

Tc - Enquiry No: Enq Date: Due Date: Delivery By:
 - 390690071 12-JUN-06 08-JUL-06 31-MAR-07
 - PLEASE SUBMIT YOUR QUOTATION IN
 SEALED COVER SUPERSCRIBED WITH
 ENQUIRY NO, ENQUIRY DATE AND DUE
 DATE SUBJECT TO OUR TERMS AND
 CONDITIONS ENCLOSED, FOR THE
 FOLLOWING MATERIALS SO AS TO REACH US
 ON OR BEFORE THE DUE DATE BY 12 NOON.
 THE TENDERS WILL BE OPENED AT 2 PM ON
 THE SAME DAY

Attn. .,

PLEASE GIVE REFERENCE OF ENQ NUMBER , ENQ .DATE AND DUE DATE IN ALL YOUR
 CORRESPONDENCE FOR PROMPT ACTION. IN CASE YOU ARE NOT MAKING THE OFFER
 PLEASE POST A REGRET LETTER AND RETURN THE DOCUMENTS.

SL NO	DESCRIPTION / SPECIFICATION	UNIT	QTY
1	SUPPLY, ERECTION & COMMISSIONING OF SINGLE SPINDLE 5 - AXIZ CNC MACHINING CENTER COMPLYING WITH SPECIFICATIONS GIVEN IN THE ANNEXURE A. SCOPE OF WORK AS PER ANNEXURE A.	NO.	1

NOTE: PLEASE SUBMIT YOUR OFFER IN TWO PARTS AS PER THE ENCLOSED ANNEXURE
 "AA" IN SEPERATE SEALED COVERS AS DETAILED BELOW :

- 1) FIRST COVER CONTAINING TECHNICAL COMMERCIAL AND UNPRICED PRICE BID ALONG
 WITH COMPLIANCE STATEMENT, MENTIONING APPLICABLE DUTIES, TAXES ETC., AND
 DELIVERY TIME CLEARLY.(TERMS,CONDITIONS AND COMPLIANCE FORM ENCLOSED)
- 2) SECOND COVER CONTAINING PRICE BID COMBINED BID OFFERS WILL BE REJECTED
 SUMMARILY.

AS WE ARE ENGAGED IN R&D ACTIVITY "C" FORM WILL NOT BE ISSUED. PLEASE QUOTE ON
 FOR DESTINATION BASIS ONLY

1) PLEASE SEE THE ENCLOSED GENERAL TERMS
 AND CONDITIONS AND FILL UP THE COMPLIANCE
 FORM

2) PLEASE FILL UP THE ENCLOSED VENDOR
 REGISTRATION FORM AND SEND IT ALONG WITH
 YOUR QUOTATION. OTHERWISE YOUR QUOTATION
 MAY NOT BE CONSIDERED. (IGNORE THIS IF YOU
 HAVE ALREADY SUBMITTED THIS FORM)

Yours faithfully
 for

PK Kakkar
 Manager

Email: pkkakkkar@bhelrnd.co.in

	BHARAT HEAVY ELECTRICAL LIMITED		Indent No. :		
	Corporate Research & Development Division Vikasnagar HYDERABAD-500 093 INDIA		Enquiry No. : Date:		
			Supplier Qtn. No.		
	<u>CONTACT PERSON FROM PURCHASE DEPT:</u> <u>NAME:</u> <u>DESIGNATION:</u> <u>PHONE NO.0091</u> <u>E-MAIL:</u> <u>FAX NO.: 0091</u>				
SPECIFICATION CUM COMPLIANCE CERTIFICATION FOR SINGLE SPINDLE 5 AXIS CNC MACHINING CENTER – Qty : 1 No.					
	<u>NOTE:</u>				
	<ol style="list-style-type: none"> 1. Vendor must submit complete information against clause at Sl. No. 5.0 The offer, complying this clause, would only be considered 2. The vendor should fill the "Offered" Column in compliance to specified requirements and also "Deviations" Column, where there is deviation from the requirement. Duly filled specification cum compliance certificate should be submitted along with the offer. Inadequate, incomplete, ambiguous or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance. 3. The offer and all documents enclosed with offer should be in English language only. 4. All the items are to be offered with individual prices. 				
	<u>ADDRESS OF THE SUPPLIER :</u>				
	<u>TELEPHONE NOS.</u> <u>FAX NOS:</u> <u>E-MAIL ADDRESS:</u>				

SCOPE	SUPPLY, ERECTION & COMMISSIONING OF SINGLE SPINDLE 5-AXIS CNC MACHINING CENTER COMPLYING WITH SPECIFICATIONS AS BELOW				
SL NO	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
1.0	PURPOSE & WORKPIECE MATERIAL				
1.1	Purpose: The machine is required for complete finish machining of Steam/Gas Turbines Blades up to length 500 mm having intricate airfoil shape from hot rolled/ forged rectangular bars. Achievable surface quality on finish blade should be about 0.63 μ Ra	Vendor to accept			
1.2	Work Piece Material: Generally blade materials are high temperature & Creep Resistant alloys like X20Cr13, X22 Cr MoV 12.2 1, X9CrMoVNbN11 etc. having Tensile Strength 1050N/mm ² & Hardness 350 BHN. However, the machine should be capable of machining still tougher material if required.	Vendor to accept			
2.0	SPECIFICATIONS				
2.1	TRAVERSES				
2.1.1	Longitudinal Axis X	600 mm or more			
2.1.2	Vertical Axis Y	400 mm or more			
2.1.3	Transverse Axis Z Vertical/Horizontal	400 mm or more			
2.1.4	Rotational Axis A (Rotary table) – 150mm or more center height with tail stock	360 degree Continuous			
2.1.5	The machine's axis configuration should be suitably designed for most efficient 5-axis blade machining enabling least possible tool length for machining closer to the center of axis rotation.	Vendor to inform with details			
2.1.6	Spindle/Table swiveling axis B or C	Vendor to intimate			
2.2	Axis Feeds & Rapid Traverses				
2.2.1	Linear X,Y &Z	40 Meter /Min. or more			
2.2.2	Rotational Axis 'A'	80 rpm or more			
2.2.3	Swiveling Spindle/Tilting table Axis 'B'	30 rpm or more			
2.3	Milling Spindle				
2.3.1	No. of Milling Spindle	1			
2.3.2	High Speed Milling Spindle for roughing and finishing	Vendor to confirm			
2.3.3	Spindle Position: Vertical/Horizontal	Vendor to onfirm			
2.3.4	Spindle Speed	15000 rpm or more			
2.3.5	Spindle Power	15 kW at 100%			

