



**NOTICE FOR TENDER (NIT)**

BHARAT HEAVY ELECTRICAL LIMITED  
HEEP, Haridwar-249403 (UTTARAKHAND)

Name of Dept	Works Engineering & Services (Works Contract Section)		
Phone	01334-281932	Fax	01334-226460
Email Address	omanish@bhelhwr.co.in, ppaul@bhelhwr.co.in, azadd@bhelhwr.co.in		
Contact Person	Manish Kumar		
NIT Key.	20170125	Dated :	03.01..2018
NIT No.	BHEL/HEEP/WEX-WCS/ 17-18 /6180/20170125 Dated: 03.01.2018		
NIT No. on www.bhel.com			
NIT No. on www.bhelhwr.co.in			
Type Of Tender	Open		
#Tender Cost (in INR)	500/- (Inclusive of Taxes) & NIL for tender downloaded from website		
EMD ( in INR )	55,170/-		
Period of completion of work	12 Months		
Two Part Bid /single bid	Two Part Bid		
NIT Value (in Rs.)	Rs.27,58,504/- (GST extra as applicable)		
Last Date of Sale of Tender	29.01.2018	Time :	03:30PM
Last Date of submission of Tender	30.01..2018	Time :	01:45PM
* Date and Time for opening of Technical Bid	30.01.2018	Time :	02:00PM
Place Of submission of Tender	<b>Tender Room, Purchase Deptt., 4th floor, Main Administrative Building, BHEL , HEEP, Haridwar-249403 (Uttarakhand)</b>		

\* In case of two part bid, date of opening of Tender means the date of opening of Techno-commercial bid. However date of opening of price bid shall be intimated to technically qualified parties. If the due date of tender opening happens to be a holiday, the tenders will be opened on the next working Tuesday/Friday.

# Tender cost & EMD shall be submitted either in form of cash receipt issued by cash section, BHEL, HEEP, Haridwar (subject to provision of Income tax act) or Demand draft issued by any nationalised bank in favour of Sr. Accounts Officer (Cash), BHEL, HEEP, Haridwar separately in two different envelopes superscribed as Tender cost and EMD respectively. However Tender cost is non-refundable & **tender fee & EMD shall be exempted submission of valid MSME/EM-II/NSIC Certificate and Tender Fee shall be exempted for tender documents downloaded from website**

**Name of Work:** "Retrofitting of HMT Machining Centre (Model No. HTC-600) Plan No. 2-435, TBM, BI-3, BHEL Haridwar".

Contracting Executive Name: Manish Kumar  
Date:

1. BHEL reserves the right to accept or reject any/ all application(s) without assigning any reason thereof.
2. If any document submitted by tenderer found false at any stage, the tender/ work order will be cancelled immediately and the financial loss to BHEL if any in making alternative arrangement will be recovered from the contractor.
3. BHEL will not be responsible for the loss or delay of tenders in transit in any case.
4. All further corrigenda, addenda, amendments, time extensions, clarifications & etc. to the tender, if any shall only be notified on BHEL websites (www.bhel.com / www.bhelhwr.co.in) as applicable.
5. For detailed instructions/information refer the tender document on BHEL website.

**Scope for Retrofitting of HMT Machining Center (Model No. HTC-600) Plan No. 2-435, TBM, BI-3, BHEL Hardwar**

**Brief About Machine:** The machine comprises of X, Y, Z & B axes with a Spindle and Two pallet type swiveling Pallet changer. Pallet changer is Hydraulic based. All axes, rotary table and spindle are CNC controlled. Existing axes drives are Gettys drive with GOULD DC servomotors which have to be replaced. Existing spindle drive is Gettys drive with GOULD AC spindle motor which has to be replaced along with the drive. Existing CNC System is SIEMENS 810 GA3 and has to be retained. Existing measuring system is 11 microamperes of Heidenhain make and have to be retained.

Sl. No	Description	Quantity	Accepted (Yes/No)	Deviation	Remarks
1.	<b>MATERIAL SUPPLY INCLUDING SCOPE OF WORK</b>				
1.1	<b><u>AC SERVO MOTORS FOR CNC CONTROLLED AXES &amp; SPINDLE MOTOR</u></b>				
1.2.1	SIEMENS make AC servo motor of suitable rating for X axis with rated Torque (Mn) of 38 Nm or above and RPM more than or equal to 1400 RPM. Size constraints for the motor has to be accounted for considering the available space in the machine <b>Existing motor details are as under:</b> GOULD make, permanent magnet servo motor, Category: M238-J60B-900N, Back emf: 120V/Krpm, Tach: 9.5V/Krpm, Torque constant: 10.14 Lb-inch/ A, Rated current: 33A, Conn. Dia.: 201-133-1026, Outline drwg.: 201-233-3258, Serial no.: 5868 1787.	01 No.			<u>Bidder to provide details and comply</u>
1.2.2	SIEMENS make AC servo motor with holding brake of suitable rating for Y axis with rated Torque (Mn) of 38 Nm or above and RPM more than or equal to 1400 RPM. Size constraints for the motor has to be accounted for considering the available space in the machine Pls. note Y axis is fitted with hydraulic counterbalance. <b>Existing motor details are as under:</b> GOULD make, permanent magnet servo motor, Category: M238-J6CB-900N, Back emf: 120V/Krpm, Tach: 9.5V/Krpm, Torque constant: 10.14 Lb-inch/ A, Rated current: 33A, Conn. Dia.: 201-133-2045, Outline drwg.: 201-233-3197, Serial no.: 1461-0387.	01 No.			<u>Bidder to provide details and comply</u>
1.2.3	SIEMENS make AC servo motor for Z axis with rated Torque (Mn) of 45 Nm or above and RPM more than or equal to 1800 RPM. Size constraints for the motor has to be accounted for considering the available space in the machine <b>Existing motor details are as under:</b>	01 No.			<u>Bidder to provide details and comply</u>

