



**PDPM**  
**Indian Institute of Information Technology**  
**Design and Manufacturing Jabalpur**  
**(An Institute Established by MHRD Govt.of India)**  
**Mehgawan, Dumna Airport Road,**  
**Jabalpur 482 005, Madhya Pradesh, India**

Ref: IIITDMJ/P&S/Enq./10  
dt. 20-07-2011

To,

**Sub: Invitation of Tender/Quotation under limited tender enquiry (LTI) process for Supply of UPS as per the specification given in Annexure-I.**

Dear Sir,

The Sealed Tenders (under limited tender process) are invited by the Director, PDPM Indian Institute of Information Technology, Design & Manufacturing Jabalpur for supply of UPS as per the specification given in Annexure-I enclosed.  
tender No., closing and opening date are as stated below:

Tender No.: IIITDMJ/P&S/Enq./010 Closing Date & Time: 04-08-2011 3:00 pm Date & Time of opening of Tender: 04-08-2011, 4:00 pm
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**Terms & Conditions:**

**A. General:**

1. The bid should include:
  - (a) Technical bid: Consisting of technical details comparing the required specifications (Annexure –I) with respect to be supplied specification
  - (b) Financial bid: Indicating price of the UPS
  - (c) EMD: The bidder must submit the EMD (bid security) in separate cover. If the EMD is not found valid in terms of amount-wise, period-wise or otherwise, the technical bid of the bidder will not be opened.



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2. Rate must be quoted in accounting unit (namely per unit/No./Kg/ml/sq.mm etc) as applicable for delivery at PDPM Indian Institute of Information Technology, Design & Manufacturing Jabalpur Dumna Airport Road, P.O.: Khamaria, Jabalpur - 482 005, Madhya Pradesh, India inclusive of all charges, otherwise with estimated cost of packaging, forwarding, insurance and freight by Air/Rail/Road/Post as the case may be.
3. No packing/forwarding/insurance etc. is admissible for the offer from local firms and items must be delivered to the Institute free of freight charge.
4. Quoted prices must be firm and no revision shall be admissible during the stated validity period.
5. Sales tax/Central Sales Tax/Octroi duty if leviable and intended to be claimed from the purchaser must be specifically mentioned along with the price quoted, failing which no such claim will be admitted on any ground and at any stage.
6. The supplier must supply and install the item within three weeks from the date of receipt of the Purchase Order.
7. **Payment Terms:** 90% payment of bills would be made after the date of receipt of stores in good conditions and remaining 10% payment would be made after satisfactory commissioning/installation and submission of bills in triplicate duly pre-receipted on a revenue stamp, whichever is later.
8. **Warranty:** Three year from the date of installation of the supplied items/units. Following conditions apply:
  - i. During the warranty period, the supplier has to provide a performance Bank Guarantee @5% of the total order value.
  - ii. The Purchaser will not bear the cost of the item(s), which may come as Replacement of the original stores or spares as a result of faults noticed at the time of Inspection during the warranty period. The Seller/Local Agent is required to eliminate the fault(s) occurring during the Warranty period without delay by improvement or replacement as may be necessary, at their own cost. During warrantee period, the supplier should ensure a maximum downtime of 48 hours from the date/time of the complaint lodge about the machine/item as applicable.
7. **Local Support:** There should be one local agency for providing after sales services as desired in by the purchaser. Failing to Implementing this will lead to rejection of the tender. Necessary documents in support of local support may be attached.
8. The firm/company should be ISO 9001 certified (Maintenance & System Integration). Please attach a copy of the certificate.



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9. The System Integrator/Service Provider should have at least 5 Cores of annual turnover in the field of IT solutions. Income Tax return for last financial year should be attached with the technical bid.

