

ODISHA SPACE APPLICATIONS CENTRE (ORSAC)
Dept. of Science & Technology, Govt. of Odisha
Plot No.45/48(P), Jayadev Vihar, Near Gopabandhu Academy of Administration
Unit-16, Bhubaneswar-751 023

TENDER NOTICE No. 06/ 2018

Procurement of Supply, Installation & Commissioning of Modular UPS of 150 KVA with N+2 redundancy (As per Annexure-B & F) Sealed tenders are invited from the registered firms / OEM for Supply, Installation & Commissioning of Modular UPS of 150 KVA with N+2 redundancy to ORSAC on buy back of one 2 x 50 KVA PRS, one 15KVA & two 10KVA online UPSs with existing battery banks.

Cost of Tender Paper	:	Rs. 5000/-
Period of Issue of Tender Paper	:	12.07.18 to 02.08.18 (11AM to 4 PM)
Earnest Money Deposit	:	Rs.1,00,000.00
Pre-Bid for the Tender	:	20.07.18 (11.30 A.M)
Last Date of Submission of Tender	:	03.08.18 up to 1 P.M.
Opening of Technical / Commercial Bid	:	04.08.18 at 11.30 A.M.

ORSAC reserves the right to cancel the Tender without assigning any reason thereof.

For details, please visit <http://www.odisha.gov.in> or <http://www.orsac.gov.in> or in the above office for the tender papers.

CHIEF EXECUTIVE, ORSAC

DOCUMENT CONTROL SHEET

Cost of Tender Paper	Rs.5000/-
Date of Issue of Tender Paper	12.07.2018 to 02.08.2018 (11AM to 4 PM)
Earnest Money Deposit	Rs,1,00,000.00
Pre Bid Conference	20.07.2018 at 11.30 AM (Conference hall of ORSAC)
Last Date of Submission of Tender	03.08.2018 up to 1 PM
Opening of Technical Bid	04.08.2018 at 11.30 AM
Opening of Price Bid of technically qualified bidders	07.08.2018 at 4.00 PM
Place of Opening of Bids	ODISHA SPACE APPLICATIONS CENTRE (ORSAC) Dept. of Science & Technology, Govt. of Odisha Plot No.45/48(P), JayadevVihar, Near Gopabandhu Academy of Administration Unit-16, Bhubaneswar-751 023
Address of Communication	ODISHA SPACE APPLICATIONS CENTRE (ORSAC) Dept. of Science & Technology, Govt. of Odisha Plot No.45/48(P), JayadevVihar, Near Gopabandhu Academy of Administration Unit-16, Bhubaneswar-751 023 Tel: +91 674 2303625, Fax: +91 674 2300681 Email: orsac2012@gmail.com / orsac.od@nic.in Website: http://www.orsac.gov.in

ODISHA SPACE APPLICATIONS CENTRE (ORSAC)
Dept. of Science & Technology, Govt. of Odisha
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TENDER NOTICE NO.06/2018

Sealed tenders are invited from registered firms / OEM for supply, installation & commissioning of Modular UPS of 150 KVA with N+2 redundancy at Odisha Space Applications Center, Bhubaneswar.

Sl. No	Item Description	Quantity	Cost of tender paper (in Rs.)
1	Supply, Installation & Commissioning of Modular UPS of 150 KVA with N+2 redundancy in single cabinet with Battery banks(As per Annexure-B & F) on buy back of 4 nos. of existing UPSs of ORSAC	1No.	Rs.5000/-

1. Non-transferable tender documents for supply of the item stated above will be available from office of the Odisha Space Applications Centre (ORSAC), Bhubaneswar on payment of tender document cost as specified above. The tender document cost, which is non-refundable, is payable in shape of crossed Demand Draft of any Nationalized Bank/Scheduled Bank payable at Bhubaneswar drawn in favour of Odisha Space Applications Centre, Bhubaneswar, Odisha. This tender notice can be accessed through Internet in the ORSAC website: <http://www.orsac.gov.in> or from Govt. of Odisha web site <http://www.odisha.gov.in> and bid document can be downloaded. The downloaded bid document can also be used provided it is accompanied with a crossed Demand Draft towards cost of the tender document. Tenderers interested to receive tender documents by Registered Post should pay additional amount of Rs.200/- (Rupees Two hundred) only. However, ORSAC will not be responsible for postal delays in delivery of the documents.
2. The Tenderers are required to furnish attested copies of GST registration certificate from the competent authority of the State of Odisha/other states as applicable along with the tender.
3. The Tenderers are required to deposit Rs.1,00,000.00 (Rupees one lakh) only as Earnest Money Deposit (EMD) in shape of Bank Draft issued by a

Nationalized Bank/scheduled Bank payable at Bhubaneswar pledged in favor of Odisha Space Applications Center, Bhubaneswar.

Performance security shall be deducted from Bills as per guidelines given in the tender documents.

4. The items conforming to required specifications are to be delivered to consignee at Bhubaneswar in Odisha and the tendered has to quote the rates giving details of taxes, levies charges, premium etc. separately as stated in the tender document.
5. The tenders should be submitted after due compliance with guidelines given in the tender documents under Schedule (A) Conditions of Contract, Schedule (B & F)- Technical specifications, Schedule(C)- Delivery Destination, Schedule (D)- Bid Form & Schedule (E)- Price Schedule Tenders submitted in incomplete form shall be rejected outright.
6. The filled in sealed tenders containing Technical Bid and Price Bid in double cover system as per instruction given in tender documents, shall be submitted in the Office of ORSAC, Bhubaneswar by Registered Post, Courier service or hand delivery. Tenders received after due date and time shall not be entertained.
7. A pre-bid conference will be held on 20.07.2018 at 11.30 AM to explain and clarify scope of work and various terms and conditions of the Tender to facilitate a clear understanding for prospective Bidders to enable them to participate in the Tender effectively.
8. The tender papers will be available for sale in the office of ORSAC between 11.00 AM to 4.00 PM on Odisha govt. official working days till 02.08.2018 The sealed tenders will be received till 1.00 PM on 03.08.2018 in Office of the ORSAC. The technical bids will be opened on 04.08.2018.at 11.30 AM in presence of the Tenderers or their authorized representatives, if they so desire. The Price Bids of Technically qualified bidders will be opened in presence of the tenderers or their authorized representatives either on that day or on a date to be notified later on.
9. ORSAC reserves the right to cancel any or all tenders without assigning any reason thereof.

