



Reconditioning & CNC Retrofitting of Mitsubishi milling, Boring and Combined machine model MAF 240/180B-NC with Rotary Table model DIT –B 30X30 (Asset No. : 01-1625).

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**BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM :: HYDERABAD – 502032**

**M & S, F & P, CW, PULV. DIVISION
10-REPAIR SHOP, AIR-CONDITIONING**

Phone No.: 040--23183290 Fax No.: 040–23020185 email : gvk@bhelhyd.co.in

TENDER NOTICE NO. HY/M&S/10-RS/RC/10-11/MAF/1015/1

Date : 15-10-2010

Tender in two parts (Techno-commercial & Price Bid) will be received by the undersigned in sealed cover from the contractors satisfying the prequalification requirements. The following should be legibly written on the cover -- tender notice number, tender date, name of the work, due date of opening, techno commercial bid or price bid on top of cover. Tenders will be opened at 14.30 hrs on the due date in the presence of bidders or their authorized representatives in BHEL, Ramachandrapuram, Hyderabad.

1. Name of work : **Reconditioning & CNC Retrofitting of Mitsubishi milling, Boring and Combined machine model MAF 240/180B-NC with Rotary Table model DIT –B 30X30 (Asset No. : 01-1625), as per scope of work, terms & conditions enclosed**
2. Earnest Money Deposit : Rs. 2,00,000/-
3. Estimated Cost : Rs 268/- Lakhs (excluding taxes, duties & joint.inspn.spares)
4. Cost of tender documents : NIL
(non-refundable)
5. Tender sale starts from : Not applicable
6. Tender sale closes on : Not applicable
7. Last date of receipt of tenders: 05.11.2010 upto 11.00 Hrs.
8. Date and time of opening of tenders: 05.11.2010, 14.30 Hrs.
(techno-commercial bid only)

Name & Address of the firm :

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TENDERERS ARE REQUESTED TO SIGN AND PUT SEAL ON ALL PAGES OF TENDER DOCUMENT AND SUBMIT.

for BHARAT HEAVY ELECTRICAS LIMITED

(G.VIJAYA KUMAR)
Dy. MANAGER (M&S)10 RS,AC.

G.Vijaya Kumar, Dy.Manager (M&S)

Pre-qualification condition:

All the following conditions are to be satisfied by the tenderer. Documentary proof is to be enclosed with the techno-commercial bid satisfying all these conditions without which the offer is liable for rejection.

Sl. No	Requirement	Contractor's Response
1	a. The party must be a reputed machine tool builder / reconditioner of heavy CNC machine tools / super heavy CNC machine tools with at least 5 years experience, from the date of tender notice, in this field with at least one similar job done. b. List of the customers along with respective contracting executive officers addresses (including phone No. / E-mail ID) for whom machines were manufactured / rebuilt shall be enclosed to the offer.	
2	The party must have adequate infrastructure in the reconditioning premises namely EOT Cranes facility to handle a job of 20 Tons to perform the subject work. The bed is in three pieces (4 Mtrs, 4 Mtrs and 3 Mtrs). The maximum weight of one bed piece is 6.4 Tons. The maximum weight of column is 17.9 Tons. All other machine members are of lesser weight than column	
3	The average annual turnover during the last three years ending march 31 st 2010 should be at least 50% of the estimated cost	
4	Latest Banker's Solvency (not older than six months from date of tender notice) for an amount of Rs.80.0 lakhs from any nationalized / scheduled bank.	
5	Experience of having successfully completed similar works ending 31st march 2010 should be either of the following. Three similar completed works costing not less than the amount each equal to 20% of the estimated cost i.e. Rs.53.6 lakhs. or Two similar completed works costing not less than the amount each equal to 30% of the estimated cost i.e. Rs.80.4 lakhs. or One similar completed work costing not less than 40% of the estimated cost i.e. Rs.107.2 lakhs. Performance certificate / minutes of meeting from the customer regarding the satisfactory performance of the machine after commissioning is to be enclosed for the above. <u>Definition of Similar works</u> Manufacture / reconditioning of heavy CNC machine tools / super heavy CNC machine tools of size, - Lathes of job weight of 15 T / bed lengths of 4 meters - Horizontal borer of minimum spindle diameter 130 mm with jointed beds of minimum length of 3 meters. - Vertical borer of table diameter 4000 mm. - Special purpose CNC machines with longitudinal travel of 4 meters and vertical travel of 3 meters. The No. of axes of such machine should be minimum six CNC axes. The minimum torque of each axis motor should be 38 NM and the spindle power should be 50 KW or more. <u>Completion period:</u> The completion period shall be considered as the period from date of work order to date of proof of handing over.	

TENDERING PROCEDURE

Tenders may be dropped in the M&S Tender box kept in 02-Annexe (Ground floor), M&S (P&C Section) of BHEL, R.C.Puram, Hyderabad – 502 032 ,before the due date & Time.

The bids shall be submitted in two parts.

1. Techno-commercial bid.
2. Price Bid

1. Techno-commercial Bid : The envelop shall contain the Techno-commercial Bid as per the enclosed technical bid pro-forma with relevant documents like copies of ESI, PF code, PAN No., Service Tax Regn. No., TIN No., CST No., Experience, turnover, (IT Returns along with Profit & Loss account copies duly certified by chartered accountant for the 3 previous years to meet turnover point) and **EMD**. The envelop shall be super scribed “Techno-commercial bid ----- (name of work)”.
2. The second envelope shall contain only the price bid to be quoted. 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. The envelope shall be sealed and super scribed “Price Bid ----- (name of work)”.

Both the above two envelopes shall be kept in another sealed cover. The cover shall be super scribed with “Quotation for ----- (name of work)” and shall be addressed to Sri G.Vijaya Kumar, Dy.Manager (M&S) / 10-Repair Shop, Bharat Heavy Electricals Limited, Ramachandrapuram, Hyderabad – 502032 to reach at or before 11.00 hrs on the due date and it should also contain Bidder address, Tender No. & due date.

Tender documents may be downloaded from BHEL website : <http://www.bhel.com>. BHEL is not responsible for any postal delay. The bids will be opened in BHEL, R.C.Puram, Hyderabad- 32 on tender due date at 14.30 hrs in presence of those bidders who choose to be present.

Date of Reverse Auction for price finalization will be intimated after techno-commercial suitability.

The technical bid consists of technical schedule requiring documentary proof. In case the party has not satisfied all the conditions along with documentary proof, the bid will be rejected.

Bids received mixed with both technical & Price bid documents without individual envelop will be rejected.

EMD Payment : An amount of Rs. 2,00,000/- (Rupees Two lakhs only) towards EMD shall be Deposited in cash at BHEL Cash office or by way of Demand Draft / Bankers cheque drawn in the name of M/S Bharat Heavy Electricals Limited payable at Hyderabad and shall be enclosed to the tender bid. No other means of payment will be accepted, no interest on EMD will be payable.

Cash office timings: 09.30 AM to 11.30 AM & 1.30 PM to 3.30 PM



Reconditioning & CNC Retrofitting of Mitsubishi milling, Boring and Combined machine model MAF 240/180B-NC with Rotary Table model DIT -B 30X30 (Asset No. : 01-1625).

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**BHARAT HEAVY ELECTRICAS LIMITED
RAMACHANDRAPURAM :: HYDERABAD-502 032
M & S, F & P, CW, PULV. DIVISION
10-REPAIR SHOP, AIR-CONDITIONING**

TECHNO- COMMERCIAL BID

Tender Notice No : HY/M&S/10-RS/RC/10-11/MAF/1015/1 Date: 15-10-2010

NAME OF THE WORK: **Reconditioning & CNC Retrofitting of Mitsubishi milling, Boring and Combined machine model MAF 240/180B-NC with Rotary Table model DIT -B 30X30 (Asset No. : 01-1625)** as per scope of work, terms & conditions enclosed.

THIS IS AN INDIVISIBLE WORKS CONTRACT AND THE CONTRACTOR SHALL FILL REMARKS COLUMN AGAINST ALL ITEMS.

This tender schedule must be submitted along with the General Conditions, Special conditions etc. enclosed herewith duly signed and stamped on each page with bidder's covering letter. Quotations should be TYPED on tender schedules only. Any deviations / deletions should be brought out separately on bidder's letter pad and enclosed to the bid documents.

The following are to be filled up by the Bidder:

Name of the Contractor :
Full Address :
Name of contact person :
Phone No. / Fax No. :
E-mail Id. :
Mobile no. :

Sn.	Description	Contractor's Remarks
1	PF CODE NO	
2	ESI CODE NO	
3	PAN No.	
4	Service tax regn. no.	
5	TIN No.	
6	CST No.	
7	Validity : 90 days from techno-commercial bid opening date.	
8	EMD : Rs.2,00,000/-, Cash receipt / bankers cheque details	
9	Security Deposit clause : acceptance (See terms and conditions for details)	
10	Taxes and duties : mention whether included and firm during contract period OR extra as applicable	
11	Payment Terms: Progressive payments as mentioned in the scope of work enclosed for the work completed successfully in all respects.	

Z and W	5000 mm/min
Surfacing feed rates (Infinitely variable)	1 to 360 mm/min
Manual feed rates	0 to 300 mm/min
Surfacing rapid traverse	500 mm/min
Machine height	9285 mm
Machine weight	72.5 tons

Air consumption

Pressure	5 to 7 kg/cm ²
Capacity	600 N 1 / min.