**B. EARNEST MONEY DEPOSIT (EMD)**

1. Each quotation must be accompanied by Earnest Money Deposit of Rs. 75000/- (Rupees Seventy Five Thousand). Tenders without earnest money will not be entertained. The EMD should be submitted in a separate cover.
2. The EMD shall be in the form of Demand Draft or FDR on any Nationalized Bank and in favour of "Director, PDPM-IIITDM Jabalpur", payable at Jabalpur. The EMD should remain valid for a period of 45 days beyond the final Tender validity period.
3. Earnest Money is liable to be forfeited and bid is liable to be rejected, if the tendered withdraw or amends impairs or derogates from the tender in any respect within the period of validity of the tender.
4. The earnest money of all the unsuccessful tenders will be returned as early as possible after the expiry of the period of the bid validity and after issue of the purchase order. No interest will be payable by the Purchaser on the Earnest Money Deposit.
5. The Earnest Money of successful bidder shall be returned after supply and fitting of items satisfactorily.

**C. OTHER CONDITIONS:**

1. **Authorisation Certificate:** The Indian agent should submit Authorised Agent/Dealership Certificate issued by their principal against the items quoted.
2. Quotations received after the closing date/time shall not be considered.
3. Quotations must be sent in sealed envelopes. Envelope should bear the inscription:

Quotation against IIITDMJ Tender Enquiry No.

Item Reference \_\_\_\_\_

Closing Date 04-08-2011 Time 3:00 P.M

4. The validity of quotations shall be at least 90 days from the date of opening of tender.



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5. The supplier must provide after sales service facility on site during warrantee period.
6. The tenderers must quote guaranteed date(s) of delivery of stores. The orders must be executed within stipulated date of delivery. In case of delay in supply, penalty at the rate of 0.5% per day of the ordered value shall be charged (maximum penalty up to 7.5 % of the order value can be deducted). If the delay is more than two weeks the order shall stand cancelled and the earnest money deposited shall be forfeited.
7. The quotations should be complete in all respects and cover the cost for the materials of the exact specifications and descriptions of the stores as stated above otherwise the same shall be ignored.
8. Inspection & Testing: Goods will be inspected by the Purchaser at his end. Goods rejected on inspection will be replaced by the supplier free of cost and all charges for collection and delivery of the same to the Purchaser (port of discharge) will be to suppliers account.
9. Director, PDPM-IIITDM, Jabalpur reserves the rights to himself/herself to alter/modify the order at any stage and or to reject any offer without assigning any reason thereof and he is not bound to accept the lowest tender.
10. Any attempt of negotiations direct or indirect on the part of the tenderer with authority to whom he has submitted the tender unless called by the competent authority or any endeavor to secure any interest for an actual or prospective tenderer or to influence by any means, the acceptance of a particular tender will render the tender liable to exclusion from consideration.
11. In the event of delay in supply beyond the guaranteed date, the Director, PDPM-IIITDM, Jabalpur reserves the right to himself/herself for the following
  - i. To recover from the firms as agreed liquidated damages and not by way of penalty; a sum of 0.5% of the price of any of them which the supplier has failed to deliver as aforesaid for each day or part thereof, during which the delivery of such stores may be in the arrears, or
  - ii. The purchaser elsewhere without notice to the contractor on the account of a similar description (where others exactly complying with the particulars are not in his opinion readily procurable such opinion being final) without canceling the order in respect of stores yet to due for delivery, or
  - iii. To cancel the contract for a portion thereof and if so desired purchase the stores of the risk and cost of the purchaser.



