



No.JVM/OT- 08/ UPS 20 KVA/2024-25

Dated 21-11-2024

**INVITATION TO TENDER**

Principal, JVM invites tender for the subject given below. Salient feature are given in the table and detail of scope of work and tender conditions are given in the 'Invitation to tender' dated 21-11-2024 enclosed herewith.

**Sub: Supply, Erection, Testing of UPS 20 KVA & Batteries at JVM Shyamali, Ranchi-834002.**

**Salient Features of the Invitation to Tender**

1	Tender Enquiry No. & Date	JVM/OT-07 /2024-25 Date: 21-11-2024
2	Project Description	<b>Supply ,Erection, Testing of UPS 20 KVA &amp; Batteries at JVM Shyamali, Ranchi.834002</b>
3	Date of floating of on-line Tender	21-11-2024
4	Last date & time of submission of tender document	29-11-2024 by 01.00 PM
5	Date & Time of Opening of Tender	29-11-2024 at 04.00 PM .
6	Validity of tender	06 (Six) months from the date of opening of Techno-Commercial part of the tender document.
7	Project-Completion Time	7 (seven) days from the date of issue of work order.
8	Earnest Money Deposit	nil
9	Cost of the tender document	nil

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21/11/2024  
(SAMARJIT JANA)  
PRINCIPAL



Dated: 21-11-2024

**INVITATION TO TENDER**

**Sub: Supply ,Erection, Testing of UPS 20 KVA & Batteries at JVM Shyamali, Ranchi.834002**

Sealed tenders are invited for : **Supply ,Erection, Testing of UPS 20 KVA & Batteries at JVM Shyamali, Ranchi.834002**, as per the Technical Specification attached from experienced and eligible agency who have supply UPS 20 KVA as per eligibility criteria and satisfying all the terms and conditions.

Tenders are invited in a two bid system comprising of Part A- Techno-commercial Bid & Part B - Price Bid.

The 'Techno- commercial Bid' will be made and put in the first envelope containing the title '**Techno-Commercial Bid**'. This shall include full information as required in Techno Commercial Bid Declaration by the Bidder ..

The 'Price Bid' will be made and put in the second envelope containing the title '**Price Bid**'. It shall include full information as required in price schedule format-

Both the bids shall be put in the third envelope which should be prominently super-scribed as "**Supply ,Erection, Testing of UPS 20 KVA & Batteries at JVM Shyamali, Ranchi.834002**", and shall be submitted on or before **29.11.2024** till **1.00 PM**.

The scheduled time for opening of tenders shall be 4.00 PM IST on 29-11-2024

Tenders received after due date and time mentioned above, as well as those received without separate sealed envelopes as specified above will not be accepted.

Incomplete tender in any respect or conditional tender will not be accepted.

Note:

The bidder shall submit self-attested copies of the following:

1. Copy of Audited Annual Financial Reports for last 3 (three) consecutive financial years ending 31<sup>st</sup> March 2024 (Balance Sheet and Profit & Loss Account).
2. Chartered Accountant's certificate with UDIN no., in Original, may be submitted to substantiate the above financial eligibility.  
The documents furnished by Bidders for establishing their financial eligibility should clearly indicate the details of the Membership No., Firm No. of the Chartered Accountant.

3. Chartered Accountant's certificate with UDIN no., in Original to be submitted by the bidder indicating the value of Existing commitments as on 31.03.2024 including on-going pending works i.e balance work to be done as on 31.03.2024 as well as the stipulated period of completion remaining for each of the works as per work order and in case of extension provided the extended completion date also.

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The documents furnished by Bidders for establishing their financial eligibility should clearly indicate the details of the Membership No., Firm No. of the Chartered Accountant.

### 2 Commercial:

The bidder shall submit self-attested copies of the following:

1. Cover letter of Tender detailing list of contents in the bid document being submitted by the Bidder.
2. Un-priced Price schedule as per format enclosed with tender document indicating 'quoted' in price column.
3. Signed & Stamped copy of terms and conditions of the contract
4. Copy of GST Registration Certificate with valid GST registration no. and PAN details

### PART B: Price Part

### 3 Price Schedule:

- a. Bidder shall submit their Price bid strictly as per the Price Schedule Format- Annexure I provided along-with this bid document. Price submitted by Bidder in any other format shall render their offer invalid and shall not be considered for evaluation.
- b. There shall be no change or addition/ deletion except for filling-up of the actual price/ rate in the Price part submitted in Part – B
- c. Price part shall contain rate and cost against all items of BOQ and total cost indicating incidence of tax (rates), if any, as per enclosed price format without any terms & conditions.
- d. Any change in Price Schedule format shall be notified through corrigendum/addendum and the same shall be considered for submission of price bid. In case Bidders have already submitted their bid before publishing of corrigendum/addendum related to change in price schedule format, the bidders are requested to re-submit price bid as per the changed Price Schedule format. Failure to re-submit the bid in such case may lead to auto rejection of the bid by the system.
- e. Bidder must quote against all the items in Price Schedule enclosed with this tender. Part quotation (Part Order) is not acceptable for this package.