CHIEF EXECUTIVE

Schedule (A) – Conditions of contract for Tender No. 06/2018

- 1) The Tender papers include instructions issued in the Tender notice along with the Schedule (A) - Conditions of Contract, Schedule (B & F) – Technical Specifications, Schedule (C) – Delivery Destination, Schedule (D) – Bid Form, Schedule (E) – Price Schedule.
- 2) The Tenderers shall submit the following documents and information with the tender. Lack of complete and adequate information under any of the parameter may render the bid disqualified.
 - a) For Technical Bid:
 - i) Copy of Tender Notice
 - ii) Acceptance of Schedule (A), Schedule (B & F) with authenticated proof.
 - iii) Documentary evidence that the tendered is the manufacturer or the authorized dealer of the OEM.
 - iv) Attested copies of GST registration certificate and latest Service Tax Clearance Certificate issued by the competent authority.
 - v) Technical information and specifications prescribed by the manufacturer for the item.(Printed Technical Brochure)
 - vi) Documents in support of supplies not below the capacity of 150KVA modular UPS made during last 2 years to different Govt. and public sector undertaking with copy of installation certificate and users contact no.
 - vii) Cost of Tender document (in shape of Bank Draft) if down loaded from Website and used.
 - viii) Earnest Money Deposit
 - ix) Annual turnover of the Company
 - x) Attested copies of Audited Balance Sheet for last 3 years
 - b) For Price Bid:
 - i) Acceptance of Schedule (C) Delivery destination
 - ii) Filled up Schedule (D) – Bid form
 - iii) Filled up Schedule (E) – Price Schedule
 - iv) Buy back price of three nos. UPS separately.
- 3) The firms can inspect the installation space of Office Building during office hours in any working days in consultation with Eng. Asst. (Electrical) before quoting. The quoted rates shall be for destination mentioned in the Schedule (C) Delivery Destination, inclusive of all taxes, duties, levies, charges, transportation cost, transit insurance cost, installation & commission cost. The item should be shown separately along with the basic rate. Prices written in words shall be accepted in case of any discrepancy. Rates with conditionality or provision of escalation will be rejected.
- 4) Validity of period of the Tender shall be six months from the date of opening of the price bid.

- 5) The Earnest Money Deposit shall be submitted in shape of Bank Draft issued by any Nationalized Bank or State Bank of India or any of Associate Banks having branch at Bhubaneswar. The Bank Draft should be pledged in favor of Odisha Space Applications Center, Bhubaneswar for a period of 60 days beyond the period of validity of the tender counted from date of opening of the price bid.
- 6) The items are to be delivered in good condition at ORSAC, Bhubaneswar as mentioned in the Schedule (C) for delivery destination.
- 7) The UPS with battery banks should be new and unused. The items shall be of reputed make and should also conform to latest models, designs and standards i.e. as per Schedule-B & F
- 8) If any item fails to satisfy requirement of standards, the item shall not be accepted and the tendered at his own cost shall remove it from point of delivery.
- 9) The item is to be delivered within 45 days of issue of Purchase Order.
- 10) The tenderer shall give a minimum warranty for a period of 5 years for both UPS & Batteries or as per company norms whichever is more from the date of installation and commissioning of the item at destination. This shall not relieve the tenderer from liabilities arising out of normal warranty available with the product.
- 11) If the tendered fails to supply the item within prescribed time period it shall be treated as breach of contract. This EMD will be forfeited and the supply order will be cancelled for which the tendered shall remain fully responsible without any liability of ORSAC.

If items are not supplied in time, ORSAC will consider receiving the items by imposing liquidated damage of 0.50 (zero point five zero) percent of cost per week of delay subject to maximum penalty of 5% of the value of each item inclusive of all taxes, duties, levies and charges. Part of the week shall be reckoned as one week.

- 12) Tenders are to be submitted in double cover system. The 1st sealed envelope shall contain the Technical Bid and the 2nd sealed envelope shall contain the Price Bid. Both the 1st and 2nd sealed envelopes are then to be put inside a 3rd envelope and sealed. On the 1st sealed cover it shall be written "Technical Bid for Supply, Installation & Commissioning of Modular UPS of 150 KVA with N+2 redundancy (As per Annexure-B & F)" of Tender No. 06/2018. On the 2nd sealed cover it shall be written "Price Bid for Supply, Installation & Commissioning of Modular UPS of 150 KVA with N+2 redundancy (As per Annexure-B & F)." Tender No. 06/2018. On the 3rd

cover (containing the 1st and 2nd envelope) it shall be written,” Tender for Supply, Installation & Commissioning of Modular UPS of 150 KVA with N+2 redundancy (As per Annexure-B & F).” From and to addresses shall be written on each of the envelopes.

