



Ref: INS/L-5055/2023-2024(A)

Date : 21/04/2023

## ENQUIRY

Dear Sirs,

Please let us have your lowest Quotation for the following :

Sl.No	Cat.No	Item Description	Make/Model	Item Qty	UOM
1		SITC of 2x20 kVA True ON-Line Conventional type UPS as per specifications attached with SNMP card, load test and performance test at site, As per specifications attached.	-	1.00	No.
2		Cost of additional extended warranty for 2x20kVA entire system including batteries for 2nd year _____ and 3rd year _____, As per specifications attached.	-	1.00	No.

**Remarks :** Tenders are invited under 2 part tender system from reputed Manufacturers / Suppliers for Supply, Installation, Commissioning and Technical Support for 2x20 KVA Ture On-Line Conventional type UPS.

### Note :

1. The bids shall be enclosed in an envelope , and due date sealed duly marked "Tender for \_\_\_\_\_" Ref No : \_\_\_\_\_. The bids should be addressed and to be mailed to "THE HEAD-PURCHASE". The bids are liable to be rejected if the sealed envelope is not addressed to "THE HEAD-PURCHASE" with Tender Ref No and Item Description and due date. The bids delivered in person shall be dropped in Purchase Section. If the bids are sent through courier or mail , it should reach by submission Date and Time and inStem will not be responsible for the delay.

### **2. DUE DATE FOR SUBMISSION OF QUOTATION AGAINST THIS ENQUIRY IS 28/04/2023 2.30PM**

3. QUOTATIONS RECEIVED AFTER THE DUE DATE SHALL BE REJECTED.

4. The Validity of your quotation should be for 180 days from the date.

5.All duties,taxes,surcharge and cess as currently applicable must be sated in your quotation,seperately.Otherwise your quote is liable to be rejected.

6.Your quotation should indicate delivery period & Warranty period.

7.Delivery to be made to our Stores.Please indicate charges,if any extra.Transit Insurance should be done upto inStem Stores.

8.If you are unable to supply the quality,specifications or brand as mentioned in our enquiry,Please state so and then offer alternative to quality/Specifications.

9.Payment :within one month after delivery & acceptance/satisfactory installation.

10.Please ensure that the enquiry number and the due date is superscribed on the envelope failing which your quotation is liable to be rejected.



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11. Any dispute or differences that may arise between the parties shall be referred to the sole arbitration of the Centre Director or his nominees. The decision of the arbitrator shall be final and binding on the parties. The venue for arbitration shall be Bangalore. The provisions of the Arbitration and Conciliation Act, 1996 as amended from time to time shall apply. The Courts in Bangalore shall have exclusive jurisdiction to deal with any or all disputes between the parties.

Yours faithfully

For and on behalf of Institute For Stem Cell  
Science and Regenerative Medicine

A handwritten signature in blue ink, appearing to be 'Anilkumar M', is written over a blue ink scribble.

Copy to: **Anandi Karumbati**

GKVK, Bellary Road, Bangalore-560065,INDIA

Phone No. : 91-80-23666343/344/345/346

Fax : 91-80-23636662

Email Id: purchase@instem.res.in

Website : www.instem.res.in



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**2 PART TENDER FOR SUPPLY, INSTALLATION, TESTING AND COMMISSIONING  
OF 2X20 kVA TRUE ON-LINE CONVENTIONAL TYPE UPS.**

**This tender document contains pages Total 23 pgs.**

**General Terms and Conditions:**

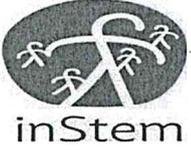
**The bids are for "Tender for SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF  
2X20 kVA TRUE ON-LINE CONVENTIONAL TYPE UPS" Ref. No. INS/L-5055/2023-2024(A)";**

**Important instruction for the Tenderers: -**

**The details in regard to technical specification and other terms and conditions should be cogent and clear to the extent possible.**

Tenders are invited under 2 part tender system from reputed Manufacturers / Suppliers for Supply, Installation, Commissioning and Technical Support for 2x20 KVA True On-Line Conventional type UPS.

- 1.1 Quotations must be submitted giving complete details using enclosed tender papers.
- 1.2 **The rates quoted should remain valid for a period of 180 days from the date of Price Bid opening.**
- 1.3 Each page of the tender except the Price & Delivery part shall be on printed letterheads or forms and bear the signature, date, name and designation of the person signing the offer. If they are not on letterheads, a rubber stamp indicating full name, address and phone No., Telex No., Fax No. etc. of the firm shall be affixed at the end of each page.
- 1.4 Bids containing erasures or alterations are liable to be rejected unless countersigned by the authorized signatory.
- 1.5 All rates and total amount should be written both in figures and in words and if there is any discrepancy between the two, the lowest amount only will be considered.
- 1.6 We reserve the right to place order for part/reduced quantity than what is specified in the tender and also reserve the right to split the order to more than one supplier.
- 1.7 Please return/upload the tender papers including Conditions of Tender as well as the Annexures with your signature, rubber stamp and date affixed on each page.
- 1.8 All bids in response to this invitation of tender should be submitted in a manner and method specified above. Tender which do not comply with the above conditions are liable to be rejected.
- 1.9 Late and delayed tenders will not be considered. Therefore, tenderers shall ensure that the tenders are uploaded on or before the due date and time stipulated for receipt of bids.
- 1.10 Individuals signing the bid form and other supporting documents must specify the capacity in which they sign, like -
  - a) Whether signing as a Sole Proprietor of the firm or his attorney.
  - b) Whether signing as a partner of the firm or his attorney
  - c) Whether signing as Director of a Limited Company.
2. **CATALOGUE/TECHNICAL LITERATURE**  
All necessary catalogue/drawing literature/data and details of item/s as are considered to be essential for full and correct evaluation of the bid shall invariably accompany the bid.
3. **Micro and Small Enterprises (MSEs):**
  - a. Micro and Small Enterprises (MSE) must, along with their offer, provide proof of their being registered as MSE (indicating the terminal validity date of their registration) for the item tendered, with any agency mentioned in the notification of the Ministry of Micro, Small and Medium Enterprises (Ministry of MSME)