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12. **Eligibility Criteria:** A bidder must have proven track record in supplying the specified item(s) either as a Manufacturer or Authorized Representative/Agent/ Dealer in India, either of an Indigenous or Foreign Manufacturer/ Principal, and should be financially sound and preferably having expertise as far as the technical aspects of the Item(s) are concerned, if they are not the Manufacturer of the Item(s).
13. The Earnest Money Deposit (Bid Security) of all the unsuccessful tenders will be returned, after expiry of the final bid validity and award of the contract or at an early date as may be deemed fit by the Purchaser. The Earnest Money of the successful bidder shall be returned only after the requisite Performance Bank Guarantee (PBG) / Security is furnished in appropriate manner, or, if no PBG is required, after full compliance of the order, including the warranty period. No Interest will, however, be paid on the Earnest Money Deposit.
14. **Price Determination:** Price of the item must be quoted in Indian Rupees.
15. **Payment Terms:** Against Bills submitted by Supplier and satisfactory supply and installation of the items.
16. **Measurement Units:** The Accounting/ Technical measurement units used in the offer should be only in recognized Indian or International Format. In the event of the Seller's practice of different measurement standards, the equivalence information should also be given.
17. **Period of Delivery:** To be specifically mentioned by the Bidder. If the bidder fails to supply the stores/ perform job(s) within the guaranteed date, the Purchaser reserves the right to cancel the entire Order or part thereof, without any reference, or to place order to another bidder for the same and identical stores/job(s) of equal quantity/ volume or a part thereof, before or after cancellation of the Order or to forfeit the amount guaranteed through the execution of the Earnest Money/Performance Bank Guarantee, if any.
18. **Validity of Offer:** Should be at least for Three months from the date of opening of tender, may be extended at the discretion of the Purchaser on request.
19. **Negotiations:** The Purchaser may, at its discretion, proceed to negotiate with a bidder in deserving cases, as may be permitted under the rules of the Government of India.
20. **Installation:** After satisfactory inspection/ test of the stores by the Purchaser, the Equipment/ Machinery/ Plants will have to be installed/ commissioned at the location as may be specified by the Purchaser, free of charge.



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21. **Selection of the Bidder:** Selection of the Bidder will be done in accordance with the prescribed norms and rules of the Government of India. Canvassing in any manner will render a bidder disqualified for consideration, at any stage in the process of tender evaluation. The Purchaser, however, reserves the right to seek clarifications on any aspect from the Bidder(s), if required. The Purchaser, however, also reserves the right to reject/ cancel any bid without assigning any reason there for.
22. **Interpretation & Powers to Relax:** For any interpretation or clarification, if required, the Purchaser may be contacted. For any relaxation of the provisions envisaged herein, whether requested or not by a prospective bidder, the Purchaser will be the authority to relax.
23. **Settlement of Disputes:** Disputes, if any, as may be emanated from this bidding process/ resultant contract, shall be interpreted only under the relevant Indian Laws and Jurisdiction for settlement of dispute, if arises any, shall be Jabalpur, MP, India.
25. The System Integrator should be authorized partner of the OEM of the make/brand being quoted. Certificate from the OEM should be attached in the Techno-commercial Bid.
27. The bidder shall provide the Registration number of the firm along with the LST/CST/ WCT No. and the PAN Number allotted by the concerned authorities.
28. The System Integrator/Service Provider should have executed at least 3 projects of similar size in India and using the same brand/make of products being proposed in this tender. Details of the same should be attached in the Techno-commercial Bid.
30. Tenders completed in all respects to be submitted to:

**Registrar,**  
PDPM Indian Institute of Information Technology  
Design & Manufacturing, Jabalpur  
Dumna Airport Road,  
Post: Khamaria  
Jabalpur - 482005

**Registrar**

**Encl.: Annexure-I**



## Annexure – I

### GENERAL

This specification describes a three-phase, on-line, continuous operation, solid-state uninterruptible power supply (UPS) with the option to run in parallel with identical units. The UPS shall operate as an active power control system, working in conjunction with the building electrical system to provide power conditioning and on-line power protection for the critical loads.