- 13) Submission of sealed tenders shall be by Registered Post, courier service or hand delivery. ORSAC shall not be responsible for postal or courier service delays or missing of the documents during transit. Tenders reaching late (as per time mentioned in the Tender Notice) shall not be considered by ORSAC.
- 14) Intimation regarding their selection in Technical Bid may be sent to Tenderers on request through Post/Fax. Purchase order shall also be sent to the successful Tendered by Post after evaluation of Price Bid. Tenderers are to furnish their Telephone No./ Fax No. along with the correct postal address.
- 15) Clarification of Bidding Documents
 - 15.1 Pre-Bid Conference: A pre-bid conference will be held on 20.07.2018.at 11.30 AM to explain and clarify scope of work and various terms and conditions of the Tender to facilitate a clear understanding for prospective Bidders to enable them to participate in the Tender effectively.
- 16) Amendment of Bidding Documents:
 - 16.1 At any time before the deadline for submission of bids, the Chief Executive, ORSAC may, for any reason, whether at own initiative or in response to a clarification requested by a prospective Bidder, modify the bidding document by amendment.
 - 16.2 All prospective Bidders who have received the bidding document shall be notified of the amendment in writing by e-mail and / or post, and all such amendments shall be binding on them. The amended bid document shall also be kept on the website (Odisha Government Portal).
 - 16.3 If required, in order to allow prospective Bidder reasonable time to take the amendment into account in preparing their bids, the Chief Executive, ORSAC reserves the rights to extend the deadline for the submission of bids.
- 17) The Chief Executive, ORSAC or his representative can have negotiation with the L1 vendor or any matter relating to supply and installation of the materials.
- 18) Terms of Payment: Payment to the successful tenderer shall be made only after items are received in good, serviceable condition and successfully installed & commissioned at ORSAC as per conditions stipulated in the tender documents along with required documents submitted to ORSAC in support of Bills. 90% of the

bill amount will be released after successful Installation, commissioning & operational of the system & 10% of the Bill amount will be retained towards "Performance Security". This amount can be released on submission of Bank Guarantee for equal amount issued by any Nationalized Bank at Bhubaneswar, which will remain valid till three months beyond the Guarantee period.

- 19) The tenderer shall not raise any claim in any manner after the Bill amounts are cleared against the purchase order.
- 20) The quantity tendered can be decreased/increased/dropped as per the requirements at the time of placing of order.
- 21) The L1 Bidder has to facilitate Factory Acceptance Test of the said UPS where the detail load testing and other component testing are to be done by the experienced Engineers in presence of ORSAC representatives before dispatching the UPS to ORSAC. Two of the officers from ORSAC will inspect Factory Acceptance Test.
- 22) In case of any dispute between the Tenderers and ORSAC regarding interpretation of Tender document conditions, the decision of the Chief Executive, ORSAC shall be final and binding.
- 23) Jurisdiction of Court – Civil Suits, if any, arising out of the contract shall have to be filed at Bhubaneswar under Khurda district. Writ petitions, Civil & Criminal, shall be filed in the High Court of Odisha, Cuttack.

Accepted the above conditions under schedule (A) of tender.

(Signature of Tenderer)

Name:

Address:

SCHEDULE- " B " TENDER NO. 06/2018 ORSAC

Technical Specifications:

Modular UPS of 150 KVA with N+2 redundancy in a single cabinet.

A.1 A/C Input (Charger/Converter)

Rated voltage:	380/400/415 V.AC (3 phase, 4 wire and ground)
Voltage:	208 – 475 V AC
Input power factor:	> 0.99
Input frequency:	45 Hz – 66 Hz
Total Harmonic Distortion:	< 3% 100% nonlinear load

A 2 Input

Configuration:	3 phase, 4 wire
Input voltage:	415V ± 15%
Frequency:	50 Hz ± 5%
Overload on bypass static	100% rated current rated continuous 10 times rated current Switch: for 20 m sec.
No break transfer:	UPS system shall have logic circuit to sensing the following conditions and transfer the loads from module to bypass without break. Inverter output under voltage/ over voltage Overload beyond the capability of the Inverter

A.3 A/C output

Rated voltage:	400 /415 V AC (3 phase, 4 wire and ground)
Efficiency:	Voltage regulation: +/- 1 % up to 95%
Power output factor:	1 (kVA = KW)
Output frequency:	50 Hz
Frequency regulation:	0.1% at battery mode.
Total Harmonic Distortion:	< 2% linear load < 5% nonlinear load
Crest factor:	3:1
Overload A/C mode:	= 100 % continuous. < 125 % 10 min < = 150% 1 min >150 % by pass
Overload battery mode:	< 110 % 10 min < 125 % 1 min < = 150% 1 sec >150 % shutdown

A.4 Input (Bypass)

Input voltage:	380/400/415 V A/C 3 phase, 4 wire and ground
Frequency:	45 – 66 Hz

A.5 Battery specification

Voltage of Battery:	12Volt
Type:	VRLA type (SMF)
TOTAL VAH:	403200 (MINIMUM)
Backup time:	60 minutes at full load
Battery charging cycle:	boost/ float charging with current limit & boost time limiter

Note: Battery calculation has been done as per IEEE (Institute of Electrical & Electronics Engineer) standards considering ageing factor and design margin.

Interface

Standard: RS-485 (2), RS 232, Intelligent slot (SNMP card, relay card), Parallel (2), dry contact, remote emergency power off, Battery cabinet temperature sensor, Battery cabinet status cable.

Redundancy: 2 modules (of same size)

A.7 Environment

Operating Temperature:	0 to 40 °C
Relative Humidity:	0 – 90 % (non-condensing)
Audio able noise:	< 70 dBA (at a distance of 1 meter from any side of the UPS system)
Storage temperature:	- 15°C to + 40°C
Protection class:	from IP20 to IP30

A.8 Mimic Display

Mains available Rectifier
Operative Inverter operation
Battery voltage
Bypass supply
Load on bypass
Load on inverter
Fault Codes etc.

A.9 Alarms

Inverter OFF/ failed Rectifier
OFF/failed Emergency Stop
Over Temperature Overload

A.10 Protection

Overload (O/L)
Short circuit (SC)
Input low voltage
Output Over voltage
Battery over charging
Battery over discharging

A.11 Metering

To select and monitoring the following through LED/ LCD display: -

Output voltage
Output Current
Battery voltage (battery status)
Battery charge /discharge current
Input voltage, current and frequency.
Data log with date and time.