		Duty cycle or more			
SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.3.6	Spindle Torque	50 NM or more at 100% Duty cycle			
2.3.7	Spindle Taper	HSK A 63			
2.3.8	Spindle Front Bearing Diameter	Vendor to intimate			
2.3.9	Balancing Quality of Tool Holder	Vendor to intimate			
2.4	Automatic Tool Changer				
2.4.1	No. of Tool Deposit	20 or more			
2.4.2	Tool Length	250 mm or more			
2.4.3	Tool Diameter (with all pockets full)	60 mm or more			
2.4.4	Tool Diameter (with adjacent pocket free)	100 mm or more			
2.4.5	Tool Weight	3 Kg. or more			
2.4.6	Tool Change Time (chip to chip)	Vendor to intimate with tool weight and tool diameter			
2.4.7	Manual operation of ATC should be possible. Vendor shall provide a separate pushbutton	Vendor to confirm			
2.4.8	Machine operation should be possible with or without referencing ATC	Vendor to confirm			
2.4.9	Automatic Tool Changer will have following features:				
2.4.9.1	Provision of cleaning of spindle taper by compressed air blow during ATC cycle	Vendor to confirm			
2.4.10	Front access door for loading of tools in ATC	Vendor to confirm			
2.5	Linear scales	X Y Z Axis			
2.6	Coolant System				
2.6.1	Coolant supply system (comprising External, Internal) should have coolant collecting system at the base and recycling of coolant after proper filtration for which a suitable filtration system should be offered.	Vendor to inform details of coolant system offered			
2.6.2	Following parameters of coolant system to be furnished:				
2.6.2.1	Coolant Tank Capacity	Vendor to inform			
2.6.2.2	Discharge Rate for External Coolant supply	Vendor to inform			
2.6.2.3	Pump pressure for external coolant supply	Vendor to inform			
2.6.2.4	Discharge Rate for Internal Coolant supply through spindle	Vendor to inform			

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.6.2.5	Pump pressure for internal coolant supply through spindle	Vendor to inform			
2.6.2.6	Viscosity at 40 degree Celsius	Vendor to inform			
2.6.2.7	Filtration purity	Vendor to inform			
2.7	Chip Conveyor				
2.7.1	Elevated type chip conveyor integrated with coolant system, conveniently located shall be offered along with chip bin.	Vendor to confirm and inform			
2.7.2	Following technical details of chip conveyor shall be submitted				
2.7.2.1	Type of chip conveyor	Vendor to inform			
2.7.2.2	Width of conveyor	Vendor to inform			
2.7.2.3	Elevation of chip conveyor for chip bin	Vendor to inform			
2.7.2.4	Material of chip conveyor (should be rust resistant)	Vendor to inform			
2.8	Compressor Cooling System				
2.8.1	Closed loop compressor Cooling System for the milling spindle, servo/torque motors , recirculating lubricating oil, hydraulic system oil etc. shall be offered , if required for working in centrally air conditioned environment having temperature of about 30 degree Celsius. Following details of compressor cooling system shall be submitted with the offer:	Vendor to confirm			
2.8.1.1	Type of Refrigerant	Vendor to inform			
2.8.1.2	Refrigerating Capacity	Vendor to inform			
2.8.1.3	Cooling Medium	Vendor to inform			
2.9	Machine Enclosure with Access Door				
2.9.1	Machine shall have enclosure with interlocked doors in the tool and work piece area and access door at operator's panel. Enclosure shall have large safety glass viewing window for viewing the job and ongoing process.	Vendor to confirm			
2.10	Machine Lights				
2.10.1	Machine light (Halogen light) for illumination of complete encapsulated working area for clear visibility	Vendor to confirm			
2.10.2	Tube lights in electrical cabinets for maintenance purpose	Vendor to confirm			
2.10.3	Colored signal light displaying operational status of the machine and visible from distance	Vendor to confirm			

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.11	Torque Monitoring Device				
2.11.1	The machine shall have system for continual measurement of spindle current and automatically regulating the feed rate so that optimum utilization of technological condition can be ensured. In addition the system should also give certain degree of protection for tools and machine.	Vendor to confirm			
2.12	Electrical Control Cabinet & Operator's Pendant				
2.12.1	Electrical Control Cabinet & Operator's Pendant shall be fitted with proper cooling arrangement for working in a centralized air-conditioned hall having temperature up to 30 degree Celsius. Electrical cabinet shall be provided with a 220V, 5 Amp socket for maintenance purpose.	Vendor to confirm			
2.13	Hand Held Pendant				
2.13.1	Hand Held Pendant with all relevant features such as Axis Selection Switch, Direction Selection, Emergency Stop, Hand Wheel (Manual Pulse Generator) along with sufficient length of interfacing cable shall be offered.	Vendor to confirm			
2.14	Other Technical Features				
2.14.1	Centralized Automatic Lubrication System for lubrication of all moving and rotating parts with alarm/interlocks incase of lubrication failure.	Vendor to confirm			
2.14.2	FLR Unit of appropriate capacity to arrest moisture and other suspended particles, etc.	Vendor to confirm			
2.14.3	Compressed air point with provision of adjustable pressure, manually operated ON/OFF valve and sufficient length of flexible piping for cleaning of chips while changing/ indexing carbide inserts on operator's work area.	Vendor to confirm			
2.14.4	Coolant Flushing Gun with sufficient length of pipe for manual cleaning of work piece.	Vendor to confirm			
2.14.5	Percentage type spindle load meter	Vendor to confirm			
2.14.6	In cycle hour counter with reset facility.	Vendor to confirm			

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.14.7	Power Supply will be provided by BHEL at a single point near the machine, as per layout recommended by Vendor. All types of cables, connections, circuit breakers etc. required for connecting BHEL's power supply point to different parts of the machine, Voltage Stabilizer, Isolation Transformer, control cabinets etc. shall be supplied by the vendor.	Vendor to confirm			
2.14.8	One set of tools for service and maintenance of the machine shall be offered	Vendor to confirm			
2.14.9	Calibration mandrel/ gauge required, if any for high speed milling spindle shall be offered.	Vendor to confirm			
2.15	First Filling of Oils & Lubricants				
2.15.1	First filling of all required Oils , lubricants, & Grease etc. for the machine and auxiliary system. to be supplied by vendor. Indigenous (Indian) source or Indian equivalent and specifications of oils/ greases are also to be provided by the vendor. The vendor shall also submit estimated annual consumption of all these items on 7000 hours per year working basis.	Vendor to confirm			
2.16	CNC System				
2.16.1	The machine shall be equipped with latest Siemens SINUMERIK 840D CNC Control with latest window NT based Operating system. The CNC control 840D will have PC version PCU50 & NCU 573.3 module or higher. It should consist of OP10 operators panel having 10.4 inches TFT color display, 19 inches machine control panel. It shall have MF-II PC Key board with mouse on a folding/ sliding tray. All standard features should be listed in technical offer. Also all available optional features of CNC 840D system shall be offered & item wise price to be indicated in commercial offer.	Vendor to confirm			
2.16.2	The CNC system should have following features:	Vendor to confirm			
2.16.2.1	Pentium -IV processor 1 GHz or of higher rating available with Siemens at the time of submission of offer.	Vendor to confirm			