	GOULD make, permanent magnet servo motor, Category: M139-J60A-900F, Back emf: 79V/Krpm, Torque constant: 10.14 Lb-inch/ A, Rated current: 60A, Conn. Dia.: 497-301-001.				
1.2.4	SIEMENS make AC servo motor for B axis with rated Torque (Mn) of 25 Nm or above and RPM more than or equal to 2000 RPM. Size constraints for the motor has to be accounted for considering the available space in the machine <b>Existing motor details are as under:</b> GOULD make, permanent magnet servo motor, Category: M 235-YY0A-90YY-A9, Back emf: 79.5V/Krpm, Tach: 9.5V/Krpm, Torque constant KI: 6.72 Lb-inch/ A, Rated current: 33A, Conn. Dia.: 201-133-1026, Outline drawing: 201-233-2326	01 No.			<u>Bidder to provide details and comply</u>
1.2.5	Suitable SIEMENS make AC Spindle Motor (Forced Air cooled) with 15 KW or more rated Power & 1500/ 6000 RPM (both Base & Top speed) more than or equal to existing motor. Size constraints for the motor have to be accounted for considering the available space in the machine. <b>Existing motor details are as under:</b> GOULD make, AC Servo Spindle Motor, Category: M575-13, 3Φ, 4 Poles, , Rated current: 86A, 135V, 50 Hz, 15KW/20HP, 1500 rpm, Rated current: 57A/180V/15KW/20HP/6000 rpm	01 No.			<u>Bidder to provide details and comply</u>
1.2.6	Supply of intermediate flanges, couplings and any other parts required for mounting of the Axes AC Servo motors (4 Nos.) and Spindle motor (1 No.).	01 Set			<u>Bidder to comply</u>
<b>1.3</b>	<b><u>AC SERVO DRIVES &amp; SPINDLE DRIVE</u></b>				
1.3.1	SIEMENS make Sinamics AC Servo drive for Feed motors' control with input voltage of 415VAC (+/- 10%), 3 phase 3 wire system.	01 Set			<u>Bidder to provide details and comply</u>
1.3.2	SIEMENS make Sinamics AC drive for Spindle motor control with input voltage of 415VAC (+/- 10%), 3 phase 3 wire system.	01 Set			<u>Bidder to provide details and comply</u>
1.3.3	Vendor to include input transformer (if required)	01 No.			<u>Bidder to provide details and comply</u>
1.3.4	Servo drives to be provided with analogue speed reference input 0 to +/- 10 VDC	01 No.			<u>Bidder to provide details and comply</u>
1.3.5	Active Line module with Active Interface Module of suitable capacity. Maximum ratings of motors offered to be taken into account for calculating the ratings of the Modules.	01 Set.			<u>Bidder to provide details and comply</u>
1.3.6	Control Supply Module (CSM) as per requirement.	01 No.			<u>Bidder to provide details and comply</u>

1.3.7	Single line module/ Double motor module of suitable capacity (for X, Y, Z & B axis motor).	01 Set			<u>Bidder to provide details and comply</u>
1.3.8	Suitably rated Braking Resistor (If required).	01 No.			<u>Bidder to provide details and comply</u>
1.3.9	Single line module of suitable capacity (for Spindle motor).	01 No.			<u>Bidder to provide details and comply</u>
1.3.10	Control unit for X, Y, Z & B axes feed drives & Spindle drive.	01 Set			<u>Bidder to provide details and comply</u>
1.3.11	The AC Servo drive will have a common enable for the DC Link section and individual enables for the feed drives.				<u>Bidder to provide details and comply</u>
1.3.12	The AC Servo drive should provide potential free contacts for possible alarms, drive ready for interfacing with the CNC control.				<u>Bidder to provide details and comply</u>
1.3.13	Pre-assembled Encoder cables 15 meters or more for all AC Servo motors & Spindle motor as per requirement.	01 Set			<u>Bidder to provide details and comply</u>
1.3.14	Power cables of suitable length for all AC Servo motors & Spindle motor as per requirement. <b>Please note that X, Z &amp; B axis motor is without holding brake &amp; Y axis motor is having holding brake.</b>	01 Set			<u>Bidder to provide details and comply</u>
1.3.15	Input supply of 415VAC is available on the machine. If the installed system & Drives require any other rated supply then suitable rated supply transformer to be supplied by the vendor.	01 No.			<u>Bidder to provide details and comply</u>
1.3.16	Shield terminal plates and earthing schematic for all the modules.	01 Set			<u>Bidder to provide details and comply</u>
1.3.17	Pre-assembled communication cable to connect a laptop with the drives for commissioning and diagnosis purposes.	01 Set			<u>Bidder to provide details and comply</u>
1.3.18	Drives commissioning software on CD/DVD (Licensed copy) along with interface cables.	01 Set			<u>Bidder to provide details and comply</u>
<b>1.4</b>	<b><u>MEASURING SYSTEM</u></b>				
1.4.1	The existing X-axis scale & transducer has to be retained. The existing X-axis scale is Heidenhain make Type LS 703 & the Measuring length is 920 mm.				<u>Information to Bidder</u>