ELECTRICAL EQUIPMENT

Motors

Spindle drive Motors	DC 45/55 KW (60/750 hp) 1 hr /30 min rating
Fan motor (Spindle drive)	AC 0.4 KW (0.5 hp) 2p

Feed motors

Column, horizontal	DC Servo 5 KW (7hp)
Saddle, vertical	DC Servo 5 KW (7hp)
Head stock, in / out	DC Servo 2.8 KW (3.8hp)
Spindle, in/out	DC Servo 2.8 KW (3.8hp)
Hydraulic unit for X, Y, Z	AC 1.5 KW (2hp) 4p

Lubricating unit

For X, Y, Z	A C 1.5 kW (2hp) 4p
For head stock	AC 0.75 kW (1hp) 4p
Pendent arm	AC 0.4 kW (0.5 hp) 4px2
Chip conveyor unit	AC 0.75 kW (1 hp) 4p
Flood coolant unit	AC 1.5 kW (2hp) 4p
Cooling system	AC 0.75 kW (1 hp) 4px2
Jib Crane	AC 1.0 kW (1.4 hp) 4p

Control equipment

NC system and feed drive unit	FANUC System 9
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POWER SUPPLY

Power source:	415 VAC +- 10% 3-phase, 50 Hz +- 1HZ
Control circuit:	100 VAC single phase and 24 VDC
Power capacity:	200 KVA

Rotary table DIT-B

Mechanical equipment	
Type of rotary table:	DIT-b 30x30
Table size:	3000 x 3000 mm
Loading capacity:	60 tons

Travel:

Table base, horizontal (V – axis)	1500 mm
Indexing:	by positive positioning wedges at every 30 degrees by indexing in CLW automatic

Speeds:

Table rotating (B –axis)	0.000270 to 0.69 rpm
Indexing	0.69 rpm



Feed rates

Table base	10to 3600mm/min
Rapid traverse	5000mm/min
Weight	39 tons

Machine controlled axes and feed back

V: table, longitudinal Inductosyn

B: table Indexing resolver & Inductosyn

Electrical equipment

Motors

Table base traverse	DC 5KW
Table rotation	DC 10KW
Hydraulic unit	AC 1.5KW
Slide way lubricating unit	AC 0.75KW
Control equipment:	NC system and feed drive unit FANUC System 9
Power supply: Power source	415 VAC +- 10% 3-phase, 50 Hz +- 1HZ

SCOPE OF WORK IN BRIEF:

Complete Reconditioning & CNC Retrofitting of Mitsubishi milling, Boring and Combined machine MAF with ROTARY TABLE DIT – B 30X30 comprising of labour (mechanical, hydraulics, electrical and electronics), Laser calibration, replacement of complete electrical controls along with panels and operator panel with new Rittal make (IP-54) units along with Rittal make AC units, manufacturing of new electrical control panel with Siemens make switchgear, replacement of existing CNC system with Fanuc make CNC System, replacement of motors/drives for spindle and X,Y,Z,B,U/W & V - axes with A.C.Servo motors and drives. Provision of Heidenhain make linear incremental scales for X,Y,Z,U,V,W axes and encoder for spindle and B axis, replacement of all cables with Lapp make cables, provision of Siemens 24V DC regulated power supply for CNC/PLC & I/Os, Isolation and control transformers, stabilizer, Balluf / Euchner make end limit switches and proximity sensors; scraping and blue-matching using Turcite-B anti-friction bearing material, repair of the machine, servicing of chip conveyor system and replacement of all initial and joint inspection spares identified.

Sl. No.	<u>SCOPE OF WORK IN DETAIL</u>	<u>Contractor's offer as Agreed/Not Agreed</u>
A.	<u>MECHANICAL :</u>	
1.	Noting the condition of machine w.r.t the following - measurement and recording the geometrical accuracies as per manufacturer's charts - measurement / observation of vibration / noise - The above works are to be done at BHEL by the contractor with his personnel and measuring instruments.	
2.	Removing the machine from foundation at BHEL works, dismantling into transportable lots for further transportation to the contractor's works. The necessary personnel and tools are in contractor's scope. Transportation and transit insurance both ways in BHEL scope and cost.	
3.	Unpacking the transported parts at Contractor works, complete dismantling of machine assemblies and rotary table into individual parts, de-greasing, chemically cleaning; pre-painting of structural parts, joint inspection to finalize the detailed list of 1) Spares to be bought out 2) Spares to be manufactured The list should be approved by BHEL. Drawings of spares to be manufactured and specifications for bought-out items shall be prepared and submitted to BHEL for approval. BHEL may procure and supply these items to the Contractor from any other sources as well.	
4.	Replacement of all bearings (with SKF/FAG/RHP make only) including spindle, and all ball screws bearings; and bush bearing of torque limiter clutch of spindle. The list of bearings is enclosed. Bearings other than those in the list are to be identified in joint inspection and replaced.	
5.	Spindle has to be lapped on bearing surfaces, if required.	
6.	Checking and pre-loading of spindle bearings. Checking the Spindle orientation mechanism and solving the spindle orientation problem	
7.	Spindle gear box noise problem is to be rectified and couplings are to be replaced.	
8.	Spindle lubrication (mist lubrication) unit to be replaced. One spare unit to be supplied. Two Nos. of spare couplings to be supplied	
9.	Tool lock and un-lock arrangement is to be replaced.	

10.	All the ball screws and nuts are to be replaced. One spare ball screw and nut for Y-axis to be supplied.	
11.	Replacement of all worn out gears / other parts with new ones to IS standards and specified quality materials complying with the original manufacturer's specified tolerances (After joint inspection).	
12.	U-axis Spieth coupling to be replaced. Two Nos. spare couplings to be supplied.	
13.	X-axis slide ways local damage to be rectified by way of welding. All slide ways to be ground and blue-matched with mating parts to obtain final alignment. Pasting of Turcite-B anti-friction bearing material on all slides after removing the present turcite. Scraping of all sliding parts like gibs etc.	
14.	Design, manufacture and mounting of brackets and couplings to mount the AC servo motors of all axes and spindle A.C. Servomotor.	
15.	Saddle to be matched. Headstock to be matched. Turcite is to be changed	
16.	Design and manufacture of suitable brackets and fixtures to mount and align incremental linear scales for all axes.	
17.	Design and manufacture of suitable brackets and fixtures to mount and align encoder for spindle and B – Axis	
18.	Design, manufacture and mounting of suitable protective guards to protect the devices like motors, scales, encoders, limit switches, proximity sensors etc	
19.	Replacement of hydraulic power pack and all the elements of the existing hydraulic system including hydraulic hoses. One set of Spare motor + pump, coupling and seal kit to be supplied. This should be in a ready to assemble condition. Hydraulic components by Vickers / Rexroth / Yuken make shall be used.	
20.	Hydraulic counter balance arrangement to avoid drooping when the Ram is moved out to its max position, is to be checked thoroughly. It should be repaired to retain the functionality if necessary. And to be proved to BHEL.	
21.	Hydrostatic Lift of X-Axis is not working. This is to be proved (0.035 to 0.050mm) and anti-drooping is to be proved for Z-axis	
22.	Replacement of all oil seals, O-rings and rubber packings.	
23.	Pendent movement system to be replaced for up/down and for/rev motion of pendent (chain and other connected elements to be replaced)	
24.	Telescopic covers of X – Axis, V - Axis and roll away covers of Y-Axis and cover of B – Axis are to be replaced	
25.	Servicing/ repairs (if any) of the chip conveyor system	
26.	Provision for draining out return coolant from chip conveyor to coolant tank (G.I piping)	
27.	Complete coolant system to be replaced with new one. One spare motor + pump to be provided.	
28.	Dials, name plates, instruction plates including speed and feed chart plates shall be replaced with new ones. One plate with machine specifications in full, name & address of reconditioning party, year of reconditioning etc. should be riveted on the M/c.	
29.	Oiling points with periodicity, type of oil to be used shall be indicated on the machine at the required places (ex. Lubrication tank, Hydraulic tank etc.,).	

30.	All the missing handles and levers to be provided. The handles and levers shall be Nickel-plated.	
31.	Any modifications carried out shall not sacrifice original traverses, speed and feed ranges.	
32.1	Rotary table: complete hydraulics to be replaced with provision for Minimus coupling at each outlet. One spare pump and two Nos. of couplings to be provided	
32.2	Hydrostatic lift of the table to be proved (0.035 to 0.055mm)	
32.3	Table lubrication to be rectified, pumps to be replaced. Two Nos. of pumps and two Nos. of couplings to be provided as spare.	
33.	Existing arrangement for pocket lubrication pressure check at various locations on the machine is to be retained.	
34.	<u>PAINTING :</u> Machine and rotary table outside body shall be painted with two coats of Apcolite (Asian paints) Premium enamel Alpine green colour paint. Interior of the machine and rotary table are to be painted with two coats of red enamel paint. Wherever oil comes in contact with interior of the body, oil resistant paint to be used. Letters, numerals etc. will have to be painted with a different colour as required / as indicated by BHEL at the time of final painting. For electrical panel boxes inside area is to be painted with two coats of white enamel paint. Painting should be carried out according to the standard procedure for painting including cleaning and removing old paint, applying metal primer putty etc. Good finish should be ensured. Overall Machine aesthetic view should be taken care of.	
B.	<u>ELECTRICAL & ELECTRONICS :</u>	
1.	Disconnecting and removal of existing CNC system, spindle drive and motor, feed drives and motors, electrical panels and hanging pendant operator panel, all the interconnected cables and complete wiring on the machine, all motors, limit switches, proximity switches etc.,	
2.	Installation of new CNC/PLC System, Drives & Motors, Isolation & Control Transformers, Switchgear and other accessories	
3.	Installation of new electrical panels (with IP54 degree protection) for mounting the spindle drive, feed drives, CNC system and PLC and switch gear. Panels shall be stand-alone floor mounting type and accommodated in the existing place.	
4.	All fuses and overload relays to be replaced with motor protection circuit breakers. Necessary modification to be done in the circuit.	
5.	All feedback elements to be replaced.	
6.	Panel wiring is to be done properly and neatly. Engraved Labels shall be provided for identification of all the items in these Panels.	
7.	Development of PLC logic and interface drawings.	
8.	Total rewiring between Electrical panels, pendent, drives, motors, PLC etc. All the used & unused PLC I/Os, Field terminals of Auxiliary Motors, AC and DC supplies etc. shall be terminated with proper identification on Terminal Blocks.	

