SUB: PROCUREMENT OF UPS and Batteries

Tender Notice No. IIT/KGP/CRYO/UPS/ ASG/2020/20 Date: 14.07.2020

Indian Institute of Technology Kharagpur, an Institute of National Importance, invites sealed quotations from reputed Original Equipment Manufacturers (OEMs) or their Authorized representatives & General Suppliers for the supply of UPS and batteries for Cryogenic Engineering Centre.

Interested vendors are requested to send their sealed bids under a two cover system as per requirement mentioned in tender document, along with the Technical Specifications & Compliance Certificate (as mentioned in Annexure – I) of the tender document.

Details are also mentioned in the Institute website www.iitkgp.ac.in [link: Tenders].

The proposal has to be sent in a sealed packet, containing two separate sealed envelopes (Technical Bid and Price Bid) duly superscribed with Reference Number (Tender Notice No. IIT/KGP/CRYO/UPS/ASG/2020/20 Date: 14.07.2020) to the office of Prof. Abhay Singh Gour, Cryogenic Engineering Centre, Indian Institute of Technology, Kharagpur, P.O. Kharagpur Technology, PIN: 721302 on or before 18.08.2020 at 3.00 pm.

The technical bids will be opened on 19.08.2020 at 11.30 AM in the Meeting room of Cryogenic Engineering Centre, IIT Kharagpur in the presence of the vendors/ or their authorized representatives. Price bids will be opened (to be notified separately) only of those firms, who will be found technically qualified/short listed, after evaluation of their technical bids.

Prof. Abhay Singh Gour
PI, CEC, IIT Kharagpur

Encl: Annexure – I

Copy to:

1. Institute website
2. Jt. Registrar (Stores & Purchase)
3. CPP Portal
4. Chairman, Purchase Committee
5. Notice Board
## Annexure I
### Specifications of 300 KVA Online UPS and Batteries