S.No	Features	Qualifying Minimum Requirements	Compliance Yes/No/other
1	<b>STANDARDS</b>		
	a- Directives for CE marking	89/336/EDC 73/237EEC	
	b- Safety	EN/IEC62040-1-1/ EN 50091-1, UL1778 CUL CAN/CSA C22.2 NO.107.1	
	c- Performance	EN/IEC62040-3	
	d- ElectroStatic Discharge	EN/IEC 61000-4-2 level 3, performance criteria A	
	e- Continuous Electromagnetic Susceptibility	EN/IEC 61000-4-3 level 2, performance criteria A	
	f- ElectricalFast Transient Compatibility	EN/IEC 61000-4-4 level 2, performance criteria A	
	g- AC Surge Susceptibility	EN IEC 61000-4-5 Level 3 criteria A	
	h- Emissions	EN50091-2 / IEC62040-2	
	i- classification	Classification according to EN/IEC 62040-3: VFI-SS-112	
2	<b>QUALIFICATIONS</b>	(i)Minimum of 20 years' experience in the design, manufacture, and testing of UPS and cooling systems.	
		(ii)The manufacturer shall be ISO 9001 & 14001 certified	
3	<b>ENVIRONMENTAL REQUIREMENTS</b>	a-Storage ambient temperature: 0°C to 40°C (32 to 104°F)	
		b-Operating ambient temperature: 0°C to 40°C. 15°C to 25°C is ideal for batteries (above the battery lifetime is reduced).	



		<i>c-Relative humidity: 0 to 95%, non-condensing, 1500 meters (5000ft) at 40°C ambient without load derating.</i>	
		<i>d-Storage elevation: 0 to 15000m.</i>	
4	SYSTEM INPUT	<i>1-Nominal Input voltage rating: 3×400/230V (adjustable for 3×380/220V or 3×415/240V)</i>	
		<i>2-Input Voltage range: 304-477V</i>	
		<i>3-Earthing principle: [TN-S] [TT] or [IT].</i>	
		<i>4-Input frequency: 40-70 Hz (auto sensing)</i>	
		<i>5-Input power factor: 0.98</i>	
		<i>6-Magnetizing inrush current: NONE, if optional input isolating transformer is installed then 500% of nominal input current for less than one cycle</i>	
		<i>7-Input current distortion with no additional filters.</i>	
		<i>8-&lt; 5% THD at 100% load</i>	
		<i>9-Power walk-in/Soft-Start: Shall be linear from 0 to 100% of the load over a 15-second period</i>	
		<i>10- Audible noise Less than 61dB for 40-80kVA model, typical at 1 meter; in accordance with ISO 7779</i>	
5	SYSTEM OUTPUT	<i>(A) Nominal Output voltage rating: 3×400/230V.</i>	
		<i>(B) Earthing principle: [TN-S] [TT] or [IT].</i>	
		<i>(C)Output voltage regulation for steady state and transient variations (at default parameter settings):</i>	
		<i>(a)± 1% steady state for a static 100% balanced load.</i>	
		<i>(b)± 1% steady state for a static 100% unbalanced load.</i>	
		<i>(c)± 5% for a 0 to 100% load step.</i>	
		<i>(D)Max. Voltage transient recovery time: 50 milliseconds to nominal</i>	
		<i>(E)Output frequency regulation:</i>	
		<i>(a)Synchronized to mains over the range of 47-53Hz or 57-63Hz in normal operation</i>	
		<i>(b)50 Hz ± 0.1 Hz in battery operation.</i>	
		<i>(F)Output voltage harmonic distortion:</i>	
		<i>(a)&lt;2% THD maximum and 1% single harmonic for a 100% linear load</i>	
		<i>(b)&lt;5% THD maximum for a 100% non-linear load</i>	
		<i>(G)Overload capability:</i>	
		<i>(a)150% for 1 minute in normal operation</i>	
		<i>(b)125% for 10 minutes in normal operation</i>	
		<i>(c)110% continuous in bypass operation</i>	
		<i>(d)800% for 500 milliseconds in bypass operation</i>	
		<i>(H)Phase displacement:</i>	