9.	Interfacing and Commissioning of CNC, PLC, Axes, Spindle, Drives & Motors, Encoder & Scales, all auxiliary motors	
10.	Interfacing of motors for lubrication, coolant, Hydraulic, chip conveyor etc. to the CNC control system.	
11.	Interfacing the communication system with the NC control system for transfer of part programs and PLC ladder.	
12.	Operator pendant panel shall be with electronic hand wheel arrangement (MPG), axes selection switch, direction selection, increment selection etc. This arrangement is to be mounted on the pendant panel which shall be similar to the existing arrangement.	
13.	Planning and laying of all necessary cables like interfacing cables between drive and system, system and machine control panel, power cables for motors etc., are in contractor's scope. Make: LAPP cables.	
14.	Cubicle lighting should be provided with CFL lamps. A 3 Pin plug socket of 5A capacity with on/off control shall be provided.	
15.	Indication lamps wherever required to be provided	
16.	Indicating instruments, pressure gauges shall be replaced with new ones.	
17.	Suitable junction boxes to be located on the machine for interfacing between PLC and machine elements.	
18.	All cables, other than incoming 3 phase power supply to control panel, are in the scope of contractor.	
19.	Energy meter to be provided to indicate and record total consumption of electric power for the machine including auxiliary systems.	
20.	All equipment must be suitable to run with input voltage of 3 wire, 3 phase, 415 volts $\pm$ 10%, 50 Hz $\pm$ 2 Hz.	
21.	All equipment shall be tropicalised and suitable for operation in shop floor conditions, where temperature variation is between 10° to 45°C.	
22.	Before commencing manufacture of the panels, electrical and general arrangement drawings should be submitted to BHEL for approval.	
23.	Earthing to be complied with as per IS for the complete machine. Double earthing to be provided for machine bed	
24.	Each panel and the equipment mounted in the panels shall be securely connected to the earth bus. For this purpose, the earth wire shall be looped from equipment to equipment and both the ends of the earth wire shall be connected to the earth bus	
25.	All non-current carrying metallic parts shall be earthed. All doors and movable parts shall be connected to the earth bus with flexible copper connections	
26.	Any other item not mentioned above to keep the machine in working condition and to ensure completeness is in the contractor's scope.	
27.	All the bought out items should be furnished with test reports	
C.	SCOPE OF MATERIAL SUPPLY BY CONTRACTOR	
	ELECTRICAL & ELECTRONICS :	
1.	<u>CNC SYSTEM:</u> Latest CNC system (as per specifications) of SIEMENS 840D / FANUC 31i with Ethernet facility in place of existing CNC system. Technical data sheet with details including standard and optional features to be provided with offer. <u>EXISTING CNC SYSTEM:</u> Fanuc 9	

	<u>NEW SPECIFICATION</u> 1.1. Controlled axes : (No of axis displayed) 7 axes 1.2. Simultaneously controllable axes: 3 linear axes 1 rotary axis 1.3. Least input increment : 0.001mm (Linear axis) 0.001 degree (Rotation axis) 1.4. Least command increment: 0.0005 mm(Linear axis) 0.0005 degree (Rotation axis) 1.5. Rapid traverse rate : 5000 mm/min (linear axes) 500 mm/min (U axis) 0.69 rpm or 250 dpm (B axis) 1.6. CNC display : 10.4"/12.1" colour LCD and OP should be with mechanical keys. 1.7. Part program memory of: 2 GB. 1.8. Communication ports for transfer of part programs 1.9. USB drive 1.10. Tool path simulation (graphics) 1.11. Ethernet card supporting TCP/IP protocols 1.12. Handheld unit with display and selection of all axes. 1.13. Configuration screen to enable / disable axis 1.14. CNC system should support feedback from HEIDENHAIN make linear scales or rotary encoders, apart from the integral motor encoders. 1.15. Position control loop of all axes to be through the CNC only and not PLC 1.16. List of basic specifications of CNC system to be informed by the supplier in their offer	
2.	<u>PLC:</u> PLC (integral with CNC), 200 Digital Inputs 24V DC & 175 Digital Outputs (Remote I/O configuration required)	
3.	<u>MAIN SPINDLE MOTOR:</u> Matching latest digital type AC Spindle motor equivalent to the existing DC motor. Shaft fitted with key and keyway. Quantity: 1.(one) • Technical data sheet with details to be provided with offer.	
4.	<u>MAIN SPINDLE DRIVE:</u> AC digital drive suitable for the new AC spindle motor to be provided. Quantity: 1.(one) • Technical data sheet with details to be provided with offer	
5.	<u>SPINDLE ENCODER:</u> Incremental 1024 PPR encoder for spindle rpm indication and suitable for interfacing with the new CNC system. The scope should also include supply of required hardware (like suitable EXE in case of Heidenhain), mounting brackets, clamping pins, cables of sufficient length and	

	accessories to match to the CNC system. One no. spare coupling for encoder to be supplied.	
6.	<u>FEED MOTORS:</u> AC servo motors with inbuilt incremental encoders and shaft fitted with key and keyway. Only the Y-axis motor should be equipped with brake. All other AC servo motors are without brake. Minimum degree of protection: IP64. Motor capacity shall be equivalent to / or greater than the existing DC servo motors. • Technical data sheet with details to be provided with offer	
7.	<u>FEED DRIVES:</u> Matching AC servo drives for the new AC servo motors. Quantity: 6 nos. • Technical data sheet to be provided with offer	
8.	<u>FEED BACK DEVICES FOR FEED:</u> Linear scales for X, Y, Z,V Axes Encoders for B (36000/18000 ppr), U and W axes along with cables. Make: Heidenhain. Maximum traverse distance in X-Axis: 8000 mm, Y-Axis: 3500mm , Z-Axis: 1000mm, W-Axis:1200 mm, U-Axis:120mm, V-Axis:1500 mm, B-Axis: ± 360°/min Mounting brackets, clamping pins and other auxiliary items suitable to mount the above scales/encoders. Vendor shall confirm the scale lengths before ordering. • Technical data sheets are to be provided with offer.	
9	<u>CONTROL PANELS (details):</u> Panel for mounting of CNC, PLC, DRIVES, POWER SUPPLIES, TRANSFORMERS and switchgear shall be IP54 degree of protection. The panel shall be free standing floor mounting type. Each panel should be equipped with RITTAL make AC unit for panel cooling Panels make: RITTAL Dimensions: Each panel Shall not exceed height 2 meters, width 1.8 meter and depth 0.7 meter Cable entry shall be from bottom. Suitable Eye hooks shall be provided for lifting the panels. Cubicle lighting with CFL lamps and one 5A, 3 pin socket with on / off switch shall be provided.	
10.	<u>PENDANT OPERATOR PANEL</u> Hanging type pendent (similar to the existing movable pendant) for machine operation with display unit, key board, Electronic hand wheel, axes selection, axes direction selection, increment operation with range selection, spindle start, spindle stop etc. lamps. • All the operations of the existing pendant shall be maintained • The temperature within the panel shall not exceed 30 degrees centigrade even at ambient temperature of 50 degrees centigrade (An air-conditioner may be provided for this purpose if necessary)	

	Make : RITTAL or equivalent for the hanging pendent only										
11.	<u>SWITCH GEAR ITEMS:</u> Contactors, MCBs, OLRs, Indication Lamps, Push buttons etc. Siemens / ABB / Schneider make										
12.	<u>CABLES:</u> Suitable cables between CNC system, drives, motors (feed motors, spindle motor, hydraulic motor, lubrication motor and coolant motor) and machine. Approximate Length of cables are as indicated below: <table border="1" data-bbox="418 533 1166 647"> <tr> <th>From</th><th>To</th><th>Length</th></tr> <tr> <td>Panel</td><td>Pendent</td><td>60 metres</td></tr> <tr> <td>Motors (Feed)</td><td>Panel</td><td>60 metres</td></tr> </table> Make: LAPP, Germany	From	To	Length	Panel	Pendent	60 metres	Motors (Feed)	Panel	60 metres	
From	To	Length									
Panel	Pendent	60 metres									
Motors (Feed)	Panel	60 metres									
13.	<u>CONDUITS, GLANDS, FERRULES ETC:</u> All the conduits must be flexible Steel reinforced PVC conduits Make: LAPP, Germany.										
14.	<u>END LIMIT SWITCHES AND PROXIMITY SENSORS:</u> Make: Balluf / Euchner										
15.	<u>POWER SUPPLY:</u> 24 V DC power supply units of suitable capacity should be provided for CNC, PLC and I/Os and other auxiliaries. Independent power supplies as follows shall be provided for the PLC I/Os a. Inputs – One power supply unit b. Outputs – One power supply unit (Make: Siemens) UPS with 15 minutes back-up time should be provided for the CNC system.										
16.	<u>TRANSFORMERS:</u> 1. Suitable Isolation transformer with safety enclosure for complete electrics (CNC, PLC, MOTORS and all other electrical devices) 2. Control transformers -where ever required. • The above transformers must be of reputed make and are to be furnished with test certificate										
17.	Energy meter to indicate and record total consumption of electric power for the machine including auxiliary systems, reputed make.										
18.	Indicating instruments of reputed make										
19.	Machine lamp units of reputed make.										
20.	Complete documentation as per clause 'F'										
21.	Two Laptops as follows shall be provided a. One Laptop for communication with the CNC system b. One Laptop for remote diagnosis and troubleshooting PLC The Laptops should be with the latest features and the required software loaded										
22.	One hard disk of the CNC system with all the software loaded should be supplied										
	MECHANICAL :										
23.	Bearings as per list enclosed (SKF/FAG/RHP makes only) including spindle, and ball screws bearings and bush bearing of torque limiter clutch of spindle.										
24.	All the ball screws and nuts are to be replaced. one spare ball screw and nut for Y-axis										

25.	Turcite-B anti-friction bearing material (Rolon make)	
26.	Brackets and couplings (including pulleys) for mounting spindle motor & its encoder, feed motors and linear scales; protective guards for motors, encoders, scales, limit switches, proximity sensors etc.	
27.	Telescopic covers of X – Axis, V - Axis and roll away covers of Y-Axis and cover of B – Axis are to be replaced	
28.	Hydraulic power pack and all elements of complete hydraulic system to be replaced. Spare pump coupling and seal kit to be supplied.	
29.	Hydraulic hoses.	
30.	Seals, O-rings and rubber Packings.	
31.	Dials, name plates, instruction plates, levers, handles, painting material.	
32.	Joint inspection spares such as gears, shifters etc.	
D.	<u>PROVE OUT OF THE RECONDITIONED & CNC RETROFITTED MACHINE AT BHEL WORKS</u>	
	<u>ELECTRONICS :</u>	
1.	Checking the setting of all parameters of CNC	
2.	Installation & commissioning of axes drives and spindle drive	
3.	Checking CNC functions and movements of machine	
4.	Checking function of spindle system	
5.	Checking hydrostatic lifting system of machine and rotary table	
6.	Checking function of Lubrication system	
7.	Checking functions of other required auxiliary functions like coolant system, hydraulic system etc.	
8.	Checking PLC interlocks and other safety features	
9.	Checking the function of data transfer between NC to PC and vice-versa	
10.	Proving all the standard cycles related to the application and all the options opted for	
11.	W/U axes are sharing axes mechanically but with independent display and independent CNC control. (Before quoting the bidder must see and understand the function)	
	<u>MECHANICAL :</u>	
12.	Checking and recording geometrical accuracies as per original test chart supplied by BHEL. These accuracies shall be brought back to 100% of the original accuracies mentioned in the test chart.	
13.	LASER Calibration should be done after the work. The accuracies should be restored to 100% of the original values as per VDI/DGQ	
14.	Two standard test pieces have to be machined to check the accuracy of the job from reconditioned & CNC retrofitted machine. All these tests should be witnessed by BHEL representatives and certified.	
15.	The Contractor has to prove out all features / functions including PLC logic, functioning of feed drives / feed motors and demonstrate working of the machine to the satisfaction of BHEL and also functioning of all mechanical elements on the machine. Pre-dispatch inspection to be offered by the supplier	
16.	Prove out of remote diagnostic facility. Data transfer through Ethernet connectivity with LAN on the machine at BHEL.	
F.	<u>DOCUMENTATION :</u>	
1.	The contractor shall supply three sets (one set must be original) of the following documents for CNC system, feed drives, feed motors, spindle drive, spindle motor, scales & transducers and spindle	