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- b. The MSEs are exempted from payment of earnest money and tender fees subject to furnishing of relevant valid certificate for claiming exemption as per privilege rules of Government of India.
- c. The bidder submits registration of Udyog Adhar Memorandum (UAM) by Ministry of Micro Small and Medium Enterprises (MSME) vendors on Central Public Procurement Portal (CPPP). The bidders who fail to submit UAM number shall not be able to avail the benefits available to MSEs as contained in Public Procurement Policy for MSEs Order 2012 issued by MSME.

#### **4. PRICE**

**The Tenders to be quoted in INR. For imported goods, to be quoted in currency of the approved currency from RBI.** The price/s quoted shall be firm till the complete execution of the order. All details relating to price, price breakup, inland transportation, documentation, taxes and duties, levies, Road/AIR/Marine freight charges, delivery terms (ex-works/F.O.R/F.O.B/C.I.F.) mode of payment, mode of Despatch, Insurance, Agency Commission, if any, shall be paid after satisfactory installation & Commissioning of the goods. The quoted price should be supported with original proforma invoice. The proforma invoice should indicate the percentage of agency commission included in the FOB prices. Indian Agent to be paid in Indian currency.

For indicating the price, the tenderers may choose any/all of the following:

- a) Ex-works (all other charges to be indicated separately).
  - b) F.O.R. site (i.e. Freight, Packing & Forwarding, loading on to the transport, documentation etc. included.) Internal transportation, Freight, Insurance, etc. to be shown separately.
  - c) F.O.B (cost of goods, Packing & Forwarding, Inland Transportation, Documentation, etc. till the item is loaded on to the cargo carrier). Freight & Insurance charges to be separately indicated.
  - d) C.I.P (cost of goods, packing & forwarding, documentation, freight, insurance, etc. all included). However, freight & insurance charges to be indicated separately.
- INSURANCE TO BE COVERED TILL NCBS STORES.**

#### **5. ELIGIBILITY FOR PARTICIPATION: -**

Eligibility Criteria: This invitation for bids is open to Original Manufactures (OEM) /Authorized Dealers/Authorized Distributors/Subsidiary Indian Company of the OEM /Indian Agent on behalf of the Foreign Manufacturer or Principals of the tendered equipment. The bidder must be legal entity having a Permanent Account Number (PAN), Certificate of Incorporation, and Valid GST Registration Certificate is to be submitted

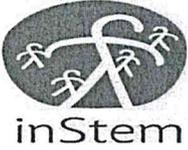
- i. This invitation is for “Class - I” and “Class - II” Suppliers as prescribed in “Public Procurement (Preference to Make in India) order 2017 of GOI. Dept of DIPP” (OM No. P-4502/2/2017-PP(BE-II) dated 16<sup>th</sup> September, 2020. Necessary certification for local content must be submitted by the prospective bidders strictly as per Annexure attached with the tender document.
- ii. For indicating the price, the tenderers may choose any/all of the following: The ‘Class-I Local Supplier’ / ‘Class-II Local Supplier’ at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for ‘Class-I Local Supplier’ / ‘Class-II Local Supplier’ as the case may be.



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- iii. Indigenous manufacturers and their authorized dealers are eligible and they will be considered as Local Supplier Class – I/II for price preference as per GOI Notification vide OM bearing No. F-45021/2/2017-PP(BE-II) dated 04th June, 2020 and again on 16th September 2020 issued by Department of Industry and Internal Trade (Public Procurement Section), Ministry of Commerce & Industry, Govt. of India.
- iv. NON-LOCAL Suppliers are also eligible for participation in the tender as per relaxation on Global Tender Enquiry (GTE) on 371 Medical Devices Equipment as per OM. No.F.4/1/2022-PPD(Pt.) dt.21/06/2022 which will be exempted from the Instructions issued vide OMs No. F/12/17/2019-PPD dt.15.05.2020 & 28.05.2020 regarding GTEs.
- v. In pursuant of the clarification vide GOI Notification vide OM bearing No.P-45021/102/2019-PP(BE-II) (E-29930) dated 26.11.2020 issued by Public Procurement Section, Department of Promotion of Industry and Internal Trade, Ministry of Commerce and Industry, GOI that bidders offering imported products will fall under the category of Non-Local Suppliers and they can't claim themselves as Class – I Local Supplier / Class – II Local Supplier by claiming profit, warehousing, marketing, logistic, freight etc., as Local Value addition.
- vi. In pursuant of the OM bearing No.F.N.6/18/2019-PPD dated 23.07.2020 issued by Public Procurement Div., Department of Expenditure, Ministry of Finance, Govt. of India the manufacturer/supplier are not eligible for participation if they are from such country which shares the land border with India. Offered items manufactured in such countries will not be considered.  
As per O.M No. F.No.6/18/2019-PPD, dt.23/07/2020, the following condition to be fulfilled and the bidder to submit the following declaration on their Letter head.
  - I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is Registered with the Competent Authority.
  - II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
  - III. "Bidder from a country which shares a land border with India" for the purpose of this Order means: -
    - a. An entity incorporated, established or registered in such a country; or
    - b. A Subsidiary of an entity incorporated, established or registered in such a country; or
    - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
    - d. An entity whose beneficial owner is situated in such a country; or
    - e. An Indian (or other) agent of such an entity; or
    - f. A natural person who is a citizen of such a country; or



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- g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.
6. The taxes (State, Central, Turnover tax, Works Contract Tax, etc.). Please specify which are applicable. The duties and other levies, freight, insurance shall be stated clearly and separately. Also please mention whether the same is included in the price/s quoted.
7. **VALIDITY OF BIDS**  
**The bids shall be valid for a period of at least 180 days from the date of opening of the Price bids. Bids with shorter validity period are liable for rejection.**
8. **DELIVERY**  
The tenderer should clearly mention the time required for supplying the item. The period of delivery will be counted from the date of receipt of the order. The delivery date is the date at which the equipment should be delivered at inStem.
9. **PACKING**  
The item should be packed appropriately so that it can sustain transit hazards, multiple landing, warehousing, etc. during transit.
10. **PLACE OF DELIVERY**  
**ALL DELIVERIES shall be effected to the INSTITUTE FOR STEM CELL SCIENCE AND REGENERATIVE MEDICINE, GKVK Campus, Bellary Road, Bangalore-560065.**
11. **GUARANTEE/WARRANTY**  
The item/s covered under this tender shall be subject to a guarantee for trouble free performance, workmanship, material etc., fulfilling the specifications mentioned in this tender for **12 months** from the date of commissioning. If any defect is found in the material, workmanship or performance during the guarantee period the same may either be repaired/replaced by the supplier as the case may be free of charge. The guarantee period for replacement of parts or repair work shall be same as above. A guarantee certificate to this effect should be forwarded to us with your invoice. For order placed on foreign suppliers, the supplier shall specifically confirm that their Indian representatives, if any, will provide with after sales service and will attend to any repairs or technical problems that may arise.
12. **PERFORMANCE B/G**  
The successful bidder shall have to execute a performance B/G in accordance with the guarantee/warranty for 10% value of the order. This B/G has to be executed on an appropriate value of stamp paper in terms of a bank guarantee drawn on any Nationalized Bank and shall remain valid till the completion of the Defect Liability period/warranty period, with **6 months** claim period.
13. **TAXES AND DUTIES**  
The Centre shall deduct all taxes and duties, as applicable, from time to time from the bills payable.
14. **PAYMENT TERMS**  
90% against delivery; balance 10% payable after installation subject to receipt of PBG for 10% order value, trial run and subject to acceptance by the group head through SAI and all other



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relevant documents, with Performance Bank Guarantee. The percentage of PBG will be determined based on the prevailing rules as of date of finalization of the tender. All claims shall cease as per the Limitation Act.

15. CLARIFICATIONS

After opening the bids, if it becomes necessary for the purchaser to seek clarifications from the bidders, the same will be sought from the bidders. In such an event, the bidders will furnish all technical information / clarifications to the purchaser to reach on or before the due date fixed for that purpose, indicating the Purchaser's tender reference. If the technical clarifications sought do not reach on or before the date fixed, the bids shall be summarily rejected without any further notice.

16. RISK CLAUSE

Notwithstanding the other terms therein, the Centre at its option will be entitled to terminate the contract and to avail from elsewhere; at the risk and cost of contractor; either the whole of the contract or any part which the contractor has failed to perform within the time stipulated or if the same performance is not available, the best and the nearest available substitute thereof. The contractor shall be liable for any loss which the Centre may sustain by reason of such risk contract in addition to penalty.

17. DISPUTE AND RESOLUTION

Any dispute or differences that may arise between the parties that cannot be settled by mutual discussion at appropriate levels shall be referred to the sole arbitration of the Director, inStem or his nominee and his decision in the matter shall be final and binding upon the parties to the dispute. The venue for arbitration proceedings shall be Bangalore. In respect of any matters pertaining to such arbitration, the courts of law in Bangalore will have exclusive jurisdiction. This arbitration agreement (hereinafter referred to as this "Agreement") relating to this Contract (hereinafter called the "Main Agreement" for this agreement) is made under the provisions of the Arbitration and Conciliation Act, 1996 as amended from time to time and the rules thereunder (hereinafter called the Arbitration Act).

18. The Price shall be FOR INSTEM Stores.

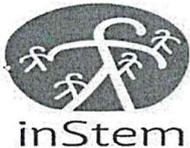
19. INSTEM reserves the right to split the quantities or reject one or more offers in full or part without any reasons. Therefore, INSTEM decision is final and binding.

20. The quantity mentioned in the tender may be decreased/increased while ordering. However, the price quoted should be firm irrespective of change in the quantity.

21. ACCEPTANCE OF TENDERS

INSTEM does not pledge itself to accept the lowest/ any tenders and reserves to itself the right to accept the whole or part of the tenders or a part of the quantity offered.

22. Your Service Engineer should be fully trained to install the equipment and capable of maintaining the equipment during / after the warranty period.



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**23. LIQUIDATED DAMAGES**

The successful bidder will have to agree that in case the item is not supplied within the agreed delivery schedule and after a grace period of seven days, then Liquidated Damages (not in terms of penalty) will be imposed automatically and be deducted from their bill at the rate of 0.5% per week subject to a maximum of 10% of the order value.

24. Please enter unit price, Total Price and Grand Total in figures as well as words. Unit price and Total Price may be entered below each item.

25. Since we are a public funded research institution, we are exempted from paying Customs Duty (Except advolerum duty of 5% + 2% cess and 1% Cess Sec & High Edu. CESS vide Notification No.51/96 Customs dt: 23.07.1996, Notfn No. 28/2003- custom dt.: 01.03.2003, Notfn., as amended from time to time for research purposes only. This Registration is subject to terms and conditions mentioned overleaf. This registration is valid up to 31.08.2025).

**26. FORCE MAJEURE CLAUSE:**

a) Force Majeure means an event beyond the control of the supplier and not involving the supplier's fault or negligence and which is not foreseeable. Such events may include, but are not restricted to the acts of the purchaser either in its sovereign or contractual capacity, wars or revolution, hostility, acts of the public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes, lock-outs, and freight embargoes. However, it should not be used by a party to effectively to escape liability for bad performance.

If there is delay in performance or other failures by the supplier to perform its obligation under its contract due to event of a Force Majeure, the supplier shall not be held responsible for such delays/failures.

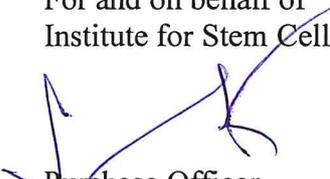
If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such conditions and the cause thereof within 21 days of occurrence of such event with reasonable evidence thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means of performance not prevented by the force majeure event.

If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of force majeure for a period exceeding 90 days, either party may at its option terminate the contract without any financial repercussion on either side.

b) There may be a Force Majeure situation affecting the institute only, under which the institute shall have equal rights to claim relief under such Force Majeure situations.

27. Debarment of bidders by the institute for committing of offences or breach of contract will be governed by the provisions of Government of India, Ministry of Finance, Department of Expenditure, Procurement Policy Division OM No. F/1/20/2018-PPD dated 02.11.2021 / relevant GFR provisions and based on approval of Nodal Ministry.

For and on behalf of  
Institute for Stem Cell Science and Regenerative Medicine

  
Purchase Officer

GKVK, Bellary Road, Bangalore 560 065. India  
Phone +91-80-23666341 /344/345/346. Telefax +91-80-23636662  
purchase@INSTEM.res.in . www.INSTEM.res.in



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## ANNEXURE A – SPECIFICATIONS

**Technical Specifications for “SITC of 2x20 kVA True ON-Line Conventional type UPS with SNMP card, load test and performance test at site”.**

### **1. General specifications**

- 1 UPS Type : DSP control based ON-LINE Double Conversion Technology
- 2 Capacity : 20 KVA/18 kW
- 3 Preferable Make or Equivalent : Socomec/Vertiv/ Riello /APC/ Eaton
- 4 Battery Backup : **30 min** at full load on each UPS
- 5 Supply : 3-Phase 3-wire Input, 3-Phase 4-wire Output
- 6 Operation Mode Normal (online): Emergency, Recharge, bypass, Maintenance bypass.
- 7 Rectifier / Inverter : IGBT with PFC control technology only
- 8 Transformer : **Inbuilt** - Isolation transformer (copper wound) on Input side
- 9 Total Efficiency AC/AC at 100% load:  $\geq 93\%$  (Online mode)
10. Parallel configuration:  $\geq 4$  units
11. Noise level at full load:  $\leq 66$  dBA at 1 mtr from the unit.

### **2. INPUT**

- 1 Voltage configuration : Three-phase, 3-wire
- 2 Rated Voltage : 400V,
- 3 Voltage tolerance : 320V to 480 V
- 4 Nominal Frequency : 50 Hz
- 5 Max/Min frequency : 50 Hz +/- 10%
- 6 Phase : Three Phase
- 7 Current Limit : 125% of nominal AC input current
- 8 Surge Protection : As per IEC standard
- 9 THDi :  $\leq 3\%$  at full load  
 $\leq 5\%$  from 30% to 75% of the full rated load
- 10 Power factor :  $\geq 0.98$

### **3. OUTPUT**

- 1 Voltage Configuration : Three-phase, 4-wire plus ground (3P+N+E)
- 2 Voltage : 400V/415 V
- 3 Voltage regulation : a)  $\pm 1\%$  three-phase RMS average for a balanced three-phase load for the combined variation effects of input voltage, connected load, battery voltage, ambient temperature, and load power factor.  
b)  $\pm 5\%$  three-phase RMS average for a 100% unbalanced load for the combined variation effects of input voltage, connected load, battery voltage, ambient temperature, and load power factor.



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4	Voltage Distortion	: $\leq 2\%$ total harmonic distortion (THD) for linear loads. and $\leq 5\%$ THD for 100% nonlinear loads.
5	Crest factor	: 3:1
6	Frequency	: 50 Hz and Pure sine wave
7	Frequency regulation	: 50 Hz +/- 1%
8	Output power factor	: $\geq 0.9$
9	Overload Capacity	: 125% for ten minutes (without bypass source). : 150% for one minute (without bypass source).
10	Wave form	: Pure Sinusoidal
11	Output Voltage adjustment	: $\pm 5\%$ (Software Controlled adjustment)

#### **4. Batteries:-**

- 1 Make and model : Preferred Make or Equivalent Quanta / Ener Rocket
- 2 Type : SMF Batteries (maintenance free type)
- 3 Rated battery life : min 10 years and conforms to International Standards- JIS-87020.
4. Battery back up : **30** minutes with full load on each UPS  
For battery calculation, ECV should be considered as 1.75V at 20hrs rating.
5. Battery stand : Suitable batteries stand - MS fabricated with powder Coating.
6. Battery link and cabling : suitable battery link and interconnecting copper cable from UPS to battery shall be supplied by vendor along with insulation mat. The approx. distance between UPS and battery stand will be 10 mtr.

The battery bank must have an expected service life of five years with a capacity of 30 minutes at 100 % load. Detailed Battery backup calculation sheet and manufacturer charging/discharging characteristic chart shall be attached along with the technical bid also Battery type should be specified in the document.

#### **5. On-Line Battery Test**

The UPS shall be provided with Auto On-Line Battery Test feature. The test shall ensure the capability of the battery to supply power to the inverter while the load is supplied power in the normal mode/On-line mode.

#### **6. Battery Charger:-**

The battery charger shall recharge the battery to 90% of its fully charged condition preferably within six to eight (6-8) hours and at the same time supplying full load current to the system. The charger should have the Temperature Compensated Charging. The battery charger output voltage shall be automatically adjusted in proportion to the ambient temperature of the battery to avoid over-charging. The system must include one or more battery chargers:

- with IGBT technology;



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- separate from the rectifier;
- with charging voltage independent from the DC bus voltage;
- dedicated and independent for each accumulator bank;

The battery charger must be able to operate with the following types of accumulator:

- Lead acid, hermetically sealed
- Lead acid, SMF.

Depending on the temperature, the battery charger shall be able to select the most suitable recharge method automatically, without operator intervention, alternating float mode in combination with "intermittent" charge in such a way as to limit the effects of corrosion (plate sulphation) and significantly prolong battery life. The maintenance charge voltage must be automatically regulated in relation to the temperature of the battery compartment. The battery compartment must be equipped with a temperature sensor for this purpose.

The following parameters must be adjustable and configurable:

- Maximum recharge current limit;
- Constant float mode current and voltage;
- Switching threshold from fast recharge mode to maintenance mode.

The battery charge regulation and control circuit shall also provide the following functions:

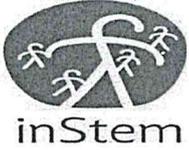
- Continuous monitoring of the battery circuit (battery interrupted) with visual alerts on the local user interface;
- Monitoring of battery efficiency, via partial discharge at settable intervals; the check consists in continuously monitoring the discharge current and comparing it with the ideal discharge curve;
- Continuous monitoring of the battery charger's output voltage to ensure it remains within the limits required to optimize battery life. Recharging voltage anomaly alerts followed by deactivation of the charger;
- Residual battery capacity display.

## 7. Paralleling Kit

Equipment shall be equipped with paralleling kits by this way - 2x20kVA are in parallel mode and also it shall be compatible for paralleling  $\geq 4$  units.

## 8. Inbuilt - Isolation Transformer (Copper Wound)

The UPS shall have suitable rating **inbuilt** isolation transformer with copper winding on Input side and test reports (Efficiency and losses) of the isolation transformer shall be enclosed along with the technical bid. The cooling of Isolation transformer shall be by forced cooling with inbuilt cooling



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fans. Supplier shall specify the Isolation transformer make and other specification along with technical bid for evaluation purpose.

### **9. Operating Ambient Temperature:-**

UPS Module : (0°C to 40°C).  
Battery: 30°C ±5°C.

### **10. Cooling**

Cooling of the UPS shall be by forced air and there should be redundant fans.

### **11. Grounding**

The AC output neutral shall be electrically isolated from the UPS chassis. The UPS chassis shall have an equipment ground terminal. Provisions for local bonding shall be provided.

### **12. Wiring**

Installation and required accessories like cables, lugs etc will be in the scope of supplier and Wiring practices, materials and coding shall be in accordance with the requirements of the National Electrical Code (NFPA 70). All bolted connections of bus bars, lugs, and cables shall be in accordance with requirements of the National Electrical Code and other applicable standards.

Conformity to standards

The system must conform to the following standards: Necessary certificate from IEC shall be submitted wherever required; **CE certification of the UPS is must.**

- Safety: EN62040-1.
- EMC emissions: EN62040-2.
- EMC immunity: EN62040-2 class C2 and C3.

### **Certification:**

**Necessary Type test/third party certificate as per IEC 62040/ IS 16242 from Testing Lab Accredited by NABL/govt. authorized certification agency should be enclosed along with technical bids.** Third party certificate is essential for 20kVA UPS (same model proposed by the vendor).

### **13. Monitoring and Control**

The UPS shall be provided with a DSP based unit status display and controls section designed for convenient and reliable user operation. All of the operator controls and monitors shall be located on the front of the UPS cabinet. The monitoring functions such as metering, status and alarms shall be displayed on the graphical LCD display. Additional features of the monitoring system shall include:

Menu-driven display with pushbutton navigation



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Real time clock (time and date)  
Alarm history with time and date stamp  
Battery backed-up memory

**System should be BMS compactable for monitoring.**

- System should be equipped with inbuilt TCP/IP enabled SNMP card for remote monitoring and control. It should generate alert for events. The SNMP card should be programmable to send email, SMS's over a GSM modem to report particularly important alerts and events.

#### **14. Display & Metering:**

- Input AC voltage line-to-line/ line-to-neutral for each phase
- Input AC current for each phase
- Input frequency
- Battery voltage and DC bus voltage
- Battery charge/discharge current
- Output AC voltage line-to-line and line-to-neutral for each phase
- Output AC current for each phase
- Output frequency
- I/P & O/P Apparent power for each phase
- I/P & O/P Active power for each phase
- I/P & O/P kWh meter
- Battery time left during battery operation
- The total operating time of the UPS

#### **15. Alarm Messages**

The interface must be able to display at least the following status or event information and UPS monitoring should be web based and user friendly.

- Input power out of tolerance
- Battery charger problem
- Battery test failed
- Low battery warning
- Low battery shutdown
- DC bus overvoltage
- Bypass frequency out of range
- Load transferred to bypass
- Excessive retransfers attempted
- Static switch failure
- UPS output not synchronized to bypass power
- Output under voltage
- Output overvoltage
- Output over current
- System output overloaded



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- Load transferred to bypass due to overload
- Overload shutdown
- Control error
- Critical power supply failure
- Load transferred due to internal protection
- External shutdown (remote EPO activated)
- Fan failure
- Over temperature shutdown
- UPS is on battery operation
- UPS is on bypass operation
- Battery mode with mains supply / no mains supply
- battery low charge warning
- battery on fast charge
- abnormal battery recharge voltage
- minimum battery voltage
- battery fault
- battery charge circuit broken
- battery charger system fault
- overload alert
- ventilation fault alert
- out of range temperature/humidity alert
- standby power supply out of tolerance

A predictive/statistical algorithm and interpretation of logged data (number, duration and type of events) regarding:

- out of tolerance Input voltages
- overloads
- battery mode operation
- switching to standby power supply
- over- temperature

The UPS must predict potential criticalities for the UPS itself, due to ambient conditions, in advance and alert the maintenance service / monitoring system.

## **16. Diagnostics**

The system will be equipped with a microprocessor able to run full machine diagnostics to determine:

- Self-compensation of components to ensure stable settings over time;



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- Acquisition of the main diagnostic and monitoring information by computer (local or remote);
- First installation procedure wizard;
- Full test procedure at full load on UPS, with no further external loads (auto-charge mode)
  - rectifier;
  - inverter;
  - bypass;
  - power bus;
  - cables, contactors and fuses;

The Manufacturer must also supply 24h remote monitoring and maintenance.

### **17. Uninterrupted Transfer / Retransfer**

The transfer control logic shall automatically turn on the static transfer switch, transferring the critical AC load to the bypass source, after the transfer logic senses any of the following conditions:

- Inverter overload capacity exceeded
- Critical AC load overvoltage or under voltage
- Battery protection period expired
- Out of tolerance inverter input DC voltage
- Over temperature
- Inverter fault

Retransfer of the critical AC load from the bypass source to the inverter output shall be automatically initiated unless inhibited by manual control.

### **18. Maintenance bypass**

The manual bypass switch will be provided internally and must ensure that equipment downstream of the UPS is supplied directly by the UPS upstream power source when rectifier, inverter and static switches are open. Switching to the manual bypass and back will be possible without load supply interruption (Make Before Break).

### **19. Replacement Parts Stocking**

Parts shall be available through an extensive network to ensure around-the-clock parts availability throughout the country. Recommended spare parts shall be fully stocked by local field service personnel (in Bangalore office) with back-up available from national parts center and the manufacturing location. The national parts center Customer Support Parts Coordinators shall be on-call 24 hours/day, 7 days/week, and 365 days/year for immediate parts availability. Tenderers may also produce Bangalore service center address along with strength support in the form of



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escalation chart. **The UPS systems are going to feed the power to very critical equipment's, and it is the responsibility of local service team to attend any emergency situation immediately during warranty period as well as post warranty period. Hence, service center at Bangalore is very much essential.**

## **20. Battery Circuit Breaker**

A suitable battery circuit breaker (DC breaker) shall be provided to isolate the battery from the UPS. This breaker shall be in a separate wall mounted NEMA-1 enclosure. The battery breaker provides a manual disconnecting means, short circuit protection, and over current protection for the battery system. When opened, there shall be no battery voltage in the UPS enclosure. The UPS shall be automatically disconnected from the battery when the battery reaches the minimum discharge voltage level. **During any abnormalities (over charging)/accident, UPS should be able to trip the battery breaker automatically. So necessary arrangement needs to be done.**

## **21. Other Protections**

- Battery protection period expired, Input Over/ under voltage, and Output over / under voltage, Output short circuit, Inverter overload, Rectifier overload, Inverter Overvoltage/under voltage, over temp, surge protection.
- It must have Generator Compatibility.
- Must have complete protection for EMI / RF as per the IEC standard.
- Units to have built in surge, spike and line noise protection.
- It should have Intelligent Battery Management system
- UPS should be compact and with small footprints.
- UPS sound level should be within the limit as per the standard.

