

# TIRUCHIRAPPALLI REGIONAL ENGINEERING COLLEGE SCIENCE AND TECHNOLOGY ENTREPRENEURS PARK

## TIRUCHIRAPPALLI 620015

*FACILITIES MANAGEMENT*

Web : [www.trecstep.com](http://www.trecstep.com)

Phone : 0431 2500085



Tender Notification No.: TREC-STEP/NA- AIMEIC-NTF/2017-18/CWS/CNC-TC/006

Dated: 11/10/2017

## TENDER DOCUMENT

- Name of the component : **CNC TURNING CENTER WITH TOOLING PACKAGE** 01 set  
Slant Bed CNC machine with control, AC servo for spindle & Axes. A2-6 spindle cartridge 7.5/11 kW power, Basic Hydraulic & coolant systems, Auto Lubrication system, Basic Guarding, TOOL KIT, installation, commissioning @ TREC – STEP Trichy & Std accessories
- Quantity required : One unit with all accessories and spares (for details refer Section 3)
- EMD Amount : Rs. 60,000/-
- Cost of the Tender Document : Rs. 150/-
- Delivery : 12 Weeks from the date of purchase order
- Last Date of submission of Tender : **03/11 /2017 at 2.00 PM**
- Address for submission of Tender : The Executive Director,  
TREC-STEP- NITT Campus Tiruchirappalli,  
Tamilnadu, India, Pin Code– 620015  
Email: [jawa\\_ts@yahoo.com](mailto:jawa_ts@yahoo.com) Phone: **0431 2500085**
- Date of opening of technical bid : **03/11/2017 at 3.00 PM**  
The Date of opening for Commercial Bid will be communicated through E-mail.

**TIRUCHIRAPPALLI REGIONAL ENGINEERING COLLEGE**  
**SCIENCE AND TECHNOLOGY ENTREPRENEURS PARK**

**Tender Notification No: TREC-STEP/NA- AIMEIC-NTF/2017-18/CWS/CNC-TC/006 Dated: 11- 10-2017**

**NOTICE INVITING TENDER**

The TREC-STEP Tiruchirappalli, promoted by Dept of Science & Technology, Government of India, Govt of Tamil Nadu, IDBI, ICICI, IFCL & State Financial Institutions is proposed to procure the following machine towards valuable additions with CNC technology in the TREC-STEP common facility center for the benefit of incubators / Entrepreneurs'.

Sealed Quotations under **Two cover System** are invited for the following component subject to the following terms and conditions, from the reputed manufacturers or their authorized dealers so as to reach this office on or before scheduled date and time. The technical cover will be opened on the same day in the presence of bidders or their authorized agents who may choose to be present.

Name of the component : **CNC TURNING CENTER WITH TOOLING PACKAGE**

Quantity required : One unit with all accessories and spares (for details refer Section 3)

EMD : **Rs. 60,000/-**

Cost of the Tender Document : **Rs. 150/-**

Time for completion of supply after placing purchase order : 12 Weeks

Last Date for submission of Tender : **03/11/2017 at 2.00 PM**

Tender to be submitted at the following address: The Executive Director,  
TREC-STEP, NITT Campus  
Thuvakudi  
Tiruchirappalli,  
Tamilnadu, India,  
Pin Code– 620015

Email: [jawa\\_ts@yahoo.com](mailto:jawa_ts@yahoo.com) Phone **0431 2500085**

***Place, Date and time of opening of bid*** :

**Date: 03/11/2017 Time: 3.00 PM Venue: TREC STEP Office Room**

**Note:** TREC-STEP shall not be responsible for any postal delay about non-receipt / non-delivery of the bids.

INSTRUCTIONS TO BIDDERS

**BIDDER'S COPY**

1. This document set contains the following:
  - a) Terms and conditions of the Tender
  - b) Details of the Firm offering this Quote
  - c) Technical Compliance Form
  - c) Quotation form (Price Bid)
  - d) Currency Form (quoted on behalf of the foreign suppliers)
  - d) TREC-STEP's checklist copy
2. The bidder's copy is for your future records. Please fill in and return only TREC-STEP's copy.
3. The bidder should give details of their technical soundness and provide a list of customers of previous supply of similar items to Universities, Institutes or Government Departments/Undertakings/public sectors with contact details. The details of the agency/profile should be furnished along with the copy of all related documents.
4. Read through the terms and conditions given and affix your signature and seal if you find them acceptable. Any deviations may be recorded. Read carefully the list of specifications that we have enclosed.
5. Fill in the questionnaire regarding the Firm.
6. The downloaded documents '**Technical Compliance Form**' and '**Quotation Form (Price Bid)**' should be **TYPEWRITTEN USING CAPITAL LETTERS ONLY**. At the time of filling the "**Quotation Form (Price Bid)**" make sure that you have not missed anything. Specify the model number & specification for each item. The form should be filled item-wise. Do not leave blank fields. If you are not quoting for a specific item, you should specify "**NOT QUOTING**".
7. **Do not use** ambiguous terms like "**YES**", "**COMPLIED**" OR "**AVAILABLE**". Specifically, mention the **matching specification of the product** offered by you. Make sure that you have affixed your signature with date and seal on all the documents.
8. Please send the tenders in a sealed envelope super scribed as "**QUOTATIONS AGAINST TENDER NOTIFICATION NO: TREC-STEP/NA- AIMEIC-NTF/2017-18/CWS/CNC-TC/006, CNC TURNING CENTER WITH TOOLING PACKAGE\_ 01 set**" so as to reach "**The Executive Director, TREC-STEP, NITT Campus, Tiruchirappalli - 620 015, India**" on or before **03/11/2017 by 2.00 PM**
9. For any further clarifications, contact by E-Mail: [sanks1956@gmail.com](mailto:sanks1956@gmail.com) (or) by written request to "The Executive Director TREC-STEP, NITT Campus Tiruchirappalli - 620 015, India".

**Last Date for receipt of tender at TREC-STEP : 03/11/2017 by 2.00 PM**  
**Opening Date for Tender : 0311/2017 by 3.00 PM**

**CHECKLIST TO BE FILLED IN BY BIDDER**

List of documents to be enclosed	Completed & Signed
1. Terms and Conditions form	YES / NO
2. Details of the Firm offering this Quote	YES / NO
3. TREC-STEP's Quotation form (Technical & Price	YES / NO
4. Currency Form(quoted on behalf of the foreign suppliers)	YES / NO
5. Other technical specifications & pamphlets	YES / NO

- Note:** 1. "Cover" should contain the following:
- a. Form of "**Acceptance of Terms and Conditions**".
  - b. Form of "**Firms details**"
  - c. Pamphlets, if any (in a separate sealed cover)
2. Quotation Form (Technical, Price Bid and Currency Form)

Please retain this page with you for your future reference.

**SECTION 1: TWO BID TENDERS**

**1.1 Bids are to be submitted under two cover system.**

**1.2 Cover 1:**

**Cover 1 should contain the following:**

- a EMD - Earnest Money Deposit (EMD) is to be remitted by way of Demand Draft drawn on any Nationalised bank in India by Demand Draft drawn on any scheduled bank in favour of “The Executive Director, TREC-STEP, Trichy” payable at Trichy should be submitted. EMD shall bear no interest. Any bid not accompanying with EMD is liable to be treated as non-responsive and rejected.**
- b Tender document cost to be remitted by way of Demand Draft drawn on any Nationalised bank in India by Demand Draft drawn on any scheduled bank in favour of “The Executive Director, TREC-STEP, Trichy” payable at Trichy should be submitted.**
- c Technical pamphlets**
- d Detailed technical specification**
- e The agency should furnish copy of license certificate for manufacture/supply of the item\***
- f The agency should furnish Income Tax PAN number & GSTIN number.\***
- g The agency should furnish the last three years balance sheet approved by the CA and the IT clearance certificate.\***
- h Warranty period offered for the tendered item to be specified. If the warranty period is not conforming with the schedule of requirements given in Section 3 of the document, the bid is liable to be treated as non-responsive and rejected.**
- i Duly filled Part A of the Bid documents**
- j Duly filled up deviation schedules to technical specification covered in Part B**
- k Copy of supply orders completed during the last three years**
- l If the prices are revealed in the cover 1, the offer will be summarily rejected**

