

ANNEXURE 'A'

RETROFITTING OF SERVO DRIVE, PLC AND NEW SWITCHGEAR
ON HORZ. BORER, MODEL-2B660, PLAN NO. 1-001, BLOCK-3, BHEL, HARIDWAR

A. SCOPE OF SUPPLY

S.No.	Items	Qty	Vendor's Remarks	Compliance (Yes/No)
1.0	AC Servo motor flange mounted natural cooling type of Siemens / Rexroth-Bosch / ABB Baldor make of rating ($n_{rated} = 2000rpm$, rated torque greater than or equal to 36Nm) for Lower Saddle & Head Stock Note:-Shaft dia of servomotors for head stock and lower saddle should not be less than 38mm	02 Nos.		
2.0	AC Servo motor flange mounted natural cooling type of Siemens / Rexroth-Bosch / ABB Baldor make of rating ($n_{rated} = 3000rpm$, rated torque greater than or equal to 26Nm) for Upper Saddle & Spindle Feed	02 Nos.		
3.0	AC Servo motor flange mounted natural cooling type of Siemens / Rexroth-Bosch / ABB Baldor make of rating ($n_{rated} = 3000rpm$, rated torque greater than or equal to 7Nm) for Face Plate	01 No.		
4.0	Pre-assembled Power cable and Signal cable for Lower Saddle & Head Stock Servo motor mentioned at S.No. A./1.0 above each of 27mts. length	02 Nos. each		
5.0	Pre-assembled Power cable and Signal cable for Upper Saddle & Spindle Feed Servo motor mentioned at S.No. A./2.0 above each of 27 mts. length	02 Nos. each		
6.0	Pre-assembled Power cable and Signal cable for Face Plate Servo motor mentioned at S.No. A./3.0 above each of 30 mts. length	01 No. each		
7.0	Settable Torque Safety Couplings: Jacob make having D1-38mm; Static disengagement torque $T_{ka}=30-80Nm$ for AC Servo motors mentioned at S.No. A./1.0 above.	02 Nos.		
8.0	Flanges, couplings & brackets for the mounting of servo motors mentioned at S.No. A./1.0, A./2.0 & A./3.0 above	01 Set		

9.0	<p>Complete AC Servo Drives with regenerating braking of Siemens / Rexroth / ABB / Baldor of suitable capacity for servo motors mentioned above at S.No. A./1.0, A./2.0 & A./3.0. Each drive shall have at least 4 nos. Digital Input, 4 nos. Digital Output, 2 nos. Analog Inputs and 2 nos. Analog Outputs (Note :</p> <ol style="list-style-type: none"> 1. Simulated TTL output is required from Servo drive for Face Plate motor for DRO display 2. At any given time, motion of either of Head stock (Y-Axis), spindle feed (Z-Axis) and Faceplate take place. Similarly, either of Lower saddle or Upper saddle is moved.) 	01 Set		
10.0	Distributed PLC system Siemens S7-300 or ABB AC500 consisting of following	01 Set		
10.1	PLC system inside the Electrical Cabinet having Central Processing Unit with Profibus DP master/slave interface with Micro Memory Card and total 32 DI, 32 DO, 5 AI & 8 AO	01 Set		
10.2	Distributed PLC Modules for mounting on Column having 48 DI & 32 DO	01 Set		
10.3	Distributed PLC Modules for mounting on Head Stock having 32 DI & 16 DO	01 Set		
10.4	Distributed PLC Modules for mounting on Operator Pendant having 64 DI & 40 DO	01 Set		
10.5	X 8/X16 Channel Relay boards preferably Phoenix contact make should be provided for driving the PLC outputs to the machine. All PLC power outputs to be routed to the machine through these Relay boards.	01 Set		
10.6	Profibus cable including connectors for interfacing of distributed PLC modules of suitable length	01 Set		
11.0	HMI for operator for visualization of Axis Speed, messages, alarms, faults etc. and it is to be installed on Operator Panel mentioned at S.No. A./13.0 below	01 No.		
12.0	HMI for maintenance for visualization PLC operand status, messages, faults etc. and it is to be installed in Electrical Cabinet mentioned at S.No. A./14.0 below	01 No.		