<table>
<thead>
<tr>
<th>SL No.</th>
<th>Parameters</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TECHNOLOGY</td>
<td>Should be IGBT based DSP controlled double conversion On-line VFI according to IEC62040-3 specification. Built-in Isolation Transformer should be provided on the Inverter output (No external Transformer will be accepted).</td>
</tr>
<tr>
<td>01.</td>
<td>Quantity of UPS : 01 no</td>
<td></td>
</tr>
<tr>
<td>02.</td>
<td>Input</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rated voltage</td>
<td>415 VAC three-phase + N</td>
</tr>
<tr>
<td></td>
<td>Voltage Range</td>
<td>-25% + 20%</td>
</tr>
<tr>
<td></td>
<td>Frequency Range</td>
<td>47.5 to 52.5 Hz</td>
</tr>
<tr>
<td></td>
<td>Power Factor</td>
<td>≥ 0.98</td>
</tr>
<tr>
<td>03.</td>
<td>By Pass (Static &amp; manual)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rated Voltage</td>
<td>400 VAC</td>
</tr>
<tr>
<td></td>
<td>Number of Phases</td>
<td>3 + N</td>
</tr>
<tr>
<td></td>
<td>Permitted voltage range</td>
<td>±15% (selectable from ±10% to ±20% from front panel)</td>
</tr>
<tr>
<td></td>
<td>Rated Frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>Permitted Frequency Range</td>
<td>±5% (selectable from ±2.5% to ±10% from front panel)</td>
</tr>
<tr>
<td>04.</td>
<td>Batteries</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type</td>
<td>Sealed Maintenance Free Lead Acid</td>
</tr>
<tr>
<td></td>
<td>Make</td>
<td>Exide</td>
</tr>
<tr>
<td></td>
<td>Backup Time (minimum)</td>
<td>10 Mins.</td>
</tr>
<tr>
<td></td>
<td>Minimum Battery VAH required</td>
<td>153600 VAH</td>
</tr>
<tr>
<td></td>
<td>Battery offered</td>
<td>Vendor should mention the details of battery offered (Volt, AH and number)</td>
</tr>
<tr>
<td></td>
<td>Recharge Time</td>
<td>4-6 Hrs.</td>
</tr>
<tr>
<td></td>
<td>Automatic battery test</td>
<td>The UPS should carry out battery tests automatically. The period between and the duration of the test should be configured via the control panel, or the test can be completely deactivated.</td>
</tr>
<tr>
<td>05.</td>
<td>Output</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Active Power</td>
<td>300 KVA / 270 KW</td>
</tr>
<tr>
<td></td>
<td>Number of Phases</td>
<td>3 + N</td>
</tr>
<tr>
<td></td>
<td>Rated Voltage</td>
<td>380 – 400 – 415 V AC Selectable</td>
</tr>
<tr>
<td></td>
<td>Power Factor</td>
<td>≥ 0.98</td>
</tr>
<tr>
<td></td>
<td>Voltage setting</td>
<td>via Control Panel</td>
</tr>
<tr>
<td></td>
<td>VTTHD</td>
<td>&lt;3% for Linear load</td>
</tr>
<tr>
<td></td>
<td>Crest factor (Ipeak/Irms)</td>
<td>4 : 1</td>
</tr>
<tr>
<td></td>
<td>Waveform</td>
<td>pure sinewave</td>
</tr>
<tr>
<td></td>
<td>Frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td></td>
<td>Transient Response</td>
<td>5V for a step load of 100%</td>
</tr>
<tr>
<td></td>
<td>Overload</td>
<td>110% for 1 Hr., 125% for 10 mins., 150% for 1 min.</td>
</tr>
<tr>
<td></td>
<td>Overall efficiency at full load</td>
<td>≥ 92%</td>
</tr>
<tr>
<td>06.</td>
<td>Protection</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Normal Protection</td>
<td>Input, output, rectifier input, battery fuse, bypass fuse, short circuit etc. Thermal on system, rectifier, bypass and inverter. Protection against prolonged battery discharge.</td>
</tr>
<tr>
<td></td>
<td>Back Feed Protection</td>
<td>The back feed protection device should prevents any current that could cause an electric shock from back feeding to the incoming power supply connection.</td>
</tr>
<tr>
<td>07.</td>
<td>Environmental Conditions</td>
<td></td>
</tr>
</tbody>
</table>
### Operating temp. for UPS
0°C to 40°C

### Relative humidity
<95% non-condensing

### Noise
<65dBA at 1 m

### Mechanical Data
- **Protection Degree of the cabinet**: IP 20
- **Cable Input**: Bottom

### Display & Indications:
- **Minimum List of information to be appeared on the LCD Display**:
  - Line input voltage, Frequency
  - Output Voltage, current & frequency
  - Output apparent power, Load output apparent power per phase
  - Total Load Power, Apparent Power, Active Power, Load output Power Factor
  - Load Power Percentage per phase, Total connected load in percentage
  - Bypass voltage, input frequency
  - Inverter voltage, Frequency
  - Battery voltage, DC Bus voltage, charging current, discharging current, Battery max discharge time in battery mode, Battery warn volt, shutdown volt
  - Temperature – Control board, Rectifier SCR, Inverter IGBT
  - System shutdown time, restart time
  - Setting: Clock, Date, Service contact, Battery Test, RS485, MODBUS, ALARM

- **LED Indication**:
  - UPS Start, Standby, Bypass Mode, Line Mode, Battery Mode, Fault, Warning
  - Battery Test, ECO Mode

- **Buzzer**:
  - Beeping sound for Bypass, Standby, Battery Test, Low Battery, Fault, Warning for overload, overload

### Other Key Features:
- **Reliability of the system**:
  - The total system (Charger & Inverter section) should be controlled by redundant microprocessor system. If a fault occurred to either of the microprocessors, the power supply to the protected load will not be interrupted

- **EMI Filter**:
  - Input & output EMI Filter should be provided inside the UPS

- **Mimic Display**:
  - Mimic diagram should be provided to know the status of the rectifier, inverter, battery and output.

