

No. RCB/04-01/76/NIT/16/2017-18

Date: 09.01.2018

NOTICE INVITING QUOTATIONS

Sealed tenders are invited in two Parts, 1- Technical Bid and II- Price Bid on behalf of the Executive Director, Regional Centre for Biotechnology for the work **Supply, Installation, Testing and Commissioning of IGBT based Solid State Electronic Voltage regulators** at Regional Centre for Biotechnology, 3RD Milestone Faridabad-Gurgaon Expressway, Faridabad 122001

01. Name of work : **Supply, Installation, Testing and Commissioning and CAMC of IGBT based Solid State Electronic Voltage regulators at Regional Centre for Biotechnology, 3RD Milestone Faridabad-Gurgaon Expressway, Faridabad 122001**

02. Estimated annual cost : **Rs 18.9 Lac**

03. Earnest money : **Rs. 38,000/-**

04. Last date of sale of tender : **29.01.2018 up to 15:00 Hrs.**

05. Last date of receipt of tender : **29.01.2018 up to 15:00 Hrs.**
(Both technical and price bid)

06. Date of opening of the tender : **29.01.2018 at 15.30 Hrs.**
(Technical bid only)

07. Time of completion of job : **45 days from date of issue of LOI.**

08. Pre-qualification criteria:-

(a) The Supplier must be Original Equipment Manufacturer (OEM)/ OEM Authorised Distributor/ Dealer.

b) Supplier/bidder must have service Centre in Delhi NCR.

(c) The contractor should have completed at least one similar work of value not less than 14 Lac, two works of 10 Lac and three similar works of 6.0 Lac of value in CPWD, PWD, R&D in Health Sciences of Govt Department ,Autonomous Body, PSU, or in Reputed private Sector, in preceding Five Years.(Similar work means SIT&C of not less than 200 KVA Solid state Electronic Voltage regulator)

Self Attested copies of the work Completion Certificates issued by the Executive Engineer or above/head of department are required to be enclosed with the technical bid only. On short fall of any document/ EMD, etc., the tender is liable to be rejected. Decision of the Competent Authority shall be final and binding in this regard.

The contractor should also give complete details of the concerned authority such as name with designation, valid address, telephone/ mobile number with STD Code, etc. Contractors must submit definite proof from the appropriate authority, of having satisfactorily completed above said completion of three similar works, during the last five years which shall be to the satisfaction of the Centre. The completed works will be open to inspection (inspection will be done at the risk and cost of the contractor) and in case works is not up to the standard, the tender will summarily be rejected & no queries will be entertained in this regard.

(e) No subletting or sub-contracting of the work will be permitted.

The envelopes should be super-scribed clearly with Name of work and ‘TECHNICAL BID’/ ‘PRICE BID’, providing name(s) and postal address of the Contractor with Phone/ Mobile/ Fax numbers and e-mail address.

The offer shall remain open for at least 180 days. Earnest Money Deposit (EMD) amounting to Rs.38,000/- shall be accepted in the form of Demand Draft/FDR drawn in favour of the Executive Director, RCB, payable at Faridabad and submitted along with Part-I, Technical Bid without which the tender is liable to be rejected.

Executive Engineer

TERMS AND CONDITIONS

1. The work shall be done as per schedule of work, specification terms and conditions and instruction of Engineer-in-charge.
2. Bidder is advised to inspect the site. RCB reserves the right to issue work orders under the contract. Contractor will have no objection for variation in quantities thereon. Measurement will be as per actual work executed.
3. No advance payment shall be made.
4. Income Tax shall be deducted from the bill as per GOI rules for which the contractor should have a PAN No. in the name of registered company or proprietor for depositing TDS.
5. Security deposit @ 5% of bill will be deducted and same will be released after successful expiry of defect liability of one year from date of completion of work.
6. The work shall stand guaranteed for a period of one year from the date of its final completion.
7. The rates shall be inclusive of all charges and duties cartage however GST components should shown clearly. Rates must be **valid and firm** for **period 180 days** from date of opening of price bid.
8. No T&P shall be supplied by the Institute.