## **22. Warranty/Guaranty:**

The equipment's (complete system including battery banks) supplied shall be guaranteed against all types of defects for a period of **One years (1 years)** from the date of handing over of the equipment to inStem after successful completion of acceptance testing at free of cost and **additional extended two-year warranty** to be quoted. Any defects in the system/subassemblies found within the guarantee period shall be rectified/replaced by the supplier free of cost. During this period, servicing at bimonthly interval or earlier, as prescribed by the manufacturer and as mutually agreed to, shall be carried out free of cost. It also includes battery health checks of the all the battery banks. Supplier shall also indicate the service facility they can offer at the place of installation and the telephone number and address of their service center. During the warranty period, breakdown call response time should be within 4 hrs in all working hours and 24hrs during after office hours and weekends.

**Note: During warranty period, vendor should arrange for "On line battery impedance test" for the complete system once in every Six months period.**

The track record of the firm in implementing and maintaining similar UPS systems, the nearest local(Bangalore) service establishment and the promptness in attending to service/breakdown calls shall also form basis of tender evaluation.



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**23. Rating test**

4 hrs full load endurance test shall be carried out at factory premises and followed by 110% load for 1 hr period. Test to ascertain the rated and transient capacities and overall efficiency of the system will be carried out at factory and with the battery backup of 30(Thirty) minutes with full load at the factory. Satisfactory performance at this stage meeting the prescribed limits will only be construed as acceptance of the UPS. The quoted UPS which falls short of our prescribed minimum overall efficiency will not be accepted.

**The full load endurance test needs to be conducted at INSTEM-GKVK, the vendor should arrange all load banks with necessary cable arrangement along with metering (Digital oscilloscope/power analyzer- to find out transients and I/P & O/P wave forms).**

- **Voltage and frequency regulation**
- **THDv and THDi**
- **TVD & TVR from 20% to 100% rated full load & 100% to no load**
- **Unbalance load test and Noise level measurement**

**24. Scope of Installation**

- Minimum ground clearance for ups should be 200mm and for battery should be 150mm, hence suitable powder coated MS base frame shall be supplied along with UPS.
- The proposed 2x20KVA UPS systems will be installed at ABSL-3 of INSTEM lab building; it is vendor’s responsibility to shift the UPS at above mentioned location. However, service lift facility is available at the building.

**Note:**

The Contractors shall submit all technical supporting documents/ details/third party certificates of the system along with the tender and also should attach the Battery backup calculations and battery discharge characteristics catalog along with the technical bid for evaluation purpose.

The Tenderers shall give the names and full postal addresses of their clients (data center) from Bangalore to whom similar equipments have been supplied by them.

The tenderers shall attach latest two purchase order copy/performance certificates (similar equipments i.e 20kVA UPS) from the existing clients(data center) from Bangalore.

**24. Vendors are required to fill the following sheet and submit along with technical bids.**

Sr.no	Description	To be filled by vendor	Remark if any
1.	UPS make		



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2.	Model No		
3.	Capacity/Rating		
4.	Output voltage & Frequency		
5.	Regulation:  c. O/P voltage regulation  d. O/P frequency regulation		
6.	Input power factor		
7.	Output power factor		
8.	No. of phases- Input.		
9.	No. of phases- Output.		
10.	Overall efficiency-online mode AC-AC		
11.	Input THDi		
12.	Voltage THD		
13.	Battery backup – 30 mints per UPS.  c. No. of batteries  d. AH rating of battery		
14.	Over loading capacity		
15.	Inbuilt - Isolation transformer  c. Make  d. Winding - Copper		
16.	Warranty for entire system		



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17.	Confirmation on additional extended two-year warranty		
18.	Parallel configuration		
Confirm: Yes/No			
19.	Type test certificate as per IEC 62040/ IS 16242 attached for the UPS offered		
20.	Battery Calculation sheet attached matching number of batteries.		
21.	Catalogue for the UPS offered by vendor with all the claims made by the vendor.		

*The following Parameters of Technical Bid will be taken into account for Short listing the Commercial Bid. The Proposals shall be evaluated in two stages: (1) Technical and (2) Price / Financial. A Minimum qualifying mark is set as per given table below and only those Agencies whose Technical Proposals score the minimum mark of 60% overall and 50% in each subhead (Category) shall be considered for Financial Evaluation.*

**Evaluation table**

<b>Sr. no</b>	<b>Evaluation of vendor</b>	<b>Max marks</b>	<b>Evaluation</b>
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1	<b>General specifications:</b> (i) UPS type: DSP control based On-Line double conversion technology (ii)UPS Capacity: 20kVA/18kW (iii)Total Efficiency AC/AC at 100% load(online mode) :≥93% (iv) Output power factor : ≥0.9 (iv) Parallel configuration : ≥4 units (v) Rectifier/Inverter : IGBT with PFC control (vi) Inbuilt Isolation transformer :copper wound,  Make: OEM	15	All the parameters are very critical for our application, so each parameters will be considered for evaluation purpose.
2	<b>UPS Input configuration</b> as per technical specification indicated in Sr.no.2	15	
3	<b>UPS Output configuration</b> as per technical specification indicated in Sr.no.3	15	
4	<b>Battery banks and its accessories:</b> (i) Battery make & type: Quanta / Ener Rocket, SMF type (ii) Battery backup : 30 mints For battery calculation, ECV should be consider as a 1.75V at 20hrs rating. (iii)Online battery test: as per specification (iv) Battery charger: as per specification (v) Batter stand: as per specification (vi) insulation mat and battery cable	10	
5	Necessary Type test/third party certificate as per IEC 62040/IS 16242 standards from Testing Lab Accredited by NABL/govt. authorized certification agency.	25	