	encoder before commencement of work at BHEL factory: - Operation manual - Programming manual - Interface manual - Description manual - Connection manual - Parameter manual - Installation & commissioning manual - Maintenance & diagnostic manual - Electrical drawings of pendent and panel - Cabling drawings - PLC Ladder / statement list And any other manuals required for the proper operation and maintenance of the machine	
2.	Two sets of PLC logic (hard copy and soft copy) are to be provided.	
3.	One set of NC system software (soft copy) and commissioning data for system crash recovery and all standard cycles for milling and boring application are to be provided	
4.	Three sets of as built drawings of the general arrangement, component lay out diagram, electrical wiring, and cabling diagram shall be supplied within two weeks after completion of work.	
5.	Three sets of manufacturing drawings for all replaced parts.	
6.	One set of the above documents shall be furnished in a CD-ROM.	
7.	Following documents shall be furnished by the supplier along with his offer: - Point wise clarifications to these specifications - Single line electrical drawing of the total project - Catalogues of CNC system, drives, motors offered - List of standard features of the CNC system - List of optional features of the CNC system - Details of the CNC system, motors, drives and other equipment offered - Description on the configuration of U/W axes in the CNC system - Estimated time of machine outage for modifications - Deviations, if any from these specifications - The CNC system, drives and PLC bill of materials is to be submitted along with the offer In the absence of the above information, the offer will not be considered	
G.	<u>TRAINING NEEDS :</u>	
1.	Training for four operators, one programmer and three maintenance personnel shall be provided at the CNC SYSTEM manufacturer's training facility free of cost.	
H.	<u>SPECIAL CONDITIONS :</u>	
1.	<u>REVERSE AUCTION (NO TIES) :</u> Reverse auction will be conducted on-line by BHEL authorized service provider among techno-commercially qualified bidders to obtain at optimum price bid. Business rules, terms and conditions of Reverse Auction are enclosed. Offers from contractors accepting for reverse auction only will be	

	considered for evaluation. Other offers will be rejected.	
2.	<u>EMD :</u> Earnest Money Deposit of Rs. 2.0 lakhs shall be deposited to BHEL account by the bidder along with the offer. In the event of acceptance of full or part tender, and if the contractor/bidder fails to commence the work within promised period, BHEL shall without prejudice to any other right or remedy be at liberty to forfeit the said earnest money absolutely. EMD does not carry any interest. Offers without EMD will be rejected and will not be considered for evaluation.	
3.	<u>SECURITY DEPOSIT FOR WORK :</u> Successful bidder has to pay security deposit to BHEL before commencement of the work as per clause 8.2.2 of BHEL Works policy reproduced in terms & conditions. This amount shall be returned after successful completion of the contract work.	
4.	<u>BANK GUARANTEE / ALL RISK INSURANCE COVERAGE</u> (for safe custody of machine & material): The contractor has to submit Bank Guarantee / All risk Insurance coverage for Rs.600.00 lakhs from any nationalized bank / agency for safe custody of machine and materials for the period they are stationed at contractor works. Any damage / loss shall be made good by contractor.	
5.	All works connected to guide ways of all axes (eg. Slide ways, gibbs) repair by machining (grinding, milling, hand scraping), suiting with turcite-B and matching are also covered under labour charges. However, bought-out items like turcite-B etc. are covered under spares. Repair of spindle by machining, chrome plating etc. are also covered under labour only.	
6.	<u>SPARES :</u> - The spare parts (electrical / mechanical / hydraulic / electronics) required to be replaced (manufacturing spares and bought-out spares) will be to BHEL account. Contractor has to quote for these spares along with manufacturing drawings for manufacturing items and specifications for bought-out items for approval. BHEL will supply spares available with them. BHEL may procure and supply these items to the Contractor from any other sources as well. Spares not supplied by BHEL shall be purchased / manufactured by the Contractor. - Spares required to be replaced other than those agreed to during joint inspection will have to be approved by BHEL before such replacement is affected. Cost of such spares shall be absorbed by the Contractor. BHEL will not pay for these items. - Prior intimation has to be given to BHEL by the contractor for deputing the team for joint inspection at contractor works. - Contractor must submit the quotation for joint inspection spares within a week of joint inspection.	
7.	<u>REWORK IN LIEU OF REPLACEMENT :</u> Reworks in lieu of replacement on all parts (guide ways / sliding surfaces	

	like spindle, bushes, box nuts, screw rods etc.) by machine grinding preferably / chrome plating / welding / machining etc. identified initially and also during joint inspection are covered under labour charges only. For such works BHEL will not pay extra.	
8.	<u>TIME SCHEDULE :</u> a) Two weeks from the date of issue of work order and clearance from BHEL R.C.Puram for removing the machine from foundation, dismantling the same into transportable lots by contractor at BHEL works. b) Three weeks for transporting the dismantled sub-assemblies of machine to contractor works by BHEL. c) FORTY TWO weeks for reconditioning & CNC retrofitting the machine, from the date of receipt of the same at contractor works to the date of inspection and acceptance of reconditioned & CNC retrofitted machine at BHEL works. <u>Note:</u> Transportation time taken by BHEL shall be excluded from FORTY TWO weeks mentioned in point-c above for the purpose of Penalty. d) Three weeks for transporting the reconditioned & CNC retrofitted machine to BHEL works by BHEL.	
9.	<u>PAYMENT TERMS:</u> 30% of Part-A order (i.e. 30% of labour cost and 30% of initial spares cost) shall be paid after joint inspection of completely dismantled machine for 1)identification of spares and 2) deciding detailed scope of repair / rework on various components / parts. This is subject to submission of quotation for joint inspection spares along with manufacturing drawings and Bank guarantee for like amount (BG valid for the period till the reconditioned & CNC retrofitted machine is handed over to Production at BHEL works). This BG will be returned to the party after satisfactory handing over the machine to production. 60% of labour cost and 60% of initial spares cost along with taxes and duties at actuals (on submission of documents concerned for BHEL to avail credit) shall be paid after prove out and handing over the reconditioned & CNC retrofitted machine to Production at BHEL works. This is subject to handing over of total documentation as per clause 'F'. - Joint inspection spares / reworks shall be ordered separately (Part-B). However, 90% of Part B order shall be paid along with (2) above. - Balance 10% of Part-A & B orders shall be paid after submission of Performance Bank Guarantee of like amount valid for the guarantee period of 12 months (two-shift basis) and providing training as per clause 'G'.	
10.	<u>PENALTY:</u> 0.5% of the total contract value (including labour cost and cost of initial & joint inspection spares) per week or part thereof upto a maximum of 10% of the total contract value shall be levied beyond the time specified in H.8(c).	

11.	<u>PERFORMANCE BANK GUARANTEE :</u> a) Satisfactory performance of the reconditioned & CNC retrofitted machine shall be guaranteed for 12 months (two-shift basis). If it is not satisfactory during the guarantee period, Contractor shall attend to the machine / replace failed parts free of charge as and when called upon to do so for defects / failures noticed and attributable to the Contractor's work & supplies (both manufactured and bought-out by them). b) The discarded parts (old) during the warranty period shall be taken back by Contractor at its expenses. Repairs, if any shall be carried out either at BHEL / Contractor works as agreed mutually but cost of transportation both ways shall be on Contractor's account. c) Performance bank guarantee for 10% of total contract value shall be submitted for the guarantee period of 12 months (two shift basis) which shall cease after the guarantee period.	
12.	Existing CNC system, spindle drive, spindle motor, feed drives, feed motors, resolvers, and encoders and any other material removed from the machine shall be retained at BHEL while transporting the machine to Contractor works. These are BHEL's property.	
13.	Transport & transit insurance both ways in BHEL scope and cost.	
14.	General tools / instruments / gauges required for: a) Dismantling and packing of the machine parts & rotary table at BHEL works for transporting the same to Contractor works for reconditioning shall be arranged for by the contractor. b) Assembly, erection, commissioning and prove out of the reconditioned & retrofitted machine & rotary table at BHEL works shall be arranged for by Contractor. c) Special tools / instruments / gauges for these works will be provided by BHEL.	
15.	General terms and conditions of BHEL as per enclosure shall be acceptable. They form an integral part of contract agreement.	
16.	BHEL reserves the right to inspect the progress and workmanship at any stage of the work. Decision of BHEL Representative shall be final in the matter of inspection at any stage. Contractor shall extend necessary co-operation to enable such inspection.	
17.	All discarded parts shall be returned to BHEL.	

18.	Bar chart showing the time required for the following elements to be given covering the period of delivery quoted a) Dismantling of machine into transportable lots at BHEL b) Complete dismantling, cleaning and joint inspection of components at Contractor works to identify parts for replacement and rework. c) Manufacturing, rework/repairing etc. of the components, completion of scraping work and sub-assemblies d) Complete reconditioning and CNC retrofitting work e) Assembly of the complete machine f) Geometrical, positional accuracy testing g) LASER calibration h) Job trial and prove out i) Dismantling the machine j) Re-erection & re-commissioning at BHEL works k) Geometrical, positional accuracy testing l) LASER calibration m) Job trial and prove out	
19.	MACHINE will be kept in open condition. No air conditioner is provided for this machine. The machine shall give specified accuracies in these conditions only.	
20.	Any other activity (electrical, electronics, mechanical and hydraulics) not mentioned in this scope of work to bring back the machine to satisfactory working condition with all features and accuracies after reconditioning is in the scope of contractor	
21.	The contractor is required to study the machine, the scope of supply and certify the completeness of scope in order to execute the work. In case of any discrepancies, the contractor is required to high light the same to BHEL before submission of the offer.	
22.	Contractor may visit BHEL works to see the machine which is presently in working condition.	
23.	Lodging & Boarding facilities for the contractor personnel are at Contractor's scope (during dismantling period, re-erection & re-commissioning period and for troubleshooting during performance guarantee period). BHEL is not responsible for this.	
24.	Material handling facilities such as crane, battery truck, slings, lifting tackles etc. along with operator, consumables like cleaning solvents, cotton waste etc. and utilities like electric power, compressed air etc. shall be provided by BHEL for the works performed at BHEL works	
25.	The enclosed Electronic Funds Transfer Format shall be submitted along with offer. All payments, even return of EMD (for unsuccessful bidder) will be made by EFT only as per CVC guidelines.	