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.16.2.2	Hard disk of 10GB (easily replaceable) or of higher rating available with Siemens at the time of submission of offer.	Vendor to confirm			
2.16.2.3	256MB SDRAM or of highest rating available with Siemens at the time of submission of offer.	Vendor to confirm			
2.16.2.4	RS232-C interface for I/O device, USB ports and LAN connectivity through Ethernet.	Vendor to confirm			
2.16.2.5	Floppy drive 3.5 inches with requisite interface.	Vendor to confirm			
2.16.2.6	Access lock on operator panel.	Vendor to confirm			
2.16.2.7	Co-ordinate system transformation.	Vendor to confirm			
2.16.2.8	Co-ordinate system rotation.	Vendor to confirm			
2.16.2.9	Look ahead of 70 blocks .	Vendor to confirm			
2.16.2.10	Helical/ Spline interpolation	Vendor to confirm			
2.16.2.11	Scaling	Vendor to confirm			
2.16.2.12	Programmable mirror image matching.	Vendor to confirm			
2.16.2.13	Cylindrical interpolation.	Vendor to confirm			
2.16.2.14	Simulation.	Vendor to confirm			
2.16.2.15	Background editing.	Vendor to confirm			
2.16.2.16	Tool management.	Vendor to confirm			
2.16.3	The CNC system shall also have all other features required for:	Vendor to confirm			
2.16.3.1	Programming , machining & measurement of machined components.	Vendor to confirm			
2.16.3.2	Machine Networking at point no. 2.18 below.	Vendor to confirm			
2.16.3.3	Measuring probe package OMP 40	Vendor to confirm			
2.16.3.4	Tool Monitoring as mentioned at point no. 2.17 below.	Vendor to confirm			
2.16.3.5	Machine Monitoring system as mentioned at point no.: 2.19 below	Vendor to confirm			
2.16.3.6	The CNC system shall have a suitable port along with cable (one for each machine) so that printer can be connected directly to the machine for taking listing/ output of measured result file of the probing system. All necessary hardware& software required for above shall be provided by the party. The system shall be completely demonstrated & established on all the supplied machines by the vendor during pre-acceptance at suppliers works as well as during commissioning of the machine at BHEL,	Vendor to confirm			

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.17	Tool Life Monitoring :				
2.17.1	The system should be capable of following features :	Vendor to offer			
2.17.1.1	The expected tool life entered for the tool is monitored				
2.17.1.2	When the end life of tool is nearing , the machine shall finish cycle in progress & then change tool by bringing in the sister tool from the magazine .	Vendor to confirm			
2.17.2	Laser system for tool setting & tool breakage detection				
	The system shall be capable of measuring tool length , tool radius & load these values into tool offset memory of the machine. The system shall also have following capability/ features	Vendor to confirm			
2.17.2.1	Run out monitoring of tool.	Vendor to confirm			
2.17.2.2	Tool breakage detection.	Vendor to confirm			
2.17.2.3	Cutting edge monitoring at straight & round ends.	Vendor to confirm			
2.17.2.4	All programs / software required to run the system shall be supplied & established on all the supplied machines by the vendor. The backup for all programs shall supplied on floppies as well as on CDs.	Vendor to confirm			
2.17.2.5	The party shall conduct complete trials & test during pre-acceptance at supplier's works as well as during commissioning of the machine at BHEL R&D to demonstrate & establish full capabilities of the system.	Vendor to confirm			
2.17.2.6	The system shall be supplied with the complete calibration system including calibration master , calibration program. The calibration procedure shall be completely demonstrated & established on all the supplied machines by the vendor during pre-acceptance at supplier's works as well as during commissioning of machines at BHEL, R & D	Vendor to confirm			
2.17.2.7	Complete technical support for its smooth usage during the warranty period of the machines shall be provided by the vendor	Vendor to confirm			

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.18	MACHINE NETWORKING:				
2.18.1	Machine control should have necessary hardware & software so that it is ready for interfacing with Ethernet Local Area Network with 100MB/ sec. Speed available on machine on UTP cables for NC program & other related DATA transfer . It should cover following features:	Vendor to confirm			
2.18.1.1	The machine should appear as a node just as any other PC in the entire network (Network Neighborhood).	Vendor to confirm			
2.18.1.2	The program transfer should be simple copy & paste method just as it is done in case of PCs.	Vendor to confirm			
2.18.1.3	The networking should be capable to transfer programs from/to machine across the network in CNC mode.	Vendor to confirm			
2.18.1.4	The above Networking features shall be completely demonstrated and established on all the supplied machines by the vendor during pre-acceptance at vendor's works as well as at BHEL, Research & Development Division during commissioning of the machines.	Vendor to confirm			
2.19	MACHINE MONITORING SYSTEM(MMS) SIGNALS				
2.19.1	Following MMS signals would be made available on a specifically earmarked terminal strip . These MMS signals would be sourced from a SIMATIC S-7 PLC output card separately	Vendor to confirm			
2.19.1.1	Control ON				
2.19.1.2	Cycle ON				
2.19.1.3	Spindle running (in all modes)				
2.19.1.4	Feed Active (Any of the axes running in all modes				
2.19.1.5	M30 Program Stop.				
2.20	FAULT DIAGNOSTIC SYSTEM				
2.20.1	TELE DIAGNOSTIC SERVICE				
	Tele-diagnostic service should be provided through International telephone lines along with required Hardware / Software for the supplied CNC system to access both CNC and PLC. This should be provided free of charge for the guarantee period. Terms and conditions for the service after guarantee period should be informed	Vendor to offer			

	by vendor. Help guide should be provided for use of the system/service.				
SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.20.2	FAULT DIAGNOSTIC SYSTEM				
	Supplier's own diagnostic system with required hardware and software should be supplied and installed on the CNC system. This should include customized auto-diagnostic system with supporting hardware and software which shows detailed cause and remedy for the faults on the display with full video diagnostic help for faults related to mechanical/hydraulic and electrical/electronic maintenance. Help guide should be provided for use of the system. Details are to be submitted.	Vendor to offer			
	Provision of suitable notebooks as diagnostics aid with soft copies of Electrical circuit diagram, wiring diagram, hydraulic diagram, machine layout, PLC software, machine operation & maintenance manuals and diagnostic & help text etc.	Vendor to offer			
	Screen (pages) displaying the status of all inputs of ATC and AWC manually for service personnel only.	Vendor to offer			
2.21	SERVO VOLTAGE STABILIZER				
2.21.1	Oil / Air Cooled Servo Controlled Voltage Stabilizer (of reputed Indian make) suitable for complete machine, its drives, controls, PLC etc. for unbalanced load & supply conditions considering specified power supply & ambient conditions.	Vendor to offer			
2.21.2	Make	Vendor to inform			
2.21.3	Model, Rating & Input/Output Voltage etc.	Vendor to inform			
2.21.4	Monitoring device with cutoff facility for under/over output voltage, Devices for load current measurement, MCCB at input for overload/short circuit protection. (Details to be submitted)	Vendor to inform			
2.21.5	Spares Package for Servo Voltage Stabilizer, with item-wise breakup, are to be recommended and offered by the vendor insufficient quantity for 2 years of trouble free operation considering three shifts continuous running of the machine. Detailed list is to be submitted. Price of unit	Vendor to inform			

	quantity of each item is to be quoted.				
SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.22	ULTRA ISOLATION TRANSFORMER				
2.22.1	Ultra Isolation Transformer (of reputed Indian make) suitable for complete machine , its drives, controls, PLC etc. for unbalanced load & supply conditions considering specified power supply & ambient conditions.	Vendor to offer			
2.22.2	Make	Vendor to inform			
2.22.3	Model, Rating & Input/Output Voltage etc.	Vendor to inform			
2.22.4	Monitoring device with cutoff facility for under/over output voltage, Devices for load current measurement, MCCB at input for overload/short circuit protection. (Details to be submitted)	Vendor to inform			
2.22.5	Spares Package for Isolation Transformer, with item-wise breakup, are to be recommended and offered by the vendor in sufficient quantity for 2 years of trouble free operation considering three shifts continuous running of the machine. Detailed list is to be submitted. Price of unit quantity of each item is to be quoted.	Vendor to inform			
2.23	SPARES				
2.23.1	Mechanical, Hydraulic, Electrical and Electronic spares used on the machine, with item-wise breakup, are to be recommended and offered by the vendor in sufficient quantity for 2 years trouble free operation of the complete machine including CNC system and its accessories considering three shifts continuous running of the machine. Detailed list is to be submitted. Price of unit quantity of each item is to be quoted.	Vendor to offer			
2.23.2	Vendor to confirm that complete list of spares for machine and accessories, along with specification / type / model, and name & address of the spare supplier shall be furnished along with documentation to be supplied with the machine	Vendor to confirm			
2.24	DOCUMENTATION				
	Three sets of following documents (Hard copies) in English language should be supplied along with machine.				