13.0	Design and supply of Rittal make Hanging operator panel with engraved front plate (Anodized Aluminium 3 mm thick) fitted with HMI mentioned at S.No. 11.0 above & machine control switchgears such as push buttons, LED indicating lamps, selector switches, POTs(single turn 10k) with suitable Vernier dial knob etc. as per requirement of different machine operations. Design and layout of operator panel shall be as per operator's requirements and shall be approved by BHEL	01 set		
14.0	Main Electrical Cabinet of Rittal make (Preferably of size: Length-2600mm,Depth-600mm and Height-1930mm) with double door & one side opening pre-fitted and completely wired up with Drive system (at S.No.A./9.0), PLC system (at S.No. A./10.1) and following accessories	01 Set		
14.1	Exhaust fans EBM-make of capacity 1800cubic meter/Hr.	02 Nos.		
14.2	Siemens/ABB/L&T make MCCB of rating 200 Amps	01 No.		
14.3	Power contactor of suitable rating for drive incoming	01 No.		
14.4	Suitable rating semi conductor fuses on input side	01 Set		
14.5	Suitable rating Three Phase High frequency line reactor on input side of drives (Note : If already inbuilt in the drive then it need not to be offered separately)	01 No.		
14.6	The cabinet shall have energy meter along with CT preferably Siemens SENTRON- make to measure active power, reactive power, apparent power, level of harmonics, voltage & current	01 No. each		
14.7	Cabinet to be equipped with door operated panel tube lights with by-pass switch and 5 Amp 3-pin service socket and switch	01 Set		
14.8	SMPS 24VDC, 5 Amps of Siemens/Meanwell/M-system/Phoenix make	01 No.		
14.9	SMPS 24VDC, 10 Amps of Siemens / Meanwell / M-system / Phoenix make	01 No.		
14.10	± 10VDC source for Drive reference of Siemens / Meanwell / M-system/Phoenix make	01 No.		
14.11	Suitable rating Contactors(110VAC coil), MPCBs etc. of Siemens make only for Hydraulic Pump (2.6 kw, 950 rpm)			
14.12	Two winding Transformer (750VA, Pri. 400V / Sec. 127V, 24V tapping)	01 No.		
14.13	Two winding Transformer (500VA, Pri. 400V / Sec. 220V)	01 No.		
14.14	Suitable rating MCBs of Siemens make only for item no. 14.1, 14.8, 14.9, 14.10, 14.12, 14.13 & 16.0	01 Set		

14.15	Single phase 16 Amps MCB DB box mounted on outer left side of panel			01 No.		
14.16	Cabinet shall be supplied with a set of additional keys.			01 Set		
15.0	Remote Electrical Cabinet (size: Length-800mm,Depth-200mm and Height-1200mm) for mounting on machine column with double door and pre-fitted with following accessories			01 Set		
15.1	Exhaust fans EBM-make of capacity about 1800cubic meter/Hr.			01 Nos.		
15.2	Cabinet to be equipped with door operated panel tube lights with by-pass switch			01 Set		
15.3	Distributed PLC Modules mentioned above at S.No. 10.2			01 Set		
15.4	Suitable rating Contactors &MPCBs of Siemens make only required for the control of following induction motor for different machine operations					
		Induction motors	Rating	Control for		
	i)	Spindle Rapid	1.7 kw, 930 rpm	Both direction		
	ii)	Lubrication pump	1.0 kw, 1450 rpm	Single direction		
	iii)	Lubrication pump	1.0 kw, 1450 rpm	Single direction		
	iv)	Head stock Hyd. Pump	1.7 kw, 930 rpm	Single direction		
	v)	Column Hyd. Pump	1.7 kw, 930 rpm	Single direction		
	vi)	Pendant Lift	0.6 kw, 1410 rpm	Both direction		
	vii)	Pendant Swivel	0.4 kw, 1400 rpm	Both direction		
	viii)	Pendant Horz. Motion	0.6 kw, 1410 rpm	Both direction		
	ix)	Hoist Lift	0.85 kw, 900 rpm	Both direction		
	x)	Hoist Horz. Motion	0.11 kw, 1400 rpm	Both direction		
	(Note : Contactor coil voltage should be 110VAC)					
16.0	Machine light of reputed make having LED lamp providing illumination equivalent to 200 watt incandescent lamp with flexible arm to be installed on the head stock			01 No.		
17.0	Following Accessories of reputed make for wiring of machine, control cabinet & operator pendant.			01 set		
17.1	Lapp make PVC insulated multistrand copper Wire/Cable of size .5 mm			3 Rolls of		