1.4.2	The existing Y-axis scale & transducer has to be retained. The existing scale is Heidenhain make Type LS 703 & the Measuring length is 770 mm.				<u>Information to Bidder</u>
1.4.3	The existing Z-axis scale & transducer has to be retained. The existing scale is Heidenhain make Type LS 703 & the Measuring length is 920 mm.				<u>Information to Bidder</u>
1.4.4	The existing B-axis encoder/resolver has to be retained. The existing encoder details are as below: RON 705.0000-18000, 5V+/- 5%, Id Nr:292 380-0/Id Nr: 355 879-01, 11µAss, Sr. No: 10 788 829 A8/ SN: 37 899 82 F				<u>Information to Bidder</u>
1.4.5	Ensuring same or better accuracy parameters after completion of work shall be in vendor's scope.				<u>Bidder to comply</u>
1.4.6	Pre-assembled Position feedback cables from measuring system to CNC system including transducer adapter cables- Length: 10 meters or above with suitable connectors.	01 Set			<u>Bidder to provide details and comply</u>
1.4.7	Couplings, Mounting brackets, mounting plates etc. for mounting of scales, transducers, external encoders of all axes/ spindle and other items required for ensuring accuracy and repeatability of the feed axes movement & spindle RPM should be included in the offer. In case any modification in the covers is required, the same shall be included in the offer.	01 Set			<u>Bidder to provide details and comply</u>
<b>1.5</b>	<b><u>ELECTRICAL FEATURES</u></b>				
1.5.1	It is proposed that the existing electrical cabinet -1 No. (Size: Height: 220 cm, Width: 180 cm, Depth: 62 cm) is to be replaced with reputed make cabinets. The cabinet should be dust and vermin proof. The size should be similar as the existing cabinet with suitable side mounted air-conditioner of reputed make. Size constraints for the electrical cabinet have to be accounted for considering the available space in the machine. The electrical cabinet should not have rear opening. No elements should be mounted on the back-side of the panel. Electrical Cabinet to be equipped with: a) Door limit switch operated panel tube lights with ON/ OFF switch b) Combination of 5A/15A, 3-pin service socket and switch.	01 No.			<u>Bidder to comply</u>
1.5.2	Existing CNC system cabinet (Size: Height: 220 cm, Width: 62 cm, Depth: 72 cm) is to be replaced with reputed make operator panel/ cabinet. The operator panel/ cabinet should be dust and vermin proof. Operator Panel/ CNC system cabinet should be aesthetic & with the following features: a) Free standing floor mounted of suitable height. b) CNC System 810GA3, MCP, I/O Boards are to be mounted in the supplied operator panel. c) Height of the operator panel & display to be suitable for person of average height (5'5"). d) Fitted with side mounted suitable air conditioner.	01 No.			<u>Bidder to comply</u>

	e) Swivel of minimum 180 degrees. f) Front side should have handles for rotating by hand. g) The rear door should be on hinges and not screw mounted. h) Illumination light with switch for working in the operator panel. i) 220 VAC/ 5 Amp 3-pin service socket and switch.				
1.5.3	L&T/Siemens/ABB/ Schneider Electric make MCCB with rotary handle kit of appropriate rating as per the new scheme (25% over-rated to maximum load) for switching ON the power supply of panel & machine to be mounted at operator height on the left/right side of electrical cabinet.	01 No.			<u>Bidder to comply</u>
1.5.4	Suitable Semiconductor, HRC fuses, fuse bases of GE/ SIEMENS/ BUSSMAN make for overload protection.	01 Set			<u>Bidder to comply</u>
1.5.5	The complete LV switchgear of the machine including overloads, relays, contactors, MCBs, MPCBs etc. is to be supplied & interfaced by the Bidder as per existing scheme. Bidder must interface each induction motor with MPCB for single phase and overload protection.	01 Set			<u>Bidder to comply</u>
1.5.6	Additional Keys, Push-buttons, Indicator lamps/ lamp holders & Selector switches required on the operator panel for operation of the machine to be provided by the Bidder	01 Set			<u>Bidder to comply</u>
1.5.7	DC Regulated Power Supply 24V DC, 40 Amps or more of Siemens/Phoenix/Allen Bradley for CNC system & Input/ Outputs.	02 Nos.			<u>Bidder to comply</u>
1.5.8	DC Regulated Power Supply 24V DC, 20 Amps or more of Siemens/Phoenix/Allen Bradley for machine elements.	02 Nos.			<u>Bidder to comply</u>
1.5.9	Sealed machine light of reputed make having halogen lamp (Minimum 70 W).	03 Nos.			<u>Bidder to comply</u>
1.5.10	Wires & Conduits preferably of LAPP/IGUS or reputed make for rewiring of the entire machine including Control, Signal & Power cables, switchgears cables and field elements cables etc. <b>Note: The vendor to note that the entire machine has to be rewired. 3-phase 415VAC Input Power Supply to the machine will be provided by BHEL.</b> The cables also include the following:	01 Set			<u>Bidder to comply</u>
1.5.10.1	Pre-assembled Round I/O Cables from I/O board to Terminal strip converter (HMT Part no. 6FC9340-8X) for CNC System 810 GA3 of 10 meters length	12 Nos.			<u>Bidder to comply</u>
1.5.10.2	Pre-assembled Cables for drives from measuring board of CNC system (HMT Part no. 6FC9340-8R) of 10 meters length	03 Nos.			<u>Bidder to comply</u>
1.5.10.3	Pre-assembled cables from measuring system (X, Y, Z & B-Axis) to measuring board (HMT Part no. 6FC9340-8Q) of 10 meters length	05 Nos.			<u>Bidder to comply</u>

1.5.11	Bidder should provide the proposed electrical schematic along with bill of material to BHEL for approval of Bill of material prior to dispatch.				<u>Bidder to comply</u>
1.5.12	Terminal boxes, screwed terminal blocks, bus bars, transformers etc. as required per the new electrical scheme should be provided of reputed makes viz. Wago, Phoenix contact etc.	01 Set			<u>Bidder to comply</u>
1.5.13	All existing Proximity switches, Limit switches, Pressure switches, Flow switches, Float switches shall be replaced with 24 VDC based elements of reputed makes. All Pressure switches & Flow switches should be with digital display for parameters and actual value display.	01 Set			<u>Bidder to comply</u>
1.5.14	4 colored signal light display (LED type) should be interfaced with PLC to show the operational status of the machine and visible from a distance.	02 Nos.			<u>Bidder to comply</u>
1.5.15	All existing operational features of the machine should be retained in the new electrical schematic of the machine.				<u>Bidder to comply</u>
1.5.16	Oil, chip & dust-proof Metallic/ PVC Cable drag chains and end covers/ brackets of reputed make for replacement of all drag chains used on the machine. <b>Note: One additional drag chain (for Y axis) to be supplied complete with end-covers and brackets.</b>	01 Set			<u>Bidder to comply</u>
<b>1.6</b>	<b>OTHER FEATURES:</b>				
1.6.1	Design and supply of intermediate flanges, couplings and any other parts required for mounting of AC Servo motors (4 Nos.) & Spindle motor (1 Nos.).	01 Set			<u>Bidder to comply</u>
1.6.2	Set of keys for Electrical cabinet & Operator Panel locks.	03 Sets			<u>Bidder to comply</u>
1.6.3	Lapp make hose pipes, DIN rails, cable ducts, insulated lugs, printed ferrules and other material required for the wiring of machine, Electrical & Operator panels as per requirement.	01 Set			<u>Bidder to comply</u>
1.6.4	Party shall supply all clamps, fixtures and fasteners required to complete the retrofitting work.	01 Set			<u>Bidder to comply</u>
1.6.5	Any other material not mentioned above but found necessary to complete the retrofitting work, shall be in party's scope of supply.	01 Set			<u>Bidder to comply</u>
<b>1.7</b>	<b>MINOR MECHANICAL WORK:</b>				
1.7.1	<b>Over-arm</b> There is a over-arm bolted to the spindle head to support arbor. The over-arm has to be replaced with the new one of similar design.	01 Set			<u>Bidder to provide details and comply</u>