- **Self-Diagnostics**:
  - The system should provide “EVENT RECORDING” facility its include cause of the fault and should be able to display the name of the faulty area in terms of rectifier fault, inverter fault, battery contactor fault etc. through code. All events are readable from front panel LCD/LED of the system and also from PC/Laptop through the RS 232 communication interface port.

- **EPO (Emergency Power Off)**:
  - In the event of an emergency the UPS should be completely shut down by an external command

- **International safety Standards**:
  - The offered model should comply the following CE standards:
    - EN 62040-2 : 2018
    - EN 62040-1 : 2008
  - (Copy of Certificate of the offered Model must be attached with the Bid documents)

- **Quality Certification**:

- **Warranty**:
  - 2 years for UPS and 2 years for Batteries onsite warranty

- **Approved Brand**:
  - Vertiv / Emerson / Mitsubishi / Power One / Schneider / ABB / GE

### Suitable rating of MCCB is to be provided to the input & output of the UPS to be provided at the input/output of the UPS for ease of connection, safety and protection

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**Note:**

1) Bidder should submit printed technical literature / brochure (in English) of the offered model, which should be fully complied with the specification as mentioned above otherwise the bid will be disqualified.

2) The Bidder shall be an established UPS Manufacturing company registered under the Companies Act, 1956 having operations in India for the last three years (Certificate of Incorporation) and shall have their registered offices in West Bengal and submit valid documentary proof of:
• Certificate of incorporation
• Trade License of West Bengal

3) The bidder should have minimum 3 Nos. similar or higher rating installation in any Educational / Research Institutions in Eastern Region which are working satisfactory at least for 3 years. Copy of evidence should be submitted.

4) Bidder should have service engineer in/around Kharagpur. Details address with contact numbers shall be furnished.

5) Bidder should install and connect the system with the supplied battery bank and show the performance onsite.

6) A bidder should supply, install and test both UPS and batteries at-site.

7) **UPS should be supplied on-site only after the building readiness certificate issued by IIT Kharagpur.**

8) Suitable layout for housing UPS and batteries should be submitted along with the technical bid of the tender **(Available space is 3 m x 4m)**. The bidder should be ready to modify the layout of UPS based on the user requirement and the actual site conditions.
Procurement of UPS and batteries

It will consist of the equipment as per the specifications given in Annexure I.

TERMS AND CONDITIONS

1. Technical bid should contain all relevant technical details; printed technical leaflet of models quoted and other details, which may be necessary to ensure that the offer is complete in all respects, e.g., technical specifications, etc.

2. Technical bid should also contain a Compliance Certificate duly signed by the bidder.

3. PRICE may be quoted either in INR or in foreign currency. Where tenderer intends to quote in Indian Rupees (INR), the price should be quoted “FOR IIT Kharagpur” basis. The price should be all inclusive including GST. The unit price without tax and the tax breakups should be shown separately for each item (if applicable). Prices for software components, if any, must be shown as separate line items.

4. Tender Fee: An amount of Rs. 1,000.00 (Rupees One Thousand Only) as tender fee (non-refundable) is to be paid. The payment shall be made by Demand Draft from any Nationalized Bank /Commercial Bank and paid in favour of “Indian Institute of Technology Kharagpur”, payable at Kharagpur. Bids without Tender Fee will not be accepted. This should be enclosed separately in an envelope and stapled with the Technical Bid document superscribing “Tender fee”.

5. Earnest Money Deposit (EMD): An amount of Rs.20,000.00 (Rupees Twenty Thousand only) in the form of Demand Draft drawn in favour of “Indian Institute of Technology Kharagpur”, payable at Kharagpur or Fixed Deposit Receipt or Banker's Cheque or Bank Guarantee as per format at Annexure VI. E.M.D. should be enclosed separately in an envelope and stapled with the Technical Bid document superscribing “EMD”. The validity of the EMD should be 12 (twelve) months from the date of issue. Any bid without EMD will be summarily rejected. No interest is payable on EMD.