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		(a)20 degrees $\pm$ 1 degree for balanced load.	
		(b)20 degrees $\pm$ 1 degree for 50% unbalanced load	
		(I) Output Power Factor Rating:	
		For loads exhibiting a power factor of 0.5 leading to 0.5 lagging, no de-rating of the UPS shall be required.	
		(j)Short circuit withstand: The UPS must withstand a bolted-fault short circuit on the output without damage to the UPS module.	
		(k)System AC-to-AC efficiency >95.3% for loads greater than 100% of system load.	
		(L)System AC-to-AC efficiency >94% for loads greater than 50% of system load.	
6	COMPONENTS	1-Rectifier	
		a)-Each UPS power module shall include an active power factor corrected, Insulated Gated Bipolar Transistor (IGBT) rectifier.	
		b)-DC buss voltage shall be $\pm$ 192Vdc nominal.	
		c)-The battery charging shall keep the DC bus float voltage of $\pm$ 220v, $\pm$ 1%	
		d)-The DC buss voltage shall be compensated against temperature variations (Battery Temperature Compensation) to always maintain optimal battery float charging voltage for temperature excursions above or below 25°C. Temperature compensation rate shall be 320mV/°C for ambient temperatures > 20°C and 0mV/°C for ambient temperatures < 20°C.	
		e)-DC ripple voltage shall be less than $\pm$ 1% of nominal with no battery connected.	
		f)-Input power factor shall be 0.98 lagging at 100% load without the use of passive filters. Rectifier shall employ electronic waveform control technology to maintain the current sinusoidal.	
		g)-Pulse Width Modulation (PWM) current control shall be used. Digital Signal Processors (DSP) shall be used for all monitoring and control tasks. Analogue control is not acceptable.	
		h)-Reflected input current Total Harmonic Distortion (THD) shall not exceed 5% at 100% load.	
		i)-Input voltage window: 304-477V.	
		j)-Typical batteries recharge time per IEEE 485.	



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		<p>2 –Batteries</p> <p>1.SMF Battery with 2 hour backup with battery rack and installation.</p> <p>2. TYPE-Maintains free sealed lead acid</p>	
7	INVERTER	<p>1. The inverter shall consist of fast switching IGBT power module.</p> <p>2. Inverter shall be PWM controlled using DSP logic. Analogue control shall not be acceptable.</p> <p>3. The inverter modules shall be rated for an output power factor at 0.8.</p> <p>4.Nominal output voltage shall be 3×400/230V and adjustable for 3×380/220V or 3×415/240V, 50Hz, L1,L2,L3,N,PE.</p> <p>5.Efficiency of each module at full load: Not less than 40kVA 94.8%</p> <p>6.Output Voltage Total Harmonic Distortion at full load:</p> <p>a)Less than 2% for 100% resistive load.</p> <p>b)Less than 5% for computer load as defined by EN50091-3/IEC 62040-3.</p> <p>7.Output voltage regulation</p> <p>A) Static: Less than 1% at full linear load.</p> <p>B) Dynamic: 5% at 100% step load.</p> <p>8.Output frequency: 50Hz free running. Crest factor: Unlimited but regulates it down to 2.7.</p> <p>Remote Emergency Power Off (EPO) shall be standard (wall switch and wiring shall be provided by the electrical contractor).</p>	
8	DISPLAY,CONTROLS AND ALARMS	<p>The following metered data, shall be available on the alphanumeric display:</p> <p>1. Year, Month, Day, Hour, Minute, Second of occurring events</p> <p>2. Input AC Voltage</p> <p>3. Output AC voltage</p> <p>4. Output AC current</p> <p>5. Input Frequency</p> <p>6. Battery voltage</p> <p>7. Highest Internal Battery temperature</p>	
9	MANUFACTURER COMPATIBILITY	<p>The UPS manufacturer shall have available software to support graceful shutdown and or remote monitoring for the following systems:</p> <p>a. Microsoft Windows XP/win-7</p> <p>b. Microsoft Windows Server 2003/2008</p> <p>c. Linux-Mandriva/Fedora/RedHat/Ubuntu/Debian</p>	



