

HIGH COURT OF MADHYA PRADESH: JABALPUR

NOTICE INVITING SHORT TENDER

Sealed tenders are invited for the supply of **precision** air conditioners and online UPS systems as per the specifications, terms and conditions of the bid document. The sealed tender complete in all respect addressed to “**Registrar General, High Court of Madhya Pradesh, Jabalpur**” must be submitted latest by **17th March, 2017 before 3:00 P.M.** . The tender shall be opened on same day at **3:30 P.M.** The detailed tender document is available in the official website of the High Court of Madhya Pradesh www.mphc.gov.in and Government tender portal www.tenders.gov.in .

Sd/-

REGISTRAR GENERAL

HIGH COURT OF MADHYA PRADESH: JABALPUR

TENDER DOCUMENT FOR THE PURCHASE OF ONLINE UPS SYSTEM OF 30 KVA and PRECISION AIR CONDITIONERS

No: Reg(IT)(SA)/2017/260

Date:03/03/2017

INVITATION OF THE BID

SCOPE OF THE WORK:

The Registrar General, on behalf of High Court of Madhya Pradesh, Jabalpur invites sealed bids for the purchase of UPS systems and air-conditioners for the Server Room of the High Court of Madhya Pradesh at Jabalpur as per the specifications at **Chapter-4** from the reputed manufactures (OEM) or their authorized dealers or service providers.

DETAILS OF THE BID:

- i) Last date and time of receipt of bid : **17 / 03 / 2017**
: **Latest by 3:00 P.M.**
- ii) Date and time of opening of bid : **17 / 03/ 2017**
: **at 3:30 P.M.**
- iii) Place of submitting the bids : ***"Inward Section",***
High Court of M.P.,
Jabalpur (M.P.)

Address for communication:

**The Registrar General,
High Court of Madhya Pradesh, Jabalpur (M.P.)
Email: mphc@nic.in
Phone: 0761-2623358**

Seal and Signature of Tenderer

Page 2 of 32

BIDDING PROCEDURE:-

The prescribed tender document consisting of (i) Technical Bid along with Earnest Money Deposit of Rs. 1,00,000/- (Rupees one Thousand only) and tender fees of Rs. 5,000/- (Rupees Five Thousand) (ii) Financial Bid, sealed in a single envelope, superscribing “***Bid for supply of online UPS systems and Precision air –conditioners for the High Court of Madhya Pradesh*** ” addressed to “**Registrar General, High Court of M.P., Jabalpur**”

The Bid shall be accompanied by a EMD of Rs. 1,00,000/- (Rupees one Lakh only) and tender fees of Rs. 5,000/- (Rupees Five Thousand) drawn in favour of “**Registrar General, High Court of M.P., Jabalpur**”. Bids received without the EMD and tender fees or not fulfilling the prescribed conditions will be summarily rejected and decision of the Registrar General, High Court of M.P., Jabalpur in this regard shall be final and binding.

The firms registered under NSIC are exempted from submission of tender fees and EMD.

Authorized signature of the Tenderer with seal

Note:-

- 1. Offers received by Fax/Telex/email will be rejected.**
- 2. Incomplete offers are liable to be rejected.**
- 3. The Registrar General, High Court of M.P., Jabalpur will have full right to accept or reject any or all bids in part or full, at its absolute discretion without assigning any reason, whatsoever or any notice.**
- 4. If the date of tender submission / opening is declared as holiday then the tender shall be submitted / opened on next working day.**

CHAPTER-1

Instructions to Bidders

1. The tender document will form an integral part of the Contract for the supply of UPS systems and precision air –conditioners.
2. The tender document is to be directly downloaded from the website www.mphc.gov.in or Government tender portal www.tenders.gov.in . No editing, addition/deletion of the matter is permitted, if such action is observed at any stage, such tenders are liable for outright rejection and **suitable legal action shall be taken against the bidder.**
3. Only enclosed formats as provided in original should be used. **All sheets need to be submitted after affixing seal of the Company and signature of the authorized signatory.** Additional sheets, duly authenticated, may be attached to elucidated specifications or clarify the specific issues.
4. The prescribed tender document consisting of (i) Technical Bid along with EMD and tender fees (ii) Financial Bid, sealed in a single envelope superscribing **“Bid for supply of online UPS systems and Precision air –conditioners for the High Court of Madhya Pradesh”** is to be submitted to the High Court of Madhya Pradesh, Jabalpur before due date and time.
5. Tender document should be signed and stamped by the bidder on each page accepting the terms and conditions of the tender.
6. Tenderer has to submit EMD of Rs. 1,00,000/-(Rupees One Lakh only) and tender fees of Rs. 5,000/- (Rupees Five Thousand only). Tenders received without EMD and tender fees shall be summarily rejected. The EMD shall be refunded (without interest) after the execution of the bid. The earnest money shall be deposited by means of cross Pay Order/Demand Draft/ Bank Guarantee in favour of **“Registrar General High Court of M.P, Jabalpur”**. The tender fees is to be deposited by means of demand draft in favour of **“Registrar General High Court of M.P, Jabalpur”**