A.12 Protection

Overload
Over temperature
Over & under voltage (for input & output)

A.13 Make of UPS & Battery

Make of UPS: Emerson / VERTIV / Socomec/ Riello / APC (Schneider)/ siemens/
ABB/ E & C/ Hitachi/ Numeric/ APLAB/ General Electric,

Make of battery: Exide/ Amco/ Panasonic/ Leoche/ Amara Raja/ C&D

A.14. Isolation transformer

Inbuilt / external ultra copper wound K13 rating isolation dry type transformer– 250 KVA having manual bypass facility by a switch.

A.15 UPS shall have provision for integration with BMS (Building Management System) at a later date.

Approval & standards - IEC 62040-2(CLASS A), 89/336/EEC, VFI-SS-111,
EN/IEC/UL60950-1

A.16 Vendor will be responsible to connect & configure Complete UPS System, Battery Bank, relevant Switchgears and all other accessories.

A.17 Comprehensive warranty period of five years including Batteries from the date of commissioning. The vendor will undergo the comprehensive maintenance as per agreed price up to another 5 years minimum after successful completion of warranty

period of five(5) years.

- A.18** UPS shall have provision for auto phase reversal corrector.
- A.19** UPS shall have provision for scalable up to 250 KVA capacity in the same cabinet.
- A.20** UPS shall have provision of Mean Time Between Failure (MTBF) of eight lakh hours or more. (Authentic certificate has to show at the time of factory inspection for the particular model.)
- A.21** The UPS system must have replaceable hot swappable power modules. The system must have redundancy in controller modules, and logic power supplies.
- A.22** The individual module capacity should not be more than 40KVA=40KW.

I. Scope of work

1. Supply, Testing, Installation & Commissioning of modular type 150 KVA (N+2) UPS scalable up to 250 KVA in a single cabinet as per Technical Specifications in Schedule – “B”
2. Copper plate earthing suitable for 250 KVA UPS Load as per IEE rules – 2 Nos.
3. 25 x 3 mm electrolytic copper strip in PVC sleeves or equivalent size of PVC insulated wire for interconnections. – As required.
4. Supply & laying of 4C x suitable Sq.mm XLPE insulated, outer FRLS, PVC overall sheathed, ISI marked copper cable – As required (for all necessary interconnections between the UPS).
5. Suitable size of cables for interconnections between UPS and battery bank.
6. Supply, Installation & commissioning of three Panel Boards as per attached Specifications in schedule –“F”– 3 Nos. (All Cost inclusive with the cost of UPS). The drawing for panel board should be approved by our Engg. In-charge before installation.

II. **System Description**

The system should consist of the following major components

1. Solid state static PWM converters utilizing IGBT.
2. Solid state static PWM Inverters utilizing IGBT
3. Sealed high rate discharge maintenance free valve regulated lead acid battery bank (VRLA) with 60 Min Back up time with aging factor and design margin mounted on suitable Battery Rack.
4. Converter input, bypass input and system battery breaker/ contactor, inverter output breaker/ contactor and static bypass switch with primary contractor, converter input and system input fuses etc.
5. Maintenance bypass utilizing wrap around contactor

III. **Modes of Operation:** The system should be designed to operate continuously at rated capacity

1. **Normal Operation:** The inverter shall continuously supply stable AC power to the critical load. The converter should be able to feed power to a fully loaded inverter as well as recharging the system with fully discharged battery simultaneously if required.
2. **Battery Operation:** In the event of commercial AC failure, the inverter shall derive the input from the system battery without any break.
3. **Recovery charge:** Subsequent to restoration of commercial AC. Power and prior to the system battery final voltage, the converter shall automatically re-activate and provides DC power to the inverter, simultaneously recharging the battery system without any interruption.
4. **Bypass supply:** In the event of inverter failure, the critical load shall be

transferred to the bypass source via the static switch without interruption of power to the critical load provided. Manual re-transfer arrangement shall be made in the system to transfer the load from bypass to inverter without any break after attending the fault in the system.

5. **Maintenance bypass operation (Super bypass):** In case of maintenance or repair has to be performed on the UPS, load shall be powered from bypass source through maintenance by pass switch. The power shall be transferred from inverter to normal bypass and maintenance bypass or vice versa without interruption by manual operation. After transferring the load to maintenance bypass, system shall be free from all aspects i.e. switching OFF, switching ON, attending faults etc.

Signature of Tenderer

Name:

Address:

