

Electronics Corporation of India Limited
(A Government of India enterprise)
Antenna Products & Satcom Division
Hyderabad – 500062 {A.P.} India
Telephone: 91 40 2712 0017, 2718 2230, 2714 0010
Fax : 91 40 2714 0010
E mail: apd_purchase@ecil.co.in


TENDER NO : ECIL:AP&SD:PUR:14-4460

Date:12-12-2016

TABLE OF CONTENTS OF THIS DOCUMENT

SL.No.	DOCUMENT DESCRIPTION	NO. OF PAGES.
1.	Table of Contents of Document	1 of 11
1	Cover Page	2 of 11
2	Tender Document	3 to 8 of 11
3.	Technical Document : (Annexure-M&E/LSR/001)	9 to 11 of 11
	Total No. of Pages.	11

Cover page to the Tender Document

	<p align="center">ELECTRONICS CORPORATION OF INDIA LIMITED (A Government of India Enterprises) Antenna Products & Satcom Division , ECIL (PO), Hyderabad – 500 062</p>
---	---

Name of Organization		Electronics Corporation of India Limited, Hyderabad – 500 062 {A.P.} India	
Type of Organization		Public Sector Undertaking	
Tender Ref. No:		ECIL:AP&SD:PUR:14-4460	
Tender Title:		Delivery, Installation & Commissioning of the Laser Absolute Interferometer as per enclosed Tender Document	
Product Category:		Laser absolute interferometer	
Document Cost:		Rs. 1000/- (Rupees One Thousand only)	
Tender Value:		EMD: Rs.2,00,000/-	Security Deposit: @10% of order value
Tender type:		Buy	
Location:		Hyderabad {A.P.}	
Request for quote date:		On or before due date	
Last date for submission of bid:		16.02.2016 at 14.00 Hrs	
Opening date of part I		17.02.2016 at 14.00 Hrs	
Description of item:	Delivery, Installation & Commissioning of the Laser Absolute Interferometer	Quantity	
		1 Set	
Pre-Qualification:		As per specifications given in the tender	
Tender Document:		View Tender Document *	
Bid Document:		View Price Bid Document *	
Technical Document:		View Technical Document *	
Sector:	Electronics		
State:	Andhra Pradesh		
For further Information contact: S r . DGM, IMM, AP&SD,ECIL			
E-Mail:	apd_purchase@ecil.co.in		
Phone:	+94 - 40 – 2712 0017 / 2718 2230		
Fax:	+91 -40 – 27140010		

Electronics Corporation of India Limited
(A Government of India enterprise)
Antenna Products & Satcom Division
Hyderabad – 500062 {A.P.} India
Telephone: 91 40 2712 0017, 2718 2230, 2714 0010
Fax : 91 40 2714 0010
E mail: apd_purchase@ecil.co.in

Tender No: ECIL/AP&SD/PUR/14-4460

Tender Document

1. Invitation to Tender:

Electronics Corporation of India Limited, Antenna Products & Communications Division (AP&SD) invites “Two part Bid” for as per details given below.

2. Important Dates

Due date for submission of Two Part Bids : 16-02-2016 up to 14-00 Hrs.

Techno- commercial bid (part 1) will be **opened on 17-02-2016 at 14-00Hrs.** Interested vendors may be present with prior permission.

After evaluation of the techno commercial bids, qualified list of vendors will be finalized.

Price bid (part 2) of the qualified vendors will be opened at a later date, which will be communicated to the qualified vendors.

Pre-bid meeting will be held on 08.02.2016 at 10.00 Hrs.

3. Manner and method of submission of offers:

All pages of the tender shall be numbered and typed on the letter head of the vendor and be duly signed and stamped by company’s authorized signatory. Hand written quotation will be summarily rejected. Corrections if any shall be duly authenticated with signature and seal of the company.

The quotation in prescribed form to this invitation shall be submitted in two parts and in different sealed envelopes super scribing tender number with due date.

