

दूरभाष :  
TELEPHONE :  
तार : बार्क-मुंबई, चेम्बूर.  
TELEGRAMS : BARC-MUMBAI, CHEMBUR.  
फेक्स संख्या : ९१-२२-२५५० ५१५१  
FAX NUMBER : 91-22-2550 5151



ट्रॉम्बे,  
मुंबई-४०० ०८५.  
TROMBAY,  
MUMBAI-400 085

भारत सरकार  
GOVERNMENT OF INDIA

भाभा परमाणु अनुसंधान केन्द्र  
BHABHA ATOMIC RESEARCH CENTRE

Uranium Extraction Division  
Utility & Maintenance Section

Ref: UED/U&MS/Pl.13/22/51458

Date: 20/09/2022

Tender No.: BARC/UED/NHT/22044

Due Date: 06/10/2022

**Sub: Annual maintenance/ Service contract for D G Sets at UED, BARC**

Dear Sir,

On behalf of the President of India acting through Head, Uranium Extraction Division, quotations in sealed envelopes are invited by Nitin Tambe SA/E through Shri N. D. Hadap SO/F of UED, P&ESS for annual maintenance/ service contract for D G Set rating 110 KVA (01 No.) at RUMP and 160 KVA (01 No) at UMRT & EH of UED, BARC as per the following terms and condition and scope of work:

**Nature of work- : Annual maintenance/ Service contract for D G Sets at UED, BARC**

**1. Quantity of work required:**

Sr No.	Equipment	Make	Model	Serial No.	Quantity	Location	No. Visit/year
1	D G Set 110 KVA	Cummins India Ltd.	NTC-495-G Acoustic	25272243	01	RUMP, UED	12
2	D G set 160 KVA	Kirloskar	KGI-160WS Acoustic	2148	01	UMRT, UED	12

**2. Scope of works:**

**2.1 Scope:-**

- I. Monthly maintenance of D G set installed at various locations at UED south site as per detailed specification.
- II. Replacement of consumables like lube oil, filter, Air cleaner element, Hose pipe, Hose clips, Copper washers, Coolant once in maintenance period.
- III. Replacement of following whenever defective /required without any additional cost to the department.
  1. Indication lamps in AMF panel
  2. Defective wiring of AMF panel and engine mounted panel
  3. Replacement of connectors
  4. Defective cable termination of DG set and AMF panel
  5. Maintenance of battery bank of DG set
  6. Maintenance of AMF & control panel of engine mounted panel
  7. Bidder has to transport the fuel and fill the tanks of each DG sets whenever necessary. Department

shall supply the fuel.

## **2.2 Detailed maintenance procedure:-**

The service representative will visit the site at the location mention in Annexure -1 for each DG sets during the contract period and carryout the maintenance as per the recommendations of the manufacturers of respective equipment and as per the maintenance checklist given below. The servicing shall include checking/inspection, tightening/loosening, cleaning, replacement wherever specified, draining, flushing, physical cleaning the DG set and AMF panel etc.

The maintenance/servicing of D G Sets following consumables which will be replaced once in contract period.

1. Lube oil
2. Fuel filter
3. Lube oil filter
4. Air cleaner element
5. Hose pipe
6. Hose clips
7. Copper washers
8. Coolant

The monthly maintenance shall be carried out on the following system of the DG set.

Lube Oil system  
Fuel oil system  
Cooling oil system  
Air intake system  
Instrumentation on the DG sets.  
AMF control panel  
Engine starting system  
Alternator  
Operational checks and others.

## **2.3 LUBE OIL SYSTEM:-**

- |  |   |
|--|---|
| i. Checked Oil level                     | Top up, if necessary  |
| ii. Check quality of Lube Oil            | Lube Oil to be replaced, once in contract period. Quality of lube oil to be checked during every visit. |
| iii. Replace Lube Oil Filter             | Replace Filter, once in contract period.  |
| iv. Check for leakage in lube oil system | If noticed any leakage, arrest the same.  |
| v. Check lube Oil pressure               | If noticed Low Lube Oil pressure, diagnose the same and attend to the same.                             |

## **2.4 FUEL OIL SYSTEM:-**

- |   |   |
|---|---|
| i. Check fuel level in the Day Service Tank | Top up, if necessary                    |
| ii. Replace fuel filter elements            | Replace filter once in contract period  |
| iii. Check for leakage in fuel oil system   | If noticed any leakage, arrest the same |



- |  |  |
|--|--|
| iv. Fuel Injection in-effective        | Check for proper fuel jet of the Injectors   |
| v. Check FI Pump/ Governor performance | Check for its proper function  |
| vi. Day Service Tank                   | Drain sediments from drain cock/ plug/valve along with water particles/ solids impurities clean the Day Service Tank to remove dirt and other solid/ liquid impurities from the internal side of the Day Tank-once in contract period. |

**2.5 COOLING SYSTEM:-**

Complete coolant shall be replaced once in a contract period.

