

INTER - UNIVERSITY ACCELERATOR CENTRE

(An Autonomous Centre of UGC)
Aruna Asaf Ali Marg, New Delhi - 110067

NOTICE INVITING E - TENDER

Tender No: IUAC/NIT/19R/AS/2019-20

Dated : 29/07/2019

Inter - University Accelerator Centre (IUAC) invites online bids through e-procurement Portal under two bid system, viz., Technical and Financial bids, from eligible / experienced parties for the work/supply of "**Fast Current Integrator and Sensing Electronics to measure the electron beam current from electron gun**" for the DLS project of IUAC".

Tender Documents may be downloaded from Central Public Procurement (CPP) Portal <https://eprocure.gov.in/eprocure/app> and www.iuac.res.in

Aspiring Bidders who have not enrolled / registered in e-procurement portal should enrol / register before participating through the website <https://eprocure.gov.in/eprocure/app>.

Bids should be submitted online only at website: <https://eprocure.gov.in/eprocure/app>. Tenderers / Contractors / Bidders are advised to follow the instructions provided in the e-procurement portal. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned documents.

IUAC reserves the right to accept / reject any / all tenders in part / full without assigning any reasons whatsoever, and the decision of IUAC in this regard will be binding on all the bidders.

Bidders have to select the payment option as "offline" to pay the tender fee / EMD as applicable. The Earnest Money Deposit (EMD) shall be in the form of demand draft issued in favour of "Inter University Accelerator Centre, New Delhi " and it should be deposited in IUAC before the bid opening. Bidders registered with MSME / NSIC and foreign bidders quoting directly are exempted from payments of EMD and tender fee. Copy of valid registration certificate of MSME / NSIC should be uploaded in the portal.

Bidders are advised to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled and submit online without modifying the format.

Any Corrigendum / Amendments in respect of above tender shall be issued on IUAC website www.iuac.res.in and the website <https://eprocure.gov.in> only. Bidders should take into account any corrigendum published on the tender document before submitting their bids.

Prequalification of the Bidder

The bidders must be an internationally reputed company / firm / manufacturer or supplier, who have supplied Beam Current measuring device and its electronics to institutions and research laboratories in India. The supplier must provide a list of users who have used similar item and model / make along with their name, e-mail address, Institute address, contact numbers and the copy of work orders with the technical bid, executed during the last five years.

The company should supply the complete beam current measurement system along with electronics system for measurement of beam current for a light source based accelerator facility as listed in the scope of work. Partial quotation for the individual subsystems will not be accepted.

E - TENDER DOCUMENT

Name of Work / Supply	Fast Current Integrator and Sensing Electronics to measure the electron beam current from electron gun for the DLS project of IUAC
Tender Number	IUAC/NIT/19R/AS/2019-20
Tender Value / Estimate	EUR 75000.00 (Rs. 60,42,000/-)
Earnest Money Deposit	Rs. 1,20,000/-
Tender Document Fee	Rs. 590/-
Bid Submission End Date and Time	14/08/2019 at 3:00 P.M.
Technical Bid Opening Date (Part - A)	16/08/2019 at 3:30 P.M.
Price Bid Opening Date (Part - B)	To be intimated later on to the technically qualified bidders
Address for submission of Tenders	M. B. Joseph, Administrative Officer (S&P) E-mail: joseph@iuac.res.in, Ashish Sharma e-mail: ashish.sharma@iuac.res.in Phone: 011-24126018, 24126022

General Terms and Conditions of the Tender :

1) **Submission of Tender :**

Tenders should be uploaded on CPP Portal in two parts, i.e., Technical Bid (Part - A) and Price Bid / BOQ (Part - B).

2) **Technical Bid (Part - A) :**

In this bid, the bidder should upload the following documents required for technical qualifications. No deviations in respect of NIT conditions are acceptable.

- (a) Documents showing the company profile, organizational setup, credentials and copies of successfully executed work orders for reputed laboratories / institutes in India during the last five years. If the identical or similar equipments / products have been supplied to the other laboratories / institutes in India, the details of such supplies for the last five years must be given together with prices.

- (b) Drawings, catalogues and other technical specifications of the products indicating its ability to meet the technical specifications as per **Annexure - A**.
- (c) Details of After Sales Service / Technical support available in India.
- (d) Obsolete materials must not be supplied. A certificate for this must be submitted.
- (e) The company should also attach a brief justification note to ascertain their capability to undertake and deliver the same system order.
- (f) Tender Acceptance Letter on letter head fully signed and stamped.

Technical bids which are not conforming to the technical specifications will be disqualified.