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.24.1	Operating manuals of Machine & CNC system	Vendor to offer			
2.24.2	Programming Manuals of Machine & CNC system	Vendor to offer			
2.24.3	Detailed Maintenance manual of machine with all drawings preferably laminated) of machine assemblies/sub-assemblies/parts including Electrical / Pneumatic/ Coolant / Hydraulic circuit diagrams.	Vendor to offer			
2.24.4	Maintenance, Interface & commissioning manuals for CNC system, spindle & feed drives.	Vendor to offer			
2.24.5	Manufacturing drawings for all supplied tool holders, cassettes adapters, sleeves, fixtures, coolant connections, tailstock center, etc.	Vendor to offer			
	Catalogues, Drawings and Operation & Maintenance Manuals of all bought out items, wherever applicable.	Vendor to offer			
2.24.6	Detailed specification of all rubber items and hydraulic/lube fittings	Vendor to offer			
2.24.7	Operating and User Manuals, Maintenance Manuals & Catalogues for supplied Tool Monitoring System , LASER System for Tool Breakage Detection, In-process Gauging System, Voltage Stabilizer, Isolation Transformer, Job Loader, tool Changer etc.	Vendor to offer			
2.24.8	Help guides for tele-diagnostic service and diagnostic systems	Vendor to offer			
2.24.9	One sets of following documents in English language should be supplied along with the machine.	Vendor to offer			
	Final PLC program on CD, NC data & PLC data on floppy.	Vendor to offer			
2.24.9.1	Complete back-up of hard disk on CD and clear written instructions to take back-up and reloading of a new hard disk.	Vendor to offer			
2.24.9.2	Complete backup of installed software including CNC features on 3.5" floppy disks for re-installation as and when required. Set of instructions /Help guide for re-installation should also be provided	Vendor to offer			
2.24.9.3	One additional set of all the above	Vendor to offer			

	documentation/machine drawings/machine manuals on CD ROM, wherever possible.				
SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.25	PART FIXTURING				
2.25.1	Part fixturing arrangement with interchangeability of jaws and stops to accommodate various types of blades shall be offered. Part fixturing shall include holding elements at root end and supporting the blade bar with a tailstock center at tip end. It should take care of minimum material wastage needed for holding. Detailed manufacturing drawings of part fixturing to be supplied in the event of order. However, with the offer a scheme of holding arrangement with dimensional indication of clamping portion to be submitted.	Vendor to offer			
2.26	TOOLING PACKAGE				
	The tooling package shall consist of one set of tools for sample Blade machining at suppliers works and as well as at BHEL R & D during commissioning of the machine				
2.27	TROPICALISATION				
2.27.1	All electrical / electronic equipment shall be tropicalised.	Vendor to confirm			
2.27.2	All electrical & electronic control cabinets & panels should be dust and vermin proof.	Vendor to confirm			
2.27.3	All electrical components in the cabinets should be mounted on DIN Rail	Vendor to confirm			
2.27.4	All electrical / electronic panels to be provided with adequate door locks. All electrical & electronic panels including operator's panel should have sufficient illumination and power receptacles/plug points of 220Volts, 5/15 Amp AC with on/off switch. All electrical adapters/receptacles, fittings, consumables etc. should be compatible with Indian equivalents.	Vendor to confirm			
2.27.5	All motors shall conform to IEC or Indian Standards	Vendor to confirm			

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.27.6	All cables moving with traversing axes should be installed in caterpillar / Drag chain. Additionally, all the cable trays/chains etc. required for laying of cables should be included in the offer.	Vendor to confirm			
2.27.7	Vendor should ensure the proper earthing for the machine and its peripherals/accessories. Any material requirement for the same should be informed with foundation design/drawings. The location of the production shop.	Vendor to confirm			
2.28	OPERATING CONDITIONS				
2.28.1	Total machine including all supplied items should work trouble free and efficiently under following operating conditions and should give specified accuracies. Power Supply (AC): Voltage = 415 V +10% / -15% Frequency = 50 Hz +3% / -3% No. of phases = 3 (3 wire system without neutral) Ambient Conditions: Temperature up to 30 degree Celsius in Air Conditioned Hall Relative Humidity About 70%	Vendor to confirm			
2.29	SAFETY ARRANGEMENTS				
2.29.1	Following safety features in addition to other standard safety features should be provided on the machine:	Vendor to confirm			
2.29.1.1	Machine should have adequate and reliable safety interlocks / devices to avoid damage to the machine, work piece and the operator due to the malfunctioning or mistakes. Machine functions should be continuously monitored and alarm / warning indications through lights/ alarm number with messages (on CNC display and panels) should be available.	Vendor to confirm			
2.29.1.2	A detailed list of all alarms / indications provided on machine should be submitted by the supplier.	Vendor to confirm			
2.29.1.3	All the pipes, cables etc. on the machine should be well	Vendor to confirm			

	supported and protected. These should not create any hindrance to machine operator's movement for effective use of machine.				
2.29.1.4	All the rotating parts used on machine should be statically & dynamically balanced to avoid undue vibrations & noise.	Vendor to confirm			
2.29.1.5	Emergency Switches at suitable locations as per International Norms should be provided.	Vendor to confirm			
2.29.1.6	Oil & water pipe lines should not run with electrical cable in the same trench.	Vendor to confirm			
2.30	ENVIRONMENTAL PERFORMANCE OF THE MACHINE	Vendor to confirm			
2.30.1	The Machine should conform to following factors related to environment:	Vendor to confirm			
2.30.1.1	Maximum noise level shall be 85 dB (A) at 1 meter away from the machine with correction factor for back ground noise, if necessary. This will be measured as per international standards like DIN 45635-16. Supplier to demonstrate compliance to noise level, if asked for.	Vendor to confirm			
2.30.1.2	There shall not be any emissions from the machine	Vendor to confirm			
2.30.1.3	No hazardous chemicals shall be required to be used in the machine	Vendor to confirm			
2.30.1.4	If any safety / environmental protection enclosure is required it should be built in the machine by the vendor.	Vendor to confirm			
2.30.1.5	Paint of the machine should be oil / coolant resistant and should not get peeled off and mixed up with coolant.	Vendor to confirm			
2.31	GEOMETRICAL ACCURACIES				
2.31.1	Geometrical Accuracy Tests shall be in accordance with relevant & prevailing international standards viz. ISO 1708 or equivalent applicable standard. Detailed Test Charts for the same, clearly showing the accuracies to be achieved on the machine, shall also be submitted with the offer.	Vendor to confirm			
2.31.2	All the Geometrical accuracies including test pieces machining etc. should be demonstrated to BHEL engineers during pre- acceptance at Supplier's works. In case due to some unforeseen reasons it becomes imperative to repeat test of the geometrical accuracies at	Vendor to confirm			