Annexure-A

1. Minimum 150 KVA with N+2 redundancy, modular, hot scalable to at-least 250 KVA with minimum 60 minutes of battery backup on the full load in a single cabinet.
2. The Vendor must include all components including appropriate industry standard cables, power distribution panels, required new copper plate earthing as per Indian Standard, and any other accessories required for the installation and commissioning of the UPS system.
3. The UPS system must have Ethernet and SNMP along with appropriate software & automatic phase reversal corrector. The Ethernet web/SNMP Adaptor must allow one or more Network Management Systems (NMS) to monitor and manage the UPS in a network environment.
4. The UPS system must have replaceable hot swappable power modules. The system must have redundancy in controller modules, and logic power supplies.
5. The UPS system must have internal output distribution system to distribute uninterrupted power for the load. The output distribution must be at the full load capacity from the UPS. The output power must be distributed through 3 phase and neutral bus duct.
6. The vendor will be completely responsible for the implementations of Rodent repellent system using electronic transmitter of high frequency sound waves, which will emit sound at very high dB level painful to pests. Standard guide lines should be followed during the implementation of the same.
7. The battery charging circuit must have an appropriate mechanism that maximizes the battery life. The battery charging circuit must remain active when the system is in Static Bypass and also during the Normal Operation.
8. Input cabling method for both the top or bottom provisions must be available. All electrical wiring cables must be FRLS type (Fire Retardant Low Smoke).
9. A digital display unit should be showing at-least the following parameters: input voltage, output voltage, frequency, battery status, current, logs with date and time stamps.
10. The vendor must have a service network, consisting of well qualified service personnel to perform start-up, preventative maintenance, and service of the UPS system and power equipment. The vendor must offer 24x7 service support in Bhubaneswar.
11. Original replacement parts must be available through the OEM. ORSAC will not allow any component level repairs in the UPS system inside the UPS room.
12. The comprehensive onsite warranty must be offered directly by the OEM.
13. The vendor must provide the onsite operation training to the ORSAC staff
14. The vendor must provide all installation and operational manuals, in hard & soft copy.
15. Vendor must submit the calculation chart of efficiency along with the offer.
16. **Testing /P. D. Inspection at manufacturer's works.**
 - a) Following testing / inspection shall be carried out on completely assembled UPS system at manufacturer's works in presence of ORSAC representatives prior to dispatch.
 - Verification of inventories / components as per work order specifications.
 - Insulation with stand voltage tests.
 - Overload and inrush current tests.
 - Measurement of steady state operating parameters at no load and full load.
 - Measurement of transient response parameters for load changes by load step test.
 - Measurement of individual and total harmonics in output and load variations.
 - Voltage regulation testes due to input voltage and load variations.
 - Efficiency at 25%, 50%, 75% and 100% load.
 - Operational check for automatic / manual transfer for different transfer modes and manual transfer modes with storage oscilloscope having print out facility.
 - Verification of various protection alarm and indications etc. by circuit simulation.
 - Temperature rise test for 12 hours duration.
 - Any other routine test not covered above but required as per relevant IS/ IEC/EN

- standards.
- b) Vendor will arrange all necessary facilities, testing instruments etc. at manufacturer's works for the above purpose.
 - c) Vendor will provide the to & fro Air transportation, Lodging & Boarding facilities for two persons required for PDI. 15 days prior intimation in writing is required for planning the activity.

17. Commissioning Tests at site after installation.

- a) Following Commissioning tests shall be carried out at site after installation in presence of ORSAC representatives.
 - Insulation resistance tests including high voltage insulation withstand test.
 - Earthing of all non-current carrying metallic parts and accessories.
 - Verification of all components as per work order specification.
 - Operational checks for UPS systems with accessories as per work order specification without load and with connected load in circuit.
 - Verification of various protection alarm and indications etc. by circuit simulation.
 - Performance of entire UPS sets with actual available load in circuit.
 - Any other test not indicated above but required as per relevant IEC/EN standards.
 - b) Agency shall arrange testing instruments etc. at site for testing of UPS at site as stated above.
18. Vendor shall be responsible for safety of all their personal at site during erection, testing etc. at all times till completion of works.
19. Vendor shall furnish full details of UPS system including overall dimension details of UPS/Battery bank; make of UPS/ battery bank / accessories; literature of UPS & battery bank etc. along with their offer.
20. Vendor shall furnish all test certificates along with delivery of UPS system.
21. The vendor must be OEM or authorized partner of the OEM. Vendor should submit, currently dated and specifically for this RFP(Request For Proposal) (referring ORSAC Tender No 00/2018)
22. The vendor must deliver a fully operational solution integrating all the components listed in the technical specifications of all sub-systems. The entire solution should satisfy the performance & throughput criteria given elsewhere in this RFP.
23. The proposed UPS must be configured and capable enough to cater to the load assuming all the proposed components are running at peak capacity.
24. The vendor should consider the following points:
- a. All related minor civil & other works required for installation of UPS system (like mounting channels for UPS; etc.) is under the scope of vendor.
 - b. Vendor will supply & install two laminated instruction sheets in UPS room indicating basic operational details of UPS system including safety precautions.
 - c. The vendor must provide separate quotes for UPS and batteries along with Make and Model number they intend to supply. Vendor shall inevitably submit a detailed list of deliverables and/or Bill of Materials, including quantity of each item along with their technical offer positively.
 - d. The vendor must provide operational training to the ORSAC staffs.
 - e. Vendor should have Bhubaneswar service & support office having technical team and proof of this local team must be submitted in the technical offer. A list of Technical Engineers along with their qualifications, experience and tenure of work in local Bhubaneswar office should be submitted along with technical offer.
 - f. For on-site survey, the vendor may visit ORSAC, Bhubaneswar Campus only on any of the working days, after 15 days of release of the tender enquiry but before 5 days of closing of the tender, between 10:00 hrs to 16:00 hrs, by taking prior appointment from ORSAC.

- g.** Quotation should be submitted for the complete product and all Items mentioned under BOM, Installation, Testing, PDI and Training etc.
- h.** Vendors are required to note that they should substantiate the compliance statement, as given in Annexure with necessary and relevant technical documents/data sheets/brochures, wherever applicable, giving their page number references. vendor should not merely write a "Yes/Comply" or "No" or "just refer to a website link" in the "vendor's Response" column but to provide detailed technical description of how they will meet the compliance and also mention salient features/limitations of their proposed respective Solutions, against each point, referring page numbers of attached datasheet document(s).
- i.** The offers received from vendor, without compliance tables, given as Annexure in this RFP, may not be entertained and are liable to be rejected.
- j.** At the time of installation and commissioning of the configuration, if it is found that some additional hardware, accessories and/or items are required to complete the entire configuration and to meet the operational test performance requirement, but which are not included in vendor's original list of deliverables, is required to be supplied by the vendor at NO EXTRA COST TO ORSAC, to ensure the completeness of the configuration solution. Vendor should ensure completeness of the list of deliverables in the offer to avoid such discovery during installation, in consultation with respective OEMs.
- k.** Vendor and its OEM will arrange for giving onsite technical training for operations, and day to day troubleshooting shall be covered in the training. The training should be given by OEM experts in their respective fields.
- l.** The vendor should provide a single resident focal point contact for catering to warranty support including assistance and services; this focal point is hereafter referred as arbitrator. ORSAC will lodge complaints/calls by telephone, e-mail, through web-portal, written complaint or personally to the focal point only. This information should be given along with Technical offer.
- m.** As per ORSAC security policy, remote access to any device (hardware or software) connected on private intranet, that is ORSAC Net network, will not be permitted. Qualified engineer/s from OEM/vendor should visit ORSAC campus to resolve any problem/bug.

