

Annexure-II

General Terms and Conditions of Contract:

1. **Operation:** The plants must be operated daily as per the requirements of respective user departments. One no. of ITI / NCVT / Equivalent in Refrigeration & Air conditioning qualified **skilled operators** with at least 2 yrs. relevant experience in the similar work. Should be deployed for operation and maintenance. Necessary records should be maintained as per format given by Engineering Services department.
2. **Working hours:** 8.30 AM to 9.00 PM Monday to Saturday. Occasionally it may be necessary to operate Sunday also.
3. **Plant:** The plant means entire air conditioning system, including compressors, Cooling coils, AHU, water pumps, Ducts, cooling towers, electrical panels, cabling from panel to AC units etc.
4. **Checking:** The plant performance must be kept under regular observation. The temperature in conditioned area and gas pressure readings must be recorded daily. If temperature / gas pressure values are not satisfactory, immediate corrective action should be initiated.
5. **Preventive maintenance:** Necessary preventive maintenance should be carried out to maintain the units / plants in good working condition. A maintenance schedule may be prepared as per recommendation of manufacturers of A/C units (or in consultation with Engineering Services department.) and the same may be followed.
6. **Breakdown maintenance:** In case of failure all efforts should be put to repair the plant/unit immediately. Repairing includes replacing parts, leak test, pressure test, refrigerant charging, oil charging, replacement of compressor, indoor units and outdoor unit etc. The break down service consists of attending to the complaint within a reasonable time (within 24 hours for minor work and 72 hours for major work), identification of fault, Working out Repairs and replacement Procedure in consultation with the Group Head Engineering Services department, completing the repairs and replacement to the satisfaction and commissioning of the equipments within the targeted time.
7. The temperature and humidity conditions in the air-conditioned areas will have to be recorded daily.
8. The Contractor shall maintain daily reports as per the format as required by the designated Engineer / Group Head Engineering Services department. The said daily reports maintained by you shall be got countersigned by designated Engineer whose instructions would be strictly followed. Monthly report covering the Preventive Maintenance and Break down Service shall be prepared and submitted to Group Head Engineering Services department. A brief monthly report form may be got approved by the Group Head Engineering Services department, for compliance.
9. **Spares and consumables:** The AMC is inclusive of spares. All necessary spares and consumables for normal operation and to attend break down should be arranged by you. Spares required often should be stocked by you in CMTI.
10. Logbook shall be maintained for each plant and the list of work carried out like servicing, Maintenance, repairs etc. shall be recorded systematically on a regular basis. The recordings in the logbook shall be got endorsed by the designated Engineer from time to

time and verified by the Group Head Engineering Services department; The Logbook shall be the basic record for all purposes.

11. Cleanliness: The equipment and working area should be maintained clean. Unused materials should be stored neatly and waste materials should be disposed off appropriately.
12. Work schedule: Duration of contract is one year. Rate: The rates quoted by you shall be inclusive of all costs for both maintenance and operation of the plants. No additional cost will be entertained.
13. Materials and tools: Items such as tools, materials, consumables, scaffolding, safety equipment etc., which may be required to carry out the work are to be arranged by you. One set of items which are frequently used may be kept permanently in Engineering Services department. A lockable storage space will be provided by us for this purpose.
14. Workmanship: The work must be carried out and supervised by qualified and experienced personnel who are covered under ESI / Insurance as per factories act.
15. Safety: The work must be attended in a safe and professional way, without causing any damage to the personnel, facilities and institute property. In case of accidents institute is not liable to pay any compensation. If any damage is caused to institute property, you have to rectify the same and expenditure for such rectification should be borne by you.
16. Payment: No advance will be paid. Payment will be quarterly. After satisfactory completion of each quarter and after submission of quarterly maintenance report, corresponding payment will be released.
17. Additional works: In case there is requirement of additional works, the same will be intimated to you by Group Head Engineering Services department, which has to be arranged by you. Payment towards such works will be made as per our rate analysis.
18. Taxes: Indicate the applicable GST for AMC.
19. Income tax: Income tax as applicable will be deducted from the payment to be made to you. Please indicate your GST no. in your bills.
20. Service provider to ensure that, all the Air-Conditioning equipments are working in good condition/satisfactorily after AMC expiry but before exiting.
21. Normally repairing and replacement works should be done at CMTI Campus. However, if it is to be taken outside CMTI campus to and fro transportation charges including any other charges like transit insurance etc. shall be borne by the contractor