	square	100 meter each		
17.2	Lapp make PVC insulated multistrand copper Wires/Cables of size 1 mm square	3 Rolls of 100 meter each		
17.3	Lapp make PVC insulated multistrand copper Wires/Cables of size 1.5 mm square	3 Rolls of 100 meter each		
17.4	Lapp make PVC insulated multistrand copper Wires/Cables of size 4 mm square	3 Rolls of 100 meter each		
17.5	Lapp make Shielded signal cable for drive reference voltage	100 meter		
17.6	Terminal Blocks of Phoenix / Wago make as per requirement of machine wiring	1 Set		
17.7	Insulated pin type lugs preferably of Dowell / Jainson make as per requirement of machine wiring			
17.8	Lapp make Flexible Cable Conduit of ID-48 mm &OD-54 mm for laying wires/cables	100 meter		
17.9	Lapp make Flexible Cable Conduit of ID-29 mm &OD-36 mm for laying wires/cables	200 meter		
17.10	Lapp make Flexible Cable Conduit of ID-36 mm &OD-42 mm for laying wires/cables	150 meter		
17.11	Lapp make Flexible Cable Conduit Type LCC2/40 of ID-36mm & OD-42mm for hanging operator panel.	100 meter		
17.12	Single turn 10K Antilog potentiometer with suitable dial preferably of Spectrum / PEC / Vishay make. The quantity of this item is as per actual machine requirement.	01 Set		
17.13	Cable ties, cable glands, printed ferrules etc. of reputed make. The quantity of this item is as per actual machine requirement of machine wiring	01 Set		
	Note : Quantity of above items as per actual machine requirement			
18.0	DRO SYSTEM:			
18.1	Digital Read Out of Heidenhain/Fagor/Electronica-make for 3 axes;7-digit display having calibration feature and accepting TTL input complete with	1No.		

	power cord for mounting on the hanging Operator's Pendant for display of positions of Lower Saddle, Head stock & Spindle feed.			
18.2	Digital Read Out of Heidenhain/Fagor/Electronica-make for 2 axis;7-digit display having calibration feature and accepting TTL input complete with power cord for mounting on an Operator's pendant for display of positions of Upper Saddle & Face Plate.	1No.		
18.3.1	Linear Magnetic scale with sensor and housing for traverse length of 6000 mm; Resolution 20 microns, Accuracy +/- 40 µm per meter; Output signal level: 5V TTL. Magnetic scale shall be supplied with a protective tape. (Required for the transverse travel of the column i.e Lower Saddle)	1No.		
18.3.2	Linear Magnetic scale with sensor and housing for traverse length of 3000 mm; Resolution 20 microns, Accuracy +/- 40 µm per meter; Output signal level: 5V TTL. Magnetic scale shall be supplied with a protective tape.(Required for the vertical traverse of the headstock)	1No.		
18.3.3	Linear Glass scale with sensor and housing to provide protection against dust, oil and coolant for traverse length of 1200 mm; Resolution 5 microns, Accuracy +/- 10 µm per meter; Output signal level: 5V TTL. (Required for the longitudinal transverse of the column)	1No.		
18.4	Rotary Encoder Heidenhain/Siemens/Baluff/Fagor-make; TTL output 1024 PPR with pre-assembled cable (Required for Face Plate).	1No.		
18.5	Rotary Encoder Heidenhain/Siemens/Baluff/Fagor-make; TTL output 500 PPR with pre-assembled cable (Required for Spindle feed).			
18.6	Signal cable shielded and armored for DRO shall be supplied in pieces for DRO display of Upper saddle, Lower saddle, Head stock, Spindle feed and Face plate. Cables shall be preassembled with required connectors.	100 m		
18.7	An isolation transformer of 100 VA, 415 V/220V OR 220V / 220V for DRO supply	1No.		
18.8	Brackets/supports/guides for mounting of the scales and sensors shall be supplied by the vendor. Desired accuracy of the scales shall be demonstrated on the machine.	01 Set		
18.9	<i>Sufficient number of matching male and female connectors shall be included in the supplies to take into account extension cables which are likely to be connected to</i>	01 Set		