3) **Price Bid / BOQ (Part - B) :**

In this bid, the bidder is required to quote the rates on Standard BOQ format of .XLS file which is part of this tender. The BOQ format is to be downloaded and then filled and submit online without modifying the format. The prices should be on FOB basis and unconditional.

4) **Scope Of work/supply:**

Fast Current Integrator and dedicated Support Electronics to measure the electron beam current from an electron gun for the DLS project of IUAC as per detailed technical specification and guidelines mentioned in NIT as Annexure A.

5) **Validity of Tender :**

Tender shall be valid for our acceptance without any change in the rates and NIT conditions for a period of **six months** (180 days) from the date of opening the technical bid. No escalation of cost will be acceptable in any condition after opening of tender.

6) **Escalation / Deviation :**

No escalation or deviation shall be allowed till execution of order / contract.

7) **Pre Installation Requirements :**

Pre installation requirements like Power Supply, arrangement of rack, cooling requirement, temperature or humidity control or any other essential requirements which are to be kept ready / completed by IUAC before supply and installation of equipment, must be informed by the bidder clearly in their quotation to avoid any delay in Installation & Commissioning of equipment. Operating conditions and environment should clearly be mentioned.

8) **Inspection :**

The consignment shall be opened in presence of company's representative and inspection of the system will be done by IUAC technical experts/scientists. In case company's representative is not available, the inspection will be done by IUAC team and discrepancy will be intimated to the supplier accordingly. All short supplies will be arranged by the supplier at its own cost. In case of receipt of the material in damaged or defective condition, the supplier will have to arrange the replacement of goods free of cost.

9) **Installation / Commissioning :**

The equipment may be required to be installed/commissioned and demonstrated by the supplier at IUAC's site within a suitable time period on a mutually agreed basis after the delivery of goods at IUAC and the same will be put under operation. It is expected that during the initial performance

test of the equipment, the vendor should help IUAC personnel, if required. The vendor should clearly mention their charges in the quotation in case their personnel need to visit IUAC to assist the initial performance test.

10) **Terms of Payment** :

90% payment will be made through Letter of Credit against complete shipping documents and remaining 10% payment will be released upon successful installation / commissioning at IUAC against a Bank Guarantee of an amount equal to remaining 10% of total value valid for 12 months.

11) **Guarantee/ Quality Assurance** :

- i. The bidder should guarantee for the works/items executed/supplied by him from the manufacturing/engineering defect and bad material/workmanship for a period of at least one year from the date of successful installation at the IUAC. During this period if any replacement of items and/or repairs/rectification is needed, he shall make the same free of cost.
- ii. Only calibrated test equipment shall be used. Copies of the test data sheets shall include lists of the instruments used to perform the tests and the calibration due date of each instrument.
- iii. All units and parts of the equipment shall be properly packaged and delivered in an undamaged condition to IUAC.

12) **Documents and Manuals** :

- i. Upon delivery the vendor should provide the guarantee documents mentioning all the terms and conditions in details.
- ii. All the information along with all the test results, technical descriptions, and data sheets shall be supplied in a bound design and operations manual.
- iii. Set of documents must include operating manuals, safety manuals, periodic maintenance, troubleshooting manuals and maintenance procedure.
- iv. Any other documentation necessary for safe and reliable operation of the equipment should also be supplied. Two sets of the manual should be provided without additional cost.

13) **Software and applications** :

All the software installations (if any) required for measurement and operation of the beam current measurement device will be done at IUAC. All the application and development software including OS, drivers etc. with required license with installable media (if applicable) should be supplied.

14) **Final Acceptance** :

The final acceptance of the system is defined as successful completion of shipment, installation and acceptance tests at IUAC to substantiate compliance with the specification mentioned in annexure A. Complete system with all the accessories and spare parts should reach to IUAC safely with all the mentioned warranty intact.

15) **Post Warranty Period** :

The company must guarantee to supply the spares for a period of at least 10 years. **Extended Warranty** for a period of five years of post-standard warranty period should be offered. During the extended warranty period, the supplier should take care of to-and-fro freight charges for shipping

of such faulty components. IUAC reserves the right to accept / reject the extended warranty conditions.

16) **Delivery Period :**

The time shall be of essence for this contract and entire work as detailed in the Annexure B and C is to be completed and supplied to IUAC within a period of **180 days** from the date of date of issue of purchase order. Any delay in completion of the work for reasons attributable to the vendor / manufacturer is liable for liquidated damages as per clause 17 of NIT. However, under the force-majeure conditions as per clause 18 of NIT, IUAC may grant suitable time extension for which vendor has to request along with the justification / reasons well in advance to the Director, IUAC for approval without any prejudice or price escalation.

17) **Liquidated damages :**

In case the delivery of the listed items is delayed beyond the specified delivery period for reasons attributable to the supplier, deductions on account of liquidated damages @ **0.5 %** per week of the total order value will be deducted subject to maximum 5% of the total order.