EMD will be refunded to the unsuccessful bidder after the finalization of the tender process. The EMD of vendor awarded with the contract to be treated as part of security deposit towards Performance Guarantee. No interest is payable on Security Deposit. Security Deposit shall be forfeited if the selected vendor after award of contract, fails to execute the same.

[Note: IIT Kharagpur will give exemption for submission of Tender Fee and EMD who are registered with MSME or Central Purchase Organization or Startups as recognized by DIPP as per revised rule 170 of GFR-2017 only. However, Proper and valid document in this regard must be submitted by the bidders in support of their claim.]

6. IIT Kharagpur is registered under DSIR, Govt. of India. GST rate for scientific goods is 5% as per the Notification No. 47/2017 - Integrated Tax (Rate) dated 14th November, 2017. Necessary certificate in this regard will be issued as per requirement and on request of the successful bidder.

7. Where tenderer intends to quote in foreign currency FCA/FOB source port price by Air/Sea to be quoted. In case of comparison between FOR IIT Kharagpur (quoted in INR) and FOB/FCA price (quoted in foreign currency) 20% will be added on FOB/FCA price after conversion to INR.

8. IIT Kharagpur is eligible for exemption for payment of Customs Duties in terms of Government of India Notification No.51/96-Customs dated 23.07.96. Necessary certificate in this regard will be issued as per requirement and on request of the successful bidder.
9. Any particular items/products/components/sub-components may be procured independently from any vendor following standard purchase practices. All sub-components' pricing (1a, 1b, 1c, 1d, 1e, 1f(i), 1f(ii), 1g, 2, 3a, 3b, 3c) should be mentioned separately. The bidder may submit quotation even if an item/component/sub-component or multiple components/sub-components is/are unavailable with them.

10. Payment Terms: 90% Payment shall be made after successful installation of the Equipment/Accessories duly certified by PI, CNE_OTG. Balance 10% may be released against submission of Performance Bank Guarantee to the tune of 10% of the total purchase order value. The Performance Bank Guarantee shall be issued from any Commercial Bank, which must remain valid for a period sixty days beyond the expiry of the Warranty Period. Bid security will be refunded back on submission of performance Security. Through Letter of Credit / Wire Transfer (after receipt of stores) for foreign principal. In case of Letter of Credit 90% payment will be made on submission of shipping documents and balance 10% payment will be made on installation, commissioning and submission of Performance Bank Guarantee for performance period. On behalf of the Principal, Indian Agent must be able to provide Performance Bank Guarantee.

11. Warranty: OEM warranty, at least 12 months from the date of successful installation of the equipment.

12. Delivery Period: The equipment should be supplied within 8 weeks from the date of receipt of the Purchase Order.

13. Liquidated Damage: In the event of failure to deliver the stores beyond the specified date, liquidated damages @ 1% per month or part thereof in respect of the value of stores will be deducted, subject to a maximum of 5%; alternately the order will be cancelled and the undelivered stores purchased from elsewhere at the risk and expense of the vendor.

14. Bid Submission: Technical Bid and Price Bid should be submitted in two separate sealed envelopes quoting reference number on the top of the envelope.

15. Acceptance of Tender: The authority of IIT, Khargpur reserves the right to accept/reject any or the entire tender bids received without assigning any reason thereof.

16. Conditional offer will not be accepted.

17. Period of Validity: Bids shall remain valid for acceptance for a period of 120 days from the date of opening of the price bid. The benefit of downward prices (revision on account of budget/financial policy, tax revision, etc.) should be given to IIT Khargpur by the selected OEM/vendor.

18. Past performance of the vendors will be judged at the time of Technical Evaluation. Bidder must have supplied such similar systems to any of the Departments at IIT KGP or any other IIT or any other Educational Institute or reputed industry in India. Documentary evidence by way of PO copies must be furnished.