Signature of Tenderer

Name:

Address:

ANNEXURE-B
COMPREHENSIVE ANNUAL MAINTENANCE (CAMC)
TERMS & CONDITIONS

Nature of Work: COMPREHENSIVE ANNUAL MAINTENANCE of 150 KVA Modular UPS SYSTEM at ORSAC building at Bhubaneswar.

1. CONTRACT PERIOD

The Comprehensive Annual Maintenance contract shall be for a period of Five Years after the completion of warranty period and shall be quoted separately.

2. SCOPE OF WORK

The scope of the work covered under Comprehensive Annual Maintenance Contract (CAMC) shall for the complete system (excluding batteries). All spares including consumables spares for day to day satisfactory operations, spares required for preventive maintenance and spares required for replacement of defective parts during breakdown maintenance is included in the scope of vendor. Scope of CAMC generally shall cover the following:

- Examinations of basic functions.
- Examinations of power quality and measurements of such parameters.
- Bypass changeover.
- Simulation of a mains failure
- Visual inspection of battery.
- Submission of inspection report.

1. Terms and Conditions of CAMC:

a. Type of Service	Comprehensive Annual Maintenance Contract.
b. Location	ORSAC building at Bhubaneswar.
c. Periodicity of CAMC commencement	Five years from the date of after satisfactory completion of warranty period of Five years.
d. Preventive Maintenance	Once in each month at an interval of 30 ± 5 days between two consecutive preventive maintenance services. Preventive maintenance shall be taken up on working days and in the presence of Department Engineers. Performa for schedule of maintenance involved shall be

submitted and got approved by
ORSAC before
commencement of C AMC.

The scope of AMC generally shall cover:

- Examinations of basic functions.
- Examinations of power quality and measurements of such parameters.
- Bypass changeover.
- Simulation of a mains failure
- Visual inspection of battery.
- Submission of inspection report.
- Measurement of individual battery voltage

- e. Breakdown maintenance Unlimited service. The firm shall depute their Service Engineer/ Technicians to site within reasonable time but not beyond 24 hours from the receipt of break down calls from ORSAC. Emergency calls shall be attended on holidays/ beyond office hours without any extra charges.
- f. Spare Parts The firm shall provide all spare parts free of cost to the ORSAC required for preventive / Break down maintenance of equipment. The firm shall bring essential spare parts during each visit for attending preventive and breakdown maintenance.
- g. Tools, tackles and instruments Tools, tackles and instruments required for preventive maintenance and break down maintenance shall be brought by the firm.
- h. Down time requirements The firm shall repair and put the equipment into satisfactory operation on the same day of attending as far as possible. System up time should be greater than 90%.
- i. Removal of equipment The firm shall make all efforts to repair the equipment as far as possible at ORSAC's premises.
- j. Price The rate indicated in the maintenance contract shall be firm and fixed and there shall not be any price revision during the tenure of the contract.
- k. Extension of Contract In case preventive maintenance service could not be carried out within the specific block period by the firm for reasons beyond their control, ORSAC will have the option to extend the contract proportionately.

I. Failure of Contract

ORSAC reserves the right to revoke the service contract in part or in full or entrust the contract with any other contractor in case the contractor fails to comply with the contractual obligation during the contract period. The contractor shall be responsible for any loss to the ORSAC as a result of non-compliance of the contractual obligation and breach of contract.

m. Relocation/ shifting of equipment

ORSAC reserves the right to relocate the system as and when necessary.

n. Termination of contract

It shall be open to ORSAC to terminate the contract at any time during the contract period by giving three months' notice to the firm in writing.

o. Damages to ORSAC property/ and or injury to Contractor's workers

In the event of any damage to ORSAC's property or personal injury or to the contractor personnel due to the negligence of the contractor's employee, the responsibility shall solely rest upon with the contractor.

Note:

- a. The firm shall submit the service report / inspection report in a printed form to the ORSAC after obtaining the signature of the concerned/ authorized ORSAC official for every preventive maintenance and break down service.
- b. The firm shall depute the service personnel along with spare parts/ materials required based on contractor's experience, in order to minimize the downtime for every preventive / break down service.
- c. The Service Technicians/ Engineers deputed for servicing should have been trained by UPS manufacturer and should have thorough knowledge.
- d. Service provider shall maintain OEM parts of the specific model in stock. Service provider shall be available 24x7 for emergency support

Signature of Tenderer

Name:

Address:

ANNEXURE – C

Compliance Tables for UPS to be furnished by the vendor

Vendor should support these compliances by necessary documentary evidences, without fail, along with the Techno-Commercial offer. Vendor should not just write Yes, No or give a web link as a response to these compliance statements but should write how they are meeting each of these compliance statements and also provide enough techno-commercial information, in writing, to judge them technically, during the technical evaluation phase.