**1.3 The cover 1 shall be superscribed as ‘Technical cover’ duly indicating the Tender reference No. and the due date of opening.**

**\* Appropriately pertaining to the country of origin.**

**1.3 Cover 2:**

**Cover 2 should contain the following**

**Cover 2 shall contain Price only and shall be superscribed as ‘Price Cover’ duly indicating the Tender Reference No. and the due date of opening.**

**Each Cover shall be sent in a double sealed cover. The inner covers (Cover 1 and Cover 2) should be sealed individually with the Sellers’s distinctive seal and superscribed with the tender reference no. and due date of opening. Both the inner covers shall be placed in a common outer cover which shall also be sealed with seller’s distinctive seal and superscribed with the tender reference no. and due date of opening.**

**Cover 1 will be opened on the scheduled date and time mentioned in the tender enquiry.**

**Cover 2 of the technically and commercially suitable offers alone will be opened on a date which will be intimated to the qualified bidders by email.**

**SECTION 2: “TERMS AND CONDITIONS FORM”****IMPORTANT: READ ALL THE FOLLOWING TERMS AND CONDITIONS  
AND SIGN THE ACCEPTANCE CLAUSE FOLLOWING IT**

1. The offers should be addressed to “The Executive Director, TREC-STEP, NITT Campus, Tiruchirappalli 620015, India and should be sent in a sealed envelope superscribed “**QUOTATIONS AGAINST TENDER NOTIFICATION No.:** TREC-STEP/NA- AIMEIC-NTF/2017-18/CWS/CNC-TC/006, **Item: CNC TURNING CENTER WITH TOOLING PACKAGE 01 set**” so as to reach us **on or before 03/11/2017 by 2.00 PM**
2. Each offer should be sent in a sealed cover with the tender documents. Tenders received through email or FAX will not be considered.
3. The tenders will be opened on **03/11/2017 at 3.00 PM** in the presence of the vendors present with an authorization letter from the respective companies/firms. Suppliers intending to attend the tender opening should intimate us in advance.
4. Full technical specifications and pamphlets should be sent along with the tenders. **Offers without proper technical specifications will be rejected.**
5. The rate quoted should be on a unit basis excluding Taxes. Taxes and other charges should be quoted separately, considering exemptions if any.
6. All offers should indicate the taxes and duties applicable if any. Additional charges for packing, forwarding, freight, insurance etc., if any, should be clearly mentioned. Clearance at Customs will be arranged by us.
7. In case the offered items are to be imported, the rates should be quoted in foreign currency on C.I.F. Chennai Airport basis, and it should include the Freight up to Chennai airport and the insurance cover should be up to TREC-STEP, Tiruchirappalli. TREC-STEP shall pay Customs duty if any.
8. If the price quoted is in foreign currency and if the order value is more than US\$10,000 then 100% payment will be made through **Letter of Credit (LC) at sight on acceptance**. If the order value is less than US\$10,000, then 100% payment will be through a Telegraphic Transfer (TT). **The bank charges outside India should be borne by the Supplier / Beneficiary. Part shipment not allowed.** If the price quoted is in Indian Rupees, then 100% payment will be made only after installation and commissioning. **No advance payment will be made.**
9. No revision of the price bid will be allowed once the price bids are opened. In case of foreign currency, the agency should mention the % of currency fluctuations they can bear.
10. No increase in price will be allowed after our firm orders are placed.
11. **Payment of GST (on ultimate products)** as applicable on the closing date of the tender will be to the supplier’s / contractor’s account. Any statutory variation (both plus and minus) in the rate of GST after closing date of tender/revised price bid but before the expiry of the contractual delivery/completion period will be to the account of the office.

The bidder(s) will indicate, in their bid, the amount with exact rate of the GST on the ultimate finished product, as applicable at tendering stage, separately in the bid. In case the above information subsequently proves wrong, incorrect or misleading (a) TREC-STEP will have no liability to reimburse the excess in the difference in rates of the item under which the GST assessed finally (b) TREC-STEP will have the right to recover the difference in case the rate of GST finally assessed is on the lower side. Any increase in, GST during an extended period of the contract/supply order will be to supplier’s / contractor’s account where such extension in the delivery of the materials/completion of the project was at the request of supplier/contractor. However, any decrease in GST during an extended period of the contract/supply order will be to the account of this office.

12. The warranty period should be clearly mentioned. The maintenance charges (AMC) under different schemes after the expiry of the warranty period should also be mentioned for 3 years.
13. The quote should come from authorized dealer or distributor or reseller for each of the product quoted. An authorization letter should accompany your quote for each product quoted; otherwise, it may lead to rejection.
14. The delivery period and other terms should be clearly mentioned.
15. Eligibility: Quotation from registered firms/company's / manufacturer under GST / other statutory bodies alone be considered. Any Manufacturer / Supplier / Dealer who has been declared ineligible by World Bank/government of India shall not be eligible to participate in this bid. Any fraudulent practices including concealing of facts at the time of submission of bid and thereafter shall lead to disqualification. List of beneficiaries especially from Educational Institutions / R & D Institutions should also be enclosed with the quotations.
16. The firm must have at least 50 installations of **CNC TURNING CENTER WITH TOOLING PACKAGE** within India for the desired experience of maintenance.
17. The complete user, technical and service documentation, and spare parts catalog are to be provided along with the supply of the item.
18. The vendors are informed that they should not call us over the phone or contact us in person. All clarifications can be obtained through E-Mail/FAX/Post. Vendors shall not make attempts to establish unsolicited and un-authorized, contact with us after the opening of the offers and prior to the notification of the award.
19. Any attempt by any vendor to bring to bear extraneous pressures on us shall be sufficient reason to disqualify the vendor.
20. Delay/loss in postal transit or due to other reasons will not be TREC-STEP's responsibility.
21. We are not responsible for the accidental opening of the covers that are not properly superscribed and sealed before the time scheduled for opening.
22. The tender should be made only on the "Technical compliance form" & "Quotation form" which is available on our website, otherwise, it shall lead to rejection. The technical compliance form & PRICE BID FORM should be duly filled up (preferably **TYPE WRITTEN IN CAPITAL LETTERS**) and should clearly mention the features offered by the bidder against each specification.
23. Authorized signatory should sign on all the pages. **Bids without authorized signatures will be rejected.**
24. The manufacturers of the quoted make of the product must be of national/international repute and having ISO /BIS certificate.
25. **Liquidated damages:** If the bidder/supplier, after accepting the Purchase Order, fails to deliver any or all of the Goods within the period specified in the Order, TREC-STEP shall, without prejudice to its other remedies under the Rules of Purchase, proceed to cancel the order or agree to accept a delayed delivery on the condition of payment of liquidated damages by the bidder / supplier a sum equivalent to 0.50% of the total cost as indicated in the Purchase Order (which will be deemed as agreed price) for each week or part thereof of delay until actual delivery or performance is completed and such penal charges shall be limited to a maximum of 5% of the total cost. Once the maximum is reached TREC-STEP-T may proceed on its own to consider the termination/cancellation of the order.
26. **The vendors are informed that they should sign a stamp paper agreement with us, for Warranty, AMC, etc. before placing the final purchase order as per our terms & conditions and 5% of purchase order value in the form of bank guarantee towards performance security. The bank guarantee will be returned to the supplier after the successful completion of supply, installation, and the warranty period.**
27. Failure to comply with all the terms and conditions mentioned herein would result in the tender being summarily rejected.
28. Vendors are informed that once the companies are shortlisted based on the technical specification, only then the price bids of the firms that meet TREC-STEP's Technical specification/requirements would be compared.
29. The order will be based on the actual requirement at the time of ordering, optional items may also be ordered based on the actual requirements and funds availability at the time of ordering. Not quoting for optional items may result in disqualification.
30. TREC-STEP reserves the right to modify or alter the specifications after short listing of tenderers.



31. TREC-STEP reserves the right to change the order quantity or split the orders among multiple vendors without assigning any reason(s) whatsoever.
32. TREC-STEP reserves the right to reject any or all the tenders without assigning any reasons whatsoever.
33. TREC-STEP reserves the right to purchase decreased number of quantity of the item to be purchased
34. The agencies should submit their rate as per the format given in Section 4 of the Notice Inviting Tender in this cover. All the pages of the bid should be signed affixing the seal. All corrections and overwriting should be initialed.
35. The tender will be accepted only from the manufacturer or its authorized supplier.
36. The bid shall be in the format of price schedule given in Section 4. The contract form as per format given in section 5 shall be submitted. Incomplete or conditional tender will be rejected.
37. Details of quantity and the specifications are mentioned in Section 3 appended to this Notice Inviting Tender

**Imports:** In case, goods are to be imported, the Indian agent should furnish authorization certificate by the principles abroad for submission of the bid in response to this Notice Inviting Tender.

