



TRICHY, BHEL, TRICHY, POSTAL CODE :620014, TIRUCHIRAPALLI, TAMIL NADU, INDIA

RFQ/NIT HEADER DETAIL

ORGANIZATION NAME	TRICHY, BHEL	RFQ FLOATED UNDER THE	PURCHASE POLICY
RFQ/NIT REFERENCE	2681700012	POLICY	
CODE/ENQUIRY NO		RFQ OWNER/NIT	MR Tapas Majee(AE1/PUR)
RFQ/NIT TYPE	OPEN TENDER	OFFICER/ENQUIRY OWNER	
NUMBER OF ITEMS ALREADY	1		
ATTACHED			
CURRENCY	ANY		
DESCRIPTION	Retrofitting & Reconditioning works in VDF CNC machine		
DETAILED DESCRIPTION	-		
NUMBER OF BID PART(S)	2	PUBLISHED DATE	26 Jun , 2017 11:18:36 AM

ATTRIBUTE(S)

ATTRIBUTE NAME	ATTRIBUTE VALUE
Delivery at	as per tender documents
Inspection By	by BHEL Engineers
Validity of the Offer	as per tender documents
Inspection	as per Tender documents

DATE-TIME DETAIL(S)

BID START DATE	26 Jun , 2017 11:30:00 AM	BID DUE DATE	24 Jul , 2017 2:00:00 PM
BID OPEN DATE	24 Jul , 2017 2:30:00 PM		
(SCHEDULED)			

PRE-BID DISCUSSION DETAILS

PRE-BID DISCUSSION TYPE NOT REQUIRED

ALTERNATE BID DECRYPTOR(S)

USER DETAILS
MR Admin SANJEEVI B(SDGM/PUR)
MR MAYANK SHRIVASTAVA (ENGR/PUR)
MR Tapas Majee(AE1/PUR)

SELLER DETAIL(S)

CODE	ORGANIZATION NAME
023505	TEST (Mr test ot test)

TERM AND CONDITION DETAIL(S) - SPECIAL TERM(S)

SL. NO.	CATEGORY	DESCRIPTION
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TRICHY, BHEL, TRICHY, POSTAL CODE :620014, TIRUCHIRAPALLI, TAMIL NADU, INDIA

1	SPECIAL TERM(S)	SPECIAL TERM(S)
		1. Please submit your detailed offer in two part bid system online i.e. Part-I. Technical Bid + Checklist (Annexure-A) + Unpriced bid indicating taxes & duties (Annexure-B). Part-II. "PRICE BID". Model price bid format (i.e. Annexure-B) is provided in the 2nd attachment. This has to be duly filled-in, signed and attached as PDF copy while submitting the online bid. 2. Online tender details are furnished in Annexures. All the relevant documents in the attachments have to be appropriately filled-in, duly signed & rubber stamped and submitted online. The online offer should be submitted on or before the due date at 14:00 hrs. 3. Point-to-point confirmation to BHEL's specification and commercial terms & conditions shall be provided. The supplier must fill and submit all the Annexures as indicated in the list of attachments. Annexure-A & Annexure-B (with taxes and duties, without indicating prices) should be filled and submitted along with the technical bid, else your offer is liable for rejection. 4. Offers with validity of less than 120 days and non-acceptance of LD & RP clause and Reverse Auction will lead to rejection of submitted offer. 5. If the due date of tender opening happens to be a holiday, the tenders will be opened on the next working day. 6. All clarifications may be sought at least ten days prior to tender due date, from us through our Fax no. +914312520719 or e-mail. 7. BHEL reserves the right to go for a Reverse Auction (RA) instead of opening the submitted sealed price bid, which will be decided after technical and commercial evaluation. Information and general terms and conditions covering RA are given in commercial terms and conditions (Annexure-A/Point No.19). 8. Order shall be placed on successful L-1 vendor on single package basis. 9. Though BHEL considers MSE vendor as per Govt. guidelines but as this tender will be evaluated on single package basis to successful L-1 vendor, tender will not be split to MSE vendor even though their price within 15% of L-1 price. 10. Corrigendum if any, with respect to this tender will be hosted only in the website http://www.bhel.com or http://tenders.gov.in. You are requested to visit the website regularly for updates. 11. List of Attachments: a. Pre-Qualifying Criteria: Annexure-I b. Tech Specification, Scope of Supply & Works: Annexure-II c. Commercial Terms & Conditions: Annexure-A





TRICHY, BHEL, TRICHY, POSTAL CODE :620014, TIRUCHIRAPALLI, TAMIL NADU, INDIA

		d. Price Bid Format: Annexure-B e. CA certificate for MSE vendors: Annexure-C f. DSC Guidelines g. e-Procurement communication.
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RFQ/NIT ITEM DETAILS

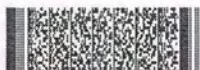
SL. NO.	CODE	DESCRIPTION	QUANTITY	RFQ/NIT U.O.M	OFFER U.O.M
10	52RC_SET	Retrofitting and Reconditioning works in VDF CNC machine in Bay-6, Bldg-5 as per the Qualifying Criteria in ANNEXURE-I and Scope of supply and work as per ANNEXURE-II. VDF CNC MACHINE - RC	01.00	SET	SET
	ATTRIBUTE DETAILS	ATTRIBUTE NAME		ATTRIBUTE VALUE	
		MATERIAL CODE:		52RC SET	
		MATERIAL GROUP:		52RC	
		KILOGRAM PER UNIT:		0.0	
		Cenvatable (Yes / No)		Yes	
		Delivery Location		TAMIL NADU	
		Vatable (Yes / No)		Yes	
		Delivery Date (i) :		27-NOV-2017	
		Delivery Qty (i) :		1	

IMPORTANT NOTICE

PLEASE READ THE FOLLOWING ATTACHMENT(S) [SEPARATELY DOWNLOADABLE] ALONG WITH THIS RFQ/NIT/ENQUIRY .

RFQ/NIT/ENQUIRY - ATTACHMENTS

LABEL	FILE NAME
Annexure-I n II	Annexure-I n II.PDF
Annexure-A Commercial Terms	Annexure-A Commercial Terms.docx
Annexure-B Model Price Bid	Annexure-B Model Price Bid.docx



BHARAT HEAVY ELECTRICALS LIMITED TIRUCHIRAPALLI
CAPITAL PURCHASE

Annexure-A

ACCEPTANCE OF COMMERCIAL TERMS AND CONDITIONS BY THE INDIGENOUS VENDORS.