7. The Registrar General, High Court of M.P. reserves the right to forfeit the EMD amount on non-acceptance/non-compliance of offer in full or part or if it is found that tenderer has misrepresented in any way.
8. Online UPS systems and **precision** air conditioners can be supplied by the manufacturer directly or through their authorized resellers / partners /dealers. However, **the authorization letter from the manufacturer/parent company is to be enclosed along with the bid document for the supply of Online UPS systems and air conditioners.**
9. The bidder shall quote the prices of items including all taxes, levies or other transportation charges. No price revision/alternative will be allowed after the receipt of the Bid.
10. All prices and other information in this regard having a bearing on the price shall be written both in figures and words in the prescribed offer form.
11. Any conditions / terms given in the bid by bidder shall not be binding on the High Court of M.P., Jabalpur. All the terms and conditions for the supply, delivery, payment, warranty, penalty, etc. will be as given herein and no change in any term or condition by the vendors will be acceptable.
12. Canvassing in any form will be viewed seriously and if any Tenderer is found to be resorting to such practice, the Tender of such firm will be rejected.
13. The bidder should quote only for the specific reputed **brands/models** giving details of specifications etc.
14. The cost quoted should include the cost of maintenance, installation etc. at on site.
15. Against bidders compliance column in technical specifications, only **Yes/No**, as the case may be, should be mentioned.
16. All columns of this bid should be filled. Any additional information should be enclosed separately and referred to in the relevant column of the bid form. **All relevant product literature / catalogues is to be enclosed along with the bid .**

17. Alterations, if any, in the tender document should be attested properly duly signed by the authorized signatory after affixing seal by the vendor, failing which the tender may be rejected.

CHAPTER-2

CONDITIONS OF CONTRACT

1. Tenderer should have at **least two years of experience** in the sales, service and support of UPS systems and / OR air conditioners. Performance statement as per annexure to be filled up and documentary proof of the same is to be attached / enclosed.
2. Tenderer should have average turnover of minimum Rupees Fifty Five Lakh during last three years in the sales, service and support of UPS systems and / or air conditioners equivalent hardware.
3. Tenderer should enclose the list of service centers in the State of Madhya Pradesh. The carry-in repair & services to the OEM Authorized Service Centre / point. The tenderer should provide repair or replacement coverage for both parts & labour from authorized vendor.
4. Online UPS systems and air conditioners as per the specifications need to be delivered and installed at **High Court of Madhya Pradesh, Jabalpur .**
5. To assist the examination, evaluation and comparison of bids the Registrar General, High Court of Madhya Pradesh, Jabalpur at its discretion ask the bidder for clarification of its bid including price. Any of the vendors may be called for negotiations at the discretion of the Registrar General.
6. Tenderer should enclose the copies of valid registration of **VAT, PAN No. and Service Tax Registration.**
7. The Online UPS systems and air conditioners should be of reputed make and should conform to the standard (s) as mentioned in **Chapter-4.** Documentary proof of the same should be attached along with the tender document.

8. In case of any discrepancy between the unit price and the total price, the unit price shall prevail and total price shall be corrected unless it is lower than the sum total of unit prices. If there is any variation between the amount written in figures and words, then the amount whichever is lower shall be taken into consideration.
9. Delivery and installation period: **Maximum four weeks** from the date of receiving the Purchase Order. The installation report should be signed by the Engineer of the Firm jointly with authorized technical staff of the High Court of M.P., Jabalpur.
10. Successful Tenderer will have to furnish the Contract Form and unconditional Bank Guarantee valid for the period of two years to the High Court of M.P., Jabalpur within 15 working days from the date of issue of Purchase Order, failing which the purchase order shall stand cancelled and EMD shall be forfeited.
11. Successful Tenderer will have to adhere to the **delivery schedule** strictly. The Registrar General, High Court of M.P., Jabalpur reserves the right to cancel the purchase order and forfeit the EMD, if purchase order is not executed within the stipulated time and to place the order with the next successive bidder.
12. **Payment terms:** 70% on successful delivery and 30% on successful installation of the Online UPS systems and air conditioners.
13. The supplier's request for payment shall be made in writing accompanied by relevant document such as proper invoice, delivery challans and successful installation reports duly signed by authorized official of the High Court.

14. Warranty:-

- (a) The supplied items to be under **two years free onsite comprehensive warranty support service** from the date of installation or 24 months free warranty support service from

the date of delivery of the systems at site, whichever is earlier, as and when necessary. .