**Clarification of Tender Document:** A prospective bidder requiring any clarification of the Tender document may communicate to the contact person given in this notice inviting tender.

**Amendment of tender document:** At any time prior to the last date of receipt of bids, TREC-STEP may for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the Tender document by an amendment.

***The TREC-STEP may at its own discretion extend the last date for the receipt of bids.***

The bids shall be written in English language and any information printed in another language shall be accompanied by an English translation, in which case for the purpose of interpretation of the bid, the English translation shall govern.

TREC-STEP reserves the right of accepting any bid other than the lowest or even rejecting all the bids without assigning any reasons therefore. The decision of the TREC-STEP Purchase Committee is final in all matters of tender and purchase.

The bidder should give the following declaration while submitting the Tender.

### **ACCEPTANCE**

We accept the above terms and conditions and shall comply with them strictly.

**NAME OF THE VENDOR:**  
**ADDRESS :**

**“DETAILS OF THE FIRM OFFERING THIS QUOTE”**

**(Write or print or type in block letters and please answer all the questions)**

1. Name of the firm?       2. Date of incorporation?
3. Nature of the company - Government / Public / Private Company / Partnership / Proprietorship:
4. Specify the number of years in this line of activity by the Company:

5. Quantity of sales in the last three years for the “.....” (Same model that you have quoted)?

2014-2015	2015-2016	2016-2017

6. Turnover in the last three years (Figures should be in Indian Rupees in Lakhs):

2014-2015	2015-2016	2016-2017

7. Provide the postal address, telephone & fax numbers, and email address of the nearest service center.

8. A) Number of service engineers in the above location trained on the product quoted along with their educational qualification, certification and designation (applicable only for instruments) and B) Assured response time for service calls in hours:

A)	B)
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9. What would be the delivery period in days from the date we place an official purchase order.

2. Enclose the list of customers to whom you have supplied “.....” during the last 1 year ending 30/03/2017 with full postal address and name of the contact person with phone, FAX numbers, and E-Mail id. Certificate regarding the satisfactory performance of the “.....” from minimum two end users should be furnished.

3. Are you the authorized dealer or distributor or reseller for the products quoted:

4. Have you supplied “.....” to TREC-STEP, Tiruchirappalli in the last 1 year? If yes, specify the quantity supplied in the last 1 year and last PO reference



5. Was there any elapse or delay in supplying the goods ordered or any service related issue during the warranty period for the products ordered by TREC-STEP with your firm? If yes, provide details.

6. On Manufacturer's Side to whom TREC-STEP have to contact in case of delayed supply and other issues committed by the authorized dealer/distributor/reseller :

Contact Person Name: Address: E-mail ID:	Telephone / Cell Phone:
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**DECLARATION**

I/we have not tampered/modified the tender forms in any manner. In case, if the same is found to be tampered/modified, I/we understand that my/our tender will be summarily rejected and full Earnest Money Deposit (EMD) will be forfeited and I/we am/are liable to be banned from doing business with TREC-STEP, Trichy and /or prosecuted.

**Signature of the Bidder** : .....

**Name and Designation** : .....

**Business Address** : .....  
 .....  
 .....

**Place :**

**Date:**

**Seal of the Bidder's Firm**

**SECTION: 3 SCHEDULE OF REQUIREMENTS, SPECIFICATIONS AND ALLIED DETAILS**

Name of the Component to be procured	:	<b><u>CNC TURNING CENTER WITH TOOLING PACKAGE</u> 01 set</b>
Specifications	:	<b>Refer Annexure I Part A &amp; Part B</b>
Quantity	:	One unit with all attachments, accessories, and spares as per <b>Annexure 1 Part A &amp; Part B</b>
Any other details/requirement	:	<b>Refer Annexure I – Part A &amp; B</b>
Warranty period required	:	Minimum 2-year warranty should be provided for a continuous operation of the item, attachments, and accessories from the date of acceptance and inspection at TREC-STEP, Trichy
Delivery schedule expected after release of purchase order (in weeks)	:	12 Weeks from the date of receipt of purchase order, the order is to be dispatched to TREC-STEP, Trichy Tiruchirappalli.
EMD (in Rupees)	:	<b>Rs. 60,000/-</b>
Performance Security to be given by Successful bidder after release of purchase order (in Rupees)	:	<b>5 % of the equipment Cost</b>

**SECTION: 4 PRICE SCHEDULE**

[To be used by the bidder for submission of the bid]

1. Component Name :
  
2. Specifications (confirming to Section 3 of Tender document-enclose additional sheets if necessary) :
3. Currency and Unit Price(excluding Taxes) :
4. Quantity :
  
5. Item cost (Sl.No.3 & Sl.No.4) (in Indian Rupee) :
6. Taxes and other charges :
  - (i) Specify the type of taxes and duties in percentages and also in figures
  - (ii) Specify other charges in figures :
7. Warranty period (confirming to the Section 3 of Tender document. This should be mentioned in Technical bid also in order to get qualified for Financial bid) :
8. Delivery Schedule (confirming to the Section 3 of Tender document) :
9. Name and address of the firm for placing purchase order :
10. Name and address of Indian authorized agent (in case of imports only) :
11. **Submit the Price bid as per the given format in Annexure II**

**Signature of the Bidder** : .....

**Name and Designation** : .....

**Business Address** : .....  
 .....  
 .....

**Place :**  
**Date:**

**Seal of the Bidder's Firm**

**SECTION: 5 CONTRACT FORM**

[To be provided by the bidder in the business letter head]

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1. (Name of the Supplier’s Firm) hereby abide to deliver the .....by the delivery schedule mentioned in Section 3 tender document for the supply of the items if the purchase order is awarded.
  
2. The item will be supplied conforming to the specifications stated in the tender document without any defect and deviations.
  
3. Warranty will be given for the period mentioned in the tender document and service will be rendered to the satisfaction of TREC-STEP, Trichy during this period.

**Signature of the Bidder** : .....

**Name and Designation** : .....

**Business Address** : .....  
.....  
.....

**Place :**

**Date:**

**Seal of the Bidder’s Firm**

## Annexure I

### PART A

## SLANTBED CNC LATHE

### SECTION – I: QUALIFYING CRITERIA

The BIDDER has to compulsorily meet the following requirements to get qualified for considering the technical offer for the SLANTBED CNC LATHE.

S. No.	REQUIREMENTS	Vendor's Response
1	<p>Only those vendors (OEMs), who have supplied and commissioned at least one <b>Slantbed CNC Lathe</b> with</p> <p><b>1. Spindle power 11KW or more and</b></p> <p><b>2. Turning length between centers 650mm or more in India</b></p> <p>in the past ten years and such machine should be working satisfactorily for a minimum period of one year after commissioning, as on the date of opening of this Tender are eligible to quote.</p>	
<p><b>The vendor should submit the following information where the similar machine has been supplied, for qualification of this offer.</b></p>		
1.1	Name and postal address of the customer or company where the similar machine is installed.	
1.2	Name and designation of the contact person of the customer.	
1.3	Phone, FAX no and email address of the contact person of the customer.	
1.4	Month and Year of commissioning of the machine.	
1.5	Parameters of machine supplied, viz. Spindle power, Max Turning length etc and the application for which the machine is supplied.	
1.6	<p>Along with the Technical offer, the Vendor should submit one Performance certificate from the customer for the satisfactory performance of the machine supplied to them. For obtaining the Performance certificate, a suggestive format is provided in</p> <p><b>SECTION – IV.</b></p>	
2.0	TREC-STEP reserves the right to verify the information provided by the vendor. In case the information provided by the vendor is found to be false/ incorrect, the offer shall be rejected.	

## SECTION – II

The BIDDER / VENDOR is requested to provide the following information:

S. No.	REQUIREMENTS	Vendor's Response
3.0	The BIDDER/VENDOR to furnish Reference List of Customers, with full address, details of contact person, where Slantbed CNC Lathes have been supplied in the past.	
4.0	Details on SERVICE-AFTER-SALES Set-Up in India including the Address of Agents / Service Centers in South India.	
5.0	Any Additional Data to supplement the manufacturing capability of the BIDDER for the subject equipment.	

## SECTION – III

*The BIDDER to note:*

S. No.	PARTICULARS	Vendor's Response
6.0	The BIDDER / VENDOR shall submit the offer in TWO PARTS. 1. Technical Offer [with PART A & PART B] and Commercial offer. 2. Price Bid.	
7.0	The Technical Offer shall contain a comparative statement of Technical <b>Specifications demanded by TREC-STEP</b> and <b>Offer Details submitted by the Bidder</b> , against each clause. A just 'CONFIRMED' or 'COMPLIED' or 'YES' or 'NO-DEVIATION' or similar words in the technical comparative statement may lead to disqualification of the Technical Offer.	
8.0	The Technical Offer shall be supported by product Catalogues & Data Sheets and also technical details of Bought-Out-Items with copies of Product Catalogue to the extent possible.	
10.0	The Commercial Offer (given with the Technical Offer) shall contain the Scope of Supply and the Un-Priced Part of the Price-Bid, for confirmation.	



## SECTION – IV

The performance certificate should be produced **on Customer’s Letter Head.**

### **PERFORMANCE CERTIFICATE**

1. Supplier of the machine		
2. Make & Model of the M/C		
3. Month & Year of Commissioning		
4. Application for which M/C is used		
5	<ul style="list-style-type: none"> <li>a) Spindle Power in kW (cont. rating)</li> <li>b) Spindle nose</li> <li>c) Swing over carriage</li> <li>d) Max Turning length between centers</li> </ul>	
6. Performance of the Equipment ( <b>Tick</b> whichever is <b>applicable</b> )		<i>Best in the market</i>
		<i>Satisfactory</i>
		<i>Good</i>
		<i>Average</i>
		<i>Not Satisfactory</i>
7. Any Other remarks		
<p>Signature &amp; Seal of the Authority</p>		
Date:		

**TECHNICAL SPECIFICATION FOR SLANT BED CNC LATHE**

Clause No	PARTICULARS AND TREC-STEP SPECIFICATION	BIDDER'S OFFER With Technical Details															
1.0	<p><b>PURPOSE:</b> This Lathe is intended for machining and threading of components. Operations of Turning, Boring, Single / multi start threading (external / Internal) shall be carried out on Spindles and Sleeves.</p>	Vendor to confirm															
1.1	<p><b>WORK PIECE DETAILS:</b></p> <table border="1" data-bbox="333 656 1199 854"> <thead> <tr> <th>Specification</th> <th>Condition</th> <th>Hardness</th> </tr> </thead> <tbody> <tr> <td>A182 F6A CL 3</td> <td>Normalized and Tempered</td> <td>280 BHN</td> </tr> <tr> <td>OHTARON</td> <td>Quenched and Tempered</td> <td>350 BHN</td> </tr> <tr> <td>Aluminium Bronze</td> <td></td> <td>200 BHN</td> </tr> <tr> <td>Ni-Resist</td> <td></td> <td>300 BHN</td> </tr> </tbody> </table> <p style="text-align: center;"><b>Max weight of Work-piece = 150 Kg</b></p>	Specification	Condition	Hardness	A182 F6A CL 3	Normalized and Tempered	280 BHN	OHTARON	Quenched and Tempered	350 BHN	Aluminium Bronze		200 BHN	Ni-Resist		300 BHN	Vendor to confirm
Specification	Condition	Hardness															
A182 F6A CL 3	Normalized and Tempered	280 BHN															
OHTARON	Quenched and Tempered	350 BHN															
Aluminium Bronze		200 BHN															
Ni-Resist		300 BHN															
2.0	<p><b>MACHINE CONSTRUCTION:</b></p>																
2.0.1	<p>Vendor to furnish constructional details of the machine including explanatory drawings of various components/ assemblies like Head stock, carriage, Turret, Tailstock, Machine Bed, Feed Transmission System, Feed back System etc. of the machine with details of material &amp; their hardness. The main spindle of the machine shall be hollow to allow long stems with large diameters to be fed inside.</p>	Vendor to specify															
2.0.2	<p>Video images on CD / Hard copy of literature with photographs &amp; drawings explaining the technical features shall be enclosed with the offer</p>	Vendor to specify															

Clause No	PARTICULARS AND TREC-STEP SPECIFICATION	BIDDER'S OFFER With Technical Details	
2.0.3	Sliding Chip / Splash Guard with sufficient transparent windows should be provided to view the machining and to avoid splash of Coolant and scattering of Chips.	Vendor to specify	
2.0.4	Machine should be metric execution.	Vendor to confirm	
<b>2.1</b>	<b>MACHINE SPECIFICATION:</b>		
2.1.1	Max. Possible Turning Diameter between centers: (Chucking dia of job = 250 mm max)	Vendor to specify	
2.1.2	Swing Over Carriage (SOC): With Guide way cover	Vendor to specify	
2.1.3	Turning Length between centers: Maximum	Vendor to specify	
2.1.4	Turning Length between centers: <b>Minimum 650mm</b>	Vendor to confirm.	
2.1.5	Max. Weight carrying capacity with tailstock	Vendor to specify.	
2.1.6	Max. Weight carrying capacity with tailstock and steady rest	Vendor to specify	
2.1.7	Boring diameter range: <b>25 to 40 mm</b>	Vendor to specify	
2.1.8	Max boring depth:	Vendor to specify	
2.1.9	<b>Chuck Type:</b> 3 Jaw power operated hollow chuck with hard Jaws.	Vendor to confirm	
2.1.10	Chucking dia range = <b>15 to 350 m m</b>	Vendor to confirm	
2.1.11	Through bore in the chuck (minimum 52 mm required)	Vendor to specify	
2.1.12	Chuck size (consider <b>2.1.10, 2.1.11 &amp; 2.1.12</b> )	Vendor to specify	
2.1.13	Chuck clamping range- External: Max / Min:	Vendor to specify	
2.1.14	Chuck clamping range - Internal: Max:/ Min:	Vendor to specify	
<b>2.2</b>	<b>HEAD STOCK:</b>		
2.2.1	Spindle nose: <b>A2- 6"</b>	Vendor to confirm	
2.2.2	Spindle Bore (minimum 52 mm required)	Vendor to specify	
2.2.3	Spindle Motor Rating-AC, S1 Continuous Duty: <b>Around 7 KW</b>	Vendor to confirm.	
2.2.4	Spindle Motor Make: Fanuc or Siemens & Model No:	Vendor to specify	
2.2.6	Spindle speed (Infinitely variable): <b>20 to 3500 rpm</b>	Vendor to confirm	
2.2.7	Number of speed ranges (Selectable through program):	Vendor to specify.	

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<b>2.3</b>	<b>MACHINE BED:</b>	
2.3.1	Configuration:	Slant Bed
2.3.2	No. of Guide ways:	Vendor to specify.
2.3.3	Distance between Guide ways	Vendor to specify
2.3.4	Type of Guide ways	Vendor to specify.
<b>2.4</b>	<b>FEEDS AND DRIVE SYSTEM:</b>	
2.4.1	Feed Rate in X, & Z Axes (Infinitely variable):	Vendor to specify
2.4.2	Rapid Feed Rate in X,& Z Axes:	Vendor to specify
2.4.3	Feed drive motors [AC servo motors] shall be digital type of Fanuc or Siemens. (Details of model, make, type etc. to be submitted with the offer)	Vendor to specify
2.4.4	Feed back system for X, & Z axes: Fanuc / Siemens / Heidenhain encoders (Details to be submitted with the offer.)	Vendor to specify
2.4.5	Mechanism for locking / clamping the axes:	Vendor to specify
2.4.6	<b>Type of power transmission:</b> Pre-loaded backlash-free re-circulating ball screw drive for feed drive axes. Detailed Specification for all ball screws used in the machine shall be submitted. The specification shall address the following points: (a) Diameter, (b) Pitch (c) Length (d) Make (e) Model	Vendor to specify
2.4.7	<b>Metallic Telescopic Covers</b> of rust resistant material shall be provided with wipers for guide ways of traversing axes. Provision should be made to avoid mixing of coolant & hydraulic oil.	Vendor to specify