(This should be essentially filled in and sent along with the techno-commercial offer without fail. If this check list is not filled and submitted along with techno-commercial offer (Part I) or if the vendor does not confirm acceptance to the terms and conditions proposed, BHEL reserves the right to reject such offer)

CHECK-LIST FOR INDIAN VENDORS

Sl. No.	DESCRIPTION
1.	❖ The Bidders shall submit their offer through E-Procurement website only www.bheleps.buyjunction.in. ❖ <u>Part I - Technical and Commercial Bid</u>: This should contain all the copies of technical bid together with un-priced commercial bid. ❖ <u>Part II - Price Bid</u>: This part should contain the schedule of price particulars and must be correlated to the technical details provided in Part I. Offers will be accepted & received till 14.00 Hr. on the due date. Therefore Vendors shall ensure to submit the offers before this time. Late offers will not be considered. Bidders are requested to refer to attached "DSC Guidelines" & "e Proc Vendor Communication" for submission of tender through EPS. Offers should be in ENGLISH and accompanied by detailed technical literature, catalogue and detailed dimensional drawings in ENGLISH or otherwise, the offers will not be considered. In case of necessity BHEL reserves the right to go for a reverse auction (RA) instead of opening the submitted sealed bid, which will be decided after technical evaluation. Information and general terms and conditions covering RA are given in this Annexure- A (Point No.19).
2.	<u>OPENING OF TENDERS:</u> The Part I - Technical & commercial bid alone would be opened on the Tender opening date through EPS. The Part II - Price bid of technically suitable Bidders alone would be opened through EPS. The Technically Suitable Bidders would be informed about the Price Bid opening date through e-mail / EPS. Clarifications if any required by BHEL for Technical evaluation would be sought from bidders before opening of Part II - Price bid.
3.	<u>Taxes and Duties</u> All Taxes and Duties payable as extra to the quoted price should be specifically stated in offers along with CST & TIN No / Tariff No. etc., failing which the purchaser will not be liable for payment of such Taxes and Duties. Our TIN No. 33243560005, TNGST No. 3560005, CST. No. 239383 Dt. 11-06-1991 & BHEL ECC No. AAACB4146PXM012, Service Tax Registration No (STC)- AAACB4146PST006. Assessment circle Tiruverambur.
4.	<u>Special Provisions for Micro and Small Enterprises (MSE)</u> 20% of the tendered quantity is earmarked for MSE suppliers in this tender. - Out of the 20% tendered quantity reserved for MSE suppliers, 4% shall be earmarked for procurement from MSE owned by SC/ST entrepreneurs. - In case MSE vendor participating in the tender quotes within the price band of L1+15%, they will be allowed to supply the portion of the requirement subject to acceptance of L1 price by MSE vendor. In case of more than one such MSE, the supply shall be shared proportionately. - MSE suppliers can avail the intended benefits only if they submit along with offer, attested copies of either EM II (Entrepreneur Memorandum Part II) certificate having deemed validity (five years from the date of issue of acknowledgement in EM II) or valid NSIC certificate or EM II certificate along with attested copy of a CA certificate (Format enclosed as per Annexure - C) applicable for the relevant financial year (latest audited), certifying quantum of investment in plant and machinery within the permissible limit as per the act for relevant status (Micro or small) where the deemed validity of EM II is over. Date to be reckoned for determining the deemed validity will be the last date of technical bid submission. Offer/s received without these documents will lead to consideration of their offer at par with other bidders and MSE status of such suppliers shall be shifted to Non MSE supplier.

No row shall be left blank. Please indicate NA, in case the item is "Not Applicable"	Vendor's confirmation
5. Validity: Validity of the offer should be 120 days from the date of tender opening.	
6. Release of Purchase Order: ➤ Purchase Orders will be released on successful L-1 vendor on single package basis. ➤ Separate orders for supply & service will be released on the successful L-1 vendor. (Service order released only in the case of, Installation / erection / commissioning portion are applicable on tender scope & quoted separate charge for same by vendor).	
7. Payment Terms for supply Portion: a) 80% of payment will be released after receipt & acceptance of supplied material. b) Balance 20% of payment will be released within 45-90 days after receipt, acceptance & commissioning of supply materials against submission of 10% PBG for a Warrantee period of 30 Months.	
Installation & Commissioning Portion (if applicable only): 100% of the installation / commissioning charges (in case contract involves erection / installation / commissioning) shall be paid only on completion of such erection / commissioning at BHEL, Tiruchirapalli.	
Any deviation in the above payment term will attract loading as mentioned below. *Base rate of SBI (as applicable on the date of bid opening. Techno commercial bid opening in case of two part bids) + 6% shall be considered for loading for the period of relaxation sought by bidders.	
8. Performance Bank Guarantee (PBG): The bidder in the event of an order, should furnish a Bank Guarantee from an Indian Bank approved by BHEL, at no extra cost in a format prescribed by BHEL, along with the order, for an amount equivalent to 10% (Ten percent) of the value of the contract. The PBG shall be valid for a period of 18 months from the date of despatch or 12 months from the date of receipt / acceptance / commissioning of equipment at BHEL, Tiruchirapalli whichever is more, with a claim period of two months. The Performance Bank Guarantee shall be obtained from any one of the following banks which is a member bank in our consortium of Banks: List of Consortium Banks DEUTSCHE BANK, HDFC BANK, ANZ GRINDLAYS BANK, CITI BANK, STANDARD CHARTERED BANK, BANK OF AMERICA, ABN AMRO BANK, IDBI LTD, ICICI BANK LTD, THE HONGKONG & SHANGHAI BANKING CORPORATION LTD. List of Nationalised Banks ALLAHABAD BANK, ANDHRA BANK, BANK OF INDIA, BANK OF BARODA, BANK OF MAHARASTHRA, BHARAT OVERSEAS BANK, CANARA BANK, CENTRAL BANK OF INDIA, CORORATION BANK, DENA BANK, INDIAN BANK, INDIAN OVERSEAS BANK, ORIENTAL BANK OF COMMERCE, PUNJAB NATIONAL BANK, PUNJAB & SINDH BANK, STATE BANK OF INDIA, STATE BANK OF TRAVANCORE, STATE BANK OF MYSORE, STATE BANK OF BIKANER & JAIPUR, STATE BANK OF HYDERABAD, STATE BANK OF PATIALA, STATE BANK OF MAHARASTHRA, STATE BANK OF SOURASTHRA (SBI-13.09.08), SYNDICATE BANK, UCO BANK, UNION BANK OF INDIA, UNITED BANK INDIA, VIJAYA BANK. If PBG is issued by foreign counter part of the BHEL consortium Indian Bank, in case of claim against the PBG, it will be lodge in any one of the Indian counters of the Foreign Bank which issued the PBG.	
9. Liquidated Damages (LD): The delivery of the goods specified in the purchase order should be made within the time prescribed. LD for delay in 'Supply' and/or 'E&C' will be applicable to the delays attributed to vendor. LD will be considered separately for 'Delivery' and 'E&C'. Where the seller supplies or dispatches the goods, beyond the delivery period Liquidated damages shall be applicable 0.5% of the total order value per week or part thereof subject to a maximum of 10% of the total order value. Detail of LD mode are shown below Single Delivery Date (Material Dispatched after Due date) Once the delivery due date is crossed, bills have to be clubbed till final despatch and forwarded for processing of payment as a single bunch. LD percentage will be calculated from Delivery due date to final despatch date. (100% Order should be completed for processing the bill) Staggered Delivery LD shall be 0.5% of the undelivered portion per week of the delay or part thereof subject to a maximum of 10% of the total order value. PO Pending value (each Bill Value) up to Max 10 % of Total PO value) <i>Any deviation from the above LD clause, loading will be applied to the extent to which it is not agreed by the bidder (at offered value). For the purpose of Imposing LD, the FOB delivery (B/L date) shall be considered. Bidder should indicate the LD mode (single delivery or staggered delivery) on the confirmation column, otherwise single delivery date will be considered for further evaluation</i>	
10. Risk Purchase: Alternatively the purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of the seller either the whole of the goods or any part which the supplier has failed to deliver or despatch within the time stipulated as aforesaid or if the same were not available from the best and the nearest available substitute. The supplier shall be liable for any loss which the Purchaser may sustain by reason of such risk purchases.	
11. Delivery Terms and evaluation process: Indian Bidders should submit their offer for FOR-BHEL, Tiruchirapalli basis . Packing & Forwarding and Freight & Insurance charges from works to BHEL, Tiruchirapalli to be indicated separately if extra from basic rate. Applicable % of ED & Sales Tax, Commissioning Charges should be clearly indicated. Evaluation of offers shall be on the basis of delivered cost (Net cash outflow to BHEL-Trichy).	