10	Warranty	a. 3 Years on UPS and all its components b. 2 Years on Batteries.	
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**A. SOFTWARE AND CONNECTIVITY**

- i. *The Ethernet Web/SNMP Adaptor shall allow one or more network management systems (NMS) to monitor and manage the UPS in TCP/IP network environments. The management information base (MIB) shall be provided in DOS and UNIX "tar" formats. The SNMP interface adaptor shall be connected to the UPS via the RS232 serial port on the standard communication interface board.*
- ii. *Unattended Shutdown*
- iii. *The UPS, in conjunction with a network interface card, shall be capable of gracefully shutting down one or more operating systems during when the UPS is on reserve mode.*
- iv. *The UPS shall also be capable of using an RS232 port to communicate by means of serial communications to gracefully shut down one or more operating systems during an on battery situation.*

**B. REMOTE UPS MONITORING**

- i. *The following three methods of remote UPS monitoring shall be available:*
  1. *Web Monitoring: Remote monitoring shall be available via a web browser such as Internet Explorer.*
  2. *RS232 Monitoring: Remote UPS monitoring shall be possible via either RS232 or contact closure signals from the UPS.*
  3. *Simple Network Management Protocol (SNMP): Remote UPS Monitoring shall be possible through a standard MIB II compliant platform.*

**C. FACTORY ASSISTED START-UP**

*If a factory assisted UPS start-up is requested, factory trained service personnel shall perform the following inspections, test procedures, and on-site training:*

- i. *Visual Inspection:*
  - *Inspect equipment for signs of damage.*
  - *Verify installation per manufacturer's instructions.*
  - *Inspect cabinets for foreign objects.*
  - *Inspect Battery Units.*
  - *Inspect Power Module(s).*
- ii. *Mechanical Inspection:*



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- *Check all UPS and external maintenance bypass cabinet internal power wiring connections.*
- *Check all UPS and external maintenance bypass cabinet terminal screws, nuts, and/or spade lugs for tightness.*

iii. *Electrical Inspection:*

- *Verify correct input and bypass voltage.*
- *Verify correct phase rotation of all mains connections.*
- *Verify correct UPS control wiring and terminations.*
- *Verify voltage of all battery modules.*
- *Verify neutral and ground conductors are properly landed.*
- *Inspect external maintenance bypass switch for proper terminations and phasing.*

iv. *Site Testing:*

- *Ensure proper system start-up.*
- *Verify proper firmware control functions.*
- *Verify proper firmware bypass operation.*
- *Verify proper maintenance bypass switch operation.*
- *Verify system set points.*
- *Verify proper inverter operation and regulation circuits.*
- *Simulate utility power failure.*
- *Verify proper charger operation.*
- *Document, sign, and date all test results.*

v. *On-Site Operational Training:*

*During the factory assisted start-up, operational training for site personnel shall include*

- *key pad operation*
- *LED indicators*
- *start-up and shutdown procedures*
- *Maintenance Bypass Panel operation*
- *Battery breaker operation*
- *Alarm information.*

**D. MANUFACTURER FIELD SERVICE**

- i. *Worldwide service: The UPS manufacturer shall have a worldwide service organization available, consisting of factory trained field service personnel to perform start-up, preventative maintenance, and service of the UPS system and power equipment. The service organization shall offer 24 hours a day, 7 days a week, 365 days a year service support.*



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- ii. Replacement parts: Parts shall be available through the worldwide service organization 24 hours a day, 7 days a week, and 365 days a year. The worldwide service organization shall be capable of shipping parts within 4 working hours or on the next available flight, so that the parts may be delivered to the customer site within 24 hours.*

**E. MAINTENANCE CONTRACTS**

- i. A complete offering of preventative and full service maintenance contracts for the UPS system and the battery system shall be available. All contract work shall be performed by Vendor's factory trained service personnel.*