	<i>the sensor cable</i>			
19.0	SPARE PARTS			
	Vendor shall quote following spare parts: priced item wise			
19.1	Motor for lower saddle/Head stock as supplied at SI.No.1.0	01 No.		
19.2	Motor for face plate as supplied at SI.No.3.0	01 No.		
19.3	Complete servo drive package as supplied at SI.No.9.0	01 set		
18.4	PLC CPU and I/O cards complete as used in main electrical cabinet.	01 set		
19.5	Distributed I/O totaling up to 64 nos. of inputs and 40 nos. of outputs	01 set		
19.6	HMI as supplied at SI.No.11.0	1 No.		
19.7	SMPS 24VDC, 5 Amps as supplied at SI.No.14.8	01 No.		
19.8	X 8 Channel Relay boards as supplied at SI.No. 10.5	10 Nos.		
19.9	X16 Channel Relay boards as supplied at SI.No. 10.5	10 Nos.		
19.10	SMPS 24VDC, 10 Amps as supplied at SI.No.14.9	01 No.		
19.11	± 10VDC source as supplied at SI.No.14.10	01 No.		
19.12	Settable Torque Safety coupling as supplied at SI.No.7.0	01 No.		
19.13	Machine light as supplied at SI.No. 16.0	01 No.		
19.14	Terminal Blocks as supplied at SI.No. 17.6	100 Nos. of each type		
19.15	Insulated pin type lugs as supplied at SI.No. 17.7	100 Nos. of each type		
19.16	Scanning head of magnetic scale as supplied against SI.No.18.3.1	02 Nos.		

B. SCOPE OF WORK

S.No.	Activities	Vendor's Remarks	Compliance (Yes/No)
1.0	Connections inside the main electrical cabinet for Drives, PLC & other accessories mentioned at S.No. A./14.0 of Annexure 'A'		
2.0	Connections inside the remote electrical cabinet for PLC & other accessories mentioned at S.No. A./15.0 of Annexure 'A'		
3.0	Mounting of supplied AC servomotors of lower saddle & head stock with supplied flanges, brackets & safety couplings (as supplied at SI.No. 7.0)		
4.0	Mounting of supplied AC servomotors of upper saddle, spindle feed & face plate with supplied flanges & couplings		
5.0	Servo Drives & Servo Motors shall be commissioned by the vendor on the machine.		
6.0	PLC system & HMI shall be commissioned incorporating all the operational requirements of the machine and the same shall be demonstrated by the vendor. <i>Existing spindle drive (available in separate cabinet) of ABB-make, Model: ABB DCS800-S02-350-05 shall be integrated and interfaced with the newly supplied system and PLC.</i>		
7.0	Supplied DRO system shall be commissioned by the vendor. Its calibration shall be ensured with actual measurements taken by micrometer/measuring rod or screw gauge.		
8.0	Trial run to be done to ensure smooth functioning of all supplied parts and successful handing over.		

C.	<u>DOCUMENTATION:</u>		Vendor's Remarks / Compliance
1.	<i>Following documents shall be supplied with above supply</i>	Qty.	
1.1	Commissioning and service manuals of Servo drive system & AC Servo motors	02 Sets	
1.2	Wiring diagram of Electrical cabinet	02 Sets	
2.	<i>Following documents shall be supplied after commissioning</i>		
2.1	PLC program hard copy with cross reference list and comments.	04 Sets	
2.2	PLC program on CD	01 Copy	
2.3	Modified Electrical schematic of the machine	04 Sets	

2.4	Commissioning & service manual of DRO system	02 Sets	
D.	<u>WARRANTY:</u>		
	Vendor shall stand warranty for all the supplied material and work done for a period of one year from the date of successful commissioning of the machine.		
E.	<u>TRAINING:</u>		
1.0	Vendor shall provide training to BHEL staff for operation & maintenance of the system supplied by them during installation & commissioning.		
2.0	Vendor shall provide training in Servo Drives at Manufacturers Training center/Manufacturer Authorized <i>training</i> center for one BHEL Engineer		
3.0	Vendor shall provide training in PLC programming at Manufacturers Training center/Manufacturer Authorized <i>training</i> center for two BHEL Engineers		
F.	<u>ACCEPTANCE:</u>		
	Vendor shall demonstrate operation of all parts of the system supplied along with all the features as specified above. Final Acceptance shall be at BHEL, Hardwar after successful commissioning, testing of the supplied system for all operations.		
G.	<u>DELIVERY:</u>		
1.	Material: Max. 4 months from the date of award of contract. Early delivery shall be acceptable subject to prior approval by BHEL.		
2.	Work : Within 45 days from the date of release of machine for work.		
H.	<u>LATE DELIVERY (LD) CLAUSE:-</u>		
1.	LD @ ½% per week subject to a maximum of 10% of the Material cost including spare parts shall be applicable for delay in deliveries. The time period from invitation date for Pre dispatch inspection from vendor to the date of arrival of Pre Dispatch Team to vendor's works and delay for any other reasons attributable to BHEL will not be accounted for in delivery period. This period will be excluded for the purpose of calculating LD. Vendor should intimate BHEL about PDI at least seven days in advance.		
2.	LD @ ½ % per week subject to a maximum of 10% of the Commissioning Charges shall be applicable for delay beyond scheduled commissioning date for reasons attributable to the vendor.		

I.	<u>PRE-DISPATCH INSPECTION</u>	
1.	Pre-dispatch inspection of all the items covered under Scope of Supply at Para (A) shall be carried out by BHEL at vendor's works.	
2.	Vendor shall invite BHEL for carrying out pre- dispatch inspection.	
3.	Deputed BHEL persons shall do pre acceptance at vendor works and give despatch clearance.	
4.	Expenses of Boarding and lodging of BHEL personnel during PDI shall be borne by BHEL.	
J.	<u>SUBMISSION OF BILL OF MATERIAL (BOM)</u>	
	Before inviting BHEL for Pre-dispatch inspection, vendor shall submit to BHEL the Bill of Material (BOM).	
K.	<u>EARNEST MONEY DEPOSIT (EMD):</u>	
1.	Vendors have to deposit Rs 1.5 Lacs as EMD. EMD may be deposited in cash, through pay order or through demand draft in favor of Accounts Officer, HEEP, BHEL, Haridwar .	
2.	EMD shall be converted to security deposit if the work is awarded.	
3.	EMD of unsuccessful bidders shall be refunded normally within fifteen days of acceptance of award of work by the successful bidder.	
4.	EMD shall not carry any interest.	
5.	EMD by bidder will be forfeited as per tender document, 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.	
6.	Offers without EMD will be rejected and will not be considered for evaluation. However "The units registered under Single Point Registration Scheme of NSIC are eligible to get the following benefits under "Public Procurement Policy for Micro & Small Enterprises (MSEs) Order 2012" as notified by the Government of India, Ministry of Micro Small & Medium Enterprises, New Delhi vide Gazette Notification dated 23.03.2012. <ul style="list-style-type: none"> • Issue of the Tender Sets free of cost; • Exemption from payment of Earnest Money Deposit (EMD). <p>Note:- MSE suppliers can avail the intended benefits only if they submit along with their offer, attested copies of EM-II certificate having deemed validity (five years from date of issue of acknowledgement in EM-II) or valid NSIC certificate or EM-II certificate along with attested copy of a CA certificate (Format enclosed Annexure –'C' attached where deemed validity of EM – II certificate of five years has expired) applicable for</p>	