12.	Guarantee: Vendors shall provide a guarantee for a period of 24 months from the date of commissioning of the equipment or 30 months from date of supply, whichever is earlier. The date of B/L or AWB shall be taken as the date of supply. <u>Offers from vendors not accepting the requested guarantee period will be rejected.</u>	
13.	Short shipment / Warranty replacement: In case of any short shipment in the main equipment / spares, customs duty levied on such supplies, shall be borne by the supplier. Any warranty replacement during the warranty period shall be on FOR-BHEL, Tiruchirappalli basis.	
14.	Inspection & Testing: All goods shall be subject to inspection by BHEL or its authorized representatives at supplier's works or at BHEL stores or at any other place in India indicated by BHEL as the case may be. The supplier will not charge for the facilities provided for inspection of goods. In case of machine tools, the machine would be inspected and proved at supplier's works prior to dispatch however, final inspection and acceptance of the machine will be carried after installation of the machine at BHEL, Tiruchirappalli.	
15.	Test certificates / Operating and Maintenance manuals : The Bidders shall clearly mention in their offer, that Test Certificates and Operating Maintenance Manuals, etc., as called for in the Technical Specification, in the required number of copies will be provided at no extra cost.	
16.	Payment through Bank is not preferred. In case of Payment through Bank is opted by Supplier, BHEL prefers documents submission through bank with copy of LR and door delivery of Goods to Site/Stores with Consignee copy attached. In this case Loading will be 3% on the offered value. Offers of indigenous Suppliers with payment terms as LC/Advance Payment are liable for rejection.	
17.	BHEL will consider the ranking after the loading is applied as referred above wherever deviations are observed.	
18.	If offers are received from both OEM/ Manufacturer and authorized Dealer or Agent, then offer submitted by OEM/ Manufacturer will only be considered, offer of Dealer or Agent will be ignored.	
19.	Reverse Auction (RA): 1. BHEL reserves the right to go for Reverse Auction (RA) (Guidelines as available on www.bhel.com) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. Bidders to give their acceptance with the offer for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids, in case BHEL decides to go for RA. Techno-commercially acceptable Bidders shall only be eligible to participate in the Reverse Auction. 2. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit 'Process compliance form' (to the designated service provider) as well as 'Online sealed bid' in the Reverse Auction. Non-submission of 'Process compliance form' or 'Online sealed bid' by the agreed bidder(s) will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com). 3. The bidders have to necessarily submit online sealed bid less than or equal to their envelope sealed price bid already submitted to BHEL along with the offer. The envelope sealed price bid of successful L1 bidder in RA, if conducted, shall also be opened after RA and the order will be placed on lower of the two bids (RA closing price & envelope sealed price) thus obtained. The bidder having submitted this offer specifically agrees to this condition and undertakes to execute the contract on thus awarded rates. 4. If it is found that L1 bidder has quoted higher in online sealed bid in comparison to envelope sealed bid for any item(s), the bidder will be issued a warning letter to this effect. However, if the same bidder again defaults on this count in any subsequent tender in the unit, it will be considered as fraud and will invite action by BHEL as per extant guidelines for suspension of business dealings with suppliers/ contractors (as available on www.bhel.com). 5. As a reminder to the bidders, system will flash following message (in RED Colour) during the course of 'online sealed bid' - "Bidders to submit online sealed bid less than or equal to their envelope sealed bid already submitted to BHEL". 6. BHEL shall engage the services of a Service Provider, who shall extend all necessary training and assistance before commencement of ON-LINE-BIDDING through Internet, at NO extra-cost to the Bidders. Eligible Bidders shall be informed in writing, about the details of Service Provider, to enable Vendors to contact the Service Provider and get trained. Event Date, Time, Start Price, Bid Decrement, Time-Extensions, etc. shall also be communicated through the Service Provider for compliance by Bidders. 7. BHEL shall provide the calculation sheet through the Service Provider, which shall be helpful to arrive at "TOTAL COST to BHEL", like Packing and Forwarding Charges, Taxes and Duties, Freight Charges, Insurance, Service Tax and other loading factors (for non-compliance to BHEL Standard Commercial Terms and Conditions), for each of the Bidder, to enable them to fill in the price and keep it ready for inputting data during the RA. 8. Successful bidder shall be required to submit the final prices (L1) in prescribed format for price breakup including that of line items, if required, quoted during the Online Reverse Auction, duly signed and stamped as token of acceptance without any new condition to the Service Provider, within 2 working days of RA without fail. 9. Any variation between the final bid value and that in the confirmatory signed price breakup document will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines for suspension of business dealings (as available on www.bhel.com). 10. If the Bidder or any of his representatives are found to be involved in Price manipulation / cartel formation of any kind, directly or indirectly by communicating with other bidders, action as per extant BHEL guidelines shall be initiated by BHEL and results of the RA scrapped / aborted. 11. In case BHEL decided to go for Reverse auction, the H-1 bidder(s) (whose quote is highest in the online sealed bid) may not be allowed to participate in further Reverse Auction.	
20.	ARBITRATION: All disputes or differences whatsoever which may arise at any time during execution of the Contract shall be mutually settled by BHEL and Contractor as per provision of the Contract. However, in the event such disputes cannot be settled mutually, such disputes shall be settled as per the Arbitration and reconciliation Act, 1996 of the Govt. of India and its subsequent amendments. In case of disputes with the Central PSUs, the same shall be settled at Tiruchirappalli as per the Guidelines of the Govt. of India. However, during the period such disputes are settled either by mutual discussions between the parties or by legal means, Contractor shall continue to do the work as per terms & conditions of Contract.	