The bidder shall quote increment/ decrement percentage (%) on the declared estimated total basic price given in the Price Schedule of the tender. The increment/ decrement percentage (%) indicated above shall be equally applicable on all the items of Price Schedule. In case bidders indicate "No Change", price against all the individual items as indicated in the Price Schedule shall remain unaltered

- f. In case of Tie among lowest bidders, the L-1 bidder shall be decided through lottery among all the bidders whose quoted price is lowest. Decision of tendering authority shall be final & binding to all parties

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**जवाहर विद्या मंदिर, श्यामली, राँची - 834002**

**IF A FIRM FILING TENDER DOES NOT FULFILS ALL OR ANY OF THE ABOVE ELIGIBILITY CRITERIA MENTIONED ABOVE, THE TENDER OF THE FIRM WILL NOT BE CONSIDERED.**

**PRICE**

The Tenderer shall quote for the items indicated above on for JVM, Shyamali, Ranchi basis. The quoted price shall be firm and binding and shall not be subject to any variation whatsoever on any account till completion of supply. All applicable taxes & duties shall be indicated separately. (Un-priced copy of Price Bid indicating "quoted" against each item should be submitted along with Techno-commercial bid).

**4.0 TAXES & DUTIES**

Except as otherwise specifically provided in the order, the Tenderer shall bear and pay all taxes, duties, levies as charges for the subject work.

**5.0 VALIDITY OF RATES**

The rate quoted by the Tenderer shall remain valid for a period of 6 (Six) months from the date of opening of quotation.

**6.0 TIME SCHEDULE**

The successful Tenderer shall be required to complete the job within 7 (**seven**) days from the date of receipt of order.

**7.0 PAYMENT TERMS**

The payment shall be released on successfully supply and testing of above items duly certified by Supervisor / Engineer in-charge of JVM Shyamali.

**8.0 INSPECTION:**

The inspection of materials shall be carried out by JVM after receipt of materials at construction site.

**9.0 LIQUIDATED DAMAGES:**

Time and date stipulated in the Contract for completion of delivery shall be deemed to be the important activity of the Contract. If, however, the Tenderer fails to fulfill the completion within the time schedule, or within such extended time schedule as may be further granted, the Tenderer shall be liable to pay as Liquidated Damages (LD) and by not way of penalty a sum of 0.5% of the contract price per week of delay or part thereof, and such liquidated damages shall be limited to a maximum ceiling of 5% of the Contract Price.

**10.0 ACCEPTANCE OF ORDER:**

JVM is not bound to accept lowest or any tender or to assign reasons whatsoever for non-acceptance. JVM also reserves the right to cancel the tender without assigning any reason whatsoever.

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**11.0 NO CLAIM OR COMPENSATION FOR SUBMISSION OF TENDER:**

The Tenderer whose Tender is not accepted shall not be entitled to claim any costs, charges, expenses of and incidental to or incurred by him through or in connection with his submission of Tender, even though JVM may elect to withdraw the Invitation of Tender.

**12.0 TRANSIT INSURANCE:**

Tenderer shall arrange transit insurance on his own and at his own cost for transportation of material and equipment to JVM, Ranchi.

**13.0 NEGLIGENCE, DEFAULT AND RISK PURCHASE:**

If the Tenderer fails to execute the work with due diligence or expedition or shall refuse or neglect to comply with any order given to him in writing by JVM in Contract, JVM may give notice in writing to the Tenderer calling upon him to make good the failure, neglect or contravention within such time as may be deemed reasonable and in default of the compliance with the said notice, JVM without prejudice to its rights under the Contract, may rescind or cancel the Contract holding the Tenderer liable for the damages that JVM may sustain in this regard.

**14.0 SUSPENSION AND TERMINATION**

JVM may at any time temporarily stop the work under the Contract or any part thereof by serving notice in writing to the Tenderer. Work so suspended shall be resumed by the Tenderer on receipt of instructions from JVM in writing. JVM will not be liable to the Tenderer for any damage or loss caused by such period of suspension of work. JVM will be at liberty to terminate the Contract without prejudicing its right and affecting the obligations of the Tenderer by giving 15 days' notice in writing in case when a) If the Tenderer fails to comply with the provisions of the Contract and b) If the Tenderer is involved in any action involving moral turpitude.

