



**Indian Institute of Science (IISc)
Bangalore - 560012**

Department of Computational and Data Sciences (CDS)
IISc

Notice Inviting Tender (NIT) under
Two-Cover Bid System

for

**CAMC for 4 Nos. Trane Air Cooled Screw Chillers for 1 Year in SERC
[Local Tender]**

Enquiry or Tender No: [IISc/SERC/2024/CAMC-Chillers/1](#)

Date: [May 29, 2024](#)

Chair

Supercomputer Education and Research Centre (SERC)

Indian Institute of Science (IISc)

Bangalore – 560012, India

Email: tender.serc@iisc.ac.in

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1. Preamble and Schedule of Requirements

The Supercomputer Education and Research Centre (SERC) in Indian Institute of Science (IISc) is a leading supercomputing centre in the country, possessing state-of-the art computing facilities, catering to the ever-increasing demands of high performance computing for scientific and engineering research. The supercomputer systems in SERC are used for large-scale simulations in various scientific domains.

This tender calls for providing Comprehensive AMC (CAMC) services for 4 Nos. of 100 TR air cooled screw chillers in SERC for a period of one year. The CAMC period will start 5 days from the date of the PO.

2. Bidder's Eligibility Criteria

The bidder must have provided AMC services for similar Chiller systems of at least 50 TR capacity in at least one site during the period January 1, 2021 – December 31, 2023. **Supporting Document Needed:** A copy of the P.O. or payment proof and contact information of the person-in-charge at the sites.

3. Technical Details

CAMC FOR 4 Nos. of 100 TR Air Cooled Screw Chillers

The details of the 4 Nos. of Air cooled Screw chillers are as under:

S.No	Type	Serial No	Make	Capacity	Year of Mfg.	Qty
1	RTAD100	EKP3959 & EKP3960	Trane	100 TR	2007	2 nos
2	RTAD100	EKX3117 & EKP3119	Trane	100 TR	2015	2 nos

Note: The vendor should give two separate quotes for the two kinds of chillers given above, i.e, one quote for chillers in row 1 and another quote for chillers in row 2. However, the L1 bid will be based on the total price across the two quotes.

Following are the services required.

SL No	Maintenance and services	Required
1	Annual Maintenance	Yes
2	Preventive Maintenance	Yes
3	Written Report	Yes
4	Emergency Service	Yes
5	Oil Analysis	Yes
6	Major Repair Labour	Yes
7	Annual Operator's Training	Yes

1. **Annual Maintenance:** This service should be performed at the start of the maintenance service term. All manufacturers recommended yearly maintenance procedures on the unit(s) should be conducted. The inspection shall be conducted on a mutually agreeable date (1 visit).

Annual Maintenance once a year a thorough maintenance procedure should be performed including the following:

A. Check unit thoroughly for refrigerant leaks.

- Inspect for leaks and report leak check result.
- Repair minor leaks as required. (e.g. valve packing, flare nuts).
- Check the condenser fans for clearances and free operation.
- Check tightness of condenser fan motor mounting brackets.
- Check the set screws on the fan shafts.
- Visually inspect the condenser coil for cleanliness.
- Verify the performance of the fan control inverter VFD, if applicable.
- Grease bearings as required.

B. Control and safety.

- Inspect the control panel for cleanliness.
- Inspect wiring and connections for tightness and signs of overheating and discoloration.
- Verify the working condition of all indicator/alarm lights and LED/LCD displays.
- Test oil pressure safety device (as required). Calibrate and record setting.

- Test the operation of the chilled water pump starter auxiliary contacts, if applicable.

C. Lubrication System

- Verify the operation of the oil heaters.

D. Motor and Starter

- Clean the starter cabinet and starter components.
- Inspect wiring and connections for tightness and signs of overheating and discoloration.
- Check the condition of the contacts for wear and pitting.
- Check contractors for free and smooth operation.
- Check all mechanical linkages for wear, security, and clearances.
- Verify tightness of the motor terminal connections.
- Meg the motor and record readings.
- Verify the operation of the electrical interlocks.
- Measure voltage and record: Voltage should be nominal voltage $\pm 10\%$

E. Items to be covered

- Compressor
- Condenser fan motor
- Condenser fan blade
- All capacitors
- Control boards
- Gas leakage
- Contractors
- Cooling coil and condenser

2. **Preventive Maintenance:** This service should provide regular scheduled preventive maintenance inspections. There should be at least four preventive maintenance visits per year, on quarterly basis.