21.	➤ Point to point confirmation for the Technical Specification enclosed to be provided. If there are any deviations, the same should be clearly specified. Offers received without confirmation to our specifications will be liable for rejection. If needed additional sheets shall be used. ➤ Equipment offered shall be "New". Re-built / Re-conditioned / Used equipment's will not be accepted. Incomplete offers will not be considered for further processing. ➤ BHEL reserves its right to reject a tender due to unsatisfactory past performance in the execution of a contract at any of BHEL projects / units. ➤ BHEL shall be at liberty to reject or accept any tender, part or in full, at their own discretion and any such action is not liable for any question or claim against BHEL. ➤ The vendor shall provide necessary drawings, Test Certificates and Operating Maintenance Manuals etc., as called for in the Technical Specification, in the required number of copies at no extra cost ➤ The Supplier shall arrange for securely protecting and packing the stores to avoid loss or damages during transit.																				
22.	Company Details & Contact <table border="1"> <tr> <td colspan="3">Full Address of the company for future correspondence / placing order. (Copy of address proof & PAN card shall be attached along with Part-I)</td> </tr> <tr> <td>Company Email ID:</td> <td></td> <td>Phone No.:</td> </tr> <tr> <td>Fax No</td> <td></td> <td>Pan No with copy</td> </tr> <tr> <td>CST /TIN No</td> <td></td> <td></td> </tr> <tr> <td>Name of the contact person:</td> <td></td> <td>Mobile No.:</td> </tr> <tr> <td>e-mail ID</td> <td></td> <td></td> </tr> </table>			Full Address of the company for future correspondence / placing order. (Copy of address proof & PAN card shall be attached along with Part-I)			Company Email ID:		Phone No.:	Fax No		Pan No with copy	CST /TIN No			Name of the contact person:		Mobile No.:	e-mail ID		
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e-mail ID																					
23.	TO BE CONFIRMED BY VENDOR <table border="1"> <tr> <td>Country of origin:</td> <td></td> </tr> <tr> <td>Station of dispatch / Port Of Shipment</td> <td></td> </tr> <tr> <td>Delivery Terms: FOR Destination basis</td> <td></td> </tr> <tr> <td>Packing & Forwarding Charges in % or Lump sum, if extra from basic rate</td> <td></td> </tr> <tr> <td>% of Excise Duty with cess</td> <td></td> </tr> <tr> <td>% of TAX (CST / VAT) (TNGST with FORM-17 or CST with C-FORM)</td> <td></td> </tr> <tr> <td>(If applicable only) Installation & Commissioning charge is inclusive (or) exclusive on basic rate.</td> <td></td> </tr> <tr> <td>Service Tax extra or Not</td> <td></td> </tr> <tr> <td>Freight & Transit insurance charges (if any, in Lumpsum (or) percentage) from Dispatching station to BHEL Tiruchirappalli.</td> <td></td> </tr> </table>			Country of origin:		Station of dispatch / Port Of Shipment		Delivery Terms: FOR Destination basis		Packing & Forwarding Charges in % or Lump sum, if extra from basic rate		% of Excise Duty with cess		% of TAX (CST / VAT) (TNGST with FORM-17 or CST with C-FORM)		(If applicable only) Installation & Commissioning charge is inclusive (or) exclusive on basic rate.		Service Tax extra or Not		Freight & Transit insurance charges (if any, in Lumpsum (or) percentage) from Dispatching station to BHEL Tiruchirappalli.	
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Freight & Transit insurance charges (if any, in Lumpsum (or) percentage) from Dispatching station to BHEL Tiruchirappalli.																					
24.	DELIVERY SCHEDULE: Supply Portion: Delivery schedule from the date of Letter of Intent / Purchase Order. (This should be inclusive of Order acceptance, drawing approval and time period required for receiving goods at BHEL Trichy etc.) Time period required for Installation / Erection & Commissioning from date of site clearance given by BHEL, Trichy.																				
25.	Weight & Cubage of package: Approximate Net weight of the total consignment: Approximate Gross weight of the total consignment: Approximate volume of the total consignment:																				
For any queries / clarifications the bidders may contact us through our FAX NO. +91 431 2520719 or through e-mail <akumar@bheltry.co.in>																					

NOTE:-

- a) Your specific acceptances to our Payment terms, LD, Risk Purchase Clause are essential for consideration of your offer. Otherwise your offer is liable for rejection.
- b) No row shall be left blank. Please indicate NA, in case the item is "Not Applicable"

Declaration:-

We have gone through and understood the 'General guidelines & instructions to bidders for submitting offer' enclosed as a part of the Tender and confirm that our offer has been made in line with the same.

(AFFIX OFFICIAL SEAL HERE)

Signature with date:

Name:

Designation:

Department:

(Please Affix Your Signature with Seal on Each Page)

Certificate by Chartered Accountant

This is to Certify that M/s.
hereinafter referred to as 'company') having its registered office at
..... is registered under MSMED Act 2006,
Entrepreneur Memorandum No (Part - II)
dtd:.....,
Category :.....(Micro / Small)). (Copy enclosed).

Further verified from the Books of Accounts that the investment of the company
as on date as per MSMED Act 2006 is as follows:

1. For Manufacturing Enterprises: Investment in plant and machinery (i.e.
original cost excluding land and building and the items specified by the
Ministry of Small Scale Industries vide its notification No.5.0.1722(E) dated
October 5, 2006:

Rs.....Lacs

2. For Service Enterprises: Investment in equipment (original cost excluding
land and building and furniture, fittings and other items not directly related
to the service rendered or as may be notified under the MSMED Act, 2006:

Rs.....Lacs

The above investment of Rs..... Lacs is within permissible limit of
Rs.....Lacs for Micro / Small (Strike off which is not applicable) Category under
MSMED Act 2006.

Date:

(Signature)

Name -

Membership Number -

Seal of Chartered Accountant

Annexure-B**Bharat Heavy Electricals Limited TIRUCHIRAPPALLI/CAPITAL PURCHASE****MODEL PRICE BID FORMAT FOR INDIAN BIDDERS**

Enquiry No. & Date:

Bidder's Offer No. & Date:

Sl. No.	Description of item	Unit (Set / No.)	QTY	Basic Rate / Qty. in Rs. (excluding all Taxes)	ED / GST %	VAT / CST in % (TNGST with FORM-17 or CST with C-Form)	Service Tax in %	Total Value in Rs. (Including all taxes & duties)
10	Supply Portion							
20	Installation and Commissioning Charges for Sl. No: 10 (if available in tender scope and exclusive from basic rate for supply portion)							
	Total Value in Words:							
	Packing & Forwarding charges (if any) in percentage (or) Lump sum							
	FOR Dispatching station value in Rs.							
	Percentage of Freight & Transit insurance charges, if any (Lumpsum or %) Freight & Insurance charges from Dispatching station to HPBP-BHEL, Trichy.							
	Approximate Net weight of the total consignment							
	Approximate Gross weight of the total consignment							
	Approximate Dimensions of the Consignment							

Signature & Seal of Vendor

The price bid should be submitted only as per the above format. No row shall be left blank. Please indicate NA, in case the item is "Not Applicable".

DSC GUIDELINES

It should be DSC (Digital Signature Certificate) (**Class 3- SHA2- 2048 BIT-WITH BOTH SIGNING & ENCRYPTION COMPONENT SEPARATELY**)

For DSC GUIDELINES & steps regarding procurement & further tasks to be done to submit offer as follows:

The Requirement:

1. A PC with Internet connectivity.
2. DSC (Digital Signature Certificate)(**Class 3- SHA2- 2048 BIT-WITH BOTH SIGNING & ENCRYPTION COMPONENT SEPARATELY**)
3. JRE 1.6 must be installed in your system.

The process of utilizing e-procurement necessitates usage of **DSC (Digital Signature Certificate)(Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION)** and you are requested to procure the same immediately, if not presently available with you. Please note that only with DSC, you will be able to login the e-procurement secured site and take part in the tendering process.

The contact details of the DSC Certifying Authority as given below

1	e-Mudhra	http://www.e-Mudhra.com	5	NIC	www.safescrypt.com
2	GNFC	www.ncodesolutions.com	6	Safescrypt	www.safescrypt.com
3	IDRBT	www.idrbtca.org.in	7	TCS	www.tcs-ca.tcs.co.in
4	MTNLTrustline	www.mtnltrustline.com			

(Other)DSC Contact details:

Ms. Solly (M/s. R3 eConsulting Pvt Ltd)

Mobile : 9444841015

Tel Nos. 044 2815 2670 / 72 / 4207 0906

Email : chennai@sgs-ds.com, soy@saspartners.com

chennai@saspartners.com

We have finalized the e-procurement service Provider as,

M/s m Junction services Limited, Kolkata

Godrej Water Side, 3rd Floor, Tower-1, Plot-V, Block - DP

Sector - V, Salt Lake, Kolkata-700091, West Bengal, INDIA

Please get in touch at below numbers for any issues related to bid submission in EPS.

	NAME	e-Mail ID	Land Phone No	ROLE
1	Mr. P Peter Raj -	'peter.raj@mjunction.in'	09942069052	
2	HELP DESK	eps.customercare@mjunction.in	Landline : 033-66106217/ 6013/ 6426/ 6176/ 6046 (From 9:30am to 5:30pm) 033-66106426/ 6217/ 6013/ 6046/ 6176 9163348283/ 9163348284/ 9163348285/ 9163348286/ 8584008116 (From 5:30pm to 8:30pm)	
3	Mr. Harish Kumar Ramu	harish.ramu@mjunction.in	(+91) 09840704941	
4.	Mr. DHANARAJ.P	p.dhanaraj@mjunction.in panneer.dhanaraj@mjunction.in	(+91) 9500199108, (+91) 9282403700	Customer Relationship Manager
5	Mr. Saumendu Neogi	saumendu.neogi@mjunction.in	(+91) 9163348205	PROJECT MANAGER
6	Mr. R. Vishwanathan	r.vishwanathan@mjunction.in	(+91) 9163348242	Business Analyst

After procurement of Digital Certificate kindly follow the process below **for properly login into the BHEL EPS portal.**

1. Please install JRE 1.6 and your Digital Certificates (Class 3) for sign in and encryption.
2. Please install net meeting software like TeamViewer (www.teamviewer.com) for online support.
3. You are required to login to <https://bheleps.buyjunction.in> and click **Sign in**
4. Key in your login code and password and click **Enter**
5. System will ask you to change password,
6. Again login with new password
7. System will show sign in certificate, Select your sign in certificate and click **OK**
8. You will be logged out automatically
9. Contact Buyer for certificate approval
10. After your certificate is approved by Buyer, login again with login code and new password
11. Select Digital certificate
12. On the top right hand margin you will find "**Digital Certificate**" Click on "**Digital Certificate**"
13. Select "**For Encryption**" Radio button if you have **2048** bit certificate. Else you select "**Both**" Radio button if you have **1024** bit certificate.
14. System will display your encryption certificate, Select the same
15. New window will appear showing thumbprint of certificate, Click "**CLOSE**"
16. Then Click "Exit"

Now follow the steps for submission of the tender.

Go to "**TENDERS**" and then click on then "**VIEW**" button. Than select status as "**OPEN FOR QUOTATION SUBMISSION**" and click on the "**ENTER**" button. This will display all the eligible RFQs and then you can click on the relevant RFQ to view all the RFQ details.

- After clicking on the RFQ you would be able to see the RFQ details.
- To view all the items attached to the RFQ, you can click on "**VIEW ITEMS**" button. By clicking on "**BACK**" you can go back to the RFQ header. Now you need to click on "**Response to RFQ/NIT**".
- You will be landed to the RFQ/NIT details page where you will be able to see the Item details.
- To go back to the RFQ you have to click on the "**BACK TO RFQ**" button.
- To respond to the RFQ you have to click on "**RESPOND TO RFQ/NIT**" button and you will be taken to the Terms And Condition page.
- To participate in the RFQ you have to choose the first option (i.e. "**I have understood the RFQ/NIT in full and agree to submit quotation for the same on behalf of my organization**") and click on "**ENTER**" button.
- You will be then taken to the **ADD QUOTATION** page where you have to click on "**ADD QUOTATION**" and fill in the relevant bid details.
- You will be taken to the techno-commercial page where you have to fill the relevant fields.
- To add any techno-commercial documents you have to click on "**ADD ATTACHMENT**" button than you have to click on the "ADD ROW" button.
- Then insert **LABEL** name, **FILE** Name and then attach the required file by clicking on the BROWSE option. Now click on the "**SIGN FILE**" button, now the system will ask for the encryption DSC and after successful verification you have to click on "**ATTACH/DETACH**" button for successful file attachment.
- Then click on "**GO TO HEADER**" button to go back to RFQ Header.
- The system will again ask for the Certificate and after successful verification you will be landed to the techno - commercial page.
- After successful verification of the certificate you have to click on "**SAVE AND GOTO ITEMS**" button to put the basic price for the items.
- Again the system will ask for DSC and you have to select you DSC.
- You have to put the basic price in the basic price column and then Click on the "**SAVE AND GOTO HEADER**" button
- Again the system will ask for DSC and you have to select you DSC.
- To submit the quotation click on "**SUBMIT QUOTATION**" button
- After successful verification of DSC, you can submit your quotation by clicking on the "**CONFIRM**" button.

After successful submission of your quotation the system will show that your quotation has been submitted successfully. You are requested to submit the bid well before the due date to avoid the last minute issues.

Please download the Supplier Manual from the below link

https://bheleps.buyjunction.in/BOEPS/html/Standard%20Documents/BHEL_Supplier%20Manual.pdf?OWASP_CSRFTOKEN=NX_KI-NQ4W-2YMN-OJIA-0X2D-O3AW-CLN0-R2NX

e- Procurement – BHEL TRICHY

Dear Sir/Madam,

BHEL Trichy has implemented e-Procurement and it is going to be the way of working in future.

The Requirement :

1. A PC with Internet connectivity &
2. DSC (Digital Signature Certificate)(**Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION**)

The following are the benefits of e-Procurement Process.

1. Ensuring no offer is missed due to last minute submission, postal delays etc.
2. Reduced Tendering & ordering cycle time
3. Economical, smoother & speedy communication
4. Greater Transparency
5. Big step towards paperless procurement process, Minimal human error
6. No geographical barriers
7. Vendor gets alerts regarding issue of new tender enquiry, amendments, clarifications etc
8. Submission of offer from the comforts of their office from any location
9. On line clarifications
10. Direct Cost Savings such as reduced Paper costs, reduced printing costs, reduced mailing costs, reduced telephone costs and reduced fax costs.

BHEL has finalized the e-procurement service Provider

M/s m Junction services Limited, Kolkata

Godrej Water Side, 3rd Floor, Tower-1, Plot-V, Block - DP
Sector - V, Salt Lake, Kolkata-700091, West Bengal, INDIA

Please get in touch with them immediately. The contact details of the service provider is given below:

SL	NAME	e-Mail ID	Mobile No	ROLE
1	DHANARAJ.P	panneer.dhanaraj@mjunction.in	(+91) 9500199108	Customer Relationship Mgr.
2	HELP DESK	eps.customercare@mjunction.in	033 – 66106426 / 54 9163348104,9231027017	

The process of utilizing e-procurement necessitates usage of DSC (Digital Signature Certificate)(**Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION**) and you are requested to procure the same immediately, if not presently available with you. Please note that only with DSC, you will be able to login the e-procurement secured site and take part in the tendering process.