- (b) If UPS system and air-conditioners remains down beyond 24 hours, the successful firm will be required to provide a stand-by of the same or higher configuration, failing which the High Court will arrange Online UPS systems and air conditioner on rental basis at the rates decided by the Registrar General, High Court of M.P., Jabalpur, which shall be final and binding, and the cost thereof shall be adjusted against the Security Deposit/Bank Guarantee and any other due payment of the vendor.
- (c) Warranty period begins from the date of satisfactory installation and commissioning of the Online UPS systems and air conditioners.
- (d) If Online UPS systems and air conditioners remains down beyond 24 hours, penalty @ of Rs. 1,000/- (Rupees One Thosuand only) per day per instance shall be imposed on the vendor.
- (e) The successful vendor shall visit each site at least once in every six months to carryout preventive maintenance and fine-tune the performance of the Online UPS systems and air conditioners. The vendor has to submit the Preventive Maintenance Report duly signed by the user at the end of each year during the Warranty Period. Failing which penalty would be charged from the Bank Guarantee or any other due payment.
- (f) On completion of the warranty period, the security Deposit / performance Bank Guarantee without any interest accrued shall be released after satisfying that proper free warranty support has been provided during warranty period of 02 years for the UPS and precision air conditioners. If considered necessary, suitable amount of penalty shall be recovered from the vendor out of their due payments or from

their Security Deposit / performance Bank Guarantee or by raising claims, while releasing the Security Deposit / performance Bank Guarantee.

15. Security Deposit (SD) / performance Bank Guarantee (PBG): SD / PBG will be 10% of the **purchase order value**. The security deposit to be in the form of unconditional Bank Guarantee / FDR of Nationalized Bank/Scheduled Bank for the period of comprehensive warranty.
16. The Registrar General, High Court of M.P., Jabalpur reserve the Right to accept or reject any offers without assigning any reason thereof, and to amend the terms and conditions before award of the contract.
17. The vendor has to provide training on operation of Online UPS systems and air conditioners to the end-users of the High Court.
18. Any disputes arising out of this tender shall be under the Jurisdiction of Court of Jabalpur only.

CHAPTER-3
Performance Statement

Performa for performance statement for period of last three years.

Order placed by (Full address of the purchaser)	Order number and date (Attach a copy)	Description and quantity of ordered equipment	Value of order	Date of completion of delivery	Remark, indicating reasons for late delivery, if any	Has the UPS systems / air conditioners has been satisfactorily working

Signature and seal of the bidder

CHAPTER-4

Technical Bid Details

Online UPS of 30 KVA with one minimum one hour power backup on full load and Precision air conditioners

Should be quoted with:

- (i) Two -years comprehensive onsite warranty with technical support.
- (ii) All the necessary and required cables and accessories.

Detailed Technical Specifications for Precision Air Conditioner & Uninterrupted Power Supply .

Scope of supply PAC:

	Price Schedule for design, manufacture, supply, installation, testing & commissioning of Precision AC system along with accessories as per the following Scope of Work:		
A.	Main Equipment:		Compliance Yes / No
	Floor Mounted, TOP discharge, Air Cooled DX type Precision Air conditioners of 9 Tr actual cooling capacity (Capacity at return air temperature of 24+/-1 deg C DB & 45+/-5% RH and Outdoor Ambient Condition @ 45 Deg C with R-407C Refrigerant Gas)		
	The Indoor unit shall comprise of Scroll Compressor, Evaporator Fan complete with Backward curved type with EC motor, Evaporator DX Cooling Coil ("A" / "V" Shape), Microprocessor controllers, Expansion valves, Driers, G4 Filter, Suction and Discharge piping, Internal power and Control wiring, Crankcase heaters, Humidifiers, Heaters, HP/LP Cutouts, Power and Control contactors and Other Electrical accessories.		
	The Outdoor Condenser unit shall comprise of Condenser fans & motor, Condenser cooling coil (Copper coil with aluminum fins), Fan speed controller (Variex), Isolater switch. Designed for 45 degree .		
	The unit shall be suitable for operation on 415 Volts, 50 Hz, 3 Phase, 4 Wire AC supply. Each unit should be having individual display panel, which shall display date, time, actual & set values, operating conditions, signal faults, collective faults, limiting values and PAC wellness alarm / service alarm to reduce the down time and unit memory shall hold the 400 most recent events with ID number, time and date stamp for each event.		
	Supply of Unit, as per above specification. Each unit footprint should not exceed . (1 working & 1 stand by)	2	Nos.
	Model of Outdoor Unit: Matching air cooled condenser		
B	Each Precision AC Unit Supply Price	2	nos
	The Break-up of Pricing is as under:		
a.	Basic Unit Price of Each Unit		
	Items included are:		
	Scroll Compressor	Included	
	Backward curved Fan with EC Motor	Included	