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<b>2.5</b>	<b>TAIL STOCK:</b>		
2.5.1	<b>Quill:</b> Built-in type, rotating tailstock quill.	Vendor to confirm.	
2.5.2	Quill stroke:	Vendor to specify.	
2.5.3	Quill movement by <b>Hydraulic</b>	Vendor to confirm.	
2.5.4	Quill diameter:	Vendor to specify.	
2.5.5	Quill taper:	MT4	
2.5.6	Tail stock center- cone angle	60 degree	
2.5.7	Detail of Positive Clamping & Unclamping of tail stock on bed:	Vendor to specify.	
2.5.8	Max thrust on the Quill:	Vendor to specify.	
<b>2.6</b>	<b>CARRIAGE:</b>		
2.6.1	Z-axis travel:	Vendor to specify	
<b>2.7</b>	<b>TURRET:</b>		
2.7.1	<b>Type:</b> Disc <b>VDI 60</b> with hydraulic Indexing	Vendor to confirm	
2.7.2	No. of tool stations:	8	
2.7.3	Turret indexing: bi-directional, Random:	Vendor to confirm	
2.7.4	Type of Tool Holders: VDI 60	Vendor to specify	
2.7.5	Shank size of Facing & Turning tools: <b>25mm × 25mm</b>	Vendor to confirm	
2.7.6	Holding dia of Boring bars:	Vendor to specify	
2.7.7	Model, & make of turret:	Vendor to specify	
2.7.8	Provision for coolant to reach up to tool tip in all types of tool holders:	Vendor to confirm	
2.7.9	Automatic operation / selection / indexing of turret through CNC program:	Vendor to confirm	
2.7.10	Additional manual operation / selection through push buttons:	Vendor to confirm	
<b>2.8</b>	Through feeding Coolant boring bar holders	Vendor to specify	

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<b>2.9</b>	<b>OPERATION AND CONTROL SYSTEM:</b>	
2.9.1	<b>OPERATOR'S PANEL:</b>	
2.9.2	Preferably Swiveling type operator's panel having complete CNC and machine control system with CRT of required configuration shall be provided at an ergonomically suitable location. All switches should be within reach of operator for easy & safe operation. All displays/indications should also be conveniently placed accordingly. Layout showing complete details should be submitted.	Vendor to submit
<b>2.10</b>	<b>CNC SYSTEM &amp; FEATURES:</b>	
2.10.1	Make: Fanuc / Siemens	Vendor to specify
2.10.2	Type: PC based latest version (With Simultaneous interpolation of two axes)	Vendor to Confirm
2.10.3	Model: Suitable and Latest version, as available at the time of ordering, should be supplied.	Vendor to specify
2.10.4	Details of Standard features: List to be submitted by Vendor.	Vendor to specify
2.10.5	Details of optional features, recommended by vendor:	Vendor to specify
2.10.6	The system should have full alphanumeric keyboard, TFT colour display (preferably 17"), additional draw-out type QWERTY Key Board and mouse in suitable enclosure, Ports for printer, network ready for LAN, electronic hand wheels for all axes, CD/DVD drive unit with CD/DVD writer for data input/output, hard disk of sufficient capacity (not less than 80 GB), graphic simulation and preinstalled system software & other required software etc. (Details should be submitted by Vendor).	Vendor to confirm & submit details



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<b>2.11</b>	<b>MANUAL CONTROL:</b>	
2.11.1	Complete manual control of machine with required switches/ keys should be provided on operator's panel for selection of required axis, axis direction, cutting feed, spindle speed, cutting feed on/off, display of axis position values etc. for manual operation without using CNC program, CNC option Manual Turn or MDI mode. Diagrams/ sketches for switches/ keys provided on operator pendent should be submitted.	Vendor to confirm
<b>2.12</b>	<b>MACHINE LIGHTS:</b>	
2.12.1	Machine Lights for sufficient illumination of complete working area should be provided for clear visibility.	Vendor to confirm
2.12.2	A magnetic base portable spotlight with sufficiently long cable should also be provided.	Vendor to confirm
2.12.3	All light fittings, consumables, adapters/receptacles should have compatibility with Indian equivalents	Vendor to confirm
2.12.4	Flashing / rotary type End of Cutting and Program Stop Light.	Vendor to confirm
2.12.5	Voltage shall be 24V for the hand lamp	Vendor to confirm
<b>2.13</b>	<b>AIR CONDITIONERS:</b>	
2.13.1	<p>Air Conditioners with Dehumidifiers of suitable capacity to be provided for all Electrical / Electronic Panels / Cabinets including Operator's Panel considering specified ambient conditions.</p> <p><b>Make:</b> Rittal / Warner &amp; Finley or any other reputed make acceptable to TREC-STEP. Specification to be submitted.</p>	<p>Vendor to Confirm</p> <p>Vendor to submit</p>

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<b>2.14</b>	<b>HYDRAULIC SYSTEM:</b>		
2.15.1	Make: Rexroth / Vickers Sperry or any other reputed make acceptable to TREC-STEP	Vendor to specify	
2.15.2	Hydraulic system should be centralized. Hydraulic Tank shall preferably be located at floor level All hydraulic pipelines to be neatly laid out. (Details should be furnished at contract stage)	Vendor to confirm	
2.15.3	Hydraulic circuits shall be designed with minimum number of control valves and to suit oil of ISO VG 46 or 68 only. Also minimum number of check- points to be provided wherever pressure is required to be measured for setting and trouble shooting. MINIMESS Pressure Gauge - 1 No with Connecting Hose to be provided.	Vendor to confirm	
2.15.4	The control voltage for all solenoid operated valves shall be 24V DC	Vendor to confirm	
2.15.5	Filtration System:	Vendor to specify	
2.15.6	Failure indication:	Vendor to specify	
2.15.7	Automatic shut off provision.	Vendor to submit	
2.15.8	Refrigerated type/ Air cooled cooling system of sufficient capacity to maintain complete Hydraulic System, including lubrication oil, hydraulic oil and gearbox oil, etc. at a temperature not exceeding 50 °C irrespective of the ambient conditions. Vendor should submit complete details.	Vendor to specify	
2.15.9	Hydraulic pump capacity (flow / pressure):	Vendor to specify	
2.15.10	Each pump should have an independent motor.	Vendor to confirm	
<b>2.16</b>	<b>First filling of all required Oils &amp; Grease etc.</b> Should be supplied by vendor. <b>Oil grade:</b> ISO VG46 or 68 <b>Grease:</b> Servo gem grade 2 (preferred.) Indigenous (Indian) source or Indian equivalent and specifications of oils/ greases are also to be provided by the vendor.	Vendor to specify	

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<b>2.17</b>	<b>COOLANT SYSTEM:</b>		
2.17.1	Recirculating type Coolant in-fed System for all 8 positions of turret and flood coolant with all accessories shall be provided.	Vendor to confirm	
2.17.2	Coolant operation shall be enabled through program.	Vendor to confirm	
2.17.3	Coolant on / off by push buttons on the Operator's panel also.	Vendor to confirm	
2.17.4	Coolant Pressure:	Vendor to Furnish	
2.17.5	Coolant flow rate:	Vendor to Furnish	
2.17.6	Coolant collection and recirculation system should be leak proof to avoid spillage on shop floor.	Vendor to Confirm	
2.17.7	<b>Coolant Filtration System:</b> Re-circulating type with suitable filtration unit. Vendor shall give details of offered filtration unit.	Vendor to submit	
2.17.8	Coolant flow diagram showing filters, pumps, valves, tanks etc. to be submitted.	Vendor to submit	
2.17.9	Coolant pump & coolant motor detail to be submitted.	Vendor to submit	
2.17.10	Coolant Tank Capacity:	Vendor to specify	
2.17.11	The coolant tank should be fitted with skimmer for regular cleaning of coolant from contamination with tramp oil.	Vendor to Confirm	
<b>2.18</b>	<b>ELECTRICAL:</b>		
2.18.1	415V ± 10%, 50 HZ ±3 HZ, 3 Phase AC (3 wire system with out neutral) Power Supply will be provided by TREC-STEP at a single point near the machine, as per layout recommended by Vendor. All types of cables, connections, circuit breakers etc. required for connecting TREC-STEP's power supply point to different parts of the machine/control cabinets, shall be the responsibility of vendor. Requirement of grounding/earthing with required material details is to be informed by vendor well in advance so that the same could be incorporated during construction of foundation.	Vendor to Confirm	
2.18.2	<b>Tropicalisation:</b> All electrical / electronic equipment shall be tropicalized.	Vendor to Confirm	