Regularly scheduled preventative maintenance inspection will include the following:

- Check the general operation of the unit.
- Log the operating temperatures, pressures, voltages, and amperages.
- Check the operation of the control circuit.
- During each PM visit, check refrigerant level, any refrigerant gas leakage and refill if in case of any leakage or low-pressure alarm.
- Cleaning of Air-cooled condenser fins & fans (Use Pressure Washer)
- Cleaning of Indoor Filters, Cooling coils & Drain points. (Use Pressure Washer)
- Check the operation of the lubrication system.
- Check the operation of the motor and starter.
- Checking operation of O/L relays, Thermostat & HP/LP switches.

- Analyze the recorded data. Compare the data to the original design conditions.
 - Review operating procedures with operating personnel.
 - During each PM visit, Certified Field Service Representative (FSR) will run tests to verify the system functioning correctly in all operational modes.
 - Provide a written report of completed work, operation log and indicate any uncorrected deficiencies detected.
3. **Written Report:** A report should be provided at the end of each inspection with recommendations of necessary repairs and maintenance procedures.
 4. **Emergency Service:** Shall include emergency calls between inspections as required for the purpose of diagnosis of trouble, adjustment, minor repair, or resetting of controls.
 5. **Oil Analysis:** Indicates the need to change the oil. Shall receive a complete report of the oil analysis that includes the following information: numerical data from all tests performed in the present analysis and the past samples; a graph of current and past data for comparison purposes; and interpretations and recommendations based on present and past samples.
This option shall include at least one oil analysis per circuit per year.
 6. **Major Repair Labor:** Shall include all spares and labor to diagnose, repair, or replace failed components of the equipment.
 7. **Annual Operator's Training:** Shall include one day of the customer's personnel for unit operator training on site. Shall help in gaining overall understanding and improving the ability to operate and maintain the chiller.

Note:

- Vendors should visit the site before sending the quote.
- Only OEM (Original Equipment Manufacturer) parts are to be used as replacements.
- For any breakdown, service should be available 24X7.
- All calls should be attended within 2 hours from the time of call made.

Visits Required:

No of Preventive Maintenance: 4Nos visits per year

No of Breakdown visits: "N" Number of visits per year.

4. Organization of the Technical Bid

The technical bid should strictly be organized in the following sequence only.

Note: IISc reserves the right to disqualify any bid that does not provide all the required data and not following the organization given below.

1. A cover letter from the bidder. Among other things, the cover letter should certify that all the requirements of the tender are provided, and the offered solutions meet and comply with the technical and other specifications of the tender. The cover letter should certify agreeing to all the terms and conditions mentioned in the tender.
2. The bidder must not be blacklisted by any Central / State Govt. Organizations of India as on date of submission of the bids. A certificate or undertaking to this effect must be submitted.
3. Proofs for Bidder's Eligibility Criteria as given in Section 2 of this tender.
4. Undertaking as in **Annexure A**.
5. Terms and conditions of the offer.
6. Appendix
 - a. Company Profile Documents, if desired by the bidder (Maximum 2 pages).
 - b. Supporting technical materials including brochures.
 - c. Any other information or documents that the bidder deem necessary.

5. General Terms and Conditions

1. Offer must be submitted under ONE-BID system consisting of both Technical and Price (Financial) bids as hard copies in a single sealed envelope superscribed as "Bid Submission for CAMC for 4 Nos. of Chillers" within the stipulated period to the indicated mailing address. In addition, soft copy of the bid must be sent by email to tender.serc@iisc.ac.in within the stipulated time.
2. Delayed and/or incomplete tenders are liable to be rejected.
3. The Bid should be duly signed by the authorized representative of the bidder.
4. The bidders are requested to go through the Terms and Conditions detailed in this document, before filling out the tender. Agreeing to the terms and conditions of the tender document (by signing all pages of the copy of a tender document) is a mandatory requirement.
5. A tender, not complying with any of the above conditions is liable to be rejected.
6. IISc reserves the right to cancel the tender at any time without assigning any reason whatsoever.