	Evaporator Cooling Coil	Included	
	Air cooled condenser	Included	
	Fan Speed Controller (Variex)	Included	
	Microprocessor (ICOM)	Included	
	Heater	Included	
	Humidifier (Infra Red Type)	Included	
	Filter	Included	
	Card for BMS connectivity & monitoring	Included	
	Water leak detector sensor	Included	
	Team Mode feature for PAC units controller for synchronising the Multiple No. of units to work as single system for all above units.	Included	
	Load sharing mode feature	Included	
	Cascading Effect	Included	
	Sequencing of above Units	Included	
	C. Lowside accessories and Installation & Commissioning:		
1	Installation & commissioning of Precision AC units comprising of:	2	Lot
	Precision AC indoor unit stand	Lot	
	Lifting, shifting & positioning of units to site.	Lot	
	Outdoor unit installation along with Base frame / foundation	Lot	
	Initial charge of R-407C refrigerant gas & oil.(labour only)	Lot	
	Commissioning of the system	Lot	
2	Interconnecting Copper piping between indoor & outdoor unit. Copper piping will be duly insulated within the AC space.		
	Hot gas line (@ 10 Rmt indoor to outdoor distance) with insulation	20	Mtr
	Liquid line (@ 10 Rmt indoor to outdoor distance)	20	Mtr
3	Refrigent Gas for initial charging & running	30	kg
4	Interconnecting copper cabling between indoor & outdoor unit (3 Core x 2.5 Sqmm) (@ 15 Rmt indoor to outdoor distance)	30	Mtr
5	Incoming Copper Cabling from Incoming Isolator to CRAC Unit(@ 15 Rmt per unit)	30	Mtr
6	plenum with grills for top discharge	2	nos
7	Condensate drain piping with 40NB GI- B class pipes	10	Mtr
8	Humidifier water piping with 25NB GI-B class pipes.	10	Mtr
9	19mm thick Nitrile rubber		
	Commissioning & Handing over of Precision AC system.		

TECHNICAL SPECIFICATIONS for 2 X 30kVA Three Phase online UPS System.

Sr. No.	DESCRIPTION	REQUIREMENT	Technical compliance Yes / No
SCOPE OF SUPPLY: SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF 2X 30kVA Three Phase online UPS System with Maintenance Free type VRLA Battery Bank suitable for 60 Mins backup on full load.			
1.0	Configuration of UPS Systems	THREE PHASE On Line UPS System 2 X 30 kVA , with VRLA Battery Bank	
1.01	Technology	IGBT based On Line, in-built Output Isolation Transformer ,	

Seal and Signature of Tenderer

Page 13 of 32

1.02	UPS Rating at 45 °C ambient (Without de-rating)	30 kVA /27 kW.	
1.03	Operating temperature range	0°C - 45°C, Should be able to work in Non-Air conditioned Environment	
1.04	Relative humidity	Should be able to operate upto R.H. of 90 %	
1.06	Ingress Protection Class,	IP 20 with front door open condition .	
1.07	Standards	Should comply with ISO 9001, 14001 certification	
1.08	Input Single Phasing Protection	Required	
1.09	Load Balance	Capable to work with 100% unbalanced load.	
2.0	RECTIFIER		
2.1	DC Voltage ripple	<1% with Battery Bank	
2.2	Power walk-in	Progressive over 10 seconds	
2.3	Inrush current	Limited by soft start/slow start circuit	
2.4	Nominal DC Bus Voltage	Data to be furnished by Supplier	
3.0	INVERTER		
3.1	Technology	IGBT based full bridge	
3.2	Total Harmonic Distortion (Output Voltage THD)	< 3% for 100% linear load & < 5% for 100% non-linear load (at CF = 3:1)	
3.3	OUTPUT	415 VAC, 3-Phase, 4 Wire, 50Hz	
3.4	Efficiency	Better: Inverter: 92%; AC-AC: 90%	
3.5	Voltage Regulation		
	a. Steady State	+/- 1%	
	b. At 100% step load	+/- 5%	
	c. Recovery time	< 20 m sec to 98% recovery	
3.6	Overload Capability		
	a. 125% of full load	At least 10 minutes	
	b. 150% of full load	At least 1 minute	
3.7	Output Power factor	0.9 PF	
4.0	ALTERNATE / BYPASS INPUT		
4.1	Voltage	415 VAC, 3- Phase, 4-Wire	
4.2	Frequency	50 Hz	

4.3	Static Bypass Switch	SCR based, Bi-Direction, Auto/Manually operated, configurable STATIC SWITCH. Relay/contacter based static switch not acceptable	
4.4	Manual bypass	Make before break type manual bypass switch required	
4.5	Transfer time	<4 m Sec, Trip less Transfer	
5.0	BATTERY BANK	2 battery banks Complete with battery FRLS inter connectors & foldable battery racks, UPS to Battery Cables FRLS .	
5.1	Battery Type	VRLA SMF battery suitable to give 60 Mins backup time on 30kVA load,	
5.2	Total Battery Capacity (VAH = Battery Volt x Battery AH x Battery Qty)	Minimum VAH of battery bank should be 53000 VAH. 26520 VAH with each UPS.	
5.3	Battery Health Monitoring System(manual operation)	Required	
5.4	Automatic Battery Test Feature	Required	
5.5	Battery Circuit Breaker	Required	
5.6	Battery Charger	The charger should be able to charge fully discharged batteries within 12 Hours time.	
6.0	INTERFACING & SNMP	Minimum 5 nos Programmable voltage free contact for remote signaling & SNMP required for monitoring.	
7.0	METERING	True RMS measurement of following UPS parameters required in LCD display	
7.1	Voltage Metering (Mains, Battery, Inverter, Load)	Required	
7.2	Current Metering : (Mains, Battery,Inverter,Load)	Required	
7.3	Frequency Metering : (Mains, Inverter)	Required	
7.4	Power Metering : (kVA & kW, UPS Power factor)	Required	
8.0	MAJOR ALARMS – WITH TEXT READOUT in UPS LCD Display	Events & alarm can be Monitored thru SNMP Card	

8.1	INPUT : (Under Voltage, Over Voltage)	Required	
8.2	DC BUS : Over Voltage	Required	
8.3	BATTERY : (Under voltage, End of battery discharge)	Required	
8.4	INVERTER : (Under Voltage, Over Voltage, IGBT Limb Fault, Overload, Over Temperature)	Required	
8.5	STATIC S/W : Transfer to Bypass	Required	
9.0	INDICATIONS	Required on Front side of UPS Panel, Using LEDs for Mains i/p, Charger operation, Inverter Operation,	
10.0			
10.1	Input circuit to be protected through fuse	Required	
10.2	Input surge Protection	Required	
10.3	RFI/EMI protection	EN-50091, IEC 62040-1-1 & 62040-2 complied	
10.4	I/P over voltage & Under voltage protection	Required	
10.5	Charger circuit protection for short circuit	Required	
10.6	Battery protection through current limit	Required	
10.7	DC over-voltage & Under-voltage protection	Required	
10.8	Inverter Over-voltage & Under-voltage protection	Required	
10.9	Inverter short circuit protection	Required	
10.10	Inverter over-temperature protection using Redundant Fans as Forced air cooling	Required	
10.11	All Power Devices are to be protected against di/dt & dv/dt	Required	
11.0			
11.1	Testing at full load after Installation and commissioning at our site	Required	
11.2	Demonstration of the UPS for backup as per the specifications	Required	
12.0	Documentation of UPS :		
12.1	Operation and Maintenance Manual	Required	
12.2	GA & SLD	Required	

13.0	Others:		
13.1	Contact details of Similar system installed within the country specifically in Govt. / Public Sector.	Required	

Note: The bidder has to give the details , if there is any deviation in the Data sheet.

CHAPTER – 5

SCOPE OF WORK OF AIR CONDITONERS :-

The Scope of Work covers the supply, installation, commissioning and warranty of Precision Air conditioner .

GENERAL

The AC Units should have high sensible heat ratios, to match the low latent loads of Computer/Server Rooms/ Switch room/UPS. A Microprocessor controlled package AC system with **R-407C refrigerant** shall have de-humidified air quantity of minimum 500 to 650 CFM/TR.

The Indoor unit complete with Scroll compressor with individual circuit (Mandatory), Evaporator blower & coil, Heater, Infrared Humidifier, Microprocessor controller, electrical switchgear components and Thermostatic expansion valve (TXV) and shall be housed in a single cabinet. The outdoor unit shall be comprised of Condenser fan, motor, fan speed controller & cooling coil.

THE AIR-COOLED PRECISION PACKAGE UNIT SHALL BE DESIGNED AS PER FOLLOWING CONDITIONS

- Inside Design condition : 21⁰ C to 24⁰ C ±1 Deg C and 45 to 50% ± 5% RH
- Ambient air design température : 45 degree .
- Actual Capacity : 9Tr. (1 working & 1 standby)
- Flow Direction : Top discharge with plenum , bottom return; based on the Requirement
- Air inlet Temp & RH (Return Air) : Set point ± 1 °C (DB) & Set point ± 5%
- Air Quantity : 500 to 650 CFM / TR

SYSTEM DESCRIPTION:

Room shall be air-conditioned with Precision Air-conditioning Unit each of 9_TR actual capacity & De-humidified air quantity of

_4800_Cfm. The air-conditioning unit shall be designed specifically for high sensible heat ratio (>0.90) applications.

The system shall contain Hermetic Scroll compressor, Evaporator blower (Backward curved Centrifugal Fan with EC Motor) & coil, Heater, Humidifier, Specific De-humidification cycle, Microprocessor & electrical and Expansion valve all of which shall be contained within the cabinet of the unit. The outdoor condenser unit shall be air-cooled type comprising of coil, fan, motor and fan speed controller (Variex).

THE TECHNICAL SPECIFICATIONS OF THE CONSTRUCTION OF UNIT ARE AS UNDER:

The Precision Environmental Control Systems shall be of self contained factory assembled unit with down flow air delivery. The Precision Air conditioner shall be High sensible cooling capacity and high Sensible Heat Ratio (i.e. the sensible to total cooling capacity ratio).

FRAME & CASING:

The frame shall be constructed of 2.5, 2.0 and 1.2 mm folded galvanized steel. The external panels shall be constructed of 1.2mm zinc coated sheet steel. Front, rear and end panels shall be fitted with 12.5 to 25 mm glass wool insulation, fire rated to Australian Standard 1530 (indices 0,0,0,3). The cabinet shall powder coated with charcoal grey color and have a texture finish. The hinged front panels shall be removable and include captive ¼ turn fasteners. The cabinet shall be assembled with pop rivets providing ease of disassembly.

FILTER:

The filter chamber shall be an integral part of the system and withdraw able from the front of the unit. Filtration shall be provided by dry media disposable filters capable of filtering air to 95% down to 5 micron efficiency and shall be replaceable from the top of the unit. Filtration shall be provided by deep V form G4 performance dry disposable media to ASI324.

EVAPORATOR FAN:

Units should be offered with backward curve direct drive Fan, High efficiency, external rotor electronically commutated (EC) motor with integrated electronics, True soft start characteristics (inrush current lower than operating current), Backward curve, corrosion resistant aluminum fan wheel, Maintenance free design and construction. The fan section shall be designed for higher air flow. The unit shall be fitted with one (two, three) direct-driven, high efficiency, single inlet, backward curved; the fan motors shall be Electronically Commutated (EC), IP54, with internal protection and speed regulation via controller signal. They shall be statically and dynamically balanced.

COMPRESSOR:

One refrigeration circuit, incorporating a high efficiency Compliant Scroll design, with an E.E.R. (energy efficiency ratio) of not less than 11.1 BTUH/watt (C.O.P. of not less than 3.25) at ARI rating conditions. The compressor shall be charged with polyolester (POE) oil and designed for operation on HFC R407C.

Each compressor is equipped with pre-set high and low pressure switches for protection against high condensing and low evaporating temperatures. Each compressor shall have internal motor protection and be mounted on vibration isolators.

REFRIGERATION CIRCUIT:

The refrigeration system shall be of the direct expansion type and incorporate one compressor, complete with crankcase heaters. The system shall include a manual reset high pressure control, auto reset low pressure switch, externally equalized expansion valve, high sensitivity refrigerant sight glass, large capacity filter drier and charging/access ports in each circuit. Each refrigeration circuit shall include rigidly mounted isolation valves in the discharge and liquid lines to aid servicing and installation.

EVAPORATOR COOLING COIL:

The evaporator coil shall be A-coil (for down flow) incorporating draw-through air design for uniform air distribution. The coil shall be constructed of rifled bore copper tubes and louvered aluminum fins,

with the frame and drip tray fabricated from heavy gauge aluminum. All metal parts in contact with condensate shall be the same material to prevent electrolytic corrosion. The drip trays shall ensure the collection of condensate and be accessible for cleaning. The cooling coil shall be maximum of 4 rows and minimum 11 fins per inch and the face velocity shall not be more than 2.5 m/s.

REMOTE AIR-COOLED CONDENSER:

The Air-cooled condenser shall be the low profile, weatherproof type incorporating high efficiency, direct drive, external rotor motors with axial blade fans & fan speed controller. The condenser shall be constructed from heavy duty aluminum and corrosion resistant through special anti corrosive epoxy coatings for any specific polluted areas. Heavy duty mounting legs and all assembly hardware shall be included. Condensers shall be suitable for 24 hours operation and be capable of providing vertical or horizontal discharge. The condenser shall be fully factory wired and require a 230 volt, single phase, 50 Hz electrical service. The high performance heat exchanger shall include mechanically expanded cross-hatched copper tubes and louvered aluminum fins for maximum heat transfer.

Fan Speed Control Condenser :-

The condenser fans shall be directly driven by 4 pole 1210 rpm 230 volt 1 phase 50 Hz electric motors with an IP54 enclosure rating and class F insulation. The motors shall be equipped with permanently sealed ball bearings and high temperature grease. The motors shall be speed controlled to ensure stable operating conditions from -20°C to 45°C ambient by a factory fitted, direct acting pressure actuated electronic fan speed controller. The control system shall be complete with input isolator, transducers and electrical wiring.

HUMIDIFIER:-

The humidifier shall be of the infrared type consisting of high intensity quartz lamps mounted above and out of the water supply. The humidifier pan shall be stainless steel and arranged to be removable without disconnecting high voltage electrical connections. The complete humidifier section shall be pre-piped, ready for field

connection to water supply. The humidifier shall be equipped with an automatic water supply system and shall have an adjustable water-overfeed to prevent mineral precipitation. A high-water detector shall shut down the humidifier to prevent overflowing.

ELECTRICAL HEATING:-

The electrical heating elements shall not operate at a level exceeding 60 W/Sq. m. The low watt density elements shall be of finned tubular construction. The heating circuit shall include dual safety protection through loss of air and high temperature controls. Electric heating shall be provided in a single stage. The elements shall be low watt density, 304/304 stainless steel fin tubular construction, protected by thermal safety switches. The heating system shall include dual safety protection through loss of air and manual reset high temperature controls.

UNIT SIZE:

Precision AC Indoor units shall be placed inside the Equipment room only. Hence the Footprint area of the Unit is extremely important to accommodate the same inside the existing Equipment Room. The unit shall require front access only for routine service and installation work.

MICROPROCESSOR CONTROLLER:-

The unit control shall be factory-set for Intelligent Control which uses "fuzzy logic" and "expert systems" methods. Proportional and Tunable PID shall also be user selectable options. Internal unit component control shall include the following:

SYSTEM AUTO RESTART:-

The auto restart feature will automatically restart the system after a power failure. Time delay is programmable.

SEQUENTIAL LOAD ACTIVATION:-

On initial startup or restart after power failure, each operational load is sequenced with a minimum of one second delay to minimize total inrush current

PREDICTIVE HUMIDITY CONTROL

Calculates the moisture content in the room and prevents unnecessary humidification and dehumidification cycles by responding to changes in dew point temperature. The control shall be compatible with all remote monitoring and control devices. Options are Available for BMS interface via Modbus, BACNet and SNMP. The control processor shall be microprocessor based with a 128x64 dot matrix graphic front monitor display and control keys for user inputs mounted in an ergonomic, aesthetically pleasing housing. The controls shall be menu driven. The display & housing shall be viewable while the unit panels are open or closed. The display shall be organized into three main sections: User Menus, Service Menus and Advanced Menus. The system shall display user menus for: active alarms, event log, graphic data, unit view/status overview (including the monitoring of room conditions, operational status in % of each function, date and time), total run hours, various sensors and display setup and service contacts. A password shall be required to make system changes within the service menus. Service menus shall include: set points, standby settings (lead/lag), timers/ sleep mode, alarm setup, sensor calibration, maintenance/wellness settings, options setup, system/network setup, auxiliary boards and diagnostics/service mode. A password shall be required to access the advanced menus.

MICROPROCESSORS SHOULD BE INTELLIGENT ENOUGH TO DO THE FOLLOWING TASK:

- Save Energy using Predictive Humidity Control
- Built-in Lead/Lag Functions for enhanced system reliability
- Wellness Calculation alerts service personnel before problems occur
- Unit to Unit (U2U) Communications allows Lead/Lag and optional teamwork settings for maximum flexibility and control

- Optional IntelliSlot cards offer external monitoring through Modbus RTU and HTTP/SNMP protocols

STANDBY SETTINGS / LEAD-LAG

Menu shall allow planned rotation or emergency rotation of operating and standby units.

TIMERS/SLEEP MODE

Menu shall allow various customer settings for turning on/off unit.

TEAMWORK MODES OF OPERATION

It saves energy by preventing operation of units in opposite modes multiple units.

AUXILIARY BOARDS

Menu shall allow setup of optional expansion boards.

DIAGNOSTICS/SERVICE MODE

Control input and output values and status shall be displayed to aid in unit diagnostics and troubleshooting.

Control inputs shall be indicated as on or off at the front display. Control outputs shall be able to be turned on or off from the front display without using jumpers or a service terminal. Each control output shall be indicated by an LED on a circuit board.

The unit shall also incorporate the following protections:

- Single phasing preventers.
- Reverse phasing
- Phase unbalancing
- Phase failure
- Overload tripping (MPCB) of all components

SAFETY INTERLOCKS:

Operation of heaters & humidifiers shall be possible only when blower fan is in operation. Fire detection signal from fire detector system

shall be able to switch off the package unit operation in event of fire in conditioned space.

REFRIGERANT PIPING:

Each refrigerant circuit shall be suitable for operation on R-407C and shall include the following items:

- a) Expansion valve with pressure equalization;
- b) Removable liquid line drier / filter.
- c) Liquid line sight glass with moisture indicator.
- d) Hand shut off valves.

SEQUENCING OF OPERATION OF UNIT:

The Precision AC units for the room shall be clubbed in individual group, so that Stand-by unit should start on after specific time of operation of working unit, as well as during break down of working unit. This sequencing operation feature should be integral part

ELECTRICAL WORK: Each Precision AC unit should be provided with in-built electrical panel. Necessary 415 Volts +/- 10%, 3 Phase, 4 Wire (With Neutral), 50 Hz +/- 5% Power shall be provided by Customer at each unit's electrical panel. Balance distribution of Power is in the Scope of Bidder. All Electrical cabling should be of armored Copper.

**STATEMENT OF DEVIATIONS FROM TECHNICAL
SPECIFICATIONS**

(Please submit separate sheet for each annexure)

UPS system offered:- Make:_____

Model:_____

LINE ITEM	DESCRIPTION OF ITEM SPECIFICATION WHERE DEVIATING	DEVIATION IN THE OFFER	BRIEF REASON FOR THE DEVIATION

Note: Deviations on the lower side of technical specs will not be accepted

Signature of the Bidder
Name
Date
Place

Company Seal

Annexure-I

Techno-Commercial Bid

S.No.	Description	Indicate also page number where attached
1.	Name, address & telephone number of the agency/firm	
2.	Name, designation, address & telephone number of authorized person	
3.	Please specify as to whether Tenderer is sole Proprietor/Partnership Firm/Private or Limited Company.	
4.	Name, address & telephone number of Directors/Partners, Fax No., e-mail address.	
5.	Copy of PAN Card issued by Income Tax Department and Copy of previous 3 Financial Year's Income Tax Return.	
6.	Service Tax Registration No. , TIN No. (please enclose copy)	
7	Original equipment Manufacturer (OEM) certificate / letter to sale the product	
8.	Experience details of 02 years in providing services in Central Government/State Government/Public Sector Undertakings/Autonomous Bodies./ reputed private sector	
9.	Tenderer should have average turnover of minimum <u>Rupees 50 Lakh during last three in the sales, service and support of UPS systems or/and air conditioners equivalent hardware items.</u> Certificate of CA / Auditor along with documentary proof to be enclosed.	
10.	Details of Bid Security/Earnest Money Deposit: a) Amount: b) Demand Draft/Pay Order / Banker / Bank Guarantee details .: c) Date of issue: d) Name of issuing Bank:	
11	Tender Fees details (demand draft only)	
12	Product Brochure	

Declaration by the Bidder:

This is to certify that I/We before signing this tender have read and fully understood all the terms and conditions contained in the tender document and undertake myself/ourselves to strictly abide by them.

Signature of the Tenderer with Seal

ANNEXURE-II

BIDDER'S ANNUAL TURNOVER

_____ (Location)
_____ (Date)

From (Name & Address of the Statutory Auditor)

_____ To,

_____ The Registrar General,
_____ High Court of Madhya Pradesh,
_____ Jabalpur

Ref.: _____

Sir,

We hereby certify that the average annual turnover of M/s.
_____ (name of the bidder) is not less than Rs. 50
Lakh (Rupees Fifty Lakh Only) during last three financial years.

SI No.	Firm	Year - 1	Year - 2	Year - 3
		Amount	Amount	Amount
1				

Yours Sincerely,

(Signature of Auditor)

Name of Auditor:

Seal:

CHAPTER – 6

Financial Bid (Price Schedule)

Prices should be quoted in Indian Rupees inclusive of all taxes, installation charges, freight, etc.

Price should be quoted with two years onsite comprehensive warranty and support .

Name of the Bidder:_____

Specify Make: _____

Model:_____

Item Description	Unit Price (Rs.)	Excise/other Duty (Rs.) as applicable	Sales / Service Tax (Rs.) as applicable	Total cost of UPS	Approximately number of UPS system	Total amount in Rupees
1	2	3	4	5 (2+3+4)	6	7= 5x6
30kVA Three Phase online UPS System with Maintenance Free type VRLA Battery Bank suitable for 120 Mins backup on full load under the specifications of the tender document					02	
Precision Air conditioners of 9 Tr actual cooling capacity (Capacity at return air temperature of 24+/- 1 deg C DB & 45+/- 5% RH and Outdoor Ambient Condition @ 45 Deg C with R-407C Refrigerant Gas) under the specifications of the tender document					02	

Total Bid Price in Rs. _____

In words _____

Signature of Bidder with seal _____

Name _____

Business address _____

Tel. No. & Mobile No. _____

Email : _____

Date:

Seal and Signature of Tenderer

CHAPTER-7
Contract Form

This AGREEMENT made the _____day of _____, 20____ between the _____ (herein after called the Purchaser) and _____ (herein after called the supplier) _____ (Address)

WHEREAS the Purchaser is desirous _____ (Brief description of goods) and has accepted a bid by the supplier for the supply of those goods and services for the sum of _____ (Contract price in words and figures, herein after called the Contract Price)

Now this agreement witnesses as follows :

1. In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement viz :
 - (a) The bid forms (Technical and financial) and the Price Schedule submitted by the bidder.
 - (b) The entire tender document.
 - (c) The Purchaser's notification of award.
 - (d) All correspondence in this Regard
3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the supplier hereby covenants with the Purchaser to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract.

4. The Purchaser hereby covenants to pay the Supplier in consideration of the provisions of the goods and services and the remedying of defects therein, the Contract price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

Brief particulars of the goods and services which shall be supplied / provided by the Supplier are as under.

S. No.	Brief Description of goods and services	Quantity to be supplied	Unit Price	Total Price	Delivery Terms

In witness whereof the parties hereto have caused this Agreement to be executed.

For and on behalf of supplier

CERTIFICATES

WE CERTIFY THAT:

1. We will not LEAK / DISCLOSE any information of High Court and District Court to any other institutions/organizations, bodies and also in the market on the rates less than the prices quoted by us to the High Court.
2. The rate of TAXES / DUTIES mentioned in the tender is in accordance with the provisions of the rules in all respects and the same is payable to the Authorities.
3. The UPS systems offered shall be of the **best quality** strictly in accordance with the specifications and particulars as detailed in the tender.
4. The information furnished by us in the tender are true and correct to the best of our knowledge and belief.
5. We have read and understood the rules, regulations, terms and conditions of tender as applicable from time to time and agree to abide by them.
6. We will meet 100% Confidentiality and Integrity of the High Court and District Court Database and software.

Authorized Signatory

(Seal of the Company)