18) **Force Majeure:**

IUAC may grant an extension of time limit set for the completion of the work in case timely completion of the work is delayed by force majeure beyond the supplier's control. Force majeure is defined an event of effect that cannot reasonably be anticipated such as acts of God (like earthquakes, floods, tsunami etc.), the direct and indirect consequences of wars (declared or undeclared), national emergencies, civil commotions and strikes (only those which exceeds a duration of ten continuous days) at successful Tenderer's factory. Apart from the extension of the time limit, force majeure does not entitle the successful Tenderer to any relaxation or to any compensation of damage or loss suffered. The decision of the Director, IUAC will be final and binding for the bidder.

19) **Correspondence :**

All the correspondence in respect of tender / contractual obligation shall be made to
The Administrative Officer (S&P),
Inter University Accelerator Centre,
Aruna Asaf Ali Marg, New Delhi - 110067.
e-mail : joseph@iuac.res.in, Phone : +91-11-24126018, 24126022.

20) **Tender Rejection :**

- i. IUAC reserves the right to accept/reject any/all tenders in part/full without assigning any reason whatsoever and the decision of the IUAC in this regard will be binding on all the bidders. **Director, IUAC reserves the right to accept or reject any tender without assigning any reason and does not bind himself to accept the lowest tender.**
- ii. Bids received by means other than e - procurement portal will be rejected.
- iii. Complete bids will be considered. Bids of some part of the product will be rejected.
- iv. If BOQ file is found to be modified by the bidder, the bid will be rejected.
- v. Tenders not complying with any of the provisions stated in this tender document are liable to be rejected.

vi. If the General Terms and conditions are not accepted and not signed by the bidders, then the tender will be rejected.

21) The contract shall be governed by the Indian Laws. Any dispute arising out of this contract will be subjected to jurisdiction of New Delhi / Delhi.

Annexure - A

Technical Specifications:

Sl. No.	Features	Specification	Qty.
1	Fast Current Integrator based System with following features: <ul style="list-style-type: none"> • Pulsed mode of operation as per Annexure B. • Crate based acquisition/signal processing electronics system. • Should be able to measure at least 1 pC charge as per Annexure B. • Charge sensitivity, and timing requirements as per Annexure B. • UHV compatible. 	As per Table 1, Table 2 and Table 3	2 No. s
2	Details of Beam Structure, micro/macro pulse concept of IUAC DLS	As per Annexure B	

Table 1: Specifications of in-flange Integrating Current Transformer

Sl. No.	Parameter	Desired Value	Offered Value
1	Flange Type and dimension	CF 4.5"	
2	Output Connector type	SMA	
3	Pipe Diameter	Outer: 40mm, DN 40 (ID > 30 mm)	
4	Calibration and Testing kit	Required	
5	Input Bias	As per specification	
6	Leak Rate	$\leq 5.0 \times 10^{-11}$ mbar L/s *	

*Vendor should provide a compliance certificate for this.

Table2 : Specifications of Electronics Module

Sl. No.	Parameter	Desired Value	Offered Value
1	Input Sensitivity	Should be able to measure minimum 1pC and maximum 300 pC charge within ~10 ps to be	

		repeated in every 200 ns. Note: The Current integrator should be able to resolve the charges measured within < 200 ns [i.e. rise time + hold or measure time + decay time] so that it can distinguish the fresh charges appearing in every 200 ns.	
2	Supply Voltage	5 to 24 V DC	
3	Trigger In	On-board or External source, synchronized to Fast Current Integrator signal.	
4	Maximum Accepted Jitter in Trigger	< 100 ps	
5	Calibration Mode	Yes	
6	Remote Control	USB/RS-232/RS-485/LAN	
7	Well shielded, and calibrated cable from Sensor to Sensing electronics	20 mtr length	
8	Well shielded, and calibrated cable from Sensing electronics to DSO	05 mtr length	
9	Chassis	Standalone, 2-Channel, 19" Rack Mountable	

Table-3 : Power Supply Considerations

Sl. No.	Parameter	Desired Value	Offered Value
1	Power Supply	230 V AC±10%, 15 A (Max),	
2	Power Consumption	As per design	
3	Operating Environment	Temperature: 20° C – 25° C Relative Humidity: < 80 %	

Important notes about the system:

- 1 Appropriate test points and proper test mechanism/manual must be provided.
- 2 Operation Manual for control and operation of equipment should be provided.
- 3 Factory based Calibration and Test Report must be provided.

- 4 Hardware Warranty and life cycle with AMC options, terms and conditions must be clearly mentioned.