**15.0 ARBITRATION**

Any disputes, differences, whatsoever, arising between the parties, the arbitration shall be governed and regulated in all respect according to Laws of India. The Arbitration proceedings in case of other Indian companies shall be regulated and governed by Indian Arbitration and Conciliation Act 1996, or such modification thereof. The venue of arbitration proceeding shall be Ranchi. Work under this Order shall be continued by the Tenderer during the arbitration proceedings, unless otherwise directed in writing by PURCHASER or unless matter is such that the work cannot possibly be continued until the decision of the arbitrator is obtained. The tenderers are requested to confirm acceptance of all terms & conditions as per tender enquiry.

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**16.0 GUARANTEE/WARRANTY**

The tenderer shall stand guarantee for the trouble-free operation and satisfactory performance of all the equipment supplied by them till completion of one year Warrantee period which will commence from taking over date of the system by Purchaser.

The guarantee shall cover faulty design, materials, workmanship, etc. The successful Tenderer shall do all rectification in the implemented system or replacement of any faulty equipment & accessories during this period as well as during erection & commissioning of the equipment & system without any commercial implication to Purchaser. Replacement of faulty equipment & accessories damaged during transportation and any updation/ rectification of installed software, as may be required during this period, is also included in the scope of successful Tenderer.

Tenderer shall confirm that they shall attend & rectify the faulty equipment/ system within five working days of reporting the same by Purchaser.

**17.0** After completion of Guarantee the supplier should quote the AMC rate for 10 years.

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21/11/24  
(SAMARJIT JANA)  
PRINCIPAL

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<b>20kVA UPS Technical Specification</b>	
<b>UPS Make</b>	VERTIV (EMERSON)/EATON / SCHNEIDER (APC)
<b>RATINGS</b>	20kVA
<b>Configuration</b>	Standalone Configuration
<b>Model</b>	To be provided by OEM
<b>kVA/kW Rating (all modes)</b>	20/18
<b>UPS Topology</b>	Double Conversion, IGBT Converters ( IGBT Based Rectifier & IGBT based Inverter)
<b>External paralleling</b>	Parallel up to four UPSs to increase availability or add capacity. Provision of Parallel Redundant UPS operating in Wireless Parallel redundant configuration(i.e. UPS to continue working in parallel even in the case parallel Cable failure.
<b>In-Built Switch for protection</b>	Maintenance Bypass Switch
<b>Capacity Test of UPS</b>	The UPS system shall be capable of utilizing the load testing function, including internally adjustable load testing at the customer site, without the need for a load bank. Testing could be carried out during the annual maintenance shutdown to test the UPS system or recovery after UPS servicing without incurring the cost of renting the load bank, electrical works and engineering manhour, as well as, time saving.
<b>SNMP/Network Card</b>	the SNMP/Network Card shall be certified for cybersecurity standards of UL & IEC 62443-4-2:2019"."
<b>MECHANICAL</b>	
<b>UPS Dimensions: (H x W x D) (mm)</b>	As per OEM design
<b>Degree of protection</b>	minimum IP20, with front door mounted washable dust filter
<b>Cabinet colour</b>	Black, RAL 9005
<b>Cable entry</b>	Cable access shall be through the bottom or rear of the UPS cabinet
<b>Weight (kg) without batteries</b>	To be provided by OEM
<b>ENVIRONMENT</b>	
<b>Ambient service temperature</b>	UPS: 0 to +40 Degree C Battery (installed separately): +5 to +25 Degree C without reducing battery life
<b>Maximum service altitude</b>	1000m above sea level. Maximum 2000m with 1% de-rating per each additional 100m above 1000m
<b>Relative humidity</b>	5 to 95%, no condensation allowed
<b>Acoustic noise at 1m (ISO7779)</b>	≤65 dBA at 1m typical
<b>Electromagnetic Compatibility</b>	Immunity and emission to IEC/EN 62040-2
<b>USER INTERFACE &amp; COMMUNICATIONS</b>	
<b>Display</b>	Graphical LCD with blue backlight, 4x LEDs for notice and alarm
<b>Standard Communication Ports</b>	Communication Ports - (1) RS-232, (1) USB, (1) EPO Communication Slots - (2) Mini-slot communication bays
<b>INPUT CHARACTERISTICS</b>	