	<p>the relevant financial year (latest audited). Date to be reckoned for determining deemed validity will be the date of bid opening (Part 1 in case of two part bid). Non submission of such documents will lead to consideration of bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiencies in above required documents are not submitted before price bid opening. If tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal.”</p> <p>Documents should be notarized or attested by Gazetted officer.</p>	
L.	<u>SECURITY DEPOSIT (SD):-</u>	
1.	<p>Successful vendor shall deposit security. The rate of security deposit will be as below:</p> <ul style="list-style-type: none"> • For work Up to Rs. 10 Lakhs : <u>10% of work order value</u> • Above Rs. 10 Lakhs up to Rs. 50 Lakhs : <u>Rs. 1 Lakh + 7.5% amount exceeding Rs. 10 Lakhs</u> • Above Rs. 50 Lakhs: <u>Rs. 4 Lakhs + 5% amount exceeding Rs. 50 Lakhs</u> 	
2.	<p>The security deposit should be submitted before the start of work in the following forms:</p> <p>i) Cash (As permissible under the Income Tax Act)</p> <p>ii) Pay Order, Demand Draft in favour of BHEL, Hardwar</p> <p>iii) Local cheques of Scheduled Banks, subject to realization.</p> <p>iv) Bank Guarantee from Scheduled Banks/Public Financial Institution as defined in the companies Act. The Bank guarantee format should have the approval of BHEL.</p>	
3.	Security Deposit shall not carry any interest.	
4.	EMD of successful tenderer can be converted and adjusted against the Security Deposit.	
5.	100% of the Security Deposit amount shall be refunded to the vendor after post commissioning successful running of the machine for one month. SD shall be released after the submission of Performance Bank Guarantee(PBG) by the vendor	
M.	<u>Performance Bank Guarantee (PBG):</u>	
1.	Vendor shall be required to submit a performance bank guarantee (PBG) for 10% of the total work order value which shall be valid for a period of 12 months from the date of commissioning.	
2.	The PBG shall be submitted on a non-judicial stamp paper of value not less than Rs.80/- issued by any one of the nationalised banks.	

N.	<u>PAYMENT TERMS:</u> (Note: No advance payment shall be made to the vendor.)	
1.	Part payment will be made after completion of following milestones	
i)	First payment of 80% of material cost along with 100% taxes & duties shall be payable after receipt and acceptance of material at BHEL	
ii)	Final payment of balance 20% of material cost, 100% of commissioning cost and refund of 100% of the Security Deposit amount will be made after post commissioning successful running of the machine for one month, subject to submission of PBG as per Para 'M'	
2.	All the payments shall be made through e-payment after submission of following documents along with first bill	
i)	E-payment form duly filled (Form will be provided by BHEL)	
ii)	Income tax exemption letter(if applicable)	
3.	Excise duty & CST/VAT will be paid on material cost and service tax will be paid on commissioning charges at actual. Related original documents to be submitted for availing MODVAT credit by BHEL.	
i)	Timely Submission of CENVATABLE invoices along with necessary documents to enable availment of CENVAT (Excise duty, Service Tax & VAT) credit by BHEL. <u>Note:-Whenever CENVAT credit cannot be availed within given time limit due to delay in submission of invoices or, any other reasons attributed to vendor, loss of such CENVAT credit will be recovered from such vendor</u>	
O.	<u>COMMERCIAL TERMS :-</u>	
1.	Prices shall be quoted on "Firm Price" basis only. The prices should only on F.O.R BHEL, Haridwar basis inclusive of Packing & Forwarding charges. Applicable % of ED & Sales Tax, Freight & Insurance, Installation & Commissioning Charges should be clearly indicated in attached Price bid format as per "Annexure-B"	
2.	Validity of offer shall be for a minimum period of 120 days from the date of Tender Opening	
3.	Freight & transit insurance charges from Dispatching station to BHEL, Haridwar shall be borne by vendor	
4.	The material will be dispatched to central plant store, HEEP, BHEL, Haridwar with instructions to forward the same to SDGM (WEX-MCR) .	
P.	<u>QUALIFYING CRITERIA:-</u>	
1.	Average Annual financial turnover during the last 3 years, ending 31st March 2014, should be at least 23 Lacs. Vendor should submit Audited balance sheets for the last three years.	