Executive Engineer

GENERAL TERMS AND CONDITIONS

Work: Supply, Installation, Testing and Commissioning and CAMC of IGBT based Solid State Electronic Voltage regulators at Regional Centre for Biotechnology, 3RD Milestone Faridabad-Gurgaon Expressway, Faridabad 122001

01. The work shall be done as per tender's terms and conditions, schedule of work, specification and as per the instruction of the Engineer-in-Charge.
02. The contractor should quote rates should be inclusive of labour cartage and duties.
03. The Contractor shall be held responsible for any damage to the equipment(s) / injuries to personnel, caused due to faulty operation/ poor servicing/ mishandling etc by their staff and shall rectify the defects free of cost. Decision of the RCB, authority shall be final in this matter.
04. The Executive Director, RCB reserves the right to cancel any or all the tenders without assigning any reason.
05. Duly sealed tenders shall be dropped in the tender box placed at the reception counter of the RCB building
06. Income tax shall be deducted from the bill as per income tax rules of Govt of India rules. PAN/TIN numbers may be provided along with copies thereof.
07. Electricity and water required for executing the work at site shall be made available by RCB free of cost.
08. No escalation in any form either of materials or of labour shall be payable by the Centre.
09. All materials brought at site shall be got approved by the Engineer-in-charge before being used
10. No T & P shall be supplied by the Institute.
11. The CAMC amount will be paid in half yearly arrears against submission of bill invoice after due certification of satisfactory services by Engineer-Incharge.
12. The contractor shall submit a list of staff employed by him showing their full name, local and permanent address, age. Contractor shall be fully responsible for the safety and security of their staff. No compensation shall be payable by RCB in case of any accident/ death of any of them while operating/ working/carrying out job under tender or otherwise due

to any other reasons happened in or outside RCB. The contractor shall indemnify RCB for such incidents.

13. The Contractor shall offer a guarantee for the workmanship and materials supplied for a period of one year from date of completion date of final bill.

14. Time allowed for the work shall be strictly followed otherwise the contractor shall be liable to pay compensation at the rate of 0.5% of the contract value of the job undone per week of delay on the part of the contractor subject to a maximum of 5% of the total contract value.

However, for any reason beyond the control of the contractor, the extension of time shall be granted upon application by the contractor in prescribed format. No claim for any compensation during the extended period shall be entertained and the centre's decision in this regard shall be final.

15. For proper completion of the work, if any quantity variation or extra items of work are involved, the contractor shall execute the same. Rates of extra items shall be derived from the tender itself as far as possible or else prevailing market rates shall be adopted.

16. In case the Contractors resiles from the offer within the validity of tender or contractor fails to commence the work after issue of the award letter, the earnest money will be forfeited. After commencement of the contract, the amount of earnest money will converted into security deposit.

17. Any claim dispute or difference arising out of or in connection with this agreement and which cannot be settled by mutual consultations, shall be referred to sole Arbitration or an Arbitrator to be appointed by mutual consultations. The award of the Arbitrator shall be final and binding between the parties to this agreement. The Arbitrator proceeding shall be governed by the Arbitration and conciliation ordinance dated 26th March, 1996 and shall be conducted in Delhi.

The agreement drawn shall be subjected to the jurisdiction of the courts at Delhi.

Executive Engineer

PRICE BID

Schedule of work

Work: Supply, Installation, Testing and Commissioning of IGBT based Solid State Electronic Voltage regulators at Regional Centre for Biotechnology, 3RD Milestone Faridabad-Gurgaon Expressway, Faridabad 122001