6. Bid – Terms and Conditions

1. The technical bid should contain all the information and should have the organization as given in Section 4. Bids without the specific information and organization as in Section 4 will be automatically disqualified.
2. The technical evaluations will be made only based on the technical bids and the shortfall responses submitted by the bidder.
 1. Price bids of only technically qualified vendors will be considered.
2. The hardcopy commercial bid of the successful bidder, after the commercial bid opening stage, should contain among other things, unit prices, CAMC prices for each of the systems mentioned in Section 3, payment terms, installation, commissioning etc. as per requirements of IISc mentioned in the tender document. All such conditions must be in line with the tender. In case of any deviation or conditional offer, the bid may be treated as non-responsive and not be considered for evaluation. Bundling of the prices is not acceptable.
3. This is a **local tender**. Quote should come only from Indian organization. Prices should be quoted only in INR (Indian Rupees) and will be with GST only.
4. The component of tax, and any other statutory levies should be shown separately and not included in the total amount, to enable IISc to avail any exemption.
5. Proposals should contain the name and contact details, viz., phone, fax, and email of the designated person to whom all future communication will be addressed. The contact details should also be mentioned on the overall envelope.

6. Prices should be quoted in detail, for all the subsystems given in the Technical Specifications part of the tender. Further, bid and **price validity should be for six months** from the date of opening of the technical bids.
7. IISc will place the purchase order only on the successful bidder as per the decision of IISc. In this regard, decision of IISc will be final and binding.

7. Payment Terms

1. Purchase Orders will be raised at the beginning of the CAMC period.
2. Payments against the PO will be made on quarterly basis after satisfactory service at the end of every service quarter.
3. Payment will be subject to deduction of TDS as per rules / laws and any other deduction as per PO terms.

8. Important Dates

1. Release of tender: May 29, 2024.
2. Start date for submission of the bid: May 30, 2024, 10 AM IST.
3. Last date for submission of the bid: June 20, 2024, 5 PM IST.
 - a. Hard copy submission: The bid in the form of an envelope containing the hard copies of the bids, in a sealed envelope, should be submitted and reach the below-mentioned mailing address by the same date, 6 PM IST. Note that the hard copy of the bid should exactly match with the soft copy submitted.
 - b. Soft copy submission: Soft copy of the bid must be sent by email to tender.serc@iisc.ac.in by the above-mentioned time.

Mailing address:

Chair
Supercomputer Education and Research Centre (SERC)
Indian Institute of Science (IISc)
Bangalore – 560012
India

9. Annexure A - Undertaking

Date:

To:
The Chair
Supercomputer Education and Research Centre
Indian Institute of Science
Bangalore – 560012, India

Subject: Undertaking as per GFR – 2017, Rule 170(iii)

Dear Sir,

We, the undersigned, offer to carry out the project including Products/items, components etc. as per tender at IISc, Bangalore, in response to your Tender No **IISc/CAMC/SERC/2024/UPS_Batteries/1**. We are hereby submitting our proposal for the same, which includes Technical bid and the Financial Bid. As a part of the eligibility requirement stipulated in the said tender document, we hereby submit a declaration as given below:

1. We will not withdraw or amend or modify or impair or derogate our bid partly or fully or any condition of it after tender opening, during the period of tender validity (six months from the date of opening of the technical bid),
2. In case, we are declared as successful bidder and an order is placed on us, we will submit the acceptance in writing within 7 days of placement of order on us.
3. In case of failure on our part to deliver/provide the item/installation/service as per the order's terms and conditions within the stipulated period, we are aware that we shall be declared as ineligible for the said tender and /or debarred from any future bidding process of IISc or any Government entity for a period of minimum one year.
4. The undersigned is authorized to sign this undertaking.

Yours sincerely,

Authorized Signatory:

Name and Title of Signatory:

e-mail:

Mobile No: