

ODISHA POWER GENERATION CORPORATION LIMITED
BANHARPALI, JHARSUGUDA ODISHA – 768234 INDIA

IB THERMAL POWER STATION 2 × 660 MW UNITS 3 & 4

Annexure IIB

Scope of work

Name of Work- ARC services towards “Rewinding of HT Motors including GEHO Pump Motor”

A. Work Description:

1. Unloading of motor at vendor’s workshop.
2. Removal of coupling hub & key from DE shaft extension, if required.
3. Dismantling of the motor.
4. Removal of DE & NDE bearings from shaft and housing, shaft and housing dimensions measurement to ensure bearing fitment.
5. Disconnection & removal of old defective coils without damaging stator core.
6. Cleaning of stator slots after removing old defective coils.
7. Testing of stator core assembly with flux loop test. Vendor shall submit the thermal imaging pictures of stator to OPGC.
8. Complete rewinding of motor stator by using appropriate insulation and copper strips as per IS Standard /OEM Standard as per original size & shape.
9. Insulating the overhang portion and slot portion with appropriate insulating tapes as per IS Standard /OEM Standard and special covering of slot portion with conducting and semi conducting tapes as per IS Standard /OEM Standard.
10. Fixing 6 Nos RTD type PT100, 3-Wire simplex at equal distance between two layers of coils in stator slot, RTD element to be supplied by vendor.
11. Fixing wedges in slot as per original type, size & shape.
12. Lacing of overhang portion, making coil connection and brazing of coils and insulating of joints with proper insulating tapes.
13. Impregnating complete winding and core packet with Global VPI process.
14. Making appropriate fixtures for rotation of complete core.
15. Drying out of VPI winding in proper oven.
16. Insertion of complete VPIed winding and core packet in yoke/body with correct fitment.
17. Application of Dr.Beck make epoxy (HV) gel coat on winding.
18. Testing of complete stator winding after VPI and before final assembly of the motor.
19. Repairing of DE side Bearing housing, if required
20. Repairing of NDE side Bearing housing, if required
21. Minor repairs on Rotor Shaft, if required

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Testing and checking of the motors at workshop

B. Test to be conducted on bare stator:

Loop test: The bare stator shall be tested for hotspots at Maximum calculated flux density, thermal imaging of stator core.

C. Tests to be conducted on the entire Rewound Motor Stator:

1. IR value shall be taken between phase on between phase and body and when PI value to be determined using motorized megger.
2. Winding Resistance Measurement & Inductance test shall be carried out
3. TAN Delta & capacitance Test to be conducted
4. Hi-pot test shall be conducted for insulation healthiness.
5. Surge Comparison test shall be conducted for all the three phases for determining Inter-turns shorts.
6. All RTDs shall be tested for their performance and Resistances to be measured.
7. Current Balance Test

D. Test to be conducted on Rotor:

Growler test shall be conducted to determine any breach in rotor conductor, if required.

E. Tests to be conducted after assembling the entire motor at workshop & test bed:

1. IR values between phases and Ground as per IS 7816.
2. Surge comparison test for all the three phases as per IS 14222-1995
3. No-load trial run at rated RPM and rated voltage as per IS325 for one hour.
4. Vibration severity as per IS12075 at rated voltage for one hour
5. Bearing sound observation and vibration monitoring at rated voltage as per IS 12075 for one hour.
6. Winding temperature rise observation at rated voltage as per IS325 for one hour.
7. Thermal imaging of Motor at running condition.

F. Special Terms & Condition: -

1. "To & Fro" transportation of motor shall be in Vendor's scope.
2. In case Both side bearings needed to be replaced, the same shall be supplied by OPGC.
3. Transit insurance for Motor shall in Vendor's scope.
4. After receiving the motor in the premises and before proceeding for the job, the Vendor has to get a clearance for the break-up of the estimation for the job from the EIC/User, OPGC. Our technical team may visit the workshop of the Vendor for validating the estimation for work.
5. Appropriate Lubrication for Motor Bearing shall be in Vendor's scope.
6. Guarantee for 18 months from the date of dispatch of motor or 12 months from date of commissioning for workmanship and quality of material used in the work shall be provided by the vendor.



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G. Period of Contract:

1. Period of contract will be Two years from the date of award of contract.