

Annexure-I

SECIFICATIONS FOR EOI OF PROPOSED CNC HORIZONTAL BORING MACHINE

(Specification Number: **TEX/EOI/CNC-H.BORING/2022/01**)

PURPOSE: Milling and Boring operation on Hydro generator and Industrial Electrical Motors components.

MATERIAL OF THE COMPONENT TO BE MACHINED: Alloy Steel, Forged steel, Stainless steel AISI 304 /405 & Mild steel; Material Hardness: Upto 250 HB.

DRAWING REFERENCES: The machine should be capable of performing machining operations as per the sketches attached in Annexure-2.

MACHINE TYPE: CNC Horizontal Boring Machine (Spindle Diameter 200 mm)

TECHNICAL AND PRE-QUALIFICATION REQUIREMENT (PQR)

Clause No.	Description	Requirement
(A) TECHNICAL REQUIREMENT		
1	<u>Minimum Machine Configuration</u>	
1.1	Spindle Diameter	200 mm
1.2	Ram Travel	2000 mm
1.3	Spindle Travel	1000 mm
1.4	Total RAM+SPINDLE Travel	3000 mm
1.5	Vertical Travel	4000 mm
1.6	Horizontal Travel	9000 mm
1.7	Dimension of Rotary Table	3000 mm X 3000 mm
1.8	Capacity of Rotary Table	50 Ton
1.9	Surface finish required on the job through milling	1.6 RA
1.10	Spindle Taper	ISO 50
1.11	Size of RAM	Vendor to specify
1.12	Spindle Power	Vendor to specify

2	<u>Additional Attachment : Facing Head</u>	
2.1	Minimum Boring Diameter	Vendor to specify
2.2	Minimum Slide Travel Radially	Vendor to specify
3	<u>DETAILS OF ACCURACIES REQUIRED TO BE ACHIEVED ON THE MACHINED COMPONENTS</u>	
3.1	Flatness	0.015 mm / meter
3.2	Size tolerance on machined bore	0.015 mm

4	<u>CONSTRUCTIONAL DETAILS</u>	
4.1	Whether the main assemblies / sub-assemblies of the machine are made of Cast Iron or Fabricated steel structure . Details of Material and grade is to be provided.	Vendor to specify
4.2	Vendor to submit complete technical specifications / details of the major assemblies / sub-assemblies of the machine such as constructional details and accuracy. Any special attachment, tooling and other relevant/necessary data pertaining to the machine also to be specified.	Vendor to specify
4.3	Details of CNC/PLC/Drives/Motors offered (Acceptable makes Siemens / Fanuc).	Vendor to specify
(B) PRE-QUALIFICATION REQUIREMENT (PQR) : Vendor must submit complete information against Clause No.5 . Offers not meeting this clause would not be considered.		
5	<u>QUALIFYING CONDITIONS :</u>	
5.1	The supplier/ vendor should be either an Original Equipment Manufacturer (OEM) or an authorized Dealer of the OEM for the offered machine . Along with the offer, dealers have to submit a valid certificate of Authorization from OEM for quoting the machine . Vendor should submit proof of the same.	Vendor to confirm

5.2	The OEM or the authorized dealer of the OEM must have supplied and commissioned at least ONE CNC Horizontal Boring machine of the OEM make of same or higher capabilities as per clause 1, and able to machine jobs as specified in Annexure-2 & accuracies as per Clause 3 in the past 10 years (on the date of opening of Tender).	Vendor to confirm
5.3	Copy of Purchase Order (PO) in the name of OEM or the authorized dealer of the OEM for machine as per clause 5.2 is to be submitted along with the offer. The type, make and model of the machine should be clearly mentioned in the PO copy. Vendor should submit proof of the same.	Vendor to confirm
(C) OTHER QUALIFICATION REQUIREMENTS (TO BE NECESSARILY SUBMITTED AT THE TIME OF FINAL TENDERING)		
6.1	Authorized Dealer of the OEM shall be required to submit the declaration for support from OEM for Erection & Commissioning, after sales service & necessary spares support for minimum of 5 years from the date of commissioning . In addition to the above, a back-to-back guarantee from OEM for performance of the machine is also required.	Vendor to note
6.2	<p>The machine referred in Clause 5.2 should be working satisfactorily for more than one year after commissioning (on the date of opening of Tender).</p> <p>The Performance Certificate submitted should be recently issued (i.e. its date of issue should not be more than 1 year old from the tender opening date) from the customers regarding satisfactory performance of the machine supplied to them vide the Purchase Order as per clause 5.3.</p> <p>Note: Vendor to indicate clearly the Purchase Order (PO) Number, PO Date and Date of Commissioning of the machine on the performance certificate.</p>	Vendor to note
6.3	<p>Vendors should necessarily furnish following details about the companies where they have supplied the machine for which they are submitting the documents in order to fulfil qualifying criteria as mentioned in clause 5:</p> <p>A) Name of the customer/company. B) Complete postal address. C) Broad parameters of the machine and application.</p>	Vendor to note

	D) Name & designation of contact person. E) Phone, Mobile & E-mail address of the contact person.	
--	--	--

6.4	<p><u>Financial PQC:</u></p> <p>Vendor should have minimum average turnover of Rs.10 Crores for the last 3 consecutive years ending March 2022.</p> <p>Vendor to submit Profit & Loss Account Statement of last three consecutive years ending march 2022 as documentary evidence for the same.</p> <p>For Micro & Small Enterprises (MSE) & Start-Up Vendors who are OEM, no Financial PQR criteria is required. However, if they are quoting as authorised dealer of OEM then either OEM or the concerned MSE & Start-up vendor should necessarily qualify the financial PQC as mentioned above.</p>	Vendor to note
-----	--	----------------

(D) MAKE IN INDIA (MII) CONTENT

7	Vendor to mention the Make In India content (Value addition in India) of the offered machine in percentage (%). Details to be submitted.	Vendor to specify
---	--	-------------------

(E) MISCELLANEOUS

8.1	<p>The sample sketches (Annexure 2) (i) Top Shaft M/c (ii) Base Plate (iii) Spider Assy (iv) Bottom Bracket are enclosed for the purpose of clarity of requirement to potential bidders.</p> <p>These sketches are for the purpose of explanation of extreme machining dimensions only.</p> <p>These sketches are confidential in nature and must not be used directly or indirectly in any way detrimental to the interest of BHEL.</p>	Vendor to note
8.2	Potential vendors can visit to BHEL works on prior appointment for any clarification & discussion about our requirement.	Vendor to note

8.3	BHEL reserves the right to verify information provided by the Vendor at their referred customer's works including machining accuracies (For the machine mentioned in qualifying criteria). It shall be the responsibility of the vendor to facilitate the visit of BHEL's team at their referred customer works. In case the information provided by vendor is found to be false / incorrect, the offer shall be rejected.	Vendor to note
8.4	BHEL reserves the right to assess the OEM or the authorized Dealer of the OEM, with respect to their technical and financial capability (As per the information provided in clauses 5.1 to 5.3).	Vendor to note