

REFRIGERATION & AIR-CONDITIONING UNIT IIT KHARAGPUR

Sub.: Comprehensive annual maintenance & day-to-day operation contract for 2 X 100 TR
Central AC Plant of Central Library & Netaji Auditorium of IIT Kharagpur

Ref. : IIT/RAC/100TR/AMC/02

Sealed bids are invited from interested suppliers/contractors for comprehensive annual maintenance and day-to-day operation of the 2 X 100 TR, water cooled, central air conditioning plant of the central library & Netaji auditorium of IIT Kharagpur under the following terms and conditions. The sealed bids may be sent to **Professor-in-Charge, Refrigeration and Air-Conditioning unit, IIT Kharagpur on or before by 10/02/2012 (12:30 PM)**. The submitted tenders will be opened on 10/02/2012 at 15:30 PM.

The tenderers are advised to visit, study and understand the operational details of the above plant before submitting their bids. They may visit the plant on any working day with prior permission from Professor-in-charge (Refrigeration & Air conditioning).

The Institute reserves a right to accept or reject any bid, postpone or cancel the bidding process without assigning any reason whatsoever.

Description of the air conditioning plant

The water cooled air conditioning plant of 2 X 100 TR capacity caters alternately to the central library and Netaji Auditorium. Air handling units are installed in rooms above the central library and Netaji Auditorium. The refrigeration plant is located in the basement near the main building with 2 natural draught type cooling towers located nearby.

Terms & Conditions

1) The tenderer must have at least 5 years experience in day-to-day operation and annual maintenance of similar, water cooled central air conditioning plants. The following supporting documents must be supplied along with the bid:

- a. List of important works executed during last five years including name of client, amount of work, duration of completion etc.
- b. List of works in hand including name of client, nature of work, amount of work.
- c. Number of operators proposed for the above work along with their qualifications, experience etc.
- d. Indicate any other information / details if any to show the technical and managerial competence. This may include testimonials and certificates from owners, consulting engineers etc.

2) Period of contract: 01/04/2012 to 31/03/2013

3) Payment: Payment shall be made on quarterly basis after satisfactory service, duly attested by quarterly service reports in the standard format highlighting the performance of the plant and the records of corrective and preventive measures taken during the period.

4) Scope of contract:

(a) Annual Maintenance Contract (AMC) consists of:

Monthly:

- # Checking of the system performance from measurements of chilled and cooling water flow rates, inlet and outlet temperatures and dry and wet bulb temperatures of the conditioned space
- # Checking alignment of fan motor and tightening of V-belts
- # Cleaning of AHU rooms and filters
- # Checking the performance of cooling towers by measuring cooling tower approach and range and cleaning of cooling tower basin and nozzles
- # Checking glands/sealing of all pumps
- # Checking of motor starters

Quarterly:

- # Inspection of compressor, compressor motor and V-belt performance and taking required corrective action
- # Greasing/Lubrication of all rotating parts except the compressors
- # Checking of the electrical contact points including changing of spares like fuses, indication lamp etc.
- # Cleaning of the cooling coils of the air handling unit with caustic soda and fresh water.

Half yearly:

- # Cleaning of pot strainers
- # Thorough checking for refrigerant leaks and charging of refrigerant, if required. The performance of the plant shall be recorded before and after refrigerant charging.
- # Servicing and overhauling of all the pump sets.
- # Checking the performance of the condenser and de-scaling the condenser as and when required.

Yearly:

- # Checking /overhauling of the compressors.
- # Winter overhauling of the plant.
- # De-scaling of chillers
- # Servicing of the cooling towers including changing of the nozzles, cleaning/replacement of wooden louvers.
- # Heat varnishing of motors.

Others:

- # Attending the breakdown calls (normally within 02 hrs from the time of receipt of the complaint), detection of the same and rectification of the fault within 24 hours of receiving the complaint.
- # Taking care of the plant and its surroundings while taking all precautionary measures for the safety of the plant as well as the personnel operating and maintaining the plant.

Service Reports:

A quarterly service report should be submitted as per the standard format clearly mentioning the following parameters:

- i) Schedule of maintenance for each of the items mentioned above
- ii) Important observations made
- iii) General condition of the plants, spare parts replaced etc.

The service report has to be signed by the contractor, concerned engineer of the institute and Head of the Library. Quarterly payment will be released only when the bills are submitted along with the completed and duly signed quarterly reports.

(b) Day to day operation of the air conditioning plant consists of:

In the absence of specific instructions from the end-users (i.e., In-charges of Central Library and Netaji Auditorium), the plant is to be operated from 8 AM to 11 PM on all days of the week, including Saturdays and Sundays.

The operators shall operate the plant in such a manner that the plant performance or life of the plant or any parts of the plant are not affected adversely. The operators have to be trained and must be able to identify problems, if any and take suitable actions or inform the contractor immediately.

The operators have to maintain the log book by recording daily once in every two hours the relevant parameters such as the suction, discharge and oil cooler pressures, current drawn by the compressor motors, voltages, suction and discharge temperatures etc. The operator shall also record the ambient dry and wet bulb temperatures, thrice in a day (morning 8 AM, noon and evening 6 PM)

5) Spares & Consumables:

The AMC will be comprehensive and all the spares related to compressors, motors, pump sets, starter contactors, AHUs, main switch, cooling tower, water valves, electrical cables, all consumables such as refrigerant and other chemicals etc., as required during the contractual period shall be supplied by the contractor free of cost.

6) Others:

a) Any dispute arising out of this contract should be settled by mutual negotiation, failing which the decision of the Director, IIT Kharagpur shall be treated as final.

b) The contract may be terminated by the Institute with one month notice without assigning any reason. The contractor will not be entitled to claim any compensation against such termination. In case the contractor wishes to terminate the contract for whatever reasons, he shall give a 3 month notice.

c) The contractor is responsible for the behavior and well-being of the operators employed by him. Though the operators may report to the institute on a day-to-day basis, the institute is not responsible for the operators employed by the contractor.

PROF-IN-CHARGE (R&AC)