19. The Institute does not bind itself to offer any explanation to those bidders whose technical bids have not been found acceptable by the Technical Evaluation Committee of the Institute.

20. Bidders should enclose the following documents:
   i. Certificate of Registration/Trade License.
   ii. PAN number and GST registration number.
   iii. IT returns for the last three years.
   iv. Copy of product literature technical leaflet, wherever applicable for which the prices have been quoted should invariably be enclosed.
   v. Signed copy of the tender document, with company seal, agreeing to the terms & conditions and declaration.

21. All tenders are to be submitted or handed over to the office of Prof. Abhay Singh Gour, Cryogenic Engineering Centre, IIT Khargpur. The bids (technical and price bids) once
submitted shall be the property of the Institute and shall not be returned to the vendor in future.

22. The person/officer signing the tender/bid documents should be delegated with an appropriate authority.

23. Opening of Price Bids: The Price Bid(s) of only those vendor(s) who are found technically qualified will be opened. The date for opening of price bids will be notified separately only to technically qualified vendors.

24. Bidder or his/her authorized representative (with proper authorization letter for opening of technical bids and also for opening of price bids) may choose to be present at the time of opening of Technical Bids/Price Bids.

25. The addendum/corrigendum if any shall be published on Institute’s Website and on CPP Portal.

26. The Institute at its discretion may change the quantity at any time before placing the order.

27. Copy of mandatory test reports, national testing/reliability and endurance test reports etc., certified or conducted at the manufacturing site, granted by the bureaus/quality control departments/national testing laboratories, as appropriate, should be enclosed.

28. Deviation from Specifications: It is in the interest of the tenderer to study the specifications in the tender schedule thoroughly before quoting so that, if the tenderer makes any deviations, the same are prominently brought out in the body of the tender. If you need to add any optional items to your system in order to meet our specifications, you are requested to quote for the total including the option required to suit our requirements. Otherwise, your tender will not be considered at all.

29. Guarantee: The tenderer has to declare that the goods sold to the buyer under this contract shall be of the best quality and workmanship and shall be strictly in accordance with the specifications.

30. Jurisdiction: All questions, disputes, or differences arising under, out of or in connection with the contract, if concluded, shall be subject to the exclusive jurisdiction at the place from which the acceptance of Tender is issued i.e. Jurisdiction of KOLKATA HIGH COURT. Acceptance to this effect is also necessary at the time of opening of Technical Bid.

31. Agency Commission, if any will be paid to the Indian agents in Rupees on receipt of the equipment and after satisfactory installation. Agency Commission will not be paid in foreign currency under any circumstances.

32. Tenderer(s), who are Indian Agents of OEMs:

- Bidders should enclose / furnish the following documents / details:
  - Port of shipment and Country of origin is to be provided for each item.
  - Purchase order to be placed on: Should be mentioned in the quotation with full address.
  - Complete address and tele links for contact persons of principals and Indian agent offices dealing with this purchase.
  - Name and full address of the OEM’s Banker and their swift code.

33. Important

(a) A bid submitted with false information will not only be rejected but also the OEM/vendor will be debarred from participation in future tendering process.

(b) The OEMs /Vendors need to submit a certificate that they are not currently debarred or black listed in IIT Kharagpur for any supplies, products or services, or at present in any national organization or educational institute/university.

(c) In case of any dispute, the decision of the Director of this Institute shall be final and binding on the bidders.
(d) For any query pertaining to this bid document, correspondence be addressed to:
   Prof. Abhay Singh Gour
   Cryogenic Engineering Centre
   Indian Institute of Technology, Kharagpur721302
   abhay.s.gour@gmail.com or abhay@cryo.iitkgp.ac.in
   Mobile: +91- 9008200553

(e) In case the due date for submitting tender **happens to be a holiday, the same will be accepted on the next working day.** The timings will however remain unchanged. Please Note that the Institute remains closed during Saturdays & Sundays.