSC.
- e) During every visit, the engine shall be run on no load or at available load, should be checked for any leakage and abnormal noise. If any such abnormality noticed the same shall be diagnosed and remedial action shall be taken.

**1. Lubrication System**

- a) Engine Oil Replacement in B Check maintenance.
- b) Checking for proper functioning of sensors and safety controls, in terms of checking the connections & terminals and visual inspections.
- c) Checking of lube oil pressure.
- d) To carry out Schedule Oil Sampling Analysis once in a year

**2. Air System and Exhaust**

- a) Cleaning of air filters and changing them if required.
- b) Check for proper condition of Hoses & Clamps and changing them if required.
- c) Check for proper condition of vacuum Indicator.
- d) Check for any Exhaust leakages.
- e) Visually checking for exhaust smoke (Level/color)
- f) Checking of Rain Caps

**3. Cooling System**

- a) Checking and adjustment of belt tension – fan and water pump belt
- b) Checking of coolant concentration and top up if required.
- c) Checking of radiator cap/Raw Water Strainer, Where Provision is available
- d) Checking the condition of Hoses and Clamps
- e) Checking for the proper functioning of sensors and safety controls by checking the connections and terminals and visual inspection
- f) Any visible coolant leakages to be arrested.
- g) To carry out Schedule Coolant Sampling Analysis once in a year

**4. Fuel System**

- a) Check for the condition of Hoses & Clamps and changing them if required
- b) Check for any fuel leakage and arresting them
- c) Checking of the fuel tank Breather
- d) Draining of water from water separator fuel tank (as applicable)
- e) Checking of fuel level indicators

## **5. Engine controls and Starting System**

- a) Checking the condition of the battery for sulphation, tightness of connections. Checking of wire connections and proper functioning of self-starter.
- b) Checking of wire connections and proper function of charging alternator/charger.
- c) Checking for proper functioning of the instruments on the dashboard/PCC

## **6. Base Alternator**

- a) General cleaning of alternator with a hand blower.
- b) Checking of the wiring system for any loose and dry connections
- c) AVR- Adjustment, if required and Tightening of terminals
- d) Trouble shooting of any faults.

## **7. Miscellaneous.**

- a) Checking proper functioning of the meters and selector switches.
- b) General Inspection/Tightening of all cables and accessories.

### **Exclusions of Contract:**

The following works are not covered under the scope of this contract:

1. Any major/ top overhauling of the engine including the repair of cylinder head, Blocks, Fan hub, Crank shaft, fuel tank, radiator, canopy, turbocharger, engine controls, Self Starter, Battery charger, Main alternator rewinding, Exhaust pipe and Radiator cleaning, Calibration of fuel pump, injectors and control panels/ PLC/Woodard controllers
2. Supply of material other than mentioned in Part B.
3. Repair of malfunction or damage due to accident, negligence, failure due to use of non-standard electrical power, air conditioning or parts, works due to alteration in the engine by persons other than the Service Provider/Cummins Authorized Dealer.
4. Replacement/reworking of acoustic enclosure/canopy, fuel tank and piping, exhaust silencer and exhaust piping, Cooling tower / PHE and piping.
5. Control panel – replacement of breaker/Power contractors, AMF controller, PLCs, Bus bar& Power Cable. Logic Check between DG Set controller and Synch panel.
6. Under this AMC, the service provider is not responsible for any engine problem due to operational flaws/negligence like non availability of fuel leading to air lock, over heating due to radiator not topped up, engine not starting due to weak battery, low lube oil pressure due to oil not topped up etc. Such problems will not be covered under the scope of this contract but will be attended on priority to secure the DG set and billed separately for parts and services and rendered. Consumable like diesel will not be covered by the service provider

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**Terms and conditions**

1. Rates quoted shall be firm for entire period of contract.
2. ***Tenderer shall be authorised service providers of OEM i.e. M/s Perkins or channel partners of M/s Perkins. The offers received without authorised service provider certificate will not be considered for further processing.***
3. The quoted rate shall be inclusive of expenses towards the travel, lodging and boarding of service personnel.
4. During the contract period the breakdown call should be attended within 24 hrs.
5. In case of replacement of spare parts / accessories / consumable needed or any major repair is required during service/ breakdown maintenance, the agency shall attend the same with approval of Department. The necessary materials/ consumable required for the same shall be supplied by vendor, as mentioned in Part B.
6. Any extra service required during important activities as requested by Department, shall also be carried out by adjusting service visit for which no extra payment shall be made.
7. Service reports duly acknowledged by Department personnel shall be submitted, indicating the works carried out during the visit.
8. Transportation arrangement with necessary tools/instruments required for carrying out the work shall be arranged by contract agency.
9. Contract agency is only responsible for the safety of their personnel. Service personnel of contract agency shall strictly follow all safety measures and precautions during the contract period inside NRSC.
10. All removed consumables / spares / parts shall be the property of the NRSC.
11. The repair/ maintenance which are possible at site shall be done at site only. If any repair of minor in nature is required at contractor premises/workshop, then the transportation charge shall be borne by the contractor and also same should reach to NRSC Shadnagar within the prescribed date as mentioned by agency.
12. The warranty of spare parts shall be 06 months from date of supply.
13. On expiry of contract, the DG Sets shall be handed over to Department in good working condition.
14. Liquidated damages (LD) and Down Time Compensation (DTC):

**For AMC portion (Part A)** : If the DG set is found completely break down even after the allowed time of 24hrs, charges of AMC will be proportionately deducted for the complete down time period.

**For Complaints other than complete breakdown** : If the Complaint call is not attended within the allowed time i.e., 24 hours, Down Time Compensation @0.5% per week or part thereof will be recovered from the quarterly bill subject to maximum of 10% of the quarterly bill payable each time to the vendor.

**For Supply of spares on need basis portion (Part B):** If the supply of the spare parts on need basis is not delivered within the stipulated time as mentioned in the written communication of the requirement, LD @0.5% per week or part thereof subject to maximum of 10% of the PO value of the respective spare component will be recovered.