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6	Local service center and team strength. (Please provide the list of clients in Bangalore for 20kVA Online UPS (same proposed model) and provide latest two performance certificates from the clients for 20kVA UPS.	10	
7	<b>Warranty/Guaranty:</b> 1 years for the complete system including battery banks from the date of commissioning and handed over the system to department and additional extended two-year warranty. Please confirm the same in writing.	4	
8	Rating test (rating test will be conducted as per technical specification). Please mention in writing	3	
9	Acceptance of all conditions as per our technical specification. Please mention in writing.	3	



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**Declaration of Compliance of Order (Public Procurement No.1, 2 & 3) dtd 23-Jul-2020 & 24 Jul 2020 on Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017**

This declaration must form part of all tenders & it contains general information and serves as a declaration form for all bidders. (Before completing this declaration, bidders must study the General conditions, Definitions, Govt Directives applicable in respect of Public Procurement No.1, 2 & 3) dtd 23 Jul 2020 & 24 Jul 2020 on Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 & prescribed tender conditions).

**DECLARATION BY AUTHORISED SIGNATORY OF THE FIRM**

I, the undersigned, ..... (full names), do hereby declare, in my capacity as ..... of M/s. .... (name of bidder entity), that:

- 1) The facts contained herein are within my own personal knowledge.
- 2) I have read the Order (Public Procurement No.1, 2 & 3) dtd 23 Jul 2020 & 24 Jul 2020 on the subject of Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 regarding restrictions on procurement from a bidder of a country which shares a land border with India and comply to all the provisions of the Order.
- 3) I certify that M/s. .... (name of bidder entity) ***is not from such a country or, is from such a country (strike out whichever is not applicable)***, has been registered with the Competent Authority. I hereby certify that the SUPPLIER fulfills all requirements in this regard and is eligible to be considered. (Where applicable, evidence of valid registration by the Competent Authority is attached).
- 4) I understand that the submission of incorrect data and / or if certificate / declaration given by M/s. .... (name of bidder entity) is found to be false, this would be a ground for immediate termination and further legal action in accordance with law as per clause 12 of the Public Order on Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017.

**AUTHORISED SIGNATURE:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**Seal / Stamp of Bidder**



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**Bid Security Declaration for Order Value > Rs.5 Lakh**  
**(to be submitted on Company's Letter Head)**

I/We the undersigned hereby declare that if we withdraw or modify the bids during the period of its validity, or if we are awarded the contract and fail to sign the contract, or to submit a performance security before the deadline defined in the request for bids document or fail to execute the contract, we will be suspended for the period of time specified in the request for bids document from being eligible to submit bids for contracts with the entity that invited the bids.

Name and Signature  
of Authorized Signatory  
and Company Seal



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**Certificate for Local Content**

“We (name of manufacturer) hereby confirm in respect of quoted item(s) that Local Content is equal to or more than 50% and come under “Class-I Local Supplier” Category. As being “Class – I Local Supplier”, we are eligible for Purchase Preference under “Make in India” Policy vide GOI Order No.P-45021/2/2017-PP (B.E.-II) dated 15.06.2017 (subsequently revised vide orders dated 28.05.2018, 29.05.2019 and 04.06.2020).

OR

“We (name of manufacturer) hereby confirm in respect of quoted item(s) that Local Content is more than 20% but less than 50% and come under “Class-II Local Supplier” Category.

The details of the location (s) at which the local value addition made is/are as under:

- 1.
- 2.
- 3.

\*Strike out whichever is not applicable

Date:

Seal & Signature of the Bidder

**NOTE:**

1. Self-certification that the item offered meets the minimum local content (as above) giving details of the location(s) at which the local value addition is made in case the bidder wishes to avail the benefits under the make in India policy, if applicable.
2. In cases of procurement for a value in excess of Rs.10 crores, the local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content to avail the benefits under the make in India Policy, if applicable.



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**DECLARATION BY AUTHORISED SIGNATORY OF THE FIRM**

I, the undersigned, ..... (full names),  
do hereby declare, in my capacity as .....  
of M/s ..... (name of bidder entity), that:

- 1) The facts contained herein are within my own personal knowledge.
- 2) I have read the Order and provisions of Government of India, Ministry of Finance, Department of Expenditure, Procurement Policy Division OM No. F/1/20/2018-PPD dated 02.11.2021 and confirm that I/we have not been convicted of an offence and not engaged in any of the acts as mentioned below:

A bidder shall be debarred if he has convicted of an offence-

(a) under the Prevention of Corruption Act, 1988:

or

(b) the Indian Penal Code or any other law for the time being in force, for causing any loss of life or property or causing a threat to public health as part of execution of a Public Procurement Contract

AUTHORISED SIGNATURE:

DATE: \_\_\_\_\_

Seal / Stamp of Bidder