Annexure – B

The Delhi Light Source (DLS) is a pulsed electron machine based on pre-bunched free electron laser. The beam structure for DLS is shown in figure-1 and associated charge is defined in table 4.

Table 4 : Beam Structure and associated charge for DLS

Beam Specification	Minimum	Typical
Beam Energy	2 MeV	~8 MeV
Total charge in one macrobunch	1 pC	240 pC (16 microbunches)
Total Charge in RF cycle (15 macrobunches)	15 pC	3.6 nC

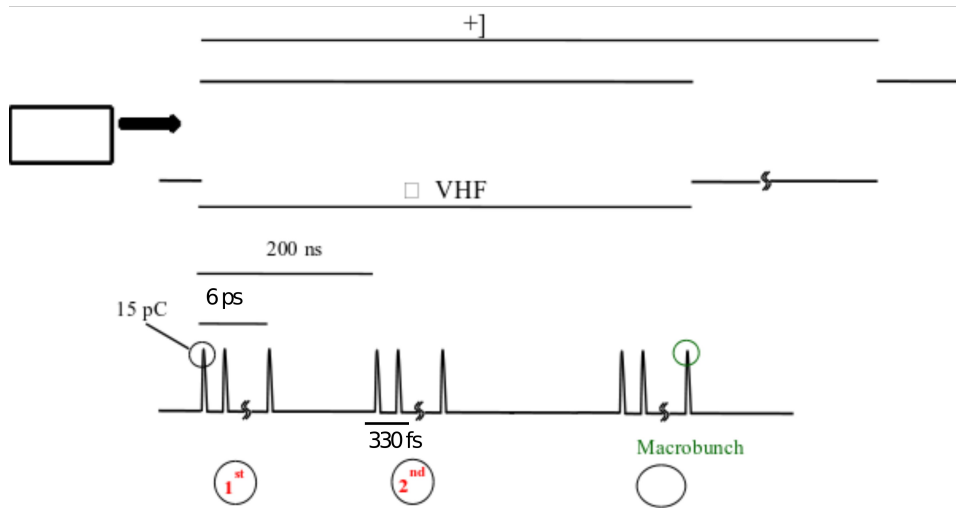


Figure-1: Schematic of electron beam structure for DLS

Name & Signature of Tenderer
Company with Seal

ANNEXURE-
C

BOQ/PRICE
BID FORMAT

(Price shall be quoted in the BOQ /Price Bid section only, which is given separately)

Tender Inviting Authority: INTER UNIVERSITY ACCELERATOR CENTRE

Name of Work/Supply : FAST CURRENT INTEGRATOR AND SENSING
ELECTRONICS TO MEASURE THE ELECTRON BEAM
CURRENT FROM ELECTRON GUN FOR THE DLS PROJECT
OF IUAC

Tender Number : IUAC/NIT/19/AS/2019-20

Name of Bidder : _____

Sl #	Description	Quantity Required	Currency USD/EUR O/GBP	Unit price	Total Price
1	In-flange Fast Current Integrator with Calibration kit	02			
2	Support Electronics for Fast Current Integrator with RF shielded chassis, and required calibrated cables	02			
3	Installation Charges at IUAC (if any)	02			
4	FOB charges up to the nearest airport	01			
5	Extended warranty (Up to 5 Years beyond the period of normal warranty)	01			
6	Any other charges (taxes, duty etc.)				
	TOTAL FOB PRICE				

Name & Signature of Tenderer

Company with Seal

TENDER ACCEPTANCE LETTER
(To be given on Company Letter Head)

Date: _____

To
The Administrative Officer (S&P)
Inter-University Accelerator Centre
Aruna Asaf Ali Marg
New Delhi-110 067.

Sub: Acceptance of Terms & Conditions of Tender.

Tender Reference No: _____

Name of Tender / Work: _____

Dear Sir,

1. We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from the web site(s) namely:

as per your advertisement, given in the above mentioned website(s).

2. We hereby certify that we have read the entire terms and conditions of the tender documents from Page No. _____ to _____ (including all documents like annexure(s), schedule(s), etc .), which form part of the contract agreement and we shall abide hereby by the terms / conditions / clauses contained therein.

3. The corrigendum(s) issued from time to time by your department/ organisation too have also been taken into consideration, while submitting this acceptance letter.

4. We hereby unconditionally accept the tender conditions of above mentioned tender document(s) / corrigendum(s) in its totality / entirety.

5. We do hereby declare that our Firm has not been blacklisted/ debarred by any Govt. Department/ Public sector undertaking.

6. We certify that all information furnished by the our Firm is true & correct and in the event that the information is found to be incorrect/untrue or found violated, then your department/ organisation shall without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,

(Signature of the Bidder, with Official

Seal)