Part-I (Technical Bid); It shall comprise of two sections namely technical section and commercial section and both sections shall be submitted along with tender fee and EMD in a single sealed envelope. **This bid shall not contain any price details.**

Part-II (Price Bid): It shall comprise of price details and shall be summated in a sealed separate envelope.

The above two sealed envelopes of Part-I & Part II shall be put in a single sealed envelope and submitted to the attention of Senior Deputy General Manger, AP&SD-MMD,ECIL Post, Hyderabad 500062,AP,India.

4. Cost of Tender Documents:

Tender fee of **Rs.1000/-** is to be remitted along with the techno commercial bid in the form of a crossed bank draft favoring Electronics Corporation of India Limited” from a nationalized bank payable at Hyderabad. The cost of tender document is non-refundable.

5. Earnest Money Deposit (EMD):

Earnest money deposit of Rs.2,00,000/- shall be submitted along with the techno-commercial bid in the form of demand draft favoring Electronic corporation of India limited or a Bank Guarantee valid for a period of six months drawn from a nationalized bank payable at Hyderabad. The EMD deposited by the unsuccessful bidders will be appropriated towards security deposit. The bids will not be considered in the absence of payment towards the cost of tender document and EMD.

6. Security deposit(SD):

The successful bidder will be required to remit a security deposit equivalent to 10% of the purchase order value exclusive of taxes and duties etc. after adjusting the EMD amount already remitted. SD is to be remitted along with the order acceptance in the form of a crossed bank draft favoring Electronic corporation of India limited or a Bank Guarantee from a nationalized bank payable at Hyderabad. The security deposit will be forfeited in the event of failure to execute the purchase order. The security deposit will be refunded without interest after the purchase order is successfully executed to the satisfaction of the purchaser.

7. Items tendered for:

SL. NO	Item description
01	Delivery, Installation & Commissioning of the Laser Absolute Interferometer as per enclosed Annexure

Intending bidders who have not yet registered with ECIL are also requested to download “Suppliers Registration Form” from web [site www.ecil.co.in/tenders](http://www.ecil.co.in/tenders), fill it up and send the same along with the bids.

TENDER SUBMISSION FORMAT (PRICE BID DOCUMENT)

Tender No: : ECIL/AP&SD/PUR/14-4460

Date: 12-12-2016

I Vendor Particulars:

Name and address of the bidder	
Telephone, fax and e-mail	
Name and designation of the office representing vendor	

II Item tendered for:

SL NO	Item description	Qty	Rate	Value
01	Delivery, Installation & Commissioning of the Laser Absolute Interferometer as per enclosed Annexure	1 set		

III Terms and Conditions.

1	Terms of price	
2	Payment terms (Please refer general Terms and Conditions of this tenders)	
3	Rate of Excise Duty, Service, and any other Taxes and duties applicable (in case Vendor imports any item directly Customs duty exemption will not provided by ECIL) Note: Vendor shall specifically mention applicability of all taxes and duties. In the absence of specific confirmation of Taxes and duties, the quotation is liable to be rejected.	
4	Tendered Items are required immediately. Vendors are requested to quote earliest possible delivery schedule.	
5	Standard warranty (minimum 1 year from the date of Installation)	
6	Estimated Packing & forwarding charges.	
7	Validity of quotation (minimum 90 days)	
8	DD No. & Date for Cost of Tender Documents	
9	DD No. & Date for EMD	
10	CST Registration No.	
11	TIN No.	
12	Income Tax PAN No.	
13.	ISO – 9000 Certificate or any other Certification	
14.	SSI / NSI Registration No., if applicable.	
15.	Any other relevant information	

NOTE: The Vendor shall submit offer in the above format only. Against each instructions mentioned below the vendor shall give a comment complied (✓) or Not complied (x)

Instructions :

- a) No column shall be left blank in the format.
- b) Incomplete counter offer and deviation from the Terms and Conditions will be summarily rejected.
- c) Photostat copies of quote / offer will be accepted. Only originals received within the time limit will be accepted.
- d) The vendor shall submit the certificate of registration under micro, small and medium enterprises development Act, 2006, in case of applicability.
- e) The offer shall meet point wise compliance to all points of Tender document, wherever non-compliance is there, suitable explanation needs to be provided.
- f) Technical proposal need not be restricted to the user requirements as given above. Any additional features may be added in the proposal to make it a professional package.
- g) Technical proposal may be as detailed as possible with functional block diagram where ever applicable.
- h) Foreign vendors shall offer bids directly or through their Indian Partners / Representatives.

General Criteria for acceptance of Tenders:

- 1. **Technical Specification:** Vendor shall comply with the Technical specification given in the Technical Document. The commercial offer of the Vendor who satisfies the Technical requirement only will be opened -complied / not complied.
- 2. **Experience :** Vendor shall provide details with documentary evidence the experience in supply of similar systems - complied / not complied.
- 3. **Warranty :** 1 year Free warranty and support is to be provided against all manufacturing defects and software update – complied / not complied.
- 4. **Foreign Vendors** shall have a Branch Office in India / Indian Partners / Representatives rendering support service – complied / not complied.
- 5. **Facilities :** Details of factory assembly and Testing facility shall be furnished. A committee of ECIL may visit to verify the facilities of the vendors for execution of Order if any .
- 6. **Service Centre :** Details of Service Centre location / Engineers working.
- 7. **Acceptance of Tenders :** No Tender will be accepted after due date. ECIL will not be responsible for postal / courier delay or lost in transit if any.

Note: Vendor shall provide documentary proof to prove his adherence to the qualifying criteria where ever necessary. Claims without support will not be considered.

GENERAL TERMS AND CONDITIONS

This Tender and any order resulting from this tender shall be governed by the following Terms and Conditions of the contract and the supplier quoting against this tender shall be deemed to have read and understood the same. In case counter terms and conditions of business have been offered by the supplier, ECIL shall not be deemed to be governed unless specific written acceptance thereof has been obtained from ECIL.

1. **Terms of Price** : Quotation shall be submitted on FOR Hyderabad or FOR destination basis including Transit insurance. In case of ex-works / Ex-godown / FOR dispatching station the approximate packing, forwarding and freight shall be indicated by the suppliers. Hyderabad suppliers shall arrange free delivery at our Stores.
2. **Validity of Quote** : The quotation shall remain valid for a minimum period of 90 days from tender opening date.
3. **Performance Bank Guarantee** : Vendor shall submit a performance bank Guarantee for 10% of Purchase order value covering standard free warranty period of 1 year from the date of acceptance of goods by ECIL.
4. **Payment** : Payments for material and services will be made within 60 days from the date of acceptance of goods and services on pro- rata basis by ECIL.
5. **Insurance** : The supplier shall ensure goods for all transit risks if the payment terms is FOR Hyderabad or FOR destination unless otherwise stated specifically by the supplier in their quotation. The supplier shall ensure goods for all risks till acceptance of goods by End User.
6. **Liquidated Damages** : Delivery date is the essence of the contract. In the event of any delay in supply beyond the agreed delivery schedule, liquidated damages will be recovered @ 0.5% for week of delay or part thereof subject to maximum of 10% of the value of the order.
7. **Force majeure** : If the execution of Purchase Order is delayed beyond the period stipulated in the Purchase Order as a result of out break of hostilities, declaration of any embargo or blockage or fire, flood, acts of nature or any other contingency beyond the suppliers control due to act of God ,then ECIL may allow such additional time by extending the delivery period as justified by the circumstances of the case and its decision in this regard shall be final. Power failure will not be considered as a force majeure condition.
8. **Risk Purchase**: In case of failure to deliver the goods within the delivery date stipulated in the purchase order unless prior extension of delivery period is obtained, ECIL will be at liberty to

obtain such items as necessary from other source or cancel the order and in either case ECIL reserves the right to recover from the supplier the additional amount spent plus 10% to cover incidental expenses.