PRICE BID FORMAT

PART - A

Sn.	Description	Total Rs. Lakhs
A. LABOUR : (Activities A-H of the scope of work) including LASER calibration, engineering & design charges)		
A.1	Mechanical Engineers -- ___ nos. x ___ months	
A.2	Electrical Engineers -- ___ nos. x ___ months	
A.3	Electronics Engineers -- ___ nos. x ___ months	
A.4	Mechanical Skilled Artisans -- ___ nos. x ___ months	
A.5	Electrical Skilled Artisans -- ___ nos. x ___ months	
A.6	Electronics Skilled Artisans -- ___ nos. x ___ months	
A.7	Unskilled labour -- ___ nos. x ___ months	
A.8	Major machining Charges:	
	Total :	
	Add Overheads @ ---- %	
	Total Labour cost (A) :	
B.	MATERIAL :	
B1	Initial spares :	
B1.1	Mechanical	
B1.1.1	Bearings of SKF/FAG/RHP make as per list enclosed (A4, C23)	
B1.1.2	Ball screws and nuts for Y- & Z-axes and one spare ball screw and nut for Y-axis (A10, C24)	
B1.1.3	Turcite-B anti-friction bearing material, Rollon make (A13, A15, C25)	
B1.1.4	Brackets and couplings (including pulleys) for mounting spindle motor & its encoder, feed motors and linear scales; protective guards for motors, encoders, scales etc. (A14-18, C26).	
B1.1.5	Wedges (A18), seals, O-rings, all rubber items (A22, C30), dials, name plates and instruction plates (A28, C31), levers and handles(A30), Painting material (A34), documentation (F1-7), training (G1) etc.	
B1.1.6	Telescopic covers for X- axis, V-Axis, rollover covers for Y- axis, cover of B – Axis (A24, C27)	
B1.1.7	Hydraulic power pack for Saddle, Table, and all control elements (incl. spare pump coupling and seal kit), hydraulic hoses, Centralised lubrication system for all slide ways (A19-20, C28-C30).	
	Total (B1.1) :	
B1.2	Electrical & Electronics	
B1.2.1	CNC System (B2, C1) of Fanuc make with Ethernet facility	
B1.2.2	PLC (B2, C2)	
B1.2.3	Matching latest digital type AC Spindle motor (B2, C3)	
B1.2.4	AC digital drive (B2, C4) suitable for above new Spindle motor	
B1.2.5	Spindle encoder (1024 PPR) with connecting cable suitable for new CNC system (C5)	
B1.2.6	AC Servo motors with inbuilt incremental encoder and holding brake for feeds (B2, C6)– 2 nos.	
B1.2.7	Matching AC Servo drives for new AC servo feed motors (B2, C7)– 6 nos.	
B1.2.8	Heidenhain make sealed incremental linear Scales with 2 µ resolution and 5µ / meter accuracy for all axes with suitable connecting cables and accessories (C8) and Encoders.	

B1.2.9	Wired Panel of Rittal make (B8, C9) for mounting the CNC system, PLC, drives, power supplies, transformers and Siemens make LT switch gear (B2, B5, C11) for above items and for spindle and all other auxiliary motors like coolant motor, tail stock motor, turret motors, lubrication motor, hydraulic motor, chip conveyor motor, etc. with IP54 degree protection, Wiring accessories (C13) like Steel reinforced PVC conduits, glands, ferrules etc. (C14).	
B1.2.10	Pendant operator panel of Rittal make (C10) with air conditioning unit of Rittal make with CNC display unit, key board etc.,	
B1.2.11	Feedback elements (B5), indication lamps (B15-16), indicating instruments (C18), Energy meter (B19, C17), machine lamp units (CFL).	
B1.2.12	Suitable cables of Lapp make (B8-10, B25-27, C12) between CNC system, drives, motors and machine (high quality and provided with flexible oil resistant non-metallic conduits). Length of cables are as indicated below Panel → Pendant 60 m Motors (feed) → Panel 60 m	
B1.2.13	24 Volt DC regulated power supply units of make Siemens (C15) – 2 nos.	
B1.2.14	Isolation transformer and required no. of control transformers of reputed make (B2, C16)	
B1.2.15	End limit switches and proximity sensors (C14), Switchgear, make Siemens / ABB/Schneider (C11)	
	Total (B1.2) :	
	Total Material cost B1(= B1.1 + B1.2) :	
C	Grand Total = (A+B1) :	
	Taxes & Duties :	Extra/Included

Note :

- References mentioned in parentheses in description column of the above format refer to clauses in the scope of work enclosed.
- The bidder should undertake careful study of machine before offering rates under categories A & B of above format.
- L1 party (total lowest cost to BHEL) shall be arrived by Reverse auction (no ties) based on bids offered in the above format only (part-A of price bid format, both labour and initial spares together but joint inspection spares excluded).
- Price validity** shall be for **ninety days** from techno-commercial bids opening date.
- Joint inspection spares shall be identified after **total** dismantling of machine at Contractor's works and Part-B order will be issued for these identified parts at mutually agreed values if found reasonable.
- Excise duty and CST will be paid on Spares cost and service tax will be paid on Labour charges, at actuals. Edu. cess also will be paid. Related original documents to be submitted for availing credit by BHEL.
- Transportation and transit insurance cost both ways will be borne by BHEL.

Signature of the Bidder with seal

PRICE BID FORMAT FOR BEARINGS TO BE REPLACED

S.NO.	BEARING	QTY(nos.)	Price, Rs.
1	6002 Z	6	
2	6008 Z	7	
3	6010 ZZ	2	
4	6006 ZZ	5	
5	6011 ZZ	2	
6	6012 ZZ	2	
7	6020 Z	2	
8	6201 ZZ	4	
9	6205 ZZ	1	
10	6207	1	
11	6208 Z	4	
12	6210	2	
13	6209 ZZ	1	
14	6215 ZZ	10	
15	6218	1	
16	6217 ZZ	2	
17	6214 Z	2	
18	6213	3	
19	6308 ZZ	1	
20	6310	2	
21	6314 Z	1	
22	6318 ZZ	4	
23	6312 ZZ	8	
24	6926	2	
25	6934	2	
26	51105	1	
27	51134	1	
28	51160	1	
29	51408	1	
30	4T 30206	2	
31	30213 XU	1	
32	30222	2	
33	32006	2	
34	32013 XU	1	
35	32015 XU	2	
36	32016 XU	4	
37	32017 XU	2	
38	32021 XU	4	
39	32030 UP5	2	
40	32024	2	
41	32052	1	
42	32064 P5	1	
43	32209 U	2	

44	32217	2	
45	32218 P5	2	
46	32214 UP5	1	
47	32221 U P5	3	
48	32944	2	
49	81126	2	
50	81214	5	
51	81216	2	
52	81218 J	2	
53	7218CDB/GLP5	1	
54	7220CDB/GLP5	1	
55	7221CDB/GLP5	1	
56	7216 DBGH	2	
57	7224 C	2	
58	7210 CDB	1	
59	NK 45	1	
60	CRB NF 209	1	
61	NN 3028KC/NAP5	1	
62	NA 5912	1	
63	NA 6912	1	
64	NA 6915	1	
65	N 236	1	
66	NKIB 5903	1	
67	22212 B	1	
68	22217 B	1	
69	Needle roller AD3.5X13.8	172	
70	NA0-60X90X60 ZW	1	
71	NKXR50AT2+1R 45X50X25	4	

Signature of the bidder with seal



NATIONAL ELECTRONIC FUND TRANSFER FORMAT

(To be furnished on Contractor's Letter head)

Ref No. :

Date :

Dy.Manager/Finance-CM
Bharat Heavy Electricals Limited
Ramachandrapuram
Hyderabad 502 032

Dear Sir,

Sub: Details for National Electronic Fund Transfer

We request and authorize you to effect payment through NEFT to our Bank account, subject to RBI Guidelines, as per the details given below.

- A. Supplier code (As per PO/SCO) :
- B. Beneficiary (Name as per PO/SCO) :
- C. PAN of Beneficiary :
- D. TIN of Beneficiary :
- E. e-mail address of Beneficiary :
- F. City (of Beneficiary) :
- G. Bank Name :
- H. Branch (of Bank) :
- I. A/c Number :
- J. A/c Type (Savings or Current) :
- K. MICR Code of the branch (9 digit) :
- L. IFSC for EFT (11 char) :
- M. IFSC for RTGS (if different from L) :

Thanking you,

(Signature with Seal)
Authorised Signatory

Name :

Designation :

Certified that the particulars furnished above are correct as per our records.