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2.18.3	All electrical & electronic control cabinets & panels should be dust and vermin proof and shall have IP 54 protection.	Vendor to Confirm	
2.18.4	All electrical components in the cabinets should be mounted on DIN Rail	Vendor to Confirm	
2.18.5	All electrical and electronic panels including operator's panel should be provided with fluorescent lamps for sufficient illumination and power receptacles of 220Volts, 5/15 Amp AC. All adapters/receptacles should have compatibility with Indian equivalents.	Vendor to Confirm	
2.18.6	Motors shall conform to IEC or Indian Standards	Vendor to Confirm	
2.18.7	All cables moving with traversing axes should be installed in caterpillar / Drag chain. Additionally, all the cable trays required for laying cables should be included in the offer.	Vendor to Confirm	
2.18.8	Vendor should ensure proper earthing for the machine and its peripherals.	Vendor to Confirm	
2.18.9	In-cycle hour counter with reset facility and digital energy meter shall be provided	Vendor to Confirm	
<b>2.19</b>	<b>SAFETY ARRANGEMENTS:</b>		
2.19.1	Machine should have adequate and reliable safety interlocks or devices to avoid damage to the machine, work piece and the operator due to the malfunctioning or mistakes. Machine functions should be continuously monitored and alarm / warning indications through lights/ alarm number with messages (on CNC display and panels) should be available.	Vendor to Confirm	
2.19.2	A detailed list of all alarms / indications provided on machine should be submitted by the supplier.	Vendor to specify	
2.19.3	All the pipes, cables etc. on the machine should be well supported and protected. These should not create any hindrance to machine operator's movement.	Vendor to Confirm	
2.19.4	All the rotating parts used on machine should be guarded and statically & dynamically balanced to avoid undue vibrations.	Vendor to Confirm	

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2.19.5	Emergency Switches at suitable locations as per International Norms should be provided.	Vendor to Confirm
2.19.6	Oil & water lines should not run with electrical cable in the same tray / trench.	Vendor to Confirm
<b>2.20</b>	<b>ENVIRONMENTAL PERFORMANCE OF THE MACHINE:</b>	
2.20.1	Noise level shall not exceed 85 dB(A) at normal load condition, 1 meter away from the machine.	Vendor to Confirm
2.20.2	There shall not be any emissions from the machine except fumes of cutting fluid during machining.	Vendor to Confirm
2.20.3	There should not be any effluent from the machine. In case there are any effluents from the machine, requisite effluent treatment plant or pollution control device should be built into the machine by the supplier.	Vendor to Confirm
2.20.4	No hazardous chemicals shall be used in the machine.	Vendor to Confirm
2.20.5	If any safety / environmental protection enclosure is required it should be built in the machine by the vendor.	Vendor to Confirm
2.20.6	Paint of the machine should be oil / coolant resistant and should not peel off and mix up with coolant.	Vendor to Confirm
<b>2.21</b>	<b>CHIP CONVEYOR:</b>	
2.21.1	A chip conveyor to carry both short and curly chips efficiently and effectively to the chip bin. Two chip bins of appropriate size of Indian make, with wheels and handle for movement, should also be supplied., has to be quoted seperately.	Vendor to confirm
2.21.2	Type of chip conveyor:	Vendor to specify
2.21.3	Width of conveyor	Vendor to specify
2.21.4	Elevation of chip conveyor for chip bin:	Vendor to specify
2.21.5	Material of chip conveyor	Vendor to specify
2.21.6	Provision for smooth flow of chips to the conveyor:	Vendor to specify
2.21.7	Operation of chip conveyor (forward & reverse) through push buttons on operator's panel should be possible.	Vendor to confirm

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2.21.8	Layout showing location of chip conveyor should be submitted.	Vendor to submit	
<b>3.0</b>	<b>ULTRA ISOLATION TRANSFORMER:</b>		
3.1	Indian make Ultra Isolation Transformer suitable for complete machine, its drives, controls, PLC etc. shall be offered.	Vendor to confirm	
3.2	Make: NEEL / DELTA / AEI / POWER AID	Vendor to specify	
3.3	Model & Rating:	Vendor to specify	
3.4	Spares Package for the Ultra Isolation Transformer for 2 years working should also be offered.	Vendor to confirm	
3.5	Catalogue of the Ultra Isolation Transformer shall be submitted.	Vendor to submit	
<b>4.0</b>	<b>SERVO VOLTAGE STABILIZER:</b>		
4.1	Indian make Oil / Air Cooled servo Controlled Voltage Stabilizer suitable for complete machine, its drives, controls, PLC etc with no undesirable Harmonics in the stabilizer output.	Vendor to specify	
4.2	Make. : NEEL / DELTA / AEI / POWER AID	Vendor to specify	
4.3	Model & Rating (Suitable for the machine load. Vendor to specify the noise level also)	Vendor to specify	
4.4	Spares Package for the Voltage Stabilizer for 2 years working should also be offered.	Vendor to Confirm	
4.5	Catalogue of Voltage Stabilizer to be submitted.	Vendor to Submit	
<b>5.0</b>	<b>COMPRESSED AIR POINTS:</b>		
5.1	Compressed air at 60 to 70 psi will be made available at one point if required. The vendor shall indicate the inlet point for compressed air in the layout drawing of the machine.	Vendor to Confirm	
<b>6.0</b>	<b>TOOLING:</b>		
6.1	Turning tool holder on turret	2 Nos	
6.2	Facing tool holder on turret	2 Nos	
6.3	Threading tool holder on turret (for external threading)	3 Nos	
6.4	Threading tool holder on turret (for int. threading / boring bar)	3 Nos	
6.5	Tool holder on turret (for holding 40 mm U drill)	2 Nos	
6.6	Reduction sleeves for Boring Bars of dia <b>08, 10, 12,16, 20, 25 and 32 mm</b>	Each 2 Nos	



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<b>7.0</b>	<b>ACCESSORIES:</b>		
7.1	List of standard accessories supplied along with the machine.	Vendor to furnish	
7.2	4 Jaw manual chuck with Jaws – (With min through bore of 51 mm). Vendor to specify the chuck size:	1 No. Vendor to specify	
7.3	Additional Hard jaw for 3 Jaw self centering hydraulic chuck	1 set	
7.4	Soft jaws for 3 Jaw self centering hydraulic chuck	3 sets	
7.5	Tail stock centers:	3 Nos	
<b>8.0</b>	<b>FAULT DIAGNOSTIC SYSTEM:</b>		
8.1	Supplier's own diagnostic system with required hardware and software should be supplied and installed on the CNC system. This should include standard auto-diagnostic system with supporting hardware and software which shows detailed cause and remedy for the fault on the display and supplier's smart diagnostic system for full video diagnostic help for faults related to mechanical and electrical maintenance.	Vendor to confirm	
8.2	Help guide should be provided to use both diagnostic systems	Vendor to confirm	
<b>9.0</b>	<b>PORTABLE DATA LOADING DEVICE: (optional)</b> Portable Data loading device with sufficient length of interface cable, HDD of size not less than 40GB, CD Drive, TFT Display of size 14” and suitable preinstalled software for loading PLC program, RS 232 Port, Ethernet chord, USB port, Machine data and CNC part programs shall be supplied with the machine. Vendor should furnish details.	Vendor to confirm	
<b>10.0</b>	<b>LEVELING &amp; ANCHORING SYSTEM:</b>		
10.1	Complete anchoring system including foundation bolts, anchoring materials, fixators, leveling shoes etc should be supplied.	Vendor to confirm	