9. **Dispute resolution:** Any dispute arising out of purchase order or interpretation of any clause or terms and conditions hereof shall be settled through conciliation by both ECIL and the supplier, under the specific provision of arbitrational and conciliation act 1996. Only courts in Ranga Reddy district, state of Andhra Pradesh, India have exclusive jurisdiction over this order.
10. **Right to reject:** The purchase reserves the right to reject any or all offers wholly or in part without assigning any reason.
11. **Short closure:** ECIL has the right to short close the tender even after evaluating the quotations without assigning any reason.
12. **Bank details:** The supplier shall give along with the quotation name of their banker, account number and also income tax permanent (PAN).
13. **Jurisdiction:** All disputes arising in connection with executing the purchase order will be subject to jurisdiction of the courts in Hyderabad and Secunderabad only.

Annexure-M&E/LSR/001

TECHNICAL SPECIFICATION FOR LASER ABSOLUTE INTERFEROMETER

Scope:

The specification covers the technical requirements for the portable, dynamic, six degree of freedom (6 DoF) Absolute Interferometer having capability of both laser interferometer and absolute distance meter. The scope of supply includes Absolute Interferometer with hand held wireless Touch Probe (T-Probe) and its software. The technical specifications and a comprehensive list of items are given below.

S. No.	Technical Specifications
1.	<p>Absolute Interferometer with distance range 20m and probing range of 10m. Accuracy: $U_{x,y,z} = \pm 15 \mu\text{m} + 6 \mu\text{m/m}$ The accuracy is specified as maximum permissible errors (MPE) and shall be calculated per ASME B89.4.19-2006 using precision reflector having optical centering accuracy of $\pm \mu\text{m}$ or better.</p> <p>Angle accuracy: $\pm 15 \mu\text{m} + 6 \mu\text{m/m}$ Angular Repeatability: $\pm 7.5 \mu\text{m} + 3 \mu\text{m/m}$ Angular Resolution: 0.07 arc sec Distance accuracy of absolute interferometer: $\pm 0.5 \mu\text{m/m}$ Dynamic lock on accuracy: $\pm 10 \mu\text{m}$</p> <p><i>Environmental working conditions:</i> Dust/Water/Sand IP54 (IEC 60529) Operating Temperature: 0°C to +40°C Storage Temperature: -25°C to +70°C Humidity Protection: Max 95% non condensing Elevation: 3500m (operating), 12000m (storage)</p> <p><i>Measurement Camera</i> Working principle: Image chip sensitive to infrared radiation. Shutter speed: 100 Hz Image processing accuracy (2σ): $\pm 0.2 \mu\text{m}$ Operating wavelength: 880 nm</p> <p><i>Overview Camera</i> Focal length: Nearly 20 mm Field of View: Approximately 10° (horizontally and vertically). At 10m, Horizontal ~ 1.5m and Vertical ~ 1.5m. Focus: Nearly 17m Video Output: VGA (640x480) Update rate: 10 frames/sec</p> <p><i>Sensor Inclination</i> Setting Accuracy: ± 1.0 arc sec (2σ) Working range: ± 616 arc sec Compensated range for Orient to gravity: ± 227 arc sec Data output rate: 1000 points/sec</p>