Date :

(Signature of authorized official of bank)

Bank Stamp

BHEL TERMS AND CONDITIONS

A. CONTRACTUAL :

- 1) The Contractor will ensure that the employees deployed by him in the premises of BHEL are physically and mentally fit and do not have any criminal record.
- 2) The Contractor will maintain records of his employees deployed to carry out the job. The Contractor will provide employment card/Identity card with photograph duly attested by him to his employees.
- 3) In the event of termination of contract for any reason whatsoever, the contractor shall withdraw all his employees from the establishment of BHEL.
- 4) The Contractor will obtain insurance cover for his employees and take third party risk insurance coverage at his own cost.
- 5) The Contractor will be solely entitled to dictate such workers about the manner of carrying out the work.
- 6) The Contractor or his authorized representative will supervise the work allotted to him and being carried out by his employees or will post a Supervisor for this purpose.
- 7) The Contractor will be responsible for the good conduct of his employees. In case of any misconduct / misbehavior by any employee, contractor will replace such employee immediately.
- 8) The Contractor will keep watch on his employees and he will be liable for any pilferage / loss to BHEL due to acts of omission and commission by his employees. Similarly, liability for any compensation to outsiders on account of any act of omission and commission by the employees deployed by the contractor shall lie exclusively with him.
- 9) The Contractor will ensure that all precautions are taken for the safety of his employees.
- 10) The Contractor will provide to his employees all tools, tackles and equipments required to carry out the job under the contract at his own cost.
- 11) The Contractor will provide safety appliances at his own cost which may be required under the statute or otherwise.
- 12) The Contractor will provide all material at his own cost as mentioned in the contract to his employees for carrying out the job.
- 13) Transportation facility for the employees to come to BHEL works is in the scope of the contractor.
- 14) Consumables like air, water, power supply will be supplied by BHEL free of cost.
- 15) No accommodation will be provided by BHEL to the contractor personnel deputed for performing the contract work.
- 16) Shift timings: 1st shift – 06:45 to 15:15 hrs with lunch break from 11:30 to 12:00 hrs
2nd shift—15:00 to 23:30 hrs with dinner break from 19:30 to 20:00 hrs

B. STATUTORY :

- 1) The Contractor shall comply with all statutory requirements, rules, regulations, and notifications in relation to employment of his employees issued from time to time by the concerned authorities.
- 2) The Contractor shall provide PF passbook to his employees and ensure payment of PF, EDLI, and pension dues under EPF & MP Act, 1952 to the RPFC.
- 3) The Contractor shall produce proof of deductions as well as remittances of PF, EDLI, Pension, ESI contribution, administrative charges etc. wherever applicable and shall maintain proper records.
- 4) The Contractor shall furnish proper returns to the concerned statutory authorities.
- 5) The Contractor shall be solely responsible for non payment/delayed payment of wages, contributions under EPF & MP Act, ESI Act etc.
- 6) In case the contractor fails to make payment of wages to his employees or remittance of contribution to the concerned authorities, the security deposit/other dues under the contract can be utilized by BHEL to discharge the liability of the contractor.
- 7) The Contractor shall indemnify BHEL against all claims and losses under various statutes or any civil or criminal law in connection with employees deployed by him.
- 8) The liability for any compensation on account of injury sustained by an employee of the contractor will be exclusively that of the contractor.
- 9) The Contractor shall obtain license under CL(R&A) Act, 1970.

C. GENERAL:

- 1) The contractor shall pay minimum wages to workers as per minimum wages act. Contractor shall make PF, ESI contributions as per applicable rules. ESI Cards should be arranged to contract labour and their wards by the contractor. These records need to be preserved for a period of at least 3 years and made available even after the contract is over for any verification by the statutory authorities.
- 2) Contractor shall provide personnel protective equipment like safety uniform in blue colour, safety shoe in black colour and should ensure that they wear them daily while on work.
- 3) Contract operates on Unit rates, contract labour should get at least Daily Unit rate as per the minimum wages act from the contractor.
- 4) Contractor should pay double amount to the contract labour, if they are engaged more than 8 hours (normal).
- 5) Permissions for labour and materials shall be obtained in the prescribed formats.
- 6) **Break:** contract labour should be given break period for about 15 days once in every 6 months in case of long duration contracts, for one time/ short period contracts this clause will not apply
- 7) The contractor is wholly responsible for any loss of life or partial disability of any of their labour while on duty
- 8) In case of occurrence of any accident/ injury of contractor's staff, BHEL will not pay any compensation while they are on duty and contractor has to take care of health of workers under statutory obligation.
- 9) BHEL reserve the right to cancel the work order in part or in full without assigning any reason.
- 10) Upon awardal of the work, the contractor has to execute an agreement with BHEL on a non-judicial stamp paper worth Rs.100/- as per General Agreement Conditions before commencement of work.
- 11) BHEL shall have the privities of the contract with the contractor only and will give instructions to the contractor or his authorized representative. BHEL will have nothing to do or be concerned with the employment of employees working for the contractor. The relationship between BHEL and the Contractor will be that of independent entities and nothing herein contained will amount to joint venture, partnership or an employer-employee relationship.
- 12) The contractor shall maintain regular contact with the designated employee(s) of BHEL and will interact on matters relating to the work awarded under this contract.
- 13) In case the Contractor does not carry out the Contractual/Statutory obligations or the services rendered by him are found to be unsatisfactory, BHEL shall bring the same to his notice and he will be obliged to discharge the obligations and rectify the efficiency/anomaly within three days time failing which, BHEL reserves the right to terminate the contract without assigning any reason whatsoever. In such an event, no damages will be payable for short closure of the contract.
- 14) Not withstanding anything contained in the contract Agreement which will be entered after awardal of work, the contract may be terminated by BHEL without assigning any reason thereof by giving a notice of 30 days to the contractor.
- 15) The Entry permits are to be issued to the Contract Labour by Assistant Commandant / CISF(Plant), based on the requisition submitted by Contract Executing Officer and forwarded by Dy.General manager / Personnel.
- 16) Every contractor shall submit a notice regarding commencement and completion of work in form – VI A&B [Rule 25 (VIII) & 81 (3)] to HR Department, IR section through his contract executing officer, for forwarding the same to State Labour Department.
- 17) Non – compliance of any provisions under the act / rule / instructions / guidelines shall make the contractor liable for penal action including termination of contract.
- 18) Contractor shall furnish in a separate letter his place of residence and postal address. The delivery at the above named place or posting in a Post box regularly maintained by the post and telegraph Department or sending letters registered for acknowledgement of any notice, letter or other communication to the contractor. Change in address shall come into force at any time by an instrument executed by the contractor and delivered to the Company official who has signed the contract.
- 19) The contractor must satisfy himself by personal study and examination of the drawings / specifications furnished and understand thoroughly the scope of proposed work in detail and all conditions affecting the work before entering into the contract. There shall not be at any time dispute / complaint of any misunderstanding with regard to scope of work and interpretation of specifications or any misunderstanding with regard to nature or omission of the work to be done not shall any application for compensation in terms of time and money shall be accepted by company regarding the above.
- 20) Contractor shall in his absence keep competent agent constantly on the works and any directions or explanations given by the "Contract Signing Officer" or his representative to such agent shall be held to have been given to the contractor himself.
- 21) It shall be contractor's sole responsibility to protect the public and his employees against accident from any cause and provide required safety equipments and shall indemnify, the company against any claims for damages for injury to the person or property resulting from any such accidents and shall, where the provisions of the workmen's compensation act apply, take steps to properly insure against any claims there under.
- 22) In the event of any accident in respect of which compensation may become payable under the workmen's compensation act VIII of 1923 whether by the contractor or by the company as principle employer, it shall be lawful for the company to retain out of monies due and payable to the contractor such sum or sums of money as may, in the opinion of the company shall be final in regard to all matter arising in this clause.

- 23) No work shall be done on Sundays or on other declared holidays of the company without the written permission of the company officer in-charge of the work. The contractor shall comply with the provisions of the Factories Act Rules framed there under if the same are applicable.
- 24) The contractor shall keep his work place clean and safe to avoid injuries to men and damage to finished products / equipments.
- 25) On the occurrence of an accident, which results in the death of any of the workmen employed by the contractor or which is so serious as to be likely to result in the death of any such workmen, the contractor shall intimate within 24 hours of the happening of such an accident intimate in writing to the company official in-charge of the work.
- 26) The contractor shall indemnify the company against all losses or damages sustained by the company resulting directly or indirectly from his failure to give intimation in the manner aforesaid including the penalties or dues if any and become payable by the company, as a consequence of failure, the company to give notice under the workmen's compensation act or otherwise confirm to the provisions of the said act in regard to such accident.
- 27) The contractor shall ensure adherence to all statutory requirements applicable to BHARAT HEAVY ELECTRICALS LIMITED, RAMACHANDRA PURAM, HYDERABAD-502032.
- 28) Notwithstanding the clause, in case of any financial loss incurred by the company on account of contravention of the Provident Fund regulations or any regulations of rule touching the same by the contractor, the contractor shall submit an undertaking to indemnify the company to the extent of the loss incurred by the company.
- 29) The contractor should engage only those labourers who shall be more than 18(eighteen) years of age.
- 30) The contractor shall not resort to subcontracting under any circumstances. If found subcontracting at a later date, BHEL reserves the right to take whatever action it deems fit, including cancellation of the contract.
- 31) The contractor shall be responsible to settle any grievances of the labour deployed by him.
- 32) Whenever the term "CONTRACTOR" is used, it shall be understood to refer to the particular person, firm or corporation with whom an agreement has been made by the concerned company official for executing the work defined in the concerned agreement and for the purpose of instructions regarding compliance with contract conditions, it shall include the contractor's authorised agents, who are entrusted with the work by contractor.
- 33) The quantities mentioned in the agreement schedule are worked out from the relevant drawings in the company and may not be the actuals required for execution. The company does not expressly or by implication agree that the actual amount of the work to be done shall correspond therewith, but reserves the right to increase or decrease the quantity of any class or portion of the work as he deems necessary.
- 34) All the works shall be carried out in accordance with the directions and to the satisfaction of the company official in accordance with the drawings, specifications and instructions. Supplementing or explaining the same as may from time to time shall be done by the company official.
- 35) For all modifications, omissions or additions to the approved drawings and specifications, the company shall issue revised plans or written instructions and no modifications, omission or addition shall be made unless at any time before completion of the work.
- 36) All materials, articles, and workmanship shall be the best of their respective kinds for the class of work described in the contract specifications and schedule and materials to be obtained by the contractor shall be from sources approved by the company.
- 37) Sample of materials shall be furnished by the contractor at his expense to the company when called for before execution of any work.
- 38) The company shall have power to reject at any stage, any work which is considered to be defective in quality of materials of workmanship and shall not be debarred from rejecting wrong material by reasons of having previously passed them in an unworked condition. Any portion of the work or materials rejected or pronounced to be inferior or not in accordance with specifications shall be taken down and removed from the work site at the contractor's expenses.
- 39) The decision of the company shall be final and binding on the contractor on all technical questions which may arise in the contract with respect to material, workmanship, removal; of improper work, interpretation of the working drawings, specifications, notes, procedures etc.
- 40) The decision of the "Contract Signing Officer" or any officer deputed by him duly authorised on his behalf, in respect of the rate of progress and the quality of work or material shall be final.
- 41) Contracts shall be deemed to have included in his tender price of all the plant, machinery and appliances required for the purpose of all operations connected to secure a satisfactory quality of work within the opinion of the company will ensure the completion of the work within the time specified.
- 42) It is open to the company to lend or supply to the contractor any tools, implement, material and machinery that are needed by the contractor, which in the opinion of the company is essential to improve the quality or progress of work. The contractor shall pay such deposit or charges that may be fixed or determined by the company for any such articles or machinery lent or hired to the contractor.
- 43) All rubbish as it accumulates shall be removed from the site to the point of disposal as indicated from time to time by the company. If this is not adhered to, the company shall remove the scrap and recover the cost of these operations from the bills of the contractor.
- 44) Any sum due from the contractor on account of tools and plants, stores, or any other items provided by the company shall be deducted from the respective bill due to him.