The contact details of the DSC Certifying Authority as given below

1	e-Mudhra	http://www.e-Mudhra.com	5	NIC	www.safescrypt.com
2	GNFC	www.ncodesolutions.com	6	Safescrypt	www.safescrypt.com
3	IDRBT	www.idrbtca.org.in	7	TCS	www.tcs-ca.tcs.co.in
4	MTNLTrustline	www.mtnltrustline.com			

Your early action in this regard is highly solicited.

Regards

Annexure I

RETROFITTING & RECONDITIONING OF VDF CNC LATHE M/C.

ANNEXURE I

PRE QUALIFICATION CRITERIA

S.No	Description	Vendor comments
	Vendors who satisfy the following pre qualification criterion are only eligible to participate.	
1	The vendor shall have experience of having successfully carried out CNC retrofitting & reconditioning work in India. Experience of having successfully completed similar works during last 7 years (ending last day of month previous to the one in which applications are invited) should be either of the following: - a. Three similar completed works, each costing not less than the amount INR 18 lakhs. or b. Two similar completed works, each costing not less than the amount INR 22.5 lakhs. or c. One similar completed work costing not less than the amount INR 36 lakhs. "Similar work" here means CNC retrofitting / reconditioning of machine tools. Documentary evidences like PO copy, Final MOM or Completion Report to be submitted in support of the above.	
2	The vendor should submit at least one Performance Certificate issued by customer regarding satisfactory performance of the retrofitted CNC machine within the last 7 years. (Hardcopy of the certificate or through Email directly from the customer). Copies of purchase orders/work orders should also be submitted for verification.	

Harshwardhan Kumar
07.06.17
HARSHWARDHAN KUMAR
Maintenance Engineer
Maintenance & Services
BHEL, TRICHY - 620 014.

RETROFITTING & RECONDITIONING OF VDF CNC M/C.

ANNEXURE II

MACHINE SPECIFICATION & DETAILS OF EXISTING MACHINE PARTS

S.No	Description	
1	CNC SYSTEM: FANUC SERIES 0-TC 2 axis and 1 Spindle	
2	X-axis	
2.1	Motor: TYPE: α 65/2000 I64 AC SERVO MOTOR FANUC MAKE	
2.2	SERVO AMPIFIER MODULE TYPE: A06B-6079-H107 INPUT: 283-325V OUTPUT: 230V : 77.5A : B-65126 : DIN VDE 0160 : V03603829	
2.3	ENCODER PULSE CODER BUILT IN TYPE: α 164 TYPE: A860-0365-V501 EXTERNAL ENCODER MAKE: HEIDENHEIN TYPE: ROD426 : 1024 : TTL1 5V	
3	Z-axis	
3.1	Z AXIS MOTOR TYPE: α 65/2000 I64 AC SERVO MOTOR FANUC MAKE	
3.2	SERVO AMPIFIER MODULE TYPE: A06B-6079-H107 INPUT: 283-325V OUTPUT: 230V : 77.5A : B-65126 : DIN VDE 0160 : V03503099	
3.3	EXTERNAL ENCODER : SCALE : HEIDEN HAIN : LB 302/LB 302C : LB 382/LB 382C	
3.4	Axis power supply module: POWER SUPPLY MODULE TYPE: A06B-6087-H115 INPUT: 220-230V : 63A at 200V OUYPUT: 283-325V KW: 17.5 Kw MANUAL: B-65162 STANDARED: EN50178 UL508C : V03306869	

3.5	DYNAMIC BRAKE MODULE TYPE: A06B-6079-H401 MAX VOLTAGE: 230V MIN CURRENT: 200A Peak : B-65162 : DIN VDE 0160 : V03610548 DYNAMIC BRAKE MODULE TYPE: A06B-6079-H401 MAX VOLTAGE: 230V MIN CURRENT: 200A Peak : B-65162 : DIN VDE 0160 : V03610522	
4	Spindle	
4.1	SPINDLE 1. POWER SUPPLY MODULE TYPE: A06B-6091-H175 INPUT: 400-460 A: 155A at 400V OUTPUT: 566-651V MANUAL NO: 13-65162 SL.NO:V02912306 2. SPINDLE AMPLIFIER MODULE TYPE: A06B-6104-H275 # H520 INPUT: 566-651 OUTPUT: 460V A: 170A KW: 82Kw MANUAL NO: 13-65162 STANDARED: IN VDE 0160 : V03610276 3. SPINDLE MOTOR FANUC AC SPINDLE MOTOR,MODEL: α60HV INPUT: 309-413V TYPE: A06B-0883-B200, No: C036K2102 S1 CONT KW MIN A 60 1380-3500 141 45 4500 141 S2 30Min S3 40% KW MIN A 75 1150-3500 167 55 4500 167 KW MIN A 75 55 1150-3500 4500 167 S2 30Min S3 40%	
4.2	SPL External Encoder	
5	1. Centralized lubrication system for the guide ways.Centralized Lubrication set (Includes Motor, Pump and accessories) 2. LUBRICATION HEAD STOCK MOTOR: 0.25 Hp, 1300rpm MODEL: Rp, 6Lpm Make : REMI 3Phase induction motor FR. 63M/4 0.18 kW, 1300rpm, 0.58A, S1 Make: Polyphase 3phase induction motor 0.18kW, 1310rpm, 0.60A, Frame 63, S1	

6	Hydraulic Motor MAKE: KATT TYPE: FN80 KW: 0.75 Rpm: 1415 A: 3.5 V: 220Δ/380Y	
7	hydraulic valves safety valve -1 directional control valves 2 No	
8	pressure switch -2 Nos	
9	Existing I/O card detail : A16B-2203-0110/02A I/O C7	
10	conveyor motor ; 1.5kW	
SECTION A: SCOPE OF SUPPLY		
S.No	Description	Vendor's Remarks / Compliance
1	Electrical & Electronics parts/accessories	
1.1	Supply of CNC Controller, able to perform all the machine functions. CNC PACKAGE: Latest version of SIEMENS 828D or FANUC Oi F series CNC system with min 10.4" Colour display package only. The CNC system offered shall have the following features. 1. Full Alphanumeric Keyboard and Colour Display (TFT/LCD monitor) of 10.4" or more. 2. MCP and other Operator controls having necessary Push Buttons with Indicating Lamps and Selector / Toggle Switches. 3. PLC configuration having at least 104 Inputs and 72 Outputs with necessary I/O cards. 4. Graphic Machining Simulation of tool paths in part programs. 5. Minimum 3MB user memory along with flash card 1GB or more for program storage. 6. Manual measurement and automatic storage of tool offsets in tool offset memory. 7. All turning operations and to cater all existing machine features. 8. CNC data can be transferred quickly and easily using USB, Compact Flash (CF) card and RJ45 RS232 interfaces	
1.2	Supply of AC servo motors of suitable capacity for X & Z axis with Built-in Encoder. Torque and other ratings shall be equal to or higher than the parameters of the existing servo motors. Any mechanical interfacing arrangement required to match the new motor with the existing mechanical drive system should be included in the offer. The type number / model of the motor selected should be indicated in the offer.	
1.3	Supply of suitable external encoders for X and Z axes (Linear scale for Z axis)	
1.4	Supply of latest AC digital servo amplifier modules for X and Z axes. The rating of the drive modules selected should support the selected servo motors. The type number / model of the drive module selected should be indicated in the offer.	
1.5	Supply of AC spindle motor of suitable capacity to replace the existing AC spindle motor. The parameters and ratings of the offered motor shall be equal to or higher than the existing spindle motor and suitable to be interfaced with the CNC system offered. Any mechanical interfacing arrangement required to match the new motor with the existing mechanical drive system should be included in the offer. The type number / model of the motor selected should be indicated in the offer.	
1.6	Supply of external encoder for the spindle. Make: Heidenhain/Fanuc/Siemens, PPR: 1024	
1.7	Supply of latest digital spindle amplifier modules for the new spindle motor. The rating of the drive module selected should support the selected spindle motor. The type number / model of the drive module selected should be indicated in the offer.	
1.8	Supply of necessary line filter and reactor units for the drive modules	
1.9	Supply of motor power cable, signal cables of sufficient length with end connectors for axes and spindle.	