	<p>Laser safety class: Class 2 as per IEC 60825-1 (2014-05) “Safety of laser products” / EN 60825-1 (2007-10) “Safety of laser products”</p> <p>The system shall consist of the following items,</p> <ul style="list-style-type: none"> • Absolute Interferometer sensor with transportation case: Size – Nearly 258mm x 225mm x 477mm, Weight – 14 Kg or less. • Absolute Interferometer Controller: Size – Nearly 249mm x 148mm x 59mm, Weight 1.7 Kg or less. • Base Tube: Nearly 862mm effective length, Weight – 9.5 Kg or less • Base Plate: Nearly 615mm Side length, 602mm width, Weight – 18 Kg or less. • Power supply unit • Sensor cable 1.5m • Quick release mount including mandrel • External temperature sensor 2m • Red-Ring Reflector 1.5” • Universal stand fixture • Optical cleaning kit • Protective sensor cover
2.	<p>Reflector and Reflector support</p> <p>The reflector should have optical centering accuracy of $\pm 3 \mu\text{m}$. It should be automatically located and tracked by Absolute Interferometer described above, and should allow high-speed dynamic measurement in volumes of up to 120 m (Ø). The reflector and its support should include the following among others.</p> <ul style="list-style-type: none"> • 1.5” break resistant reflector with collar, protection cover and certificate, packed in a protective box having below mentioned features. Ball radius: $19.05\text{mm} \pm 0.0025\text{mm}$. Centering of optics: $\leq \pm 0.01\text{mm}$ Ball roundness: $\leq \pm 0.003\text{mm}$ Acceptance angle: $\pm 30^\circ$ Weight: 200g or less • Portable metrology collapsible tripod with carbon fibre legs suitable for Absolute Interferometer mentioned above. The tripod height should be adjustable (83cm–118cm) • Reflector holder and drift nest suitable for the reflector.
3.	<p>Hand held wireless T-probe with below mentioned features.</p> <p>Accuracy: $\pm 35 \mu\text{m}$ (to be added to the accuracy of Absolute Interferometer, $U_{x,y,z}$)</p> <p>Physical Dimensions: Size - Nearly 225mm x 130mm x 120mm, Weight (including 3.6V, 2300mAh Li-Ion battery) 0.5 Kg or less</p> <p><i>Environmental working conditions:</i> Operating Temperature: 0°C to $+40^\circ\text{C}$ Storage Temperature: -10°C to $+60^\circ\text{C}$ Humidity Protection: 10% to 90% non condensing Elevation: 3500m (operating), 12000m (storage)</p>

	<p>Protection against solid foreign object and water: IP40 (IEC60529)</p> <p><i>Range:</i> The measurement range of the probe shall be 25m in all directions. Rotation angles: Pitch $\pm 45^\circ$, Yaw $\pm 45^\circ$, Roll $\pm 360^\circ$.</p> <p>The probe shall come with ruby ball stylus (dia-6mm), probe stylus adaptor, stylus compensation tool, 20m cable, power supply for battery, spare battery and transportation case.</p> <p>The probe shall also be accompanied with a probe styli kit and a stylus extension (stem dia-20mm, made of carbon fibre) of length 400mm.</p> <p>The probe styli kit shall contain the following,</p> <ul style="list-style-type: none"> • Five different styli, i.e. Scribe stylus R=0.1mm - M2 connector, two numbers of Ruby ball stylus, D=3mm - M5 connector and D=6mm - M5 connector each, and two numbers of Ceramic hemispherical stylus, D=0.5"- M5 connector and D=1.5"- M5 connector each. • Three carbon fibre styli extensions with M5 end fittings of length 40mm, 100mm and 200mm each. • Two probe stylus adaptors – M5 with precision quick release and self identification • Stylus tools for M2-M3/M4/M5 threaded styli and styli kit case
--	--

General Notes:

1. The firm should supply and commission the items mentioned in this specifications at ECIL, Hyderabad.
2. Delivery schedule shall be 6 weeks from placement of purchase order.
3. The supplier should quote a lump-sum cost of all the items mentioned in the above specifications. Any partial quotation shall be rejected.
4. The firm should arrange for training for 5 persons for 5 days at ECIL, Hyderabad at no additional cost.
5. The firm should provide 1 year warranty from the date of successful commissioning of the items.
6. All other terms and conditions shall be as per ECIL standard format.