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Rated input voltage and voltage tolerance	230/400Vac nominal (220/380, 240/415 Selectable) 190/330-276/478V (-15%, +20%) at 100% load, Input Voltage Range -15%, +20% from nominal (400V) at 100% load
Input Frequency	40 to 72 Hz auto-sensing
Input current distortion	<5% THDi (Linear load condition at rated input current)
Input power factor	<5% THDi (Linear load condition at rated input current)
Inrush current	<5 x nominal rating
Number of input phases	3 phases + Neutral + PE (3 phase input)
<b>OUTPUT CHARACTERISTICS - NORMAL MODE</b>	
Rated output voltage	230/400 Vac, three phase, (220/380, 240/415 selectable)
Voltage THD	a. 2% Total Harmonic Distortion (THD) maximum phase to neutral into a maximum rated linear load (5% phase to phase) b. 5% THD maximum phase to neutral and phase to phase into a non-linear load
Crest factor	3:1
Operating Frequency	50/60 Hz (40 to 72 Hz)
Total voltage distortion	<2% with linear load, <5% with non-linear load defined according to EN62040-3
Load power factor range	0.7 lagging to 0.9 leading without de-rating
Transfer to/from stored energy	No break
Rated output voltage	230/400 Vac, three phase, (220/380, 240/415 selectable)
Crest factor	3:1
Output Frequency Regulation:	50/60 Hz +/- 4Hz, +/-1 to +/- 4 Hz selectable, synchronised to mains, +/- 0.005 Hz free running (single module) or +/- 0.07 Hz (parallel system)
Current Overload Capability	a. 102-125% for 10 min b. 126-150% for 1 min c. >150% for 150 ms
<b>EFFICIENCY (Input/Output)</b>	
Efficiency	Up to 94% Double-conversion mode
<b>HE (High Efficiency) MODE CHARACTERISTICS</b>	
Performance classification	VFD, transferring to VFI (Double Conversion mode) if limits are exceeded
Efficiency	≥98% at 100% linear load; ≥97% at 50% linear load
Transfer Time Mains Available	No break (0ms)
Transfer Time Mains Failure	2ms typical, < 4ms max
Acceptable voltage variation	±10% of nominal voltage
Acceptable output freq. variation	±4Hz
High Alert mode	UPS will stay in double-conversion mode for one hour (user adjustable), after which the unit will automatically return to operate in HE mode
<b>BATTERY CHARACTERISTICS</b>	

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Battery Make	EXIDE/ HBL-NIFE/ AMAR RAJA/ AMCO/ QUANTA
Battery nominal voltage	432V (216 Cells) to 480V (240 Cells)
Battery bank	Battery shall be sealed Maintenance free Ni - Cd.- The batteries shall be housed in a separate battery cabinet/ Racks.- The UPS shall automatically be disconnected from the battery by opening the breaker when the battery reaches the minimum discharge voltage level.
Bakup time	<b>30 Min &amp; minimum VAH required 17136 VAH calculation to be submitted for AH selection</b>
Battery Sizing	Battery shall be sized as per IEEE-485. <ul style="list-style-type: none"><li>• Design Margin of 10% shall be taken for less than optimum operating conditions of the battery at site.</li><li>• Aging Factor of 1.25 shall be used to ensure that the battery is capable of meeting its design loads throughout its service life.</li><li>• The cell size shall be selected to match the required capacity at the standard temperature of 25 degree C.</li></ul>
Alternative backup power technologies	Should be compaitaible with Lithium-ion batteries for future enhancement
Advanced Battery Management:	<ol style="list-style-type: none"><li>1. Battery recharge: After recharging batteries to full capacity, the charger will enter the rest mode to increase the battery lifetime according the ABM cycle. Hence, continuous float charging of the battery shall not be required if the ABM feature is selected. The active battery charger states are constant-current (charge mode), constant-voltage (float mode) and no-charge (rest mode). The ABM feature is user (or service) selectable. If ABM is not utilised, the UPS operates as a conventional float charger.</li><li>2. Battery Runtime Monitoring: UPS shall monitor batteries and provide status to end user of battery remaining capacity via front panel icon, remote communications, or both. Runtime calculations to be based on load demand and analysis of battery health.</li><li>3. Battery Health Monitoring: UPS shall periodically test and monitor battery health and provide warnings visually, audibly and/or remotely when battery capacity falls below 80% of original capacity. Battery testing may also be user initiated via front panel or serial communications.</li></ol>
<b>COMPLIANCE WITH STANDARDS</b>	
Safety Access	Restricted access
Degree of protection	IP20 with standard washable dust filters protection against medium sized foreign matter (incl. finger)
Safety	a) IEC 62040 or EN 62040 b) EN 60950
Emission and Immunity:	IEC62040-2-C3 (conducted and radiated) EN61000-4,-5, level 4 – 4 kV L-PE, 2kV L-L Electrostatic discharge (ESD): 8 kV air discharge, 4 kV contact discharge (IEC 61000-4-2, level 3) Electromagnetic field: IEC 61000-4-8 level 4.
<b>WARRANTY AND CAMC</b>	
Warranty	<b>One year from date of Installation</b>
CAMC	<b>OEM should provide 10 years full support for the offered product. The rate for Post warranty CAMC should be quoted separately on yearly basis</b>

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