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<b>11.0</b>	<b>TOOLS FOR OPERATION &amp; MAINTENANCE:</b>	
11.1	Necessary tools like Torque Wrench, Spanners, Keys, grease guns etc for operation and maintenance of the machine should be supplied. List of such tools should be submitted with offer.	Vendor to confirm Vendor to submit
<b>12</b>	<b>SPARES:</b>	
12.1	<p><b>1)</b> The Vendor shall recommend and submit list of spares required for the machine for two years of trouble free operation on three shifts /day basis under two headings as</p> <p style="padding-left: 40px;">a) <b>Mechanical &amp; hydraulic spares</b> and</p> <p style="padding-left: 40px;">b) <b>Electrical &amp; electronic spares.</b></p> <p>The list shall generally include the following items.</p> <p><b>a) Mechanical &amp; Hydraulic Spares:</b> All types of pumps, All types of Valves, All types of pressure switches / transducers, All types of filters, All types of seals</p> <p><b>b) Electrical &amp; Electronic Spares:</b> All types of Relays, Contactors, Proximity Switches, Push Buttons, Indicating Lamps, Semiconductor Fuses, Special Fuses, Circuit Breakers, Main Power Switch, Encoders, Scanning Heads for Linear Scales, MMC module, NCU module, Operator's panel with Display Unit, Floppy Disk Unit, I/O Cards for PLC, Servo Motors for Feed Drives, Power Module &amp; Control Cards for Main Drive as well as Feed Drives etc.</p> <p><b>c)</b> Un-priced list of spares with quantities, specified at <b>a&amp;b</b> above, should be submitted with this technical offer.</p> <p><b>d)</b> Unit Price of each item figuring in <b>c</b> shall be submitted with the price bid.</p>	Vendor to Submit
12.2	All types of spares for the machine and its accessories should be available for minimum ten years, after supply of the machine. If any spares or controls are likely to become obsolete within this period, the vendor should inform TREC-STEP and provide details of it's suppliers to enable TREC-STEP to procure them in advance.	Vendor to Confirm

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12.3	In case of ordering, a complete list of spares for the machine and its accessories along with spares specification / type / model, and name & address of the spare supplier shall be submitted along with documentation while supplying the machine.	Vendor to confirm	
<b>13.0</b>	<b>DOCUMENTATION:</b>		
13.1	3 sets of following documents (3 Hard copies) in English language should be supplied along with the machine	Vendor to confirm	
13.2	Operating manuals of Machine & CNC system	Vendor to confirm	
13.3	Programming Manuals of Machine & CNC system	Vendor to confirm	
13.4	Detailed Maintenance manual of machine with all drawings of machine assemblies/sub-assemblies/parts including Electrical / Pneumatic/ Coolant / Hydraulic circuit diagrams.	Vendor to confirm	
13.5	Maintenance, Interface & commissioning manuals for CNC system, spindle & feed drives.	Vendor to confirm	
13.6	Manufacturing drawings for all supplied tool holders, coolant connections, adapters, sleeves, fixtures etc.	Vendor to confirm	
13.7	Catalogues / O&M Manuals of all bought out items.	Vendor to confirm	
13.8	Detailed specification of all rubber items and hydraulic/lube fittings	Vendor to confirm	
13.9	<b>Bearings:</b> Make & Specification for all bearings used in the machine.	Vendor to Specify	
13.10	<b>Ball Screws:</b> Detailed Specification for all ball screws used in the machine shall be submitted. The specification shall address the following points: (a) Diameter, (b) Pitch, (c) Length, (d) Make (e) Model	Vendor to specify	
13.11	Operating Manuals, Maintenance Manuals & Catalogues for Isolation Transformer and voltage stabilizer.	Vendor to confirm	
13.12	PLC program printouts (Ladder diagram & Statement list) with comments in English.	Vendor to confirm	
13.13	PLC program on CD, NC data & PLC data on CD.	Vendor to confirm	

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13.14	Complete anchoring system including foundation bolts, anchoring materials, fixators, leveling shoes etc should be supplied.	Vendor to confirm	
13.15	The vendor shall submit complete Master List of parts used in the machine.	Vendor to Submit	
13.16	One additional set of all the above documentation on CD ROM, wherever possible.	Vendor to confirm	
<b>14.0</b>	<b>TRAINING:</b>		
14.1	The Vendor shall train Two TREC-STEP Engineers in Operation and Maintenance (Mechanical, Electrical/ Electronics and CNC System) of the Machine at Vendor's works for a period not exceeding 5 working days.	Vendor to confirm	
14.2	Airfare, boarding & lodging for the TREC-STEP Engineers will be borne by TREC-STEP		
14.3	The Vendor shall impart training to TREC-STEP's Machine Operators and Maintenance crew in Operation and Maintenance after the commissioning of the Machine at TREC-STEP works for not less than 6 working days	Vendor to confirm	
14.4	Competent, English speaking experts shall be arranged by the vendor during training for satisfactory & effective training of TREC-STEP personnel	Vendor to confirm	
14.5	Vendor to quote on the basis of per man per day for training at vendor's works.	Vendor to specify	
<b>15.0</b>	<b>FOUNDATION:</b>		
15.1	Vendor shall submit the preliminary layout drawing for getting TREC-STEP's approval within one month from the date of Letter of Intent (LOI). Vendor shall submit complete foundation details including static and dynamic loads within three months after getting TREC-STEP's approval. The layout should consist of all requirements pertaining to complete machine including space requirement for Voltage Stabilizer, Isolation Transformer, & any other accessories. TREC-STEP shall construct complete foundation for the machine.	Vendor to confirm	

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15.2	The Vendor shall indicate detailed specifications of grouting compound and Grouting procedure etc. for foundation bolts of the machine.	Vendor to Specify
<b>16.0</b>	<b>ERECTION &amp; COMMISSIONING:</b>	
16.1	<p>1.Supplier to take full responsibility for supervision of the erection. Start up, testing of machine, it's control system &amp; all types of other supplied equipment, machining of test pieces etc. are the responsibility of the supplier.</p> <p>2.Service requirement like power, air &amp; water shall be provided by TREC-STEP at only one point to be indicated by supplier in their foundation/layout drawings.</p> <p>3.Other requirements like crane and helping personnel shall also be provided by TREC-STEP, free of cost.</p>	Vendor to confirm
16.2	Erection & Commissioning of Voltage stabilizer, Isolation Transformer shall also be responsibility of the vendor.	Vendor to confirm
16.3	Successful proving of TREC-STEP components by the supplier shall be considered as part of commissioning. All tests, mentioned under clause ( <b>Machine Acceptance</b> ) shall form part of the commissioning activity.	Vendor to confirm
16.4	Tools, Tackles, Test Mandrels, instruments and other necessary equipment including Laser equipment required to carry out all above activities should be brought by the supplier.	Vendor to confirm
16.5	The supplier shall arrange commissioning spares required for commissioning of the machine.	Vendor to confirm
16.6	Portion, if any, of the machine, accessories and other supplied items where paint has rubbed off or peeled during transit or erection should be repainted and merged with the original surrounding paint by the vendor. For this purpose, the vendor should supply sufficient quantity of touch-up paint of various colors of paint used.	Vendor to confirm

Clause No	PARTICULARS AND TREC-STEP SPECIFICATION	BIDDER'S OFFER With Technical Details
16.7	Schedule of Erection and Commissioning shall be submitted with the offer.	Vendor to confirm
16.8	Duration, terms & conditions for E&C should be furnished with this technical offer in detail.  Charges for the same shall be submitted with the price bid.	Vendor to confirm
<b>17</b>	<b>ACCURACY TESTS:</b>	
<b>17.1</b>	<b>GEOMETRICAL ACCURACIES:</b>	
17.1.1	Geometrical Accuracy Tests shall be in accordance with ISO 13041 standard or equivalent applicable standard.	Vendor to confirm
17.1.2	Head Stock Spindle run out (Radial & Axial):	Vendor to specify.
17.1.3	All other accuracies to confirm to ISO 13041 (Latest Revision) or Suppliers Test chart whichever is finer.	
17.1.4	Tail stock Quill taper run-out:	Vendor to specify.
17.1.5	Cylindricity of turning:	Vendor to specify.
17.1.6	True roundness of turning:	Vendor to specify.
17.1.7	Facial run-outs:	Vendor to specify.
17.1.8	All the above accuracies should be demonstrated to TREC-STEP engineers during pre-acceptance at Suppliers works and during Erection & Commissioning at TREC-STEP Works.	Vendor to confirm
<b>17.2</b>	<b>MACHINE POSITIONING ACCURACIES &amp; REPEATABILITY:</b> Should be measured as per VDI/DGQ 3441 using LASER INTERFEROMETER.	Vendor to confirm
17.2.1	Positioning accuracy in X axis (Pa) per 1000 mm:	± 0.010 mm
17.2.2	Positioning accuracy in Z axis (Pa) per 1000 mm:	± 0.040 mm
17.2.3	Repeatability in X axis (Ps): per 1000 mm	± 0.005 mm
17.2.4	Repeatability in Z axis (Ps): per 1000 mm	± 0.020 mm

Clause No	PARTICULARS AND TREC-STEP SPECIFICATION	BIDDER'S OFFER With Technical Details
<b>18.0</b>	<b>AMBIENT CONDITIONS &amp; THERMAL STABILITY:</b>	
18.1	Power Supply : AC 415 V $\pm$ 10% Frequency : 50 Hz $\pm$ 3HZ Phases : 3 phase 3 wire system Compressed air supply: 60-70 psi Ambient Temperature: max 45 °C Relative Humidity = 85% Vendor to confirm that machine is suitable for above conditions	Vendor to confirm
18.2	Weather conditions are tropical. Atmosphere may be dust laden during some part of the year. Machine will be installed in the normal shop floor condition. Vendor to confirm that machine is suitable for above	Vendor to confirm
18.3	Thermal Stability of the machine shall be good enough to withstand the specified ambient conditions in order to meet the accuracy requirements of TREC-STEP components. Vendor to confirm for trouble-free operation of the machine.	Vendor to confirm
18.4	The Vendor should confirm that the machine and its accessories is suitable for continuous operation at its full capacity for 24 hours a day and 7 days a week through out	Vendor to confirm
<b>19.0</b>	<b>MACHINE ACCEPTANCE:</b> (Tests/Activities should be Performed by Vendor)	Vendor to confirm
<b>20.1</b>	<b>Tests/Activities should be carried out at supplier's works on the machine before dispatch:</b>	
20.1.1	Geometrical accuracies as per test chart.	
20.1.2	Machine positioning accuracies & repeatability should be measured as per VDI/DGQ 3441 / ISO 230 – 2 (latest revision) using laser interferometer.	Vendor to confirm
20.1.3	The machine should be tested for continuous running of 48 hrs. If any break down occurs during this test, the test should be repeated for 48 hrs from restarting.	Vendor to confirm
20.1.4	Demonstration of all features of the machine, control system & accessories.	Vendor to confirm

Clause No	PARTICULARS AND TREC-STEP SPECIFICATION	BIDDER'S OFFER With Technical Details	
<b>20.2</b>	<b>Tests/Activities should be carried out at TREC-STEP works while commissioning the machine:</b>		
20.2.1	Geometrical accuracies as per test chart.	Vendor to confirm	
20.2.2	Machine positioning accuracies & repeatability should be measured as per VDI/DGQ 3441 / ISO 230 – 2 (latest revision) using laser interferometer.	Vendor to confirm	
20.2.3	Full load test to demonstrate the maximum power & cutting capacity of the machine.	Vendor to confirm	
20.2.4	The machine should be tested for continuous running of 48 hrs. If any break down occurs during this test, the test should be repeated for 48 hrs from restarting.	Vendor to confirm	
20.2.5	Demonstration of all features of the machine, control system & accessories to the satisfaction of TREC-STEP for efficient and effective use of the machine	Vendor to confirm	
20.2.6	Prove-out machining.	Vendor to confirm	
20.2.7	Machining test piece as per <b>NAS/AFNOR/ISO</b> . Vendor to arrange Test pieces and tooling for it's machining.	Vendor to confirm	
<b>21.0</b>	<b>PACKING:</b>		
21.1	Sea worthy & rigid packing for all items of complete machine, CNC System, all Accessories and other supplied items to avoid any damage/loss in transit. When machine is dispatched in containers, all small loose items shall be suitably packed in boxes.	Vendor to specify	
<b>22.0</b>	<b>GUARANTEE:</b>		
22.1	24 months from the date of acceptance of the machine at TREC-STEP.	Vendor to confirm	
<b>23.0</b>	<b>GENERAL:</b>		
23.1	Machine Model:	Vendor to specify	
23.2	Total connected load (KVA): Vendor to specify	Vendor to specify	
23.3	Floor area required (Length, Width, Height) for complete machine & accessories: Vendor to specify.	Vendor to specify	
23.4	Painting of Machine / Electrical Panels: RAL 6011 Apple Green (Polyurethane Paint)	Vendor to confirm	
23.5	Total weight of the machine: Vendor to specify	Vendor to specify	
23.6	Weight of heaviest part of machine: Vendor to specify	Vendor to specify	
23.7	Weight of the heaviest assembly / sub-assembly of the Machine: Vendor to specify	Vendor to specify	
23.8	Dimensions of largest part/ sub-assembly/ assembly of the machine: Vendor to specify	Vendor to specify	



## Annexure II

### PRICE BID FORMAT FOR INDIGENOUS PURCHASES

Tender No. &amp; Date:

Name of the Bidder:

S. No.	Description of the item to be procured	Unit	Quantity	Basic Price in Rupees (Excluding all taxes and duties)	IGST %	SGST %	CGST %	Total Amount in Rupees (Inclusive of all taxes and duties)
1	<b>Supply Portion/ Main item</b> ( <i>under the letterhead of the bidder Individual Item wise break price shall be attached as an Annexure to this price bid</i> )							
2	<b>Additional / Optional items/ Accessories and Spares etc.,</b> ( <i>Individual Item wise break price shall be attached as an Annexure to this price bid</i> )							
3	Installation and Commissioning Charges, if any							
4.	Packing and Forwarding Charges, if any							
5.	Freight and Transit Insurance Charges, if any							
6.	Any other charges, if any							
7.	<b>TOTAL ALL INCLUSIVE PRICE (Supplied or Supplied, installed and commissioned at TREC-STEP on door delivery basis. (i.e., F.O.R.</b>							
8	<b>QUOTE FOR POST WARRANTY (Additional Warranty beyond the free warranty period):</b> For Equipment supply, the bidder should clearly indicate the AMC Rate, for two years period, after the expiry of the Warranty period, in non-comprehensive terms (does not include the cost of spares). Failure to which the offer may NOT be considered even it turns out to be at the lowest price. The tender will be evaluated on Landed Cost + AMC rate for 2 years. However, TREC-STEP, Tiruchy reserves the right to opt or otherwise for AMC, for maintenance of the equipment after the free warranty period.							

**Authorized signatory of Bidder with Seal**

**PRICE BID FORMAT FOR IMPORTS**

**Name** of the Material/ Equipment .....

Name of the **Manufacturer** .....

**MAKE** of the Material/ Equipment .....

**MODEL** Number if any .....

**Country** of Origin: .....

S. NO	Item wise description of Goods/ Materials/ Equipment to be supplied from Foreign Country	Quantity	Rate Per Unit (In Foreign Currency)	Amount (in Foreign Currency)
1	Ex works price of the Main item/ material/ equipment			
2	Ex Works Price of the Additional/ Optional items, if any			
3	Ex works Price of Accessories and Spare Parts if any			
	<b>Total Ex Works Price</b> (in Foreign Currency)			
4	Educational Discount, if any, offered on the Ex-Works price			
5.	<b>Ex-Works Price after Discount</b> (in Foreign Currency)			
6.	<b>Add:</b> Packing and Forwarding Charges if any from the Ex-works to loading Port/ Airport			
7.	<b>Total FOB Price</b> (in Foreign Currency)			
8.	<b>Add:</b> Air Freight, Insurance and Handling Charges upto Chennai Airport			
9.	<b>Total CIF Value (Up to Chennai) or CIP Value (Up to Chennai)</b> in Foreign Currency			
10.	<b>TOTAL ALL INCLUSIVE TOTAL PRICE PAYABLE BY TREC-STEP IN FOREIGN CURRENCY</b>			

11	<b>QUOTE FOR POST WARRANTY (Additional Warranty beyond the free warranty period):</b> For Equipment supply, the bidder should clearly indicate the AMC Rate, for two years period, after the expiry of the Warranty period, in non-comprehensive terms (does not include the cost of spares). Failure to which the offer may not be considered even it turns out to be at the lowest price. The tender will be evaluated on landed cost + AMC rate for 2 years. However, TREC-STEP, Tiruchy reserves the right to opt or otherwise for AMC, for maintenance of the equipment after the free warranty period.			
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**Authorized signatory of Bidder with Seal**