- 45) In case the contractor does not execute the work awarded to him as per the terms and conditions of the agreement, the same shall be got executed by some other contractor and the excess cost incurred shall be recovered from the contractor's security deposit/pending bills.
- 46) In case of breach of any of the terms and conditions of the contract, a claim shall be lodged under the bank guarantee with the guarantor at the discretion of the competent authority of the company. On successful completion of the contract to the satisfaction of the company, the bank guarantee shall be released after due claim period.
- 47) In the event of any question or dispute or under this contract, the same shall be referred to a competent Authority in the company for sole arbitration and his decision shall be final and binding on the parties to the contract.
- 48) In case of any suit or other legal proceeding arising under this contract, the courts at Sangareddy (Medak Dist.) A.P only shall have the Jurisdiction.
- 49) Disputes, grievances between the contractor and his labour, will have to be settled by the contractor only.
- 50) The labour employed by the contractor, if found in abetting and fellow labour or contractors or any BHEL employee, the same shall be considered as an act of indiscipline. Such labourers shall be removed from the services of the contractor, on the advice of BHEL. Further the contractor shall initiate every necessary action in accordance with the relevant Laws, Rules & Regulations and enactments of State and Central Government.
- 51) Wherever, BHEL/COMPANY standards are mentioned shall be strictly followed.
- 52) Nothing contained in the contract agreement and its conditions shall be deemed to preclude or render inoperative the service of any notice, letter or other communication upon the contractor personally.
- 53) The decision of the "Contracting Signing Officer" shall be final and binding on the contractor on all technical questions which may arise touching the contract with respect to the quality of material, workmanship, removal of improper work, interpretation of the working drawings, specifications, notes, procedures etc.
- 54) All disputes, claims and demands arising in connection with the contract shall be settled by mutual consultation. If no such agreement is reached between the parties each party can appoint one Arbitrator and the Arbitrators so appointed can appoint a Presiding Arbitrator. The proceedings of the tribunal shall be in accordance with the provisions of the Arbitration and Conciliation Act, 1996 and the rules made there under. The venue of the Arbitration shall be at BHEL, Hyderabad or at such place as the Arbitrators may direct. The Award to be given by the Arbitral Tribunal shall be a speaking award. The arbitration costs, fees and expenses shall be borne by both the parties equally. The award of the tribunal shall be final and binding on both the parties equally. The award of the tribunal shall be final and binding on both the parties. All questions, disputes, differences arising under, out of or in connection with this contract shall be exclusive jurisdiction of the Courts at Sangareddy, Medak District, Andhra Pradesh.

D. GENERAL INSTRUCTIONS REGARDING BHEL TENDERING PROCESS:

1. If the tender is made by an individual, it shall be signed with his full name and his address shall be furnished. If it is made by firm, it shall be signed with the co-partnership name by a member of the firm, who shall also sign his own name, also furnish the name and address of each member of the firm. If the tender is made by a corporation, it shall be signed by a duly authorized Officer who shall produce with the tender, satisfactory evidence of his authorization. Such tendering corporation/firm is required to furnish evidence of its existence along with bid.
2. The EMD will be refunded to the unsuccessful Tenderers after rejection of the tender is intimated. The earnest money will be retained in the case of the successful tenderers and either of the cases will not carry any interest. It will be dealt with as provided in the conditions attached to the tender.
3. Whenever a tender is to be accepted, the tenderer, whose tender is under consideration, shall attend the Office of " Officer Inviting the Tender " on the date fixed by written intimation to him. He shall forthwith, upon intimation being given to him by the " Officer Inviting the Tender" for acceptance of his tender, complete the execution of the agreement by signing all documents connected therewith. Failure to do so and not to commence the work within one month from the date of intimation shall entail forfeiture of the earnest money.
4. Tenderers shall pursue carefully the instructions and directions to the parties given in the tender document and the conditions thereof and all other relevant documents before quoting the rates for the work. The approximate quantity of work to be executed under each class is given in the schedule. The quantities are given with a view to enable tenderer to quote his overall rate for each class of work in the tender form and for a uniform comparison of tenders. It shall be definitely understood that the schedule is liable to alterations at the discretion of accepting authority.
5. Tenderers shall keep the offer valid for a period of 90 days from the date of opening of tender. After submitting the tender, he will not recall his offer or modify the terms and conditions thereof. Should the tenderer fail to observe or comply with the foregoing stipulations, the EMD shall be forfeited.
6. Tenderers have to quote their rates in the tender schedule legibly written in figures and words and those not submitted in proper form are liable for rejection.

7. The submission of tender shall be strictly in accordance with the terms and conditions stipulated in this tender notice. No counter conditions will be acceptable or valid.
8. Contractor shall be deemed to have included in his tender price of all the plant, machinery and appliances required for the purpose of all operations connected with the work embraced under the contract to secure a satisfactory quality of work and rate of progress which in the opinion of the " Contract Signing Officer" will ensure the completion of the work within the time specified.
9. The rates quoted by the contractor should be firm for the contract period. There shall be no revision in contract rates during the period of the contract. Any increase of statutory levies during the period of the contract will be reimbursed on production of relevant proof of incurring expenditure for the same.
10. **BHEL reserves the right to negotiate for price reduction with lowest quoted (L1) party and negotiated price will be considered as contract amount for all practical purposes.**
11. The contractor must have phone facility at his office/ residence or cellular phone for proper communication.
12. Withdrawal from contract during contract period in BHEL will entail forfeiture of security deposit.
13. The contractor should abide by the company's **CISF** Security / safety rules and provide such safety requirements as per statutory rules and requirements of the factories act.
14. In case of breach of any of the terms and conditions of the contractor, BHEL reserves the right to cancel the contract either in part or full.
15. Contractor shall provide uniform, shoes and other Personal Protective Equipments (like safety helmet) wherever applicable to their labour.
16. **Earnest Money Deposit** : Earnest Money is to be paid by each tenderer to ensure that the tenderer does not refuse to execute the work after it is awarded to him. The rate of earnest money deposit shall be as per tender schedule. EMD by the Tenderer will be forfeited as per Tender Documents if:
 - i). After opening the tender, the tenderer revokes his tender within the validity period or increases his earlier quoted rates.
 - ii). The tenderer does not commence the work within the period as per LOI / Contract. In case the LOI / contract is silent in this regard then within 15 days after award of contract.
 - iii). EMD shall not carry any interest
17. **Security deposit:** (Clause 8.2 of BHEL Works Policy)
 - 8.2.1 Security Deposit should be collected from the successful tenderer. The rate of Security Deposit will be as below:

-- Upto Rs. 10 lakhs	: 10%
-- Above Rs. 10 lakhs Upto Rs. 50 lakhs	: Rs.1 lakh + 7.5% of the amount exceeding Rs.10 lakhs
-- Above Rs. 50 lakhs	: Rs.4 lakhs + 5% of the amount exceeding Rs.50 lakhs
 - The security Deposit should be collected before start of the work by the contractor.
 - 8.2.2 Security Deposit may be furnished in any one of the following forms
 - i). Cash (as permissible under the Income Tax Act)
 - ii). Pay Order, Demand Draft in favour of **BHEL**.
 - iii). Local cheques of scheduled banks, subject to realization.
 - iv). Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc. (Certificates should be held in the name of Contractor furnishing the security and duly pledged in favour of **BHEL** and discharged on the back).
 - v). Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of **BHEL**.
 - vi). Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C **BHEL**, duly discharged on the back.

- vii). Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be collected before start of the work and the balance 50% may be recovered from the running bills.

(Note: In case of small value contracts not exceeding Rs.10 lakhs and all SAS jobs, work can be started before Security Deposit is collected. However, payment can be released only after collection / recovery of initial 50% Security Deposit)

- a. EMD of the successful tenderer can be converted and adjusted against the security deposit.
- b. The security deposit shall not carry any interest.

(NOTE: Acceptance of Security Deposit against Sl. No. (iv) and (vi) above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

- 8.2.3 Security deposit shall not be refunded to the contractor except in accordance with the terms of the contract.

Signature of the Bidder with seal



BUSINESS RULES FOR REVERSE AUCTION

GENERAL TERMS AND CONDITIONS OF REVERSE AUCTION

Against this Enquiry for the subject item/system with detailed scope of supply as per our specification, BHEL-HYDERABAD may resort to "REVERSE AUCTION PROCEDURE" i.e. **ON LINE BIDDING on INTERNET.**

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on Internet.
3. BHEL will inform the vendor in writing in case reverse auction, the details of service provider to enable them to contact and get trained.
4. Business rules like event date, time, start price, bid decrement, extensions, etc. also will be communicated through service provider for compliance.
5. Vendors have to fax the compliance form in the prescribed (provided by service provider) before start of Reverse auction. Without this the vendor will not be eligible to participate in the event.
6. BHEL will provide the calculation sheet (e.g.: EXCEL sheet) which will help to arrive at "Total Cost to BHEL" like packing & forwarding charges, Taxes and duties, Freight charges, Insurance, Service tax for services and loading factors (for non-compliance to BHEL standard Commercial terms and conditions.) for each vendor to enable them to fill-in the price and keep it ready for keying in during the auction.
7. Reverse auction will be conducted on schedule date & time.
8. At the end of reverse auction event, the lowest bidder value will be known on the network.
9. The lowest bidder has to fax the duly signed filled-in prescribed format as provided on case-to-case basis to BHEL through service provider within 24 hours of action without fail.
10. Any variation between the on-line bid value and signed document will be considered as sabotaging the tender process and will invite disqualification of vendor to conduct business with BHEL as per prevailing procedure.
11. In case BHEL decides not to go for Reverse auction procedure for this tender enquiry, the price bids and price impacts, if any already submitted and available with BHEL shall be opened as per BHEL standard practice.

Business Rule for inalization of the procurement .

BHEL shall finalise the procurement of the item against this Tender through reverse auction mode. BHEL has made arrangement with **SERVICE PROVIDER** who shall be BHEL's authorized service provider for the same. Please go through the guidelines given below and submit your acceptance to the same along with your Commercial Bid.