	BHEL R & D, the same shall have to be arranged by the vendor. Test pieces are to be supplied by vendor. Drawings of test pieces to be submitted with the offer.				
SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.32	POSITIONING & REPEATABILITY ACCURACIES				
2.32.1	Positioning & repeatability accuracies shall be measured as per VDI/DGQ 3441 (Latest Revision). CHECKING BY USING LASER INTERFEROMETER.				
2.32.1.1	Positioning uncertainty over entire X axis (P)	Vendor to inform			
2.32.1.2	Positioning uncertainty over entire Y axis (P)	Vendor to inform			
2.32.1.3	Positioning uncertainty over entire Z axis (P)	Vendor to inform			
2.32.1.4	Positioning uncertainty over entire A axis (P)	Vendor to inform			
2.32.1.5	Positioning uncertainty over entire B axis (P)	Vendor to inform			
2.32.1.6	Positioning Scatter over entire traverse in X axis (Ps)	Vendor to inform			
2.32.1.7	Positioning Scatter over entire traverse in Y axis (Ps)	Vendor to inform			
2.32.1.8	Positioning Scatter over entire traverse in Z axis (Ps)	Vendor to inform			
2.32.2	All the Positioning and Repeatability accuracies should be demonstrated to BHEL engineers during pre-acceptance at Suppliers works and again during Erection & Commissioning at BHEL works	Vendor to confirm			
2.33	LEVELING & ANCHORING SYSTEM				
2.33.1	Complete set of anchoring materials including foundation bolts, nuts, washers, fixators, leveling shoes etc for alignment and fixing of the machine on the floor should be supplied. Details to be submitted	Vender to offer			
2.34	TOOLS FOR ERECTION, OPERATION & MAINTENANCE				
2.34.1	Tools and Equipment required for erection of the machine shall be brought by the vendor. Necessary tools like Torque Wrench, Spanners, Keys, grease guns etc. required for operation and maintenance of the machine	Vender to offer			

[illegible]

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.36	TRAINING				
2.36.1	<p>BHEL Persons should be trained at vendor's works for mutually agreed period in the area of</p> <p>(a) CNC Part Programming, Use of all CNC Features, Programming for Measuring Systems & supplied accessories, Machining Technology of the Prove out Component</p> <p>(b) Electrical, Electronic & CNC maintenance for machine & other supplied equipments</p> <p>(c) Mechanical & Hydraulic maintenance of the machine & other supplied equipments</p> <p>(d) Operation of the machine & other supplied equipments</p>	Vender to offer			
2.36.2	Air-fare, boarding & lodging for the trainees shall be borne by BHEL	For vendor's information			
2.36.3	Competent, English speaking experts shall be arranged by the vendor for satisfactory & effective training of BHEL personnel.	Vendor to accept & confirm			
2.37	MACHINE PRE-ACCEPTANCE AT VENDOR'S WORKS				
2.37.1	BHEL persons deputed for training will be doing pre-acceptance at vendor's works and give dispatch clearance after satisfaction from all angles. During pre-acceptance all accuracy tests mentioned at point number 2.31 and 2.32 shall be witnessed by the team. Also during pre-acceptance, vendor shall machine 1 type of blade with the program given by BHEL in the presence of BHEL representatives and submit 3D Co- ordinate Measuring Machine reports for machined blade. This will be proved again at BHEL, R & D	Vendor to accept & confirm			
2.37.2	Raw material and tooling required for machining the	Vendor to accept &			

	blade for pre-acceptance shall be arranged by the vendor.	confirm			
SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.38	ERECTION & COMMISSIONING				
2.38.1	Supplier to take full responsibility for carrying out the erection, start up, testing of machine, it's control & all types of other supplied equipment/accessories, machining of test pieces etc. Service requirement like power, air & water shall be provided by BHEL R&D at only one point to be indicated by supplier in their foundation/layout drawings. Other requirements like crane(capacity of 10 Ton only) and helping personnel shall also be provided by BHEL. Details of these requirements should be informed/discussed by vendor and agreed with BHEL in advance.	Vendor to confirm & offer			
2.38.2	Erection & Commissioning of Voltage stabilizer, Isolation Transformer , Air Dryer and other accessories with all electrical & mechanical connections shall also be responsibility of the vendor	Vendor to offer			
2.38.3	Successful proving of BHEL components by the supplier shall be considered as part of commissioning. All tests, as mentioned at Sl. No. 2.39 and 2.40 and testing/demonstration of tele-diagnostic service shall also be part of the commissioning activity	Vendor to confirm			
2.38.4	Tools, Tackles, Test Mandrels, instruments and other necessary equipment (including Laser equipment, if required) required to carry out all erection & commissioning activities should be arranged and brought by the supplier.	Vendor to confirm			
2.38.5	Commissioning spares, required for commissioning of the machine within stipulated time, shall be brought by the supplier on returnable basis.	Vendor to confirm			
2.38.6	Broad Schedule of Erection and Commissioning shall be submitted with the offer	Vendor to submit			
2.38.7	Charges, duration, terms & conditions for Erection & Commissioning should be furnished in detail separately by vendor along with offer.	Vendor to offer			

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.38.8	Portion, if any, of the machine, accessories and other supplied items where paint got rubbed or peeled off during transit or erection should be repainted and matched with the original adjoining paint by the vendor. For this purpose, the vendor should supply sufficient quantity of touch-up paint of various colors/shades of paints used. The vendor shall ensure performing touching after commissioning but before final acceptance	Vendor to confirm			
2.39	PROVE OUT OF BHEL COMPONENTS				
2.39.1	Complete and successful machining of prove out component shall be done by the vendor after erection & startup of the machine at BHEL works using tools, equipment and BHEL CNC program, etc. Raw material for prove out components shall be given by BHEL.	Vendor to confirm& offer			
2.40	FINAL MACHINE ACCEPTANCE				
2.40.1	Final acceptance shall be made by BHEL R & D after completion of following activities:				
2.40.1.1	Demonstration of specified/offered Geometrical accuracies as per test chart/standard after machine commissioning	Vendor to accept & confirm			
2.40.1.2	Demonstration of specified/offered Positioning accuracies as per VDI-DGQ/3441 and specified values after machine commissioning				
2.40.1.3	Demonstration of all features of the machine, control system & accessories to the satisfaction of BHEL for efficient and effective use of the machine.	Vendor to accept & confirm			
2.40.1.4	Machining of test piece as per international standard. Vendor to supply test pieces	Vendor to accept & confirm			
2.40.1.5	Training of BHEL machine operators in operation of complete machine, software & accessories etc by the supplier's experts /engineers during their stay at BHEL works.	Vendor to accept & confirm			
2.40.1.6	Prove out of BHEL components as per contract agreement.	Vendor to accept & confirm			

[illegible]

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
4.0	GENERAL INFORMATION				
4.1	All the information and drawings attached with tender document are exclusive property of BHEL R&D. Under no circumstances these should be passed to any third party without prior permission of BHEL and must not be used directly or indirectly detrimental to the interest of the company	Vendor to accept & confirm			
5.0	QUALIFYING CONDITIONS				
5.1	Only those vendors should quote, who have supplied & commissioned at least one no. CNC 5 Axis Machine. The aforesaid machine(s) should have been supplied to a manufacturer of finished steam turbine blades (twisted and 3 Dimension) during last ten years and such machine(s) is(are) presently working satisfactorily for more than one year after commissioning. In this regard, following information is to be submitted by the vendor with the offer. This is required from all the vendors for qualification of their offers.	Vendor to confirm			
5.2	Name & complete address of the customer / company, where such machine(s) is(are) installed.	Vendor to submit			
5.3	Year of Commissioning of the supplied machine.	Vendor to submit			
5.4	Broad specifications of the supplied machine i.e. Model, Blade machining length, accessories supplied.	Vendor to submit			
5.5	Application for which the machine has been supplied. Vendor to also confirm that the supplied machine is also being used for manufacture of finished steam turbine blades.	Vendor to submit			
5.6	Performance certificate from the customer(s) regarding satisfactory performance of the machine supplied to them (original certificate or through e-mail directly from the customer). The performance certificate can be returned after verification by BHEL, if required.	Vendor to submit			
5.7	Name, designation, address, Phone no., FAX no. and email address of the issuer of the Performance Certificate/ contact person of the customer.	Vendor to submit			