ANNEXURE-III

DX-TYPE AIRCONDITIONING UNITS/ AIR COOLED PACKAGE AC/ DUCTABLE AC:

Quarterly:

- Check proper locking of inspection doors/cover and their leakages.
- Clean Air filters, check for proper drainage of condensate.
- Cleaning of air filters.
- Cleaning of Cooling Coil and Condenser with nylon wire brush, water wash and air blower.
- Inspect blower fan motor drive, check tension of V-Belt, bearings, alignments, vibration isolator, electrical connections etc.
- Lubrication, wherever necessary
- Check Electrical wiring in all respect for smooth operation of the unit.
- Check the operation of all controls.
- Check operating parameters like Room temperature, SA/RA temperature, current, voltage etc. and maintain the record.

Repairs and Replacements:

- Repairs or Replacements will be applicable whenever required, as mentioned under compressor, Evaporator & condenser, instruments and controls, refrigerant pipes, drain piping, blowers, AHU, electrical maintenance, gas charging etc. All such repair or replacement **in the contractor's scope.**

ANNEXURE - IV:

Comprehensive Maintenance Contract schedule for Split AC's is as follows:-

- 1) **COMPRESSOR:** If compressor fails, the same/Equivalent will be replaced by the contractor.
- 2) **Fan Motor:** If burn within contract period it should be rewinding with over oiling, replacement of shaft & Bush or Bearing.
- 3) **Electrical Components:** If any part is burnt due to any electrical power or due to overheating, it will be replaced by branded one.
- 4) **Gas Charging:** During the period of AMC if the unit has gas shortage it is to be topped up or if there is leakage then the unit is to be tested with Nitrogen & Vacuumised & then Gas charging to be done.
- 5) **Condenser and evaporator coil:** If it fails it has to be repaired or replaced by contractor.
- 6) **Indoor blower motor:** If motor winding is burnt within contract period it is should be rewinded & overhauled & shaft, bearings, bushing, washers etc., to be replaced if found defective.

SERVICING OF SPLIT TYPE AIR-CONDITIONERS (Monthly)

The following works are to be carried out every month:

- Cleaning of filters, intake and exhaust screen and replacing them if required.
- Lubricating the fan motor and other mechanical parts such as hinges, levers for exhaust and ventilating parts

SERVICING OF SPLIT TYPE AIR-CONDITIONERS (Quarterly)

The following works are to be carried out every 3 months:

- Cleaning the unit in general.
- Checking of all electrical connections and ensuring to the functional working of all electrical components.
- Checking for noise and vibration.
- Checking grill temperature, current and recording the same.
- Checking of all damper accretions, lubricating and repairing the same.
- Checking and clearing of condense drain.
- Cleaning of the condenser, cooling coil, blower and condenser fans with air pressure & water.
- Condenser cleaning with echo friendly chemical if it is necessary.

ANNEXURE - V:

SERVISING OF COOLING TOWERS

Make: Advanced cooling systems.

HP: 15/11kW, Amps: 20, RPM: 1400.

Model no.:1A82WB.

1. Quarterly water cleaning and servicing of two cooling towers and its surroundings (Cleaning with echo friendly chemical if it is necessary) and cleaning of dust from equipment and submission of report to respective department in-charge.
2. Quarterly Checking and cleaning of cooling tower nozzles, sprinklers, expansion tank, y-strainers and pot-strainers and cooling tower area required as per the direction of Engineer-in-charge.

ANNEXURE - VI:

LOW SIDE WORK FOR AIR HANDLING UNITS AND TFA UNITS. (AHU 22 nos. and TFA 5 nos.)

1. Quarterly Water washing of pre-filters and fine filters of all AHU,s and TFA,s removing and refixing of filters is under the vendor scope.
(Total pre-filters 173 nos. and Total fine filters 181 nos.)
2. The AHU,s and TFA,s coil water cleaning shall be carried out Quarterly and Cleaning with echo friendly chemical if it is necessary when required to required AHU to maintain the inside temperature with high pressure pump.