Sl. No	Description of Items	Qty	Unit	Rate Rs	Amount Rs
1.	Supply, Installation, Testing and Commissioning of IGBT based Solid State Electronic Voltage regulators of 500 KVA Capacity, 3 Phase I/p 400 V + - 20 % and three phase out put 400 V or 230 V in each phase as per specification in annexure-1 Make- ABB, TSi, P2Power	01	Nos		
2.	Supply, Installation, Testing and Commissioning of IGBT based Solid State Electronic Voltage regulators of 200 KVA Capacity, 3 Phase I/p 400 V + - 20 % and three phase out put 400 V or 230 V in each phase as per specification in annexure-1	01	Nos		
3.	Comprehensive Annual Maintenance Contract of 500 KVA (After Defect Liability of one year) including every part/ card, software or up-gradation of software and regular maintenance (quarterly visit) and unlimited breakdown visits.	04	Years		
4	Comprehensive Annual Maintenance Contract of 200 KVA (After Defect Liability of one year) including every part/ consumable/non consumables, cards, software or up-gradation of software and regular maintenance (quarterly visits) and unlimited breakdown visits.	04	Years		
				Total	
				Rs	
				CGST	
				SGST	
			G Total	Rs	
G Total Amount in words: Rupees.....					

Signature of Authorized signatory and seal of agency/bidder

Specifications for 500 KVA and 200 KVA Voltage Regulators

Make- ABB, TSi , P2Power

O/P Voltage Regulation: from No load to full load- 0.5%

Efficiency: > 98.0% from 20% load to 100% Load

Reaction time: <200 micro seconds in during fluctuating

Control frequency of close to 30 KHz

loads of welding, switching on of inductive load.

Continuous step-less precise voltage regulation.

Switching deadband for Complimentary IGBT devices to negate possibility of short circuit.

High grade semiconductor precision fuses to protect IGBT stack.

Should have sag and swell compensation

Should be able to work with regenerative loads

Accurate and precise Output Voltage and current tracking

Should have no requirement of batteries

Individual and fast regulation of individual Phase Voltage:

Compact foot print: for 500 KVA - not more than 1200 mm x 800 mm x 2000 mm

200 KVA - not more than 1400 mm x 700 mm x 2000 mm

Should be able to operate from 2 degree Celsius to 50 Degree ambient with out break down on continuous running.

Cooling : Natural Air Cooled.

Duty cycle: Continuous

Should have no moving parts such as brush, arm it should be completely static.

Should be equipped with latest category heavy duty three stage surge suppression circuit in input and output.

Noise filter at in put and out put to prevent high frequency EMI and RFI noises.

There should be provision for input chokes at IGBT Convertor and out put for EMI/EMC reduction.

There should be suitable rating input MCCB with auxiliary contacts/ add-ons.

Provision of Maintenance bypass MCCB of suitable rating.

There should be auto-bypass with warning as well as manual by pass mode.

There should be provision to adjust output voltage with easy access.

IGBT: Semikron/Infineon/Mitsubishi

IGBT Drivers: Vce saturation protection

Short Circuit/Active clamping protection

Isolated DC-DC Supply for IGBTs.

Losses – No load loss at Min rated in put voltage less than 1% rated KW.

Full load losses: < 2% at Min rated input voltage of rated KW.

Wave form distortion : Nil

Overloading 110% for one hour without break down and continuous running for 24 Hours on 100% load.

Over load Capacity: 125% of rated current
(instantaneous)

Status- LED Green output healthy all three phase.

Bypass : LED Amber

Three phases - LED RYB

Output digital multifunction meter must be provided for measuring/ viewing regulated current voltage and power etc

Environment protection : IP 41 or further improved.

Class of insulation : H

Product should be CE,ROHS and OHSAS certified. Product must be compliant of relevant Indian Electricity rules and standards.

Testing: No load regulation test.

Heat run test

No load efficiency test.

Full load efficiency test

Endurance test.

Note. Each regulator unit shall be provided with detail operating manual with schematic colour diagram (A1 paper Size) and copy of log book/ daily data sheet and explanation of its tracing and functioning. It should have installation connection, turn on, normal operation maintenance and trouble shooting instruction and chart. (latest software copy be provided if system function on any software)

System should be repairable at site. Components must be functionally segregated. In case of unfortunate failure only affected part should be replaced with new/healthy one. In event of failure of IGBTs there should not be any need to sensor or other circuits to keep maintenance low.