2.	Experience of having successfully completed similar works ending 28 th February 2015 should be either of the following.	
i)	Three similar completed projects with each project costing not less than 30 Lacs.	
	OR	
ii)	Two similar completed projects with each project costing not less than 38 Lacs.	
	OR	
iii)	One similar completed project with project costing not less than 61 Lacs.	
2.1	Definition of Similar works: Retrofitting of following type of machine tools with servo drive, servo motors and PLC system.	
i)	Horizontal Borer	
ii)	Double Column Vertical Borer	
iii)	HMC / VMC	
iv)	Centre Lathe	
2.2	Above similar retrofitted machines should be running satisfactorily for at least 6 months prior to the date of enquiry. 6 months period will be calculated on the basis of commissioning certificates provided	
2.3	Vendor to provide P.O./ W.O copies and commissioning/ performance certificates/handling over minutes of meeting for satisfactory operation of the above retrofitted machines along with name, address & contact details of their customer. BHEL reserves the right to verify the information provided.	
Q.	<u>BHEL'S OBLIGATION:</u>	
1.	Existing electrical schematic of the machine shall be provided by BHEL to the vendor.	
2.	Crane facility and lifting tackles like slings, rope, D-Shackles shall be provided.	
3.	Any machining facility required for rectification/fitting of supplied material, subject to the extent available in BHEL, shall be provided.	
4.	Any civil work required for the erection of panel shall be done by BHEL.	
5.	Electricity, water, fasteners, welding sets, Gas cutting equipment, general purpose welding rods and holders required during commissioning shall be provided.	
R.	<u>GENERAL CONDITIONS</u>	
1.	A point wise compliance statement shall be submitted by the party with reference to the above scope of supply against each clause/ sub-clause with relevant details & comments. Non-compliance to any of the clauses & quoting inadequate quantity can lead to dis-qualification of the offer.	

2.	Complete specifications such as part no./Model/Type, power, torque, Rated and maximum RPMs, Rated and max. Currents of the motor and drive controllers shall be stated in the offer by the vendor. Ordering brochure/catalogue should be attached in which offered parts are highlighted.	
3.	The Vendor is advised to inspect the machine prior to quoting in order to ascertain all the relevant details required for successful completion of the work.	
4.	The proposed electrical schematic & Bill of material shall be provided by the vendor sufficiently in advance of the delivery date so as to enable BHEL to study the same and comment.	
5.	Vendor must compulsorily quote the quantity exactly as per the Scope of supply. No reduction in quantity as per the above Scope of supply is permissible.	
6.	The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site www.bhel.com	
7.	The award of works will be made on basis of the total of Material cost, Spare Parts cost, Commissioning charges and all taxes, duties as applicable.	
8.	The Vendor should submit their best price at this stage itself and they will not be allowed to revise the price. Any revision / discount given by the vendor subsequently will be ignored	
9.	Check List as per Annexure 'D' must be enclosed with techno-commercial bid	
10.	Any material not specified in scope of supply but required for successful commissioning shall be provided by the vendor free of charge.	
11.	Material to be used should be of reputed make or as per IS standards.	
12.	Vendor shall bring all tools and testing equipment with them during erection and commissioning.	
S.	<u>OFFER :-</u> The offer should be submitted in two parts and in following manner.	
1.	<u>Techno-commercial Bid :</u>	
i)	The envelop shall contain the Techno-commercial Bid with technical details and commercial terms & conditions along with relevant documents like copies of ESI, PF code, PAN No., Service Tax Regn. No., TIN No., CST No., Experience Certificates, Audited Balance Sheet of last 3 years and EMD .	
ii)	The envelop shall be super scribed with "Techno-Commercial Bid", Name of work & NIT No.	
iii)	Point-wise compliance of this scope of supply and work is to be given by vendors while submitting their techno-commercial offer.	
2.	<u>Price Bid :</u>	
i)	The second envelope shall contain only the price bid with separate price for material & work on Price Bid	

	Format as per ANNEXURE 'B' .	
ii)	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.	
iii)	The envelope shall be sealed and super scribed with "Price Bid", Name of work & NIT No.	
iv)	Price bids of techno commercially accepted vendors shall be opened.	
3.	Both the above two envelopes shall be kept in another sealed cover. The cover shall be super-scribed with "Quotation for (name of work), NIT No. & due date and shall be submitted in Tender Box kept in the Tender room of Purchase department at the 4th floor of the Main Administrative Building of BHEL, HEEP, Haridwar and it should also contain Bidder address.	
T.	PACKING:	
	Supplier shall arrange for adequate protection and packing of the consignment so as to avoid loss and damage during transit and also take appropriate measures to prevent metal parts from rusting and corrosion during transit. Handling instructions shall be clearly printed /painted on the packages. Each package should carry a detailed packing slip. Supplier shall be responsible for any loss/damage during transit due to defective/inadequate packing.	