Table:1

Sl. No.	Description	Parameters required	Vendor's Response
1.1	UPS capacity & Technology	150 KVA with (N+2)	
	Module capacity in KW at 40°C continuous temperature.	True online & double conversion	
	Configuration	Modular, Hot scalable up to 250 KVA in a single cabinet	
1.2	UPS Dimensions & Weight	To be furnished by Bidder	
1.3	Factory Test Certificates	CE, ISO 9001 & ISO 14001	
A.1	A/C Input (Charger/Converter)		
	Rated voltage	380/400/415 V.AC (3 phase, 4 wire and ground)	
	Voltage	208 – 475 V AC	
	Input power factor	> 0.99	
	Input frequency	45 Hz – 66 Hz	
	Total Harmonic Distortion	< 3% 100% nonlinear load	
A.2	Input		
	Configuration	3 Phase, 4 wire	
	Input voltage	415V ± 15%	
	Frequency	50 Hz ± 5%	

Sl. No.	Description	Parameters required	Vendor's Response
	Over load on bypass static switch	100% rated current rated continuous 10 times rated current for 20 ms.	
	Automatic phase reversal corrector	UPS has the protection device for phase reversal automatically if there will be any change of phase by energy supplier such as CESU.	
	No break transfer	UPS system shall have logic circuit to sensing the following conditions and transfer the loads from module to bypass without break	
A.3	A/C Output		
	Rated voltage:	380/480/415 V AC (3 phase, 4 wire and ground)	
	Voltage regulation	+/- 1 %	
	Efficiency	up to 95%	
	Power output factor	1 (kVA = KW)	
	Output frequency	50 Hz	
	Frequency regulation	0.1% at battery mode	
	Total Harmonic Distortion	< 2% linear load < 5% nonlinear load	
	Crest factor	3:1	
	Overlaid A/C mode	= 100 % continuous < 125 % 10 min < = 150% 1 min >150 % by pass	
A.4	Input (Bypass)		
	Input voltage:	380/400/415 V A/C 3 phase, 4 wire and ground	
	Frequency:	45 – 66 Hz	

Sl. No.	Description	Parameters required	Vendor's Response
A.5	Battery specification		
	Type	VRLA type (SMF)	
	Backup time	60 minutes at full load. Vendor required to consider multi battery bank for 60 minutes backup in parallel rather than considering single bank.	
	Battery charging cycle	boost/ float charging with current limit & boost time limiter	
	Total VAH	403200 MINIMUM	
A.6	Interface		
	Standard SMS facility, RS-485 (2), RS 232, Intelligent slot (SNMP card, relay card), Parallel (2), dry contact, remote emergency power off, Battery cabinet temperature sensor, Battery cabinet status cable. Parallel operation/ redundancy: up to 2 units (of same size) For SMS facility dedicate computer and mobile SIM will be provided by ORSAC. MODEM will be under the scope of vendor.		
A.7	Environment		
	Operating Temperature	0 to 40 °C	
	Relative Humidity	0 – 90 % (non condensing)	
	Audio able noise	< 70 dBA (at a distance of 1 meter from any side of the UPS system)	
	Storage temperature	- 15°C to + 40°C	
	Protection class	from IP20 to IP30	

Sl.No.	Description	Parameters required	Vendor's Response
A.8	Mimic Display		
	Mains available, Rectifier operative, Inverter operation, Battery voltage OK, Bypass supply OK, Load on bypass, Load on inverter, Fault Codes etc.		
A.9	Alarms		
	Inverter OFF/ failed, Rectifier, OFF/failed, Emergency Stop, Over temperature, Over load,		
A.10	Protection		
	Overload (O/L), Short circuit (SC), Input low voltage, Output Over voltage, Battery over charging, Battery over discharging		
A.11	Metering		
	To select and monitoring the following through LED/ LCD display: - Output voltage, Output Current, Battery voltage (battery status), Battery charge/ discharge current, Input voltage, current and frequency.		
A.12	Protection		
	Overload, Over temperature, Over & under voltage (for input & output)		
A.13	Make of UPS & Battery		
	Make of UPS	Emerson/ VERTIV / Socomec /Riello / APC (Schneider)/ Siemens / General Electric/etc.	
	Make of battery	Exide / Amco/ Panasonic/ Amara Raja	
A.14	Isolation transformer		
	Inbuilt / external ultra copper wound K13 rating isolation dry type transformer– 250 kVA	250 KVA	

Sl. No.	Description	Parameters required	Vendor's Response
A.15	UPS shall have provision for integration with BMS at a later date		
	Approval & standards	IEC 62040-2(CLASS A), 89/336/EEC, VFI-SS-111, EN/IEC/UL60950-1	
A.16	Vendor will be responsible to connect & configure Complete UPS System, Battery Bank, relevant Switchgears and all other accessories		
A.17	Compressive warranty period five year including Batteries from the date of commissioning, including maintenance as per Annexure - B		

Table:2

Sr. No.	Description	Vendor's Response
1.	<p>Has the vendor submitted the tender in two parts?</p> <p>One part containing the technical criteria along with commercial terms submitted together?</p> <p>Has vendor submitted all technical literature/leaflets/documents etc. along with the technical proposal?</p> <p>Vendor should NOT include any price bid related information in this Techno-Commercial offer.</p>	
2.	Payment terms:	
3.	Delivery Period	
4.	Does the vendor agree to a visit, by ORSAC, to vendor's premises for verification of work orders/space/manpower/spares and other infrastructure facilities claimed by vendor ?	
5.	Has supplied his banker's name?	
6.	Has vendor distinctively shown separately all taxes/duties/levies in the price bid?	
7.	Vendor's company should not have been banned, black-listed by any Govt. Dept. /Central Govt. Unit/Public Sector Unit/Financial Institution/Court? Kindly confirm.	
8.	Is Vendor's company registered under Indian Company Act, 1956?	
9.	Has the Vendor got local office at Bhubaneswar?	
10.	Vendor should substantiate documentary proof for possessing enough expertise and experience in handling the similar contracts as given in RFP.	
11.	Has the Vendor got at least 3 years proven experience, in similar solution, at single site?	