- |  |   |
|--|---|
| i. Check Coolant concentration and level | Top up the level, if necessary, check concentration and replace the same or add coolant if necessary. |
| ii. Clean Radiator core                  | Clean the same with compressed air once in a three month.   |
| iii. Check for leakage in the system     | If noticed any leakage, arrest the same.  |

**2.6 AIR INTAKE SYSTEM:-**

Air filter and oil to be replaced once in a contract period.

- |                                     |   |
|-------------------------------------|---|
| i. Check restriction                | Clean Air Cleaner element/ replace the same if found to be restricted beyond the limit. Check oil quality and replace the same or top up, found to be deteriorated / depleted for oil bath type air Cleaners. |
| ii. Air duct fittings               | Remove, clean and assemble it properly using correct fixtures and fasteners.  |
| iii. Air cleaner mountings          | Tighten the screws and fasteners for proper mounting and tightness.   |
| iv. Check for leakage in the system | If noticed any leakage, arrest the same.  |
| v. Instrument -Engine Panel         | Check the Engine Panel Instruments viz. Gauges like Oil/ pressure/ temperature etc. for its proper functioning and replaced /correct the same if found to be improper / malfunctioning.                       |
| vi. Engine speed                    | Check the speed and correct if necessary.   |

**2.7 CONTROL PANEL:-**

- |                                     |   |
|-------------------------------------|---|
| i. Terminations                     | Check terminations for proper tightness, correct the same, if found to be improper.   |
| ii. MCCB                            | Check the same for its breaking/ making   |
| iii. Contractors / Aux. Contractors | Check for all contractors functioning, if chattering clean the contacts, if coil is burnt / open replaced coil as original. |

- |                                       |  |
|---------------------------------------|--|
| iv. Meters / lamps / CTs / components | Check the same for its proper functioning.<br>Replace the same, if found to be malfunctioning. |
| v. Protective relay / control system  | Check for its proper functioning and correct it if found to be malfunctioning.                 |
| vi. Control / Instrument Prot. Fuses  | Check the fuse links, replace the same if blown.   |

## **2.8 ENGINE STARTER MOTORS:-**

- |                  |   |
|------------------|---|
| i. Starter Motor | Check connections for tightness and correct if found to be improper/ lose in assembly.  |
| ii. Battery      | Check electrolyte level in cells and top up if necessary Check tightness of terminal connection and correct the same if found to be necessary. Apply petroleum jelly/vasline at the terminals of battery. |

## **2.9 ALTERNATOR:-**

- |  |   |
|--|---|
| i. Voltage   | Check voltage on No Load and On Load, set the same if necessary.  |
| ii. Terminations   | Check the terminals for proper tightness, correct the same, if found to be improper.                            |
| iii. Winding / Diodes/ Components unclean. Tighten the terminals, if | Clean the same and remove dust, if found to be necessary.   |
| iv. AVR  | Check Voltage and adjust if necessary thru pots. Tighten the terminals, if necessary, if found to be blown off. |

## **2.10 OPERATIONAL CHECKS AND OTHERS:-**

- |                           |   |
|---------------------------|---|
| i. Operation              | Trial RUN the DG set and check all Operations during 15 minutes of run.                     |
| ii. Check Valve clearance | Check Valve clearance, adjust the same if necessary.  |
| iii. Cylinder Head Nuts   | Check Cyl. Head nut tightness and tighten the the same in correct sequence, if necessary.   |
| iv. Breather              | Remove the cap and clean the same if necessary.   |
| v. Check the thermostat   | Check the thermostat for proper functioning and correct the same, if found to be necessary. |
| vi. Fan belts             | Check for tightness of belts and correct the same If found to be inadequate / improper.     |
| vii. Water pump           | Lubricate the same and adjust the belt tension.   |

**3. The rate of above charges should remain valid and unchanged at least for one year from the date of acceptance of the order**

**Due date:** 06/10/2022

**Work completion period:** One year commencing from after issue of work order.

Complete tender documents including terms and condition and scope of work will be available with under sign Head, UED office, BARC South site, Mumbai – 85.

All eligible contractors who had done the similar job and having adequate work experience with suitable sufficient man power are advice to collect tender document from above address between 10 am to 2 pm on any working day before due date.

Head, UED, BARC reserve the right to accept or reject any or all quotations without assigning any reason.

For any further clarification, Nitin Tambe, SA/E, UED, BARC (Extn.26359) may be contacted.

Yours faithfully,



(N. H. Tambe, SA/E)



**(Shri N D Hadap)**

Scientific Officer/ F, UED

(For and on behalf of The President of India)