1.7.2	<b><u>Bellow Cover</u></b> A new Bellow cover below spindle in Y axis is to be mounted. The HMT part no. of existing bellow cover is SKP-117-2245/5.	01 Set			<u>Bidder to provide details and comply</u>
<b>2</b>	<b><u>COMMISSIONING:</u></b>				
2.1	Party shall undertake commissioning of the supplied components at BHEL, Haridwar. All material required for commissioning of the system with the machine shall be supplied by the party free of cost and obligation. All commissioning materials shall be supplied by party for successful running of the machine.				<u>Bidder to comply</u>
2.2	Existing machine logic and technological processes have to be retained.				<u>Bidder to comply</u>
2.3	Existing PLC program (S5) has to be modified to incorporate all drive signals, suitable interlocking, all possible alarms and their display on CNC Screen. Machine is fitted with SIEMENS 810 GA3 CNC control which has to be retained.				
<b>3</b>	<b><u>FINAL ACCEPTANCE:</u></b>				
3.1	Final Acceptance shall be at HEEP, BHEL, Haridwar after: a) Upon completion of the scope of supply and scope of work at BHEL. b) Final acceptance shall include clearance of all pending issues related to the work contract. c) Successful Commissioning & Demonstration of various cycles and control functions as envisaged in the technical scope. d) Successful machining of presently being machined components as mentioned below: i. External fillet operation on root and shroud side (5 nos. each for T4 & TX design blades). ii. The blank raw material, tooling & fixture for machining of the blades will be provided by BHEL. e) After settlement of all pending issues related to work and supply, a certificate for Completion of works in all respect shall be released within 15 days by Production and Maintenance personnel of BHEL which will be the referred document for Final Acceptance and final payment to the Bidder.				<u>Bidder to comply</u>

<b>4</b>	<b><u>DELIVERY :(IF DELIVERY PERIOD IS NOT OFFERED/ ACCEPTABLE, OFFER WILL BE REJECTED)</u></b>				
4.1	i) Material: 6 months from the date of release of work order. ii) Work: 45 days from date of release of machine for work. The delivery period of work for the purpose of LD as per Clause 10 shall be considered from the date of start of work to the date of start of the machine after carrying out the work and start of the work on the first prove-out component. iii) Vendor to note that early delivery shall be acceptable. Vendor should take BHEL approval before invoking this clause.				<u>Bidder to provide details and comply</u>
<b>5</b>	<b><u>DOCUMENTATION:</u></b>				
	Following documents shall be supplied by the Party:				
5.1	New electrical schematic of the machine in hard copy as well as in soft copy.	03 Sets			<u>Bidder to comply</u>
5.2	Instructions for data back-up & restoration for Feed drives & Spindle drive.	03 Sets			<u>Bidder to comply</u>
5.3	All documentation in soft copy (including Technical and Service manuals of servo/ spindle motor, Commissioning and service manuals of servo/ spindle drive & documentation of all bought-out items), Spindle & Feed Drive parameters & back-up on Portable hard disk (min. 1 TB).	01 Set			<u>Bidder to comply</u>
5.4	Drawings of all mechanical modifications, mountings, flanges & couplings in hard copy as well as in soft copy.	03 Sets			<u>Bidder to comply</u>
5.5	Additional required Softwares for machine maintenance on CD/DVD in installable format.	01 No.			<u>Bidder to comply</u>
5.6	Complete list of bill of materials including make/manufacturer.	03 Sets			<u>Bidder to comply</u>
<b>6</b>	<b><u>WARRANTY:</u></b>				
6.1	Party shall stand warranty for all the supplied material and work executed for a period of one year from the date of final acceptance (Ref.: Clause No. 3) of the machine at BHEL, Haridwar.				<u>Bidder to comply</u>
<b>7</b>	<b><u>TRAINING:</u></b>				
7.1	Party shall impart training to BHEL staff, for operation & maintenance of the system supplied by them during installation & commissioning.				<u>Bidder to comply</u>

7.2	Vendor to arrange one week's training for Maintenance & commissioning of Drive system at SIEMENS training centre. Expenses for Boarding & Lodging of BHEL personnel during training shall be borne by BHEL.				<u>Bidder to comply</u>
<b>8</b>	<b><u>VENDOR'S OBLIGATION:</u></b>				
8.1	The Vendor shall bring all tools, tackles and testing equipment with them for successful commissioning of supplied system.				<u>Bidder to comply</u>
<b>9</b>	<b><u>QUALIFYING CONDITIONS:</u></b>				
9.1	Average Annual financial turnover during the last 3 years, ending 31 <sup>st</sup> March 2017, should be at least Rs. 8.28 Lacs. Vendor should submit Audited balance sheets and P & L for the last three years.				<u>Bidder to provide details &amp; comply</u>
9.2	<p>The Vendor must have successfully retrofitted machines with Sinamics Feed Servo drive system during last seven years ending 30<sup>th</sup> September 2017 and should be either of the following:</p> <p>a) Three projects of machines retrofitted with Sinamics Feed Servo drive system with each project costing not less than Rs. 11.04 Lacs.  or  b) Two projects of machines retrofitted with Sinamics Feed Servo drive system with each project costing not less than Rs. 13.80 Lacs.  or  c) One project of machines retrofitted with Sinamics Feed Servo drive system with the project costing not less than Rs. 22.07 Lacs.</p> <p>The above retrofitted machines should be running satisfactorily for at least 6 months prior to <b>30<sup>th</sup> September 2017</b>. 6 months period will be calculated on the basis of commissioning certificates provided.</p> <p>Vendor to provide P.O. / W.O copies and commissioning/ performance certificates for satisfactory operation of the above retrofitted systems along with name, address &amp; contact details including e-mail IDs, telephone numbers of their customer. BHEL reserves the right to verify the information provided. Vendor is advised to attach only the relevant certificates and not attach papers irrelevant against this clause.</p>				<u>Bidder to provide details &amp; comply</u>
<b>10</b>	<b><u>LATE DELIVERY PENALTY (LD) CLAUSE:-</u></b>				<u>Bidder to comply</u>

10.1	LD @ ½% per week subject to a maximum of 10% of the Material cost shall be applicable for delay in deliveries. The time period from invitation date for Pre dispatch inspection from vendor to the date of arrival of Pre Dispatch Team to vendor's works and any other reasons attributed to BHEL will not be accounted for in delivery period. This period will be excluded for the purpose of calculating LD. Vendor should intimate regarding PDI 7 days in advance only.				<u>Bidder to comply</u>
10.2	LD @ 2% per week subject to a maximum of 10% of the Commissioning Charges shall be applicable for delay beyond scheduled commissioning date as per Clause 4 ii) for reasons attributed to the party.				<u>Bidder to comply</u>
<b>11</b>	<b><u>PRE-DISPATCH INSPECTION</u></b>				<u>Bidder to comply</u>
11.1	Pre-dispatch inspection of all the items covered under Scope of Supply at Para (1) shall be carried out by BHEL personnel at party's works.				<u>Bidder to comply</u>
11.2	Supplier shall invite BHEL for carrying out pre- inspection.				<u>Bidder to comply</u>
11.3	Deputed BHEL persons shall do pre acceptance of material under scope of supply at vendor works and give dispatch clearance.				<u>Bidder to comply</u>
11.4	Expenses of Boarding and lodging of BHEL personnel during PDI shall be borne by BHEL.				<u>Bidder to comply</u>
<b>12</b>	<b><u>SUBMISSION OF BILL OF MATERIAL (BOM)</u></b>				<u>Bidder to comply</u>
12.1	Before inviting BHEL for Pre-dispatch inspection, vendor shall submit to BHEL the Bill of Material (BOM) and proposed electrical drawing/ schematic for approval of Bill of Material (BOM).				<u>Bidder to comply</u>
<b>13</b>	<b><u>EARNEST MONEY DEPOSIT (EMD):</u></b>				<u>Bidder to comply</u>
13.1	Vendors have to deposit the Rs. 55,170/- as EMD. EMD may be accepted only in the following forms: (i) Cash deposit as permissible under the extant Income Tax Act (before tender opening). (ii) Electronic Fund Transfer credited in BHEL account (before tender opening). (iii) Banker's cheque/ Pay order/ Demand draft, in favour of HEEP, BHEL, Haridwar (along with offer).				<u>Bidder to comply</u>
13.2	EMD of successful tenderer will be retained as part of Security Deposit.				<u>Bidder to comply</u>
13.3	EMD given by all unsuccessful tenderers shall be refunded normally within fifteen days of award of work.				<u>Bidder to comply</u>

13.4	EMD shall not carry any interest.				<u>Bidder to comply</u>
13.5	EMD by tenderer will be forfeited as per tender documents, if:				<u>Bidder to comply</u>
13.5.1	After opening the tender and within the offer validity period, the tenderer revokes his tender or makes any modification in his tender which is not acceptable to BHEL.				<u>Bidder to comply</u>
13.5.2	The tenderer fails to deposit the required Security deposit or commence the work within the period as per LOI/ Contract.				<u>Bidder to comply</u>
13.6	EMD by the tenderer shall be withheld in case any action on the tenderer is envisaged under the provisions of BHEL Guidelines and forfeited/ released based on the action as determined under these guidelines.				
13.7	<b>Offers without EMD will be rejected and will not be considered for evaluation. However "MSE suppliers can avail the intended benefits only if they submit along with the offer, attested copies of either EM 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 at Annexure -1 where deemed validity of EM II certificate of five years has expired) applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer. "</b>				<u>Bidder to comply</u>
<b>14</b>	<b>SECURITY DEPOSIT (SD):-</b>				<u>Bidder to comply</u>
14.1	Successful vendor shall deposit security. The total amount of Security Deposit will be 5% of the contract value.				<u>Bidder to comply</u>
14.2	The security deposit should be submitted before the start of work in the following forms:				<u>Bidder to comply</u>
	i) Cash (As permissible under the Income Tax Act)				
	ii) Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of HEEP, BHEL, Haridwar.				
	iii) Bank Guarantee from Scheduled Banks/ Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL.				
14.3	Security Deposit shall not carry any interest.				<u>Bidder to comply</u>

14.4	EMD of successful tenderer can be converted and adjusted against the Security Deposit.				<u>Bidder to comply</u>
14.5	<b>100% of the Security Deposit</b> amount shall be refunded to the vendor after final acceptance of work. <b>SD shall be released after the submission of Performance Bank Guarantee (PBG) by the vendor.</b>				<u>Bidder to comply</u>
<b>15</b>	<b><u>PERFORMANCE BANK GUARANTEE (PBG):</u></b>				<u>Bidder to comply</u>
15.1	Vendor shall be required to submit a Performance Bank Guarantee (PBG) for 10% of the total work order/ contract value which shall be valid for a period of 12 months from the date of final acceptance of the machine.				<u>Bidder to comply</u>
15.2	The PBG shall be submitted on a non-judicial stamp paper of value not less than Rs. 100/- issued by any one of the nationalized banks.				<u>Bidder to comply</u>
<b>16</b>	<b><u>PAYMENT TERMS:</u></b> <b>(Note: No advance payment shall be made to the vendor.)</b>				<u>Bidder to comply</u>
16.1	Part payment will be made after completion of following milestones:				<u>Bidder to comply</u>
16.1.1	Payment of 80% of material cost along with 100% of all taxes as applicable shall be payable after inspection & acceptance of material at HEEP, BHEL, Haridwar. Vendor to ensure that all relevant documents are submitted. Further, payment of above taxes shall be subject to compliance of para 16.3.4.				<u>Bidder to comply</u>
16.1.2	Final payment of balance 20% of material cost, 100% of commissioning charges including all taxes as applicable will be made after Final acceptance of the machine (As per Clause 3). The payment shall be made subject to submission of PBG as per "Para 15".				<u>Bidder to comply</u>
16.2	All the payments shall be made through e-payment after submission of following documents along with first bill.				<u>Bidder to comply</u>
16.2.1	E-payment form duly filled (Form will be provided by BHEL)				<u>Bidder to comply</u>
16.2.2	Income tax exemption letter (if applicable)				<u>Bidder to comply</u>
16.3	GST related NIT Terms & Conditions:				<u>Bidder to comply</u>
16.3.1	GST shall be paid as per actuals as applicable subject to compliance of all the applicable rules and procedure as envisaged in the GST Regime.				<u>Bidder to comply</u>

16.3.2	The provisional GST registration number of Bharat Heavy Electricals Ltd., Heavy Electricals Equipment Plant, Ranipur, Haridwar is “05AAACB4146P1ZL” with state Code as “05” and State Name as “Uttarakhand”. Please quote the BHEL GST registration number in all invoices raised for supply of goods and services under GST regime and also ensure filing of timely return and payment of tax and compliance of other applicable provisions on supplier under GST regime.				<u>Bidder to comply</u>
16.3.3	Bidder has to specify the following in their techno-commercial bid (Part-I bid in case of two part bid):				<u>Bidder to comply</u>
16.3.3a	Legal Name of the bidder as in GST registration, GST registration No., State, Place of business, category of registration under GST i.e. Registered dealer / Unregistered dealer/ dealer opted for Composition Scheme.				<u>Bidder to provide details &amp; comply</u>
16.3.3b	HSN (Harmonised System Nomenclature) / SAC (Service Accounting Code), description of Goods/Services and applicable IGST / CGST / SGST rate and any other statutory levy, if any, for each item of Goods or Services.				<u>Bidder to provide details &amp; comply</u>
16.3.3c	Unregistered Dealer: Since in case of unregistered dealer, GST will have to be paid by BHEL under reverse charge mechanism, the same shall be added to the quoted price for evaluation bid.				<u>Bidder to comply</u>
16.3.3d	Dealer opting for Composition Scheme: In case of registered dealer, who opt for composition scheme at the time of submission of bid, no GST will be payable to the bidder and also same will not be considered for evaluation of bid. Dealer has to declare in technical bid that no GST is shown separately in price bid. However, in case at the time of actual supply, the bidder charges GST at normal rate, the same shall be reimbursed subject to the availability of GST credit to BHEL. In case GST credit is not available to BHEL, no GST will be payable to the bidder.				<u>Bidder to comply</u>
16.3.4	Reimbursement of GST shall be made by BHEL-Haridwar on matching of Contractor inputs as mentioned below at GST portal and after ensuring of availability of input credit to BHEL, Haridwar. Hence, Contractor has to ensure compliance as follows- a) Timely raising & submission of GST compliant Invoices b) Timely receipt of Goods & Services c) Timely and correct payment of applicable GST by supplier/contractor d) Timely filing of return e) Compliance of other applicable provisions on supplier/contractor				<u>Bidder to comply</u>

	Also Contractor has to give consent to accept payment of tax after such matching in all cases where bills are submitted directly to BHEL-Haridwar or through bank or under LC or through any other mode.				
16.3.5	In the event of any disallowance of input credit (including reversal of credit) or applicability of interest or arising of any other financial liability on BHEL-Haridwar due to any default of supplier/contractor under GST such as non/delayed receipt of Good/Services, delayed raising & submission of invoices, delayed payment of tax, non/wrong declaration of sale by Contractor in return etc. or any other reason not attributable to BHEL, such implication shall be to supplier's/contractor's account and will be deducted from bills.				<u>Bidder to comply</u>
16.3.6	In the event of any change in the status of the bidder after submission of the bid but before the supply/service, GST applicable at the time of supply/service or GST quoted in the bid, based on the registration status of the bidder, whichever is lower shall be payable.				<u>Bidder to comply</u>
16.3.7	Statutory Variation in Taxes & duties as applicable at the time of supply shall be payable. However, in the event of no change in law but bidder quoting certain tax structure in bid document which is lower than the applicable one, such amount shall be the maximum amount of tax that can be claimed by bidder.				<u>Bidder to comply</u>
16.3.8	In case of Liquidated damage (LD) recovery, the applicable GST shall also be recoverable from the suppliers.				<u>Bidder to comply</u>
16.4	Vendors should submit their invoices against goods and services immediately after supply of goods and services but not later than 30 days from the invoice date. In case of any delay, consequential losses like loss of input credit etc. shall be to the vendor account.				<u>Bidder to comply</u>
17	<b><u>Risk Purchase Clause:</u></b> In case of delays in supplies / defective supplies or non-fulfillment of any other terms & conditions given in the work order the purchaser may cancel the work order in full or part thereof and may also make the purchase of the material / service from elsewhere / alternative source at the risk and cost of supplier. Vendor does not agree to above clause, their offer is liable to be rejected. In case any vendor accepts risk purchase clause initially and subsequently declines to honour the term in the eventuality of RISK PURCHASE, they may be banned for business with BHEL.				<u>Bidder to comply</u>
18	<b><u>GENERAL CONDITIONS:</u></b>				

18.1	A point wise compliance statement shall be submitted by the party with reference to the above scope of supply against each clause/ sub-clause with relevant details & comments. Non-compliance to any of the clauses & quoting inadequate quantity can lead to dis-qualification of the offer.				<u>Bidder to comply</u>
18.2	The Vendor is advised to inspect the machine to ascertain all the relevant details required for successful completion of the work.				<u>Bidder to comply</u>
18.3	The proposed electrical schematic & Bill of Material for the machine shall be provided by the vendor prior to pre dispatch inspection.				<u>Bidder to comply</u>
18.4	Complete specifications such as part no./Model/Type, power, torque, Rated and maximum RPMs, Rated and maximum currents of the motor and drive controllers shall be stated in the offer by the party. Ordering brochure/catalogue should be attached wherever necessary.				<u>Bidder to comply</u>
18.5	Vendor must compulsorily quote the quantity exactly as per the Scope of supply. No reduction in quantity as per the above Scope of supply is permissible.				<u>Bidder to comply</u>
18.6	The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com				<u>Bidder to comply</u>
18.7	<b>The award of works will be made on basis of the total of Material cost, Commissioning charges and all taxes as applicable (Cost to BHEL).</b>				<u>Information to Bidder</u>
18.8	Check List as per Annexure 'C' must be enclosed with techno-commercial bid.				<u>Bidder to comply</u>
18.9	The risk of delay/loss in transmission by post/courier rest with the bidder.				<u>Bidder to comply</u>
18.10	Conditional tender is likely to be rejected.				<u>Bidder to comply</u>
18.11	BHEL reserves the right to reject the lowest or any tender or accept any tender in full or in part without assigning any reasons whatsoever.				<u>Bidder to comply</u>
18.12	If any information/documents submitted by the contractor are found false/fake at any stage, the tender will be cancelled and earnest money deposited shall be forfeited debarring from the future participation in tenders.				<u>Bidder to comply</u>
18.13	In case more than one contractor quotes equal L-1 rates, lottery shall be drawn among L-1 parties to decide one L-1 party.				<u>Bidder to comply</u>

18.14	Vendor must note that all the retrofitting and minor mechanical work in the scope of this tender, has to be carried out at BHEL works only. Vendor will not be allowed to transport the complete machine or major assemblies outside BHEL works. Therefore, vendor is advised to inspect the machine before bidding to collect & ascertain all the relevant details required for successful completion of work. Vendor to note that all work has to be carried out in BHEL works. In case some material is necessarily required to be taken out of BHEL works, vendor to note that BG as decided by BHEL will be required to be submitted.				<u>Bidder to comply</u>
<b>19</b>	<b><u>BHEL'S OBLIGATION:</u></b>				
19.1	Existing electrical schematic of the machine shall be provided by BHEL to the vendor.				<u>Bidder to comply</u>
19.2	Crane facility along with lifting tackles, trolleys etc. will be made available free of charge while working in BHEL premises only.				<u>Bidder to comply</u>
19.3	Facilities of minor welding, brazing, minor machining limited to fitting work /rework etc. will be made available free of cost inside BHEL premises subject to availability.				<u>Bidder to comply</u>
19.4	Any civil work required for the erection of panel shall be done by BHEL.				<u>Bidder to comply</u>
19.5	Consumables like lubricants, kerosene oil, cotton waste etc. will be supplied free of cost by BHEL during execution of works inside BHEL premises. Contractor should make his own arrangements for all types of hand tools including pneumatic/electrical drill machines, grinders, scraping tools along with the general purpose measuring instruments, straight edges etc.				<u>Bidder to comply</u>
<b>20</b>	<b><u>OFFER :-</u></b> The offer should be submitted in two parts and in following manner.				
20.1	<b><u>Techno-commercial Bid :</u></b>				
20.1.1	The envelop shall contain the Techno-commercial Bid ( <b>ANNEXURE 'A'</b> ) with technical details and commercial terms & conditions along with relevant documents like copies of ESI, PF code, PAN No., GST Registration. No., Experience Certificates, Audited Balance Sheet of last 3 years, P.O copies & Commissioning/ Performance certificates (against Pre-qualifying conditions) , <b>Tender fees, EMD, Check List as per ANNEXURE 'C'</b> and Certificate by Chartered Accountant on Letter Head as per ANNEXURE '1'.				<u>Bidder to comply</u>

20.1.2	The envelop shall be super scribed with “Techno-Commercial Bid”, Name of work & NIT No.				<u>Bidder to comply</u>
20.1.3	Point-wise compliance of this scope of supply and work is to be given by vendors while submitting their techno-commercial offer in the format provided by BHEL. Each page of the compliance list has to be signed by the vendor.				<u>Bidder to comply</u>
20.1.4	The vendor must note that no prices are to be quoted/ mentioned in the techno-commercial offer. Vendor must include un-priced Price bid.				<u>Bidder to comply</u>
20.2	<b><u>PRICE BID :</u></b>				
20.2.1	The second envelope shall contain only the price bid with separate price for material, work & all applicable taxes on Price Bid Format only as per ANNEXURE ‘B’.				<u>Bidder to comply</u>
20.2.2	Any other information in the price bid shall not be considered and the quotation is likely to be rejected. Price bid document shall be signed by the bidder at the bottom of the page.				<u>Bidder to comply</u>
20.2.3	The envelope shall be sealed and super scribed with “Price Bid”, Name of work & NIT No.				<u>Bidder to comply</u>
20.2.4	Price bids of techno commercially accepted vendors shall be opened.				<u>Bidder to comply</u>
20.3	Vendor should submit their best price at this stage itself and they will not be allowed to revise the price. Any revision/ discount given by the vendor subsequently will be ignored.				<u>Information to Bidder</u>
20.4	Both the above two envelopes shall be kept in another sealed cover. The cover shall be super-scribed with “Quotation for (name of work), NIT No. & due date and shall be submitted in the <b>Tender Box kept in the Tender room of Purchase department at the 4th floor of the Main Administrative Building of BHEL,HEEP,HARIDWAR</b> and it should also contain the Bidder’s address.				<u>Bidder to comply</u>
20.5	In case the date of tender opening happens to be a BHEL declared holiday, tenders shall be opened on the next working day.				<u>Information to Bidder</u>
21	<b><u>COMMERCIAL TERMS:</u></b>				

21.1	Prices shall be quoted on “ <b>Firm Price</b> ” basis only. <b>The prices should be on F.O.R BHEL, Haridwar basis inclusive of Packing &amp; Forwarding, transit insurance &amp; Transportation charges.</b> All applicable taxes & Installation/ Commissioning Charges should be clearly indicated in attached Price bid format as per “Annexure B”.				<u>Bidder to comply</u>
21.2	Validity of offer shall be for a minimum period of 120 days from the date of Tender Opening.				<u>Bidder to comply</u>
21.3	Freight & transit insurance charges from Dispatching station to BHEL, Haridwar shall be borne by the party.				<u>Bidder to comply</u>
21.4	The material will be dispatched to <b>Central Plant Stores, HEEP, BHEL, Haridwar</b> with instructions to forward the same to <b>Dy. Manager (WEX/CNC-BLADES), HEEP, BHEL, Haridwar-249403.</b>				<u>Bidder to comply</u>
<b>22</b>	<b><u>PACKING:</u></b>				
	Supplier shall arrange for adequate protection and packing of the consignment so as to avoid loss and damage during transit and also take appropriate measures to prevent metal parts from rusting and corrosion during transit. Handling instructions shall be clearly printed/ painted on the packages. Each package should carry a detailed packing slip. Supplier shall be responsible for any loss/damage during transit due to defective/inadequate packing.				<u>Bidder to comply</u>

**(UNPRICED PRICE BID FORMAT)**

Name of Work : Retrofitting of HMT Machining Center (Model No. HTC-600) Plan No. 2-435, TBM, B1-3, BHEL Hardwar

NIT No. & Date : BHEL/HEEP/WEX-WCS/ 17-18 /6180/20170125 Dated: 03.01.2018

Bidder's Offer No. & Date :

Sl. No.	Description of item	Unit	Qty	Basic Rate (in Rs )	IGST (in %)	CGST (in %)	SGST (in %)	Total Value (in Rs)
1	Material	Set	01	X X X	.....%	.....%	.....%	X X X
2	Installation & Commissioning	Set	01	X X X	.....%	.....%	.....%	X X X
	<b>TOTAL COST (in Figures)</b>							<b>X X X</b>
	<b>TOTAL COST (in Words) :</b>				<b>X X X</b>			

**Note:**

1. The bidder must fill the columns of **IGST**, **CGST** and **SGST** and duly signed copy be attached along with techno-commercial offer.
2. Bidder may please note that all relevant columns should be duly filled up and in case any column is left blank it will be considered as inclusive in the prices quoted. All pages to be duly signed and stamped by authorised signatory.

## Annexure ‘C’ CHECK LIST FOR TENDER

**NIT No. :** BHEL/HEEP/WEX-WCS/ 17-18 /6180/20170125 Dated: 03.01.2018

Bidder shall ensure that following documents / particulars have been enclosed with tender. This check list shall be enclosed with Techno-commercial Bid.

S. No.	Particulars	YES/NO	REMARKS
1.	<b>Sealed Techno-commercial Bid with Un-priced price bid</b> as per Annexure ‘A’ of NIT		
2.	<b>Sealed Price Bid</b> as per Annexure ‘B’ of NIT		
3.	<b>Compliance</b> to all the points of the Annexure ‘A’ of NIT		
4.	<b>Audited balance sheets</b> for the last three years should be submitted i.e. 2016-17, 2015-16 & 2014-15 required as per Clause 9.1 of Annexure ‘A’ of NIT		
5.	<b>P.O. copies and Commissioning/ Performance certificates</b> required as per Clause 9.2 of Annexure ‘A’ of NIT		
6.	<b>Name, address &amp; contact details of their customer</b> required as per Clause 9.2 of Annexure ‘A’ of NIT		
7.	<b>Tender Fee</b> enclosed		
8.	<b>Earnest Money Deposit (EMD)</b> required as per Clause 13 of Annexure ‘A’ of NIT		
9.	<b>Complete specifications</b> such as Part no. / Model / Type of Drive and Servo motors, power, torque, Rated and max. RPMs, Rated and max. current of servo motors. Ordering brochure/catalogue should be attached required as per Clause 18.4 of Annexure ‘A’ of NIT		
10.	<b>Certificate by Chartered Accountant on Letter Head (if applicable)</b> required as per Clause 13.7 of Annexure ‘A’ of NIT		

Sign & Seal

**Name of work:** Retrofitting of HMT Machining Centre ( Model No. HTC-600) Plan No. 2-435, TBM, B1-3, BHEL Haridwar **NIT No:** BHEL/HEEP/WEX-WCS/ 17-18 /6180/20170125  
Dated: 03.01.2018

**ANNEXURE-‘1’**

**Certificate by Chartered Accountant on Letter Head**

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 Books of account that the investment of the company as per the latest audited financial year..... 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 Ministry of small scale Industries vide its notification No. S.O. 1722(E) Dtd. October 5 , 2006):  
**Rs. .... Lacs**
- 2. For Service Enterprises:** Investment in equipments (i.e. 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 MSMED Act, 2006):  
**Rs. .... Lacs**

**(Strike off whichever is not applicable)**

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

**Or**

The company has graduated from its original capacity (Micro/ small) (Strike off whichever is not applicable) and date of graduation of such enterprise from its original capacity is..... (dd/mm/yy) which is within the period of 3 years from the date of graduation of such enterprise from its original category as notified vide S. O. No. 3322 (E) dated 01.11.2013 published in the gazette notification dated 04.11.2013 by ministry if MSME.

Date:

(Signature)

Name-

Membership No.-

Seal of Chartered accountant

**Name of work:** Retrofitting of HMT Machining Centre ( Model No. HTC-600) Plan No. 2-435, TBM, B1-3, BHEL Haridwar **NIT No:** BHEL/HEEP/WEX-WCS/ 17-18 /6180/20170125  
Dated: 03.01.2018

**ANNEXURE 'B' (PRICE BID FORMAT)**

Name of Work : Retrofitting of HMT Machining Center (Model No. HTC-600) Plan No. 2-435, TBM, B1-3, BHEL Haridwar

NIT No. & Date : BHEL/HEEP/WEX-WCS/ 17-18 /6180/20170125 Dated: 03.01.2018

Bidder's Offer No. & Date :

Sl. No.	Description of item	Unit	Qty	Basic Rate (in Rs)	IGST (in %)	CGST (in %)	SGST (in %)	Total Value (in Rs)
1	Material	Set	01					
2	Installation & Commissioning	Set	01					
	<b>TOTAL COST (in Figures)</b>							
	<b>TOTAL COST (in Words) :</b>							

**Note: Bidder may please note that all relevant columns should be duly filled up and in case any column is left blank it will be considered as inclusive in the prices quoted. All pages to be duly signed and stamped by authorised signatory.**