1. Computerized reverse auction shall be conducted by BHEL, on pre-specified date, while the vendors shall be quoting from their own offices/ place of their choice. Internet connectivity shall have to be ensured by vendors themselves. In extreme case of failure of Internet connectivity, (due to any reason whatsoever may be) it is the bidder's responsibility / decision to send fax communication immediately to **SERVICE PROVIDER**. Furnishing the price the bidder wants to bid online with a request to the service provider to upload the faxed price on line so that the service provider will up load that price on line on behalf of the Bidder. It shall be noted clearly that the concerned bidder communicating this price to service provider has to solely ensure that the fax message is received by the service provider in a readable / legible form and also the Bidder should simultaneously check up with service provider about the clear receipt of the price faxed. It shall also be clearly understood that the bidder shall be at liberty to send such fax communications of prices to be up loaded by the service provider only within the closure of Bid time and under no circumstance it shall be allowed beyond the closure of Bid time / reverse auction. It shall also be noted that the service provider should be given a reasonable required time by the bidders, to upload such prices online and if such required time is not available at the disposal of the Service provider at the time of receipt of the fax message from the bidders, the service provider will not be uploading the prices and either BHEL or the service provider are not responsible for this unforeseen circumstances. In order to ward-off such contingent situation bidders are requested to make all the necessary arrangements / alternatives such as back – up power supply whatever required so that they are able to circumvent such situation and still be able to participate in the reverse auction successfully. Failure of power at the premises of vendors during the Reverse auction cannot be the cause for not participating in the reverse auction. On account of this the time for the auction cannot be extended and BHEL is not responsible for such eventualities.

2. **SERVICE PROVIDER** shall arrange to train your nominated person (s), without any cost to you. They shall also explain you, all the Rules related to the Reverse Auction / Business Rules Document to be adopted along with bid manual. You are required to give your compliance on it before start of bid process.
3. **MATERIAL FOR BID:** 'Reconditioning Work as per scope of work and terms & conditions enclosed with the tender by BHEL.
4. Starting Bid/Bid Decrement: The opening price shall be the lowest price of sealed bids and the bid decrement shall be available to the bidders before 05 minutes of the start of the auction and same shall be displayed on the site.
5. **BIDDING CURRENCY AND UNIT OF MEASUREMENT:** Bidding will be conducted in **Indian Rupees (INR)** of the item. The price bid placed during the "Sealed Bid Auction" as well as "Reverse Auction" shall be the total price for each sl. No. separately.
6. **BID PRICE:** The Bidder has to quote the Total cost to BHEL for the items specified. Calculation sheet to arrive at the Total cost to BHEL will be provided by BHEL.
7. The technical & commercial terms are as per BHEL Tender No. ----- . Vendors technical and commercial bid and subsequent correspondences between BHEL and the vendors regarding commercial terms & conditions.
8. **VALIDITY OF BIDS:** The Bid price shall be firm as quoted in the offer.
9. At the end of the reverse auction, bidder has to provide a detail break up for his lowest offer.
10. **Procedure of Reverse Auctioning**
 - i). **Sealed bid Reverse Auction:** The opening bid (In the initial auction) of the bidders shall place a bid which shall be same as that quoted in their Final Sealed price submitted to BHEL or less. The bidders shall confirm in writing to BHEL that their opening bid shall be same as that quoted in their final sealed price bid submitted against Tender No. ----- if it is found to be otherwise at a later date, the bidder will be disqualified from the tender.
 - ii). **English Reverse (no ties) {Reverse Auction}:** BHEL will declare its **Opening Price (OP)**, which shall be visible to the all vendors during the start of the reverse Auction. You will be required to start bidding after announcement of Opening Price and decrement amount.
 - iii). **Those vendors who have participated in the Initial Sealed Bid Auction, will only be eligible to participate in the subsequent English Reverse Auction.**
 - iv). **Sealed Bid auction will be for 15 minutes and English Reverse auction (no ties) shall be for a period of one hour.** If a bidder places a Bid in the last 10 minutes of Closing of the Auction, the auction shall get extended automatically for another 10 minutes. In case, there is no Bid in the last 10 minutes of closing of Auction, the Auction shall get closed automatically without any extension.
 - v). **The reverse auction will be treated as closed only when the bidding process gets closed in all respects for all the items listed in the tender.**
 - vi). The bid decrement amount shall be specified by BHEL before start of bidding.
 - vii). **Any commercial loading shall be intimated to bidders in advance and it shall be added to price during dynamic auction process. For evaluation purpose, commercial loading if any, shall be added to the quoted price of respective bidder. However for ordering only the final bid placed by you shall be considered.**
 - viii). After the completion of English Reverse auction (no ties), the **Closing Price (CP)** shall be available. **In case, any commercial loading was made to L1 bidder's price, it shall be de-loaded from the closing price of L1 bidder (CP) for further processing.**
 - ix). The ratio of CP and originally quoted price shall be applied on all elements of originally quoted prices to arrive at the final price break up.

11. Successful vendor shall be required to submit the final prices, quoted during the English Reverse (no ties) in Excel Format (which will be provided during intimation of conducting Reverse Auction) after the completion of Auction to BHEL, duly signed and stamped as token of acceptance without any new condition other than those already agreed to before start of auction.
12. During English Reverse auction (no ties), if no bid is received within the specified time, BHEL, at its discretion, may decide to revise Opening price / scrap the reverse auction process / proceed with conventional mode of tendering.
13. Your bid will be taken as an offer to supply. Bids once made by you, cannot be cancelled / withdrawn and you shall be bound to supply as mentioned above at your final bid price. **Should you back out and not supply as per the rates quoted, BHEL shall take action as appropriate.**
14. You shall be assigned a **Unique User Name & Password** by **SERVICE PROVIDER**. You are advised to change the Password and edit the information in the Registration Page after the receipt of initial Password from **SERVICE PROVIDER** to ensure confidentiality. All bids made from the Login ID given to you will be deemed to have been made by your company.
15. You will be able to view the following on your screen along with the necessary fields in the English Reverse (no ties) {Reverse Auction}:
 - a. Leading Bid in the Auction (only total price)
 - b. Bid Placed by you
 - c. Opening Price.
16. At the end of the Reverse Auction, BHEL will decide upon the winner. BHEL's decision on award of Contract shall be final and binding on all the Bidders.
17. BHEL shall be at liberty to cancel the reverse auction process / tender at any time, before ordering, without assigning any reason.
18. BHEL shall not have any liability to bidders for any interruption or delay in access to the site irrespective of the cause.
19. Other terms and conditions shall be as per your techno-commercial offers and other correspondences till date.
20. You are required to submit your acceptance to the terms/ conditions/ modality given above before participating in the reverse auction.

TERMS & CONDITIONS OF REVERSE AUCTION

1. **LOG IN NAME & PASSWORD:** Each Bidder is assigned a Unique User Name & Password by **SERVICE PROVIDER**. The Bidders are requested to change the Password and edit the information in the Registration Page after the receipt of initial Password from **SERVICE PROVIDER**. All bids made from the Login ID given to the bidder will be deemed to have been made by the bidder.
2. **BIDS PLACED BY BIDDER:** The bid of the bidder will be taken to be an offer to execute the work. Bids once made by the bidder cannot be cancelled. The bidder is bound to execute the work as mentioned above at the price that they bid. Should any bidder back out and not make the supplies at per the rates quoted, BHEL and / or **SERVICE PROVIDER** shall take action as appropriate.
3. **LOWEST BID OF A BIDDER:** In case the bidder submits more than one bid, the lowest bid will be considered as the bidder's final offer to execute the work.
4. **AUCTION TYPE:** 1). Sealed bid Reverse Auction 2). English Reverse No Ties (refer Bidder Manual for details).
5. **DURATION OF AUCTION:** The duration of Auction will be for one hour. If somebody is bidding just before 10 minutes of Auction closing the Auction will get extended for another 10 minutes. (THIS SCHEDULE IS TENTATIVE. IF ANY CHANGE IN SCHEDULE, THE SAME SHALL BE COMMUNICATED TO YOU).
6. **BID DECREMENT:** The minimum Bid decrement shall be available to the Bidders at the start of the auction. The bidder can view the same by clicking on the Item details at the start of the auction. The bidder can bid lower than the Lowest Bid in the auction by a decrement, multiple of the minimum Bid decrement or at least of minimum bid decrement plus multiple of Bid Decrement.
7. **VISIBILITY TO BIDDER:** The Bidder shall be able to view the following on his screen along with the necessary fields during English Reverse –NO ties Auction:
 - Leading Bid in the Auction
 - Bid Placed by him.
8. **AUCTION WINNER:** At the end of the Reverse Auction, BHEL will evaluate all the bids submitted and will decide upon the winner.
9. **PROXY BIDS:** Proxy bidding feature is a pro-supplier feature to safe guard the supplier's interest of any Internet failure or to avoid last minute rush. The Proxy feature allows Bidders to place an automated bid against other Bidders in an auction and bid without having to enter a new amount each time a competing Bidder submits a new offer.

The bid amount that a Bidder enters is the minimum that the Bidder is willing to offer. Here the software bids on behalf of the supplier.

- The proxy amount is the minimum amount that the Bidder is willing to offer. During the course of bidding, the Bidder cannot delete or change the amount of a Proxy Bid.
- Bids are submitted in decrements (decreasing bid amounts). The application automates proxy bidding by processing proxy bids automatically, according to the decrement that The auction originator originally established when creating the auction, submitting offers to the next bid decrement each time a competing Bidder bids, regardless if competing bids are submitted as proxy or standard bids.

GENERAL TERMS & CONDITIONS: Bidders are required to read the "Terms and Conditions" section of the auctions site using the Login Ids and passwords given to them.

10. OTHER TERMS & CONDITIONS:

- The Bidder shall not involve himself or any of his representatives in Price manipulation of any kind directly or indirectly by communicating with other suppliers / bidders.
- The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
- BHEL's decision on award of Contract shall be final and binding on all the Bidders.
- BHEL along with **SERVICE PROVIDER** can decide to extend, reschedule or cancel any Auction. Any changes made by BHEL and / or **SERVICE PROVIDER**, after the first posting will have to be accepted if the Bidder continues to access the site after that time.
- **SERVICE PROVIDER** shall not have any liability to Bidders for any interruption or delay in access to the site irrespective of the cause.
- **SERVICE PROVIDER** is not responsible for any damages, including damages that result from, but are not limited to negligence. **SERVICE PROVIDER** will not be held responsible for consequential damages, including but not limited to systems problems, inability to use the system, loss of electronic information etc.

N. B.

- All the Bidders are required to submit the Agreement Form (Annexure) duly signed to **SERVICE PROVIDER** before due date. After the receipt of the Agreement Form, Log in ID & Password shall be allotted to the suppliers (bidders).
- After the completion of the Auction event, all the Bidders have to submit the Price Breakup immediately to SERVICE PROVIDER for further proceedings.