Sr. No.	Description	Vendor's Response
12.	Has the Vendor submitted PAN card, TIN/Service Tax nos. and copy of audited balance sheets for the last three years ?	
13.	Does the Vendor agree to produce authorization certificate from manufacturer for required & relevant component/product?	
14.	Whether the Vendor is OEM or authorized partner/Vendor of the OEM or Vendor(SI) of OEM?	
	Has Vendor submitted, currently dated and specifically for this RFP (referring ORSAC Tender No.), OEM authorization letter/s, from all sub- systems OEMs, including Manufacturer Authorization Form (MAF)?	
15.	Whether the Vendor have experience of supplying, supporting and servicing similar products? Provide the details.	
16.	Whether the Vendor will provide all the necessary, relevant and sufficient numbers of cables (of required length) connectors and other components required for the quoted product?	
17.	Whether vendor agrees for performing all possible testing to be carried out at ORSAC premises?	
18.	Has vendor quoted as per the warranty clauses mentioned in this RFP?	
19.	Whether Vendor has inevitably submitted a detailed list of deliverables and/or Bill of Materials, including quantity of each item (without Pricing information), along with their technical offer?	

Sr. No.	Description	Vendor's Response
20.	Whether the Vendor will provide operational training to the ORSAC staffs?	
21.	Whether vendor& OEM give Technical support for the administration/ maintenance as and when required/requested during the warranty period?	
22.	Does the vendor& OEM agree to the fact that if their offers are received without compliance tables, given as Annexure in this RFP are liable to be rejected?	
23.	Whether the Vendor(SIs) will supply, installation, integration and testing of the Complete system and maintenance for as listed in this RFP along with compliance of these specific technical terms and conditions?	
24.	In the light of ORSAC security policy, does vendor& OEM agree that remote access to any device will not be permitted?	
25.	Does vendor& OEM agree that due to above point they would depute qualified engineer/s from OEM for visiting ORSAC campus to resolve any problem if it is not addressed/resolved?	

Signature of Tenderer

Name:

Address:

SCHEDULE "C" DELIVERY DESTINATIONS FOR TENDER NO. 06 /2018 ORSAC

Sl. No	Item	Qty.	Delivery Destination/Consignee
1	Supply, Installation & Commissioning of Modular UPS of 150 KVA with N+2 redundancy in a single cabinet with Battery banks (As per Annexure-B)		ODISHA SPACE APPLICATIONS CENTRE (ORSAC) Dept. of Science & Technology, Govt. of Odisha ,Plot No.45/48(P), JayadevVihar, Near Gopabandhu Academy of Administration, Unit-16, Bhubaneswar-751 023

Accepted the above-mentioned conditions under schedule (C) of the tender for our item of supply.

Signature of Tenderer

Name:

Address:

SCHEDULE (D) – Bid Form of Tender Notice No. 06/2018

To

The Chief Executive
Odisha Space Applications Centre
Bhubaneswar

Sir,

I/ we have gone through the Tender Notice No..... of Odisha Space Applications Centre (ORSAC) and the schedule (A), (B), (C), (D), (E) and (F) of Tender document.

A sum of Rs...../- (Rupees twenty thousand) only is hereby tendered in shape of _____ duly pledged as Earnest Money Deposit (EMD) towards tendered value.

I/ We agree the ORSAC shall be at liberty to forfeit the EMD and performance security as per conditions of the contract in case of defaults on my/ our part in fulfilling contractual obligations.

I/We have gone through all terms and conditions stated in the Tender documents and agree to all the terms and conditions.

Date:

(Signature of Tenderer)

Name:

Address:

Price of Buy Back of one 15 KVA UPS with battery bank										
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Grand Total in Figures (RS.) = Total Price of New UPS (Rs.) – Grand Total of 4 nos. of Bye Back UPS (Rs.)

(Grand Total in Words)

(Signature of Tenderer) Name:

Address:

Schedule “F” - Supply, Installation & Commissioning of required Panel Boards.

Supply, Installation, testing and commissioning of Indoor Floor/wall mounted type Distribution panel board made out of 1.6mm CRCA steel sheet duly painted by siemens gray powder coat paint as per below noted specification:-

i)150 KVA UPS INPUT DB:- 1 No

I/C:- 1 no 400A TP MCCB with Rom.

BBC:- 4 bar Cu. bus duly PVC sleeved.(Size-30mm x 10mm)

O/G :- i) 1 no 320A TP MCCB with Rom.

ii) 4 nos 63A 4P MCB.

ii) 4 nos 32A 2P MCB.

Inst:-i) 3 nos phase indicating lamp with Control fuse.

ii) 1 set of 0-500V Digital Voltmeter.

iii) 1 set of 0-400A Digital Ammeter with 3 nos 400/5A CTs.

iv) 4 nos of 65KA SP VSD with 4 nos 32A SP MCB.

(Duly factory wired)

ii)150 KVA UPS OUTPUT DB:- 1 No

I/C:- 1 no 400A TP MCCB with Rom.

BBC:- 4 bar Cu. bus duly PVC sleeved.(Size-30mm x 10mm)

O/G :- i) 2 nos 100A TP MCCB with Rom.

ii) 3 nos 63A 4P MCB (Isolated. Powered through out put of 3 PHASE Static Transfer Switch – one input of Modular UPS and another input of existing 30KVA 3 PHASE , UPS)

iii) 2 nos 32A 4P MCB.

ii) 20 nos 6A-32A 2P MCB.

Inst:-i) 3 nos phase indicating lamp with Control fuse.

ii) 1 set of 0-500V Digital Voltmeter.

iii) 1 set of 0-400A Digital Ammeter with 3nos 400/5A CTs.

(Duly factory wired)

BUS BAR BOX:-1 No.

Indoor wall mounted type busbar box (size-900mm x 600mm x 450mm) made out of 16 SWG CRCA steel sheet duly powder coat painted with 4 nos copper busbar (Size-50mm x 6mm) duly colour coded PVC sleeves having suitable arrangement for termination of 4 nos single 400 sqmm Al. armoured cable and 16 nos 70 sqmm single core copper unarmoured cable as per direction of Engineer In Charge