1.10	Supply of necessary 24V SMPS units of Siemens/ Fanuc or any other reputed make.	
1.11	Supply of new operating pendant for mounting the new CNC system & keyboard.	
1.12	Supply of suitable Hand held unit along with 5 mtr cable and adapter as required.	
1.13	Supply of suitable ratings of MCB, MPCB, contactors, relays, fuses and other control elements for all the auxiliary motors / equipments in the machine.	
1.14	Supply of new limit switches, proximity switches, flow switches etc for the replacement of all old sensors in the machine.	
1.15	Supply of necessary cables, wires, glands, sleeves, ferrules etc for complete rewiring of the machine	
1.16	Supply of new induction motors and pump (if required) for replacing all the old motors and pump (if exist) in the machine.	
1.17	Supply of a) Three sets of manuals for the CNC system, servo motors, spindle motor, drives and manuals of bought-out components. b) Three sets of Electrical drawings for entire machine. c) Three sets of CNC parameter list and PLC program d) Three sets of Instruction manual and user alarm description	
1.18	Supply of tools for maintenance of the machine. 1. Digital multi meter (AC/DC 0-600V) - 1 no 2. Clamp meter (AC/DC 0-600A) - 1 no 3. Hand driven analog insulation tester (Insulation Resistance: 0-2000 M ohm, Nominal Test Voltages d.c.: 250 V 500 V 1000 V) - 1 no 4. Electrician tool set 14 piece - 1 set 5. 1 HP capacity hand drilling machine - 1 no 6. Hole saw cutter ½", 3/4", 1", 1-1/4", 1-1/2" - 1 set 7. Mason drilling machine (wall drilling machine)- 1 no 8. Zig zag cutter - 1 No	
1.19	Any material not specified in scope of supply but required for successful commissioning in the scope of the contractor.	
S.No	Description	Vendor's Remarks / Compliance
2	Mechanical parts/accessories	
2.1	Supply of suitable brackets for mounting the new AC servo motors for axes/spindle.	
2.2	Supply and installation of Centralized lubrication system (including pump, motor and piston distributors) for the guide ways. Vogel/SKF/Cenlub makes only acceptable to BHEL.	
2.3	Supply of new hydraulic valves to replace the old ones. The new valves shall be the same make or equivalent to the existing ones in Rexroth/Vickers Sperry makes only . Any modification required for mounting the valves (including supply of manifolds, if any) to be carried out by the vendor suitably.	
2.4	Supply of pressure switches & Hydraulic accumulator to replace the old ones in the machine. The new pressure switches shall be the same make or equivalent to the existing ones in Rexroth/Vickers Sperry makes only. Hydraulic Accumulator of Rexroth/Vickers/Hydac makes only acceptable to BHEL. Any modification required for mounting the pressure switches (including supply of manifolds, if any) to be carried out by the vendor. Any other pressure switch existing in the machine not included in the list above to be studied by the supplier during their visit to BHEL and to be included in the offer.	
2.5	Supply of Pump and Motor set for head stock circulating lubrication system. Pump Flow: 8.2 lpm (max), Pressure: 5 bar, RPM: 1400	
2.6	Replacement of all axis guideway wipers for the machine.	

2.7	Supply of Hydraulic hoses and fittings equivalent to the existing ones in the machine. Make: Any standard make.	
2.8	Supply of new ball screw rod and nut for X axis as per the drawings. X axis: 3M-08F0-12481	
3 (B)	Supply of Control Panel :	
	Supply of new Electrical panel for mounting the drives, power supply units and other switchgears. The panel should have the following features.	
3.1	The panel shall be metal enclosed, indoor , floor mounting and free-standing type of Rittal/Pyrotech make. The panel shall be free from flaws, dents and undulations. The panel shall be cold rolled sheet of 2.5mm thickness shall be used for all members expect for doors, covers and partitions where it may be of 2mm.	
3.2	All mating surfaces shall be provided with 3mm thick neoprene gaskets. Panel shall be provided with three point locking arrangement. Hardware used shall be chrome/ nickel - plated. The anti-vibration pad shall be of hard rubber.	
3.3	The pre treatment of all steel work including de greasing ,rust / scale removal, phosphating and oven drying shall be carried out. Panel shall be coated with two coat of anti- rust paint (primer) and two coat of acid alkali resisting epoxy based paint suitable for working in saline and corrosive atmosphere. Exterior : Apple green shade 281 of IS-5/1994. Finish : Semi glossy Interior : Brilliant White Finish : Glossy	
3.4	Degree of protection of panel enclosure: IP 55	
3.5	Removable cable entry shall be provided.	
3.6	The doors shall be suitable for 180 degree opening at front.	
3.7	Mounting Bolt of spring loaded mounting bolts with nuts Shall be supplied by vendor .No of suitable lifting Eye bolts with nuts and washers shall be provided.	
3.8	Supply of air conditioning unit for the Electrical panel and operating panel of sufficient rating. i. M/s Advanced cooling System pvt ltd ii. M/S Werner Finley pvt ltd iii. M/S Avon controls and Systems iv. M/S Chilton Refrigeration Industries v. M/S Emmpe Associates vi. M/S Sunbeam vii. M/S Rittal or any other make acceptable to BHEL.	
3.9	The above panel should be accommodate all the above drives including and all the electrical and electronic elements used in the machine.	
3.10	The bottom surface of the control panel should be free and no components should be mounted on it.	