BHARAT HEAVY ELECTRICALS LIMITED

CORPORATE R&D DIVISION, VIKAS NAGAR, HYDERABAD – 500 093, AP, India

Ph: 0091-40 – 23778474, FAX: 0091-40 – 23770698

General Terms and Conditions of Enquiry & Contract for the Purchase of Goods/ Services

1. The quotation and any order resulting from this enquiry shall be governed by these General Terms and Conditions of enquiry and contract for the supply of goods and the supplier quoting against this enquiry shall, unless specifically stipulates any different terms or conditions, be deemed to have read and agreed to the same.
2. Sealed quotations in double cover with tenderer's distinctive seal, superscribing enquiry number, date and due date are to be submitted so as to reach on or before due date & time, addressed to **Additional General Manager(MM), Bharat Heavy Electricals Limited, Corporate Research & Development Division, Vikasnagar, Hyderabad, Andhra Pradesh, India – PIN-500 093, India.**

In the case of **Two-part bid**, each inner cover shall clearly be labeled as a) **Technical & Commercial Bid** containing technical data/ drawings/ catalogues/ quality plans along with commercial terms and conditions & copy of the price bid with the price columns left blank (unpriced price bid), b) **Price bid** containing prices quotes. Installation and/or Commissioning charges shall be spelt out in absolutely lucid terms, taking into account total charges, rather than quoting vaguely, such as charges per man-day or charges per engineer per day etc. **If the price bid was found later to be different from the unpriced price bid in any way, the offer will be rejected summarily.**

3. **Tender/ Technical bid Opening:** Unless specified otherwise, tenders/ technical bids will be opened on appointed date and time as mentioned in the enquiry or as communicated changed date/time, if any, in the presence of such of those tenderers who may be present.
4. **Delayed/ Late Tender:** Tenders, which have been posted by registered post through the postal department in time before opening date but received after tender opening, shall be treated as regular tenders. Other tenders received after tender opening time shall be treated as late tenders and normally they may be rejected.
5. The Quotation should be free from overwriting and erasures. Corrections and additions, if any, must be attested. Supplier should indicate in the quotation dimensions (Size), weight, rate etc., in the metric system unless the enquiry calls for different unit.
6. **Validity of Quotation:** All quotations shall be kept open for acceptance for a period of ninety days from the date of opening of Tenders/ Technical bid and this shall be deemed to be an express condition of all quotations. The rate shall be quoted in both figures and in words.
7. In the case of Two-part bid, the vendor should furnish technical clarifications, if any, within stipulated time mentioned, failing which, it will be construed that the vendor is not interested in the tender and BHEL shall not consider the offer for further evaluation.
8. **Revision of Pricebid:** In the event of any bidder, after finalizing the technical specifications and scope of supply, opting to revise and submit their latest price bid, then BHEL reserves the right to open their original / previous price bid also while evaluating revised bid.
9. **Pricebid Opening:** Unless specified otherwise in the enquiry, the Price bids of technically qualified vendors shall be opened with prior intimation in the presence of such of those tenderers who may be present.
10. **Conformity to Specifications:** The material should be of the best quality and shall be conforming to our specification given in our enquiry. Unless otherwise agreed upon by BHEL, no payment shall be due by BHEL in respect of any sample. Offers without details of specifications/ applicable catalogues will not be considered and are liable to be rejected.
11. **Terms of Delivery:** All suppliers shall quote the lowest prices on ex-works and FOB/FCA basis. Foreign suppliers will also indicate their Indian agent's name and address with percentage of agency commission out of the quoted price, if any. Name and Address of the supplier's Bankers address should also be given. Indian suppliers for the indigenously manufactured/ imported stock shall quote on Ex-works /Free-on-Rail/Road /FOR-destination basis, indicating packing & forwarding charges, if any, separately.
12. **Taxes and Duties:** Unless specified otherwise in the enquiry, BHEL do not provide "C" or "D" Form as it is engaged in R&D. All Indian suppliers shall clearly mention Sales Tax/ VAT, Excise Duty, and Service Tax etc, if any, payable in addition to the quoted price and indicate applicable rates/ percentage, item-wise. It will be paid

only if Registration Number under State(TIN)/ Central Sales Tax or Service Tax is specifically mentioned in the Bill/Invoice. Vendors without a Sales Tax/VAT registration and applicable Service Tax registration will not be considered.

13. **Insurance:** Insurance will be arranged by BHEL in case of Ex-Works as well as FOB basis supplies.
14. **Terms of Payment:** Full payment will be made within 30 days after receipt, inspection and acceptance of the material (and where involved, Erection and commissioning of the material/ equipment at BHEL/Destination) by Crossed cheque and no Bank commission charges are admissible. The Cheque will be sent by registered post and BHEL is in no way responsible if loss occurs due to delay by postal authorities and cheques falling into improper hands or through forgery or fraud. Suppliers having RBI-SEFT-enabled accounts can seek payment through Electronic Fund transfer. For foreign suppliers, the preferred payment term will be on Sight Draft basis and bank charges inside India will be to BHEL account and outside India will be to supplier's account.
15. Suppliers shall quote competitive price and best delivery for all the items mentioned in the enquiry. BHEL reserves the right to reject partial quotations and to place order on overall landed cost basis. Correct date of effecting supplies in the event of an order should be indicated in the offer. If the supplier's quoted terms are different from BHEL standard payment terms, interest @10.5% per annum (or as indicated in the enquiry) will be loaded to the quoted prices for difference of payment period.
16. **Packing:** The supplier shall be responsible for the goods being properly and adequately packed so as to prevent any loss, damage or deterioration during transit and indicate packing charges, if any, separately.
17. **Part/ Split Ordering:** BHEL reserves right to Order part of the item/ quantity of the enquiry and split the order among qualified vendors.
18. In case the goods enquired are on Rate Contract basis with any other unit of BHEL, such fact should be clearly indicated in the quotation giving full particulars of Rate Contract number, validity and price and also your willingness to comply with order if placed against such Rate Contract. A true copy of Rate contract signed by the supplier should be sent with the quotation.
19. **Inspection:** On receipt, the goods shall be subjected to inspection and also test, if necessary, and our decision regarding the acceptability of the goods shall be final and binding on the suppliers.
20. **Consequences of Failure To Deliver:** The time stipulated for delivery of goods shall be deemed to be the essence of the contract and delivery must be completed within the stipulated date/s. In the event of supplier's failure to supply the goods by the stipulated date/s, BHEL shall be entitled to levy a penalty of ½% per week for the delayed no of weeks or part thereof for the undelivered portion of PO subject to a maximum of 10% total order value.
21. **Withdrawal from the Contract:** In case the supplier withdraws the quotation after its acceptance by BHEL or fails to supply the goods as per the terms and conditions of contract, or at any time repudiated the contract wholly or in part, BHEL shall be at liberty to cancel the Purchase Order and to recover from the supplier the extra cost and other loss incidental to the breach of contract on the part of the supplier.
22. **Guarantee/ Warranty certificate and Manufacturer's Test report:** Invariably in all cases where it is so stipulated, the supplier should furnish Guarantee/ Warranty certificate valid for a period of 18 months from date of supply or 1 year from the date of receipt, acceptance and commissioning (or more, if provide by oem) whichever earlier and manufacturer's Test report along with the goods, failing which, BHEL shall have the right to reject the goods.
23. All ferrous/ non-ferrous items shall be colour coded as per bureau of Indian standards/ or IS standards/ BHEL Standards.
24. **Recovery of Dues:** BHEL shall recover any amount due from the supplier or any amount outstanding to the credit of the supplier with BHEL R&D unit or any other BHEL unit(s) and/or by legal action.
25. **Arbitration & Forum for Legal Proceedings:** All disputes arising in connection with indigenous/ foreign supplies shall be settled through arbitration held at Hyderabad, AP, India and arbitration shall be appointed by Arbitration Tribunal of the Federation of Andhra Pradesh Chambers of Commerce and Industry, Hyderabad, AP, India. The Courts at Secunderabad/ Hyderabad, AP, India shall have jurisdiction in respect of any suit or other legal proceeding arising from or relating to this contract

The rights and remedies of BHEL stated in these General terms and conditions shall be in addition and supplemental to its rights and remedies under law and custom or usage of trade or business and shall in no way be deemed to limit, curtail, supercede or derogate from its said rights and remedies.

**ANNEXURE “AA”
BHARAT HEAVY ELECTRICALS LIMITED
CORPORATE RESEARCH & DEVELOPMENT DIVISION
VIKASNAGAR, HYDERABAD – 500 093. INDIA**

**MATERIALS MANAGEMENT DEPARTMENT
(Information for Technical & Commercial bids with general terms)**

ENCLOSURE TO ENQ No:

DATE:

- a) Please indicate(_/) for applicable or (X) for not applicable against each clause of the enquiry
- b) Vendor shall confirm their compliance for applicable clauses (_/) in their offer without deviation.

1) Technical offer:-

- a) Vendors to confirm compliance to all points of specification attached at ‘A’ Deviations if any should be specified in the offer.
- b) Vendors shall furnish relevant technical Documents / Catalogues. Drawings and Quality plan duly taking care of Purchase Specification and Quality requirements along with their offer in duplicate for Purchaser’s review / Verification.

2) Two Part Bid:-

Vendor shall submit their offer in 2 parts.

2.1 Technical Bid:- Containing relevant technical data, drawings, catalogues, Quality Plan etc, along with Commercial Terms and Conditions and a copy of the price bid with the price columns left blank (unpriced price bid). If the price bid was found later to be different from the unpriced price bid in any way, the offer will be rejected.

2.2 Price Bid:- Containing the Price(s) quoted. Installation and or commissioning charges shall be spelt out in absolutely lucid terms taking into account the total charges rather than quoting vaguely such as charges as per man day or charges per Engineer per day etc.,

Technical bids will be opened on the due date of the enquiry or any other date fixed by BHEL. Further, vendor should furnish clarifications, if any, required within seven days after the same is sought by Purchaser. If no clarifications/reply received within 7 days, it will be construed that vendor is not interested in the tender and Purchaser will finalise tender accordingly. Price bids received on due date along with technical offers will be recorded and opened subsequently with due intimation to vendors after finalising of technical scope of supply.

These bids shall be submitted in separate sealed covers superscribing the nature of the offer (technical bid or price bid). BHEL Enq No. Due date etc.

Note: In case of non-compliance with the TWO _-PART-BID ie.. clause number 2 and subclauses 2.1 and 2.2. Purchaser reserves the right to summarily reject all such offers.

3) Delivery:-

Vendor shall confirm supply of materials as per the delivery schedule indicated in the enquiry.

4) Negotiations:-

Vendor shall quote competitive price and best delivery to avoid negotiations.

5) Commercial Terms & Conditions:-

Terms of Delivery:

- a) Vendors shall clearly indicate terms of delivery Viz: Ex-Works/FOR Despatching station/FOR Despatching station FOR Destination/FOB port of loading/FAS Port of loading in their offer. If the terms of delivery is Ex-Works, then vendors shall clearly indicate the following:
 - 1. Packing and forwarding charges.
 - 2. Documentation / Handling charges if any
 - 3. FOB FAS charges (Inland Freight & Insurance charges from vendor works to port of Loading).
- b) All Indian Vendors shall clearly specify the Excise Duty in percentage applicable for their supplies. Offers containing expressions such as “Extra as applicable” or “As applicable at the time of Delivery” will be summarily rejected.
- c) CST/Local Sales Tax in percentage shall be clearly indicated.

6) Validity of Quotation:-

Validity of offer should be 90 days after the opening of price bid.

7) Part or split ordering:-

Purchaser reserves the right to order part of item / quantity of the enquiry.

8) For clauses not mentioned in this document see the enclosed “GENERAL TERMS AND CONDITIONS OF ENQUIRY AND CONTRACT FOR THE PURCHASE OF GOODS”

- 9) In case your terms of payment are different from our standard payment terms, interest at the rate of 10.5% per annum (or BHEL’s standard rate of interest) will be loaded to your prices for the difference of period of payment.

Suppliers' compliance statement to basic conditions of enquiry

Condition	BHEL R& D's terms	Supplier's compliance (indicate Yes/No. if 'No', state terms desired)
1) Validity of offer	90 days from the tender opening date	
2) Delivery requirements	Free delivery at our stores or FOR destination (as indicated in the enquiry)	
3) Warranty	All supplied items to be provided with warrantee for one year (or more, if provided by the OEM) from the date of acceptance/commissioning. In case of equipment involving erection and commissioning, warrantee shall be for 18 months from the date of dispatch or 12 months from the date of commissioning, whichever is earlier	
4) Terms of payment	100 % within 30 days of receipt, inspection and acceptance (and where involved, erection and commissioning) of the material/equipment at our stores/destination	
5) Taxes & Duties	Unless specifically mentioned in the enquiry, we do not provide 'C' or 'D' form. Supplier to specify rates of taxes and duties elementwise and related percentages	
6) Penalty for late delivery	0.5% per week beyond the delivery date as mentioned in the Purchase order on undelivered portion subject to a maximum of 10% of the total order value	

* BHEL R&D reserves the right to reject any offer due to non-compliance with the above conditions and/or non-receipt of this form in duly filled condition

** Any other elements of cost in addition to the above may please be specified in detail



BHARAT HEAVY ELECTRICALS LIMITED
CORPORATE R&D Division
Vikasnagar, Hyderabad – 500093.

IMPORTED

Suppliers' compliance statement to basic conditions of enquiry

(In case Order to be placed on the Principal and foreign currency)

Condition	BHEL R& D's terms	Supplier's compliance (indicate Yes/No. if 'No', state terms desired)
01) Validity of offer	90 days from the tender opening date (or as per enquiry)	
02) Delivery requirements	FCA – Nearest International Airport (or as indicated in the enquiry)	
03) Warranty	Unless specifically mentioned in the enquiry, all supplied items to be provided with warrantee for one year (or more, if provided by the OEM) from the date of acceptance/ commissioning. In case of equipment involving erection and commissioning, warrantee shall be for 18 months from the date of dispatch or 12 months from the date of commissioning, whichever is earlier	
04) Terms of payment	Sight draft. All bank charges inside India will be to BHEL R&D account and out side India will be to suppliers account. Documents through State Bank of India, HAL Complex, Balanagar, Hyderabad, AP, India-500 042.	
05) Agency commission	Pl specify percentage charges, if any. Indian agency/agent commission will be in Indian Currency only.	
06) Erection/ Commission	As per enquiry	
07) Documentation	As per enquiry	
08) Insurance	BHEL will arrange Insurance based on intimation to our Insurance agency, United India Insurance Co., DO-2, Secunderabad, AP, India.	
09) Penalty for late delivery	0.5% per week beyond the delivery date as mentioned in the Purchase order on undelivered portion subject to a maximum of 10% of the total order value	

* BHEL R&D reserves the right to reject any offer due to non-compliance with the above conditions and/or non-receipt of this form in duly filled condition

* Any other elements of cost in addition to the above may please be specified in detail

(Signature and Stamp/ Seal of Vendor)

BHARAT HEAVY ELECTRICALS LTD.
Corp. R&D DIVISION
VIKAS NAGAR,
HYDERABAD-500 093 (INDIA)

VENDOR REGISTRATION FORM (INDIAN SUPPLIER)

Before filling please refer to instructions on page-4

1.0 VENDOR PROFILE:

1.1 & 1.2 Name and address of the vender:

Phone Nos.:

Fax No.:

Email:

1.4 Local representative of the vender in India/ Hyderabad:

Phone Nos.:

Fax No.:

Email:

Contact person:

Mobile No.:

2.0 & 2.1 Type of Organisation:

PROPRIETORSHIP	COMPANY	SISTER CONCERN	ANY OTHER (Please specify)
PARTNERSHIP	CORPORATION	Small Scale Industry	

3.0 Annual Turn Over:

Name and address of the Banker:

Sr.No.	Bank	Address

4.0 REGISTRATION PARTICULARS

4.1 IT Permanent Account No.(PAN):

4.2 State tax Registration No.:

4.3 Central sales tax Registration No.:

4.4.1 ED Registration No.:

4.4.2 Service Tax Registration No.:

PF Account No.:

Labour Licence No.:

ESI Account No.:

5.2 Contact person:
Mobile No. :

5.3 Total Number of employees:

Graduates (Engr./Scientists/Mgmt/Fin.)	Consultants	Workers		
		Sup./Skilled	Semiskilled	Unskilled

6.0 Wish to register for supplies/ services :

<u>Sr.No.</u>	<u>Service/Supplies</u>	<u>Capacity</u>
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		
<u>6</u>		
<u>7</u>		

6.1 Reference list :

(Only recognized public and private sector companies, attach if printed copy available)

<u>Sr.No.</u>	<u>Customer</u>	<u>Volume / Year</u>
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		
<u>6</u>		
<u>7</u>		

7.0 & 8.0 Infrastructure / facilities :

<u>Sr.No.</u>	<u>Facility (with specifications)</u>	<u>Age/ Year procured</u>
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		
<u>5</u>		
<u>6</u>		
<u>7</u>		
<u>8</u>		
<u>9</u>		
<u>10</u>		

9.0 Registration with other BHEL Unit/Units:

<u>Sr.No.</u>	<u>9.1.1 Unit</u>	<u>9.1.2 Registration No.</u>
<u>1</u>		
<u>2</u>		
<u>3</u>		
<u>4</u>		

Any Other information :

Declaration:

The information furnished above is true and authentic.

(CEO / Proprietor)

SEAL:

Date:

The competent authority reserves the right to accept or reject the registration. Registered vendors will be informed by mail / email, as convenient. Contact Sr.DGM (MM) for clarification/ additional information on registration.

A separate communication will be sent to you in case of non-registration, citing reasons thereof.

Instructions

1. Answer all items, use NA for items not applicable.
2. BHEL units do not require this registration.
3. Submit the form in duplicate.
4. Use additional sheets for want of space if required.
5. Attach copies of latest documents in respect of items 4.0 (Registration no.s)
6. Photographs of registered office and the chief executive/proprietor shall be furnished.
7. Use A4 sheets for this document and the enclosures.

* REGISTERED BIDDERS, HAVING A BHEL (R&D) REGISTRATION NO. / HAVE SUBMITTED THIS FORMAT EARLIER, NEED NOT FURNISH THIS INFORMATION SECOND TIME (UNLESS DESIRE TO UPDATE IT).

BHEL
SUPPLIER REGISTRATION FORM

(FOREIGN SUPPLIER)

ALL COLUMNS SHOULD BE PROPERLY FILLED IN THE SPACE PROVIDED FOR. WHEREVER IT IS NOT APPLICABLE PLEASE WRITE "NOT APPLICABLE". INCOMPLETE OR INCORRECT FORMS MAY NOT BE CONSIDERED.

1.0 GENERAL INFORMATION:

1.1....NAME OF COMPANY

1.2....DETAILS OF HEAD OFFICE:

ADDRESS :
TELEPHONE :
FAX :
.EMAIL :
.WEB SITE :

1.3....DETAILS OF FACTORY/WORKS:

ADDRESS :
TELEPHONE :
FAX :
.EMAIL :
.WEB SITE :

1.4....DETAILS OF MARKETING AGENT

ADDRESS :
TELEPHONE :
.FAX :
.EMAIL :
.WEB SITE :

1.5 CHIEF EXECUTIVE

NOTE: PLEASE ATTACH SEPARATE SHEETS, IF SPACE FOUND IS INADEQUATE

AUTHORISE SIGNATORY

**BHEL
SUPPLIER REGISTRATION FORM**

(FOREIGN SUPPLIER)

1.6 CONTACT PERSON(S)
FOR PRODUCT OFFERED
NAME(S)
OFFICIAL CPACITY
ADDRESS:
TELEPHONE
FAX
E-MAIL

1.7 YEAR OF ESTABLISHMENT

1.8 PRODUCTION CAPACITY PER ANNUM

1.9 PARTICULARS OF PRODUCT INCLUDING
SPECIFICATION AND RANGE OFFERED
FOR REGISTRATION
(ATTACH BROCHURES AND CATALOGUE)

1.10 NAME(S) OF BANKERS

1.11 BANKER'S CERTIFICATE

1.12 PORT OF LOADING

1.13 NEAREST AIRPORT

1.14 NAME OF THE INDIAN AGENT, IF ANY
WITH AUTHORISATION LETTER

1.15 ANY OTHER INFORMATION:

AUTHORISE SIGNATORY

BHEL
SUPPLIER REGISTRATION FORM

(FOREIGN SUPPLIER)

2.0 FINANCIAL INFORMATION

2.1...TOTAL CAPACITY

2.2...ANNUAL TURN OVER FOR LAST 3 YEARS

2.3...WHEHER CREDIT LICENSE ACCEPTABLE YES/NO

3.0 QUALITY MANAGEMENT SYSTEMS
ENCLOSED FORMAT PART-B

3.1 EXPERIENCE LIST FOR SAME/SIMILAR ITEMS
TO BE ENCLOSED

4.0.....FUTURE EXPANSION PLANS:
(GIVE DETAILS)

5.0 LIST OF ENCLOSURES:
INCLUDING BROUCHERS, CATALOGUES, TECHNICAL
LITERATURE ETC.

6.0 ANY OTHER INFORMATION

SIGNATURE OF SUPPLIER
NAME
DESIGNATION
DATE
.....OFFICIAL SEAL

AUTHORISE SIGNATORY