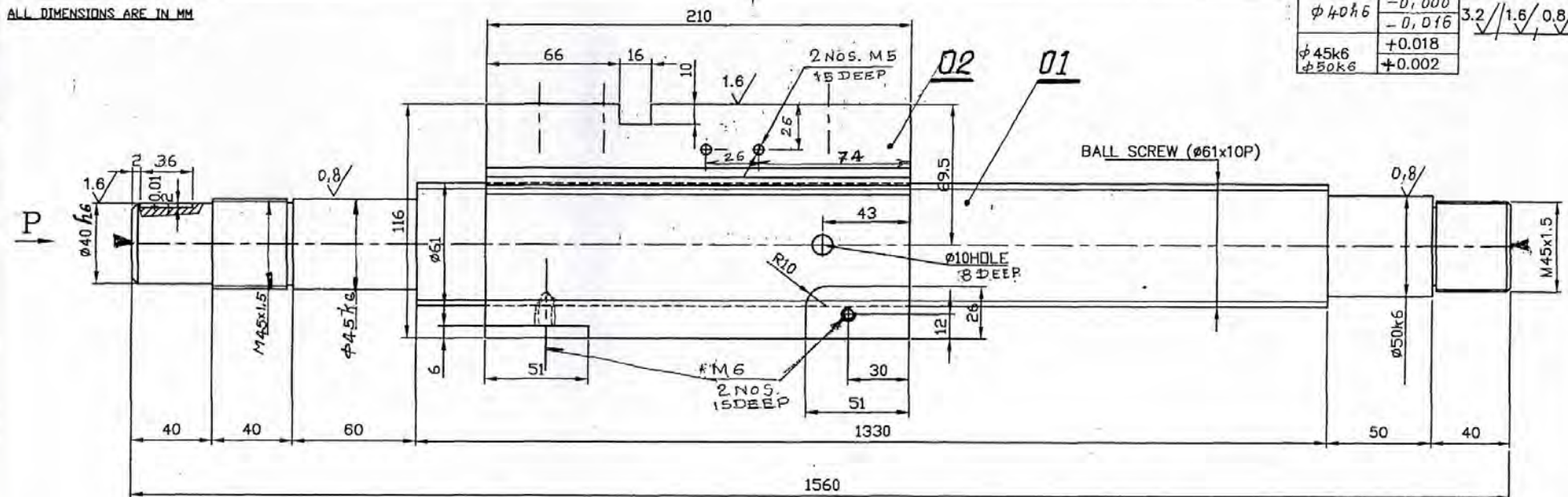
SECTION B: SCOPE OF WORK

S.No	Description	Vendor's Remarks / Compliance
1	DESIGN & PREPARATION:	
1.1	Preparation of new circuit diagram for complete electrical systems with the new CNC/ Drives/ Motor.	
1.2	Design of brackets for motor for X/Z and spindle if required.	
2	DISMANTLING: Dismantling and removal of all drives, switch gears, CNC, all Relay logic, along with old cabling and wirings, cable trays etc. in the existing Electrical cabinet. Dismantling of feed motors and field devices.	
3	ASSEMBLY:	

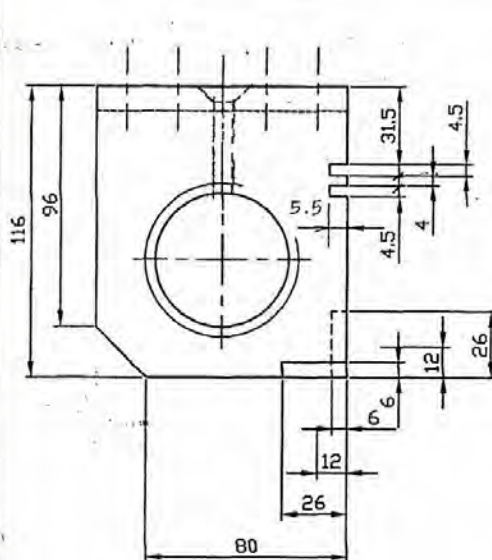
3.1	Assembly of servo motors for X, Z and spindle with suitable mounting brackets.	
3.2	Erection and commissioning of the new Electrical Panel and Interfacing the machine control elements like limit switches, pressure switches, level switches, pushbuttons etc, with necessary wiring materials.	
3.3	Erection of the operating pendent and mounting the CNC system on it.	
3.4	Assembly of AC Drives and other switchgears in the new Electrical Panel.	
3.6	Replacing the limit switches, proximity switches and other sensors in the machine.	
3.8	Installation of all other supplied materials.	
4	CNC INTERFACING:	
4.1	Interfacing the CNC system, drives, motors, lubrication system and other accessories to establish the complete functioning of the machine.	
4.2	Complete rewiring of the machine to establish all the existing machine functions.	
4.3	Optimizing the drives parameters for X, Z and spindle	
4.4	Establishing the PLC program for the machine.	
5	CALIBRATION, PROVE OUT AND TRIALS.	
5.1	Calibration of X and Z axis for positioning accuracy and repeatability Using Laser interferometer before and after the work.	
5.2	The complete system will be integrated and proved out for performance With a standard test piece and also two regular production components.	
-	All the existng machine functions to be proved out.	
6	BACK UP: The back up of PLC program and parameters to be given in CD as well as in flash card compatible with the CNC system.	
7	TRAINING:	
7.1	Training shall be given for 2 Maintenance personels on CNC/ Drives maintenance & for 2 Production personels on Operation and Programming of the CNC at the OEM's works for 5 days.	
7.2	Training to be imparted to BHEL personels on operation, programming and maintenance of the CNC machine at BHEL for 2 days.	
8	GENERAL CONDITIONS:	
8.1	The equipments should be suitable for 415V, 3ph, 50Hz, a.c. supply	
8.2	Parties are advised in their own interest to visit BHEL, Trichy on any working day to inspect and study the machine before submitting their offer.	
8.3	Any other work (electrical, mechanical and electronics) not mentioned in this scope of work to keep the machine in working condition with all features and accuracies are in the scope of the contractor.	
8.4	Material to be used should be of reputed make or as per IS standards.	
8.5	Party shall bring all tools and testing equipment with them during erection and commissioning.	


 07.06.17
HARSHWARDHAN KUMAR
 Maintenance Engineer
 Maintenance & Electrical
 BHEL, TRICHY - 620 014.

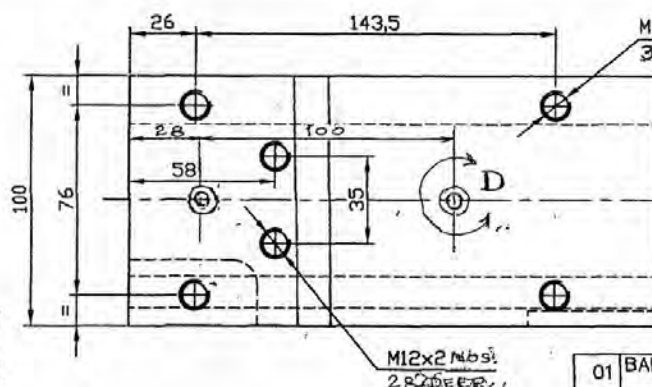
ALL DIMENSIONS ARE IN MM



$\phi 40k6$	$-0,000$	$3.2 \sqrt{\quad} / 1.6 \sqrt{\quad} / 0.8 \sqrt{\quad}$
	$-0,016$	
$\phi 45k6$	$+0.018$	
$\phi 50k6$	± 0.002	



VIEW-P



DETAIL-D

M12x4 NOS: BALL SCREW DESIGNATION

32 DEEP

BALL SCREW ISO-3408-XXX-XXX-01330-P01R
NOMINAL DIA & LEAD-AS PER DRAWING STD,
ACCURACY GRADE: 01

FOR TENDERING PURPOSE ONLY

SCANNED

01	BALL SCRW NUT (Ø61x10P-210)	IS:14872			07
01	BALL SCRW ROD (Ø61x10P-1560)	IS:14872			07
					
No. of Pieces	DESCRIPTION	MATERIAL	STANDARD	NET.WT.IN KGS.	DRAWING No.
	REFERENCE:	ALTERATIONS:		DCN REF	SIGN.
SCALE	DRAWN				
	CHECKED				
1:2	APPROVED				
	DATE				
MACHINE: NC LATHE			TYPE: VDF		
TITLE: BALL SCREW [X-Axis] (Ø61x10P-1560)			DRAWING No:		C.D. 00 REV
			3M08F0812481		
			Sheet No:		No. of Sheets: