



BHARAT HEAVY ELECTRICALS LIMITED

CORPORATE RESEARCH & DEVELOPMENT DIVISION

VIKASNAGAR, HYDERABAD - 500 093, INDIA

PHONES: 23774494 (EXCHANGE)

DIRECT: 23882104/23882204/

23778474/23776772

FAX : 91 40 23770698

RD:DP:MPX:F-04

ENQUIRY

To - Enquiry No: 500990431 Enq Date: 09-JUL-09 Due Date: 29-AUG-09 Delivery By: 30-DEC-09

Pin - PLEASE SUBMIT YOUR QUOTATION IN SEALED COVER SUPERSCRIBED WITH ENQUIRY NO, ENQUIRY DATE AND DUE DATE SUBJECT TO OUR TERMS AND CONDITIONS ENCLOSED, FOR THE FOLLOWING MATERIALS SO AS TO REACH US ON OR BEFORE THE DUE DATE BY 12 NOON. THE TENDERS WILL BE OPENED AT 2 PM ON THE SAME DAY

Email : .

Attn. .

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

SL NO	DESCRIPTION / SPECIFICATION	UNIT	QTY
1	DESIGN, MANUFACTURE, SUPPLY, ERECTION AND COMMISSIONING OF 5 TON CAPCITY EOT CRANE AS PER ENCLOSED SPECIFICATIONS COCP_TF-06	SET	1

Please submit your offer in Two parts as per enclosed "General Terms and Conditions of enquiry & Contract for the purchase of Goods/ Services" in separate sealed covers as detailed below:

- 1) First cover shall contain a) Technical & Commercial bid, b) Compliance Statement, c) Un-priced Price bid, i.e. a copy of the Price bid with the price(s) columns left blank.
 - 2) Second Cover containing Price bid.
- If the Price bid is found to be different from the un-Priced Price bid in any way, the offer will be rejected.
- 3) Unsigned offers are liable for rejection.
 - 4) VENDORS SHALL QUOTE FOR ALL ITEMS. ALL PARTIAL / INCOMPLETE OFFERS SHALL NOT BE PROCESSED. ORDER SHALL BE PLACED ON BASIS OF TOTAL COST TO BHEL.
 - 5) GUARANTEE CERTIFICATE : REQUIRED
 - 6) MANUFACTURER'S TEST CERTIFICATE : REQUIRED
 - 7) ERECTION & COMMISSIONING : REQUIRED

Note:

- 1) ALL OFFERS MUST INCLUDE NAME OF CONTACT PERSON, PHONE NO, FAX NO, EMAIL ID. UNSIGNED/INCOMPLETE OFFER(S) ARE LIABLE FOR REJECTION.
- 2) Taxes & Duties quoted will be taken for cost evaluation & order placement and no change will be entertained later except in the case of changes made by the Government.
- 3) Changes in Taxes and Duties because of the changes in Turnover etc. will be to the supplier's account.
- 4) In case any Taxes/duties exempted, a self declaration for the same may be attached to the offer.


AS WE ARE ENGAGED IN R&D ACTIVITY "C" FORM WILL NOT BE ISSUED

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

Yours faithfully
for
BHARAT HEAVY ELECTRICALS LTD

KAKKAR PK
Sr Manager

Email: pkkakkar@bhelrnd.co.in

	PURCHASE SPECIFICATION	Rev. 1
	5 TON CAPACITY EOT CRANE	Dt. 07.7.2009
	Item Code No TF-06	Specification No. COECP/TF-06

This specification covers the technical requirements of 5 Ton capacity EOT crane in the Centre of Excellence for Compressors and Pumps.

Technical specifications:

SL. NO.	MAIN PARAMETERS	DESCRIPTION
1.0	SCOPE:	Design, manufacture, supply, erection and commissioning of EOT Crane 5 T in the Centre of Excellence for Compressors and Pumps as per IS3177 Class M5, IS807 and other relevant standards and this Specification and complete with all electricals, Radio Remote Control as option and standard accessories as per requirement. Crane must be rugged and robust in operation as per their nature of work.
2.0	Class	M5, duty as per IS: 3177-1999 & IS:807 (Indoor)
3.0	Environment	Indoor, Particle controlled
4.0	Capacity (SWL)	5 T
5.0	Lifting hook	Main Hoist: 5 T
6.0	Span (tentative)	10.87 m. (girder rail to girder rail centre)
7.0	Bay length and width	11.77 m X11.77 m approx. (inside wall to wall)
8.0	Longitudinal Travel (LT)	11.5 m approx.
9.0	Speeds, Crane	Longitudinal : 18-20 m/min (Long Travel - LT) Transverse :12-10 m/min (Cross Travel - CT) Main Hoist (MH); Macro movement : 3.0 m/min; Micro movement : 0.3 m/min
10.0	Lift	6 m. (hook lift from floor level)
11.0	Hook approach	10.6 m approx. (from DSL-end to opposite end)
12.0	Out of reach for hook	1.0 m from wall on DSL side end, 0.8 m from wall on opposite end.
13.0	End clearances	300 mm (from wall to centre of rail) on either sides
14.0	Head room	2 m approx. (from the top of the gantry rail to the bottom most part of the building beam) A minimum of 100 mm safe clearance is to be kept above the top most point of the crane to the lowest point of the beam.
15.0	Distance from floor to top of gantry rail	VENDOR to provide (ref. 60.0)
17.0	DSL Type and features	Safe-track Shrouded conductors type DSL system with all safety features must be offered. A four bar (3P+1N) enclosed (shrouded) conductor type system identical to insul-8 shall be provided along the full length of the run way. The bus duct cable shall be connected from the DB (at floor level) to a terminating box at one end of the bridge. 'Power On' indicators for the individual phases R, Y and B in appropriate colour shall be provided at power supply input end of the DSL side. Insulated conductors (Normal thermal

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Turbomachinery Laboratory			COE for Compressors and Pumps	
Corporate R&D Division, BHEL, Vikasnagar, Hyderabad 500093				

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		rating of 32 Amps) in standard bar length (not less than 4.5 mtrs.), without any exposed live parts to contact shall be provided. The system must be suitably supported to control sagging and mis-alignments, not exerting unwanted tension on the conductor and collector system. Conductors shall have slide in slot features for arresting hanger support mis-alignment. Integrity and smooth running of the system shall be ensured for operation all along the traction.
18.0	Operation control	Pendant control: Yes, operated from floor level and moves with carriage(CT); Radio Remote control (RRC) : yes, as optional. Indicate the price separately for this feature. Both Pendant and RRC should have following buttons - 1. LT ; 2. CT ; 3. MH (macro); 4. AH (macro); 5. MH (micro); 6. AH (micro); 7. Light; 8. ON/OFF ; 9. Siren/hooter; 10. Emergency off
	No. of speed steps through	Pendant - Two steps ; RRC - Two steps or better.
19.0	Noise level	The operating noise of the crane shall be below 100 db.
20.0	Power supply to trolley	LT : Shrouded DSL; CT : Festooning Cable arrangement / cable drag chain of IGUS MAKE
21.0	Bridge and carriages	Single girder (Optionally indicate price with double girder also) Box type single girder, plate built construction, fabricated from rolled steel as per IS:226/IS:2062 plates.
22.0	Column supports	RCC column support will be provided by BHEL (Span 4 m).
23.0	Fixing arrangement	VENDOR to indicate girder to rail fixing arrangement which is in his scope of supply
24.0	Wheel base	LT: min 2000 mm ; CT: min 1600 mm
25.0	Power Supply	415 V AC $\pm 10\%$, 50 Hz $\pm 3\%$, 3 phase- 4 wire system
26.0	Brake	Fail safe* electro-hydraulic thrusters for all motions (CT, LT, Hoist etc.) should be totally enclosed conforming to IP:54. (in case of power failure, the load must not move).
27.0	Rope fall construction,	to IS: 2266, IS: 1835 6X36 or 6X19 construction with fibre core, ungalvanised rope falls - Main : 4
28.0	Factor of safety	> 6
29.0	Ultimate Strength	> 180 kg/sq.mm (test-certificate for breaking load to be submitted)
30.0	Type of Coupling	All couplings should be of fully flexible geared type.
31.0	Transmission and drive	Twin drive with individual shaft and separate motor for LT and central drive for CT. Total no. of wheels - 4, No. of driven wheels -2 and No.of idler wheels -2 for both LT & CT
32.0	Ambient temperature	+5°C to +55 °C

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33.0	Type of hooks	Shank forged "C" type swivelling hook as per IS: 3815 with safety latch arrangement
34.0	Rails type	LT: Minimum 50 mm Sq.bar CT: Minimum 50 mm Sq. bar.
35.0	Lubrication system	The system offered shall have sealed transmission systems featuring zero leakage of lubricants. Leak /loss of lubricant rate together shall be less than 1% per annum. Topping frequency shall be higher than 5 years.
36.0	Bearings	Anti-friction bearings (self aligning, heavy duty, spherical roller type bearings) shall be offered with suitable bearing housings.
37.0	Wheels	L' Type, hard (300-350 BHN) die forged alloy steel (C 55-Mn 75) wheels with suitable bearings shall be provided for both LT (min dia 200mm)and CT(min dia 200mm). Use of lined wheels for noise control is permitted, such design shall be used with prior approval of BHEL.
38.0	Painting / Colour	The entire equipment shall be painted with off-white / orange colour uniformly, confirming to IS: 2932: 2003, ISC No.591 (as per IS-5). All surfaces shall be sand blasted and primer coated prior to final coating. The same is to be certified by the vendor.
39.0	Electrical motor/drives	Crane duty, Class-B /F insulated, squirrel cage induction motors suitable for variable voltage variable frequency (VVVF) drive controls shall be used for all motions and traverses. The hoist motors shall be suitable for inching duty with 150 starts/hr and rated for one hour duty cycle at CDF of 40%. The drive shall have an IP-54 enclosure.
40.0	Buffers	Spring loaded buffers shall be provided for LT & CT on either ends.
41.0	Limit switches	All limit switches must conform to IP-54 and shall be of shunt types. a) For main hoist: 1 No. rotary geared + 1 No. counter weight type. b) 2 Nos. each roller lever type each for CT & LT on either ends.
42.0	Contactor and fuses	All contactors shall be rated for AC3/AC4 Duty Class. Suitable circuit breaker protection shall be provided for each individual crane motor. Minimum size contactor in power circuit shall be 32 A.
43.0	Overload relays	Bi-metallic over-load relays to be provided for all the motors.
44.0	Gearing and gear boxes	The gear boxes shall be completely sealed and lubricated for life. Single helical and straight spur gears are to be used for all stages. The body of the gearboxes shall be MS fabricated and stress relieved. The gear boxes shall be horizontal split type and shall feature spherical/roller type bearings.

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45.0	Rope drum	Rope drum shall be fabricated from steel plate and stress relieved / MS seamless pipe . The drum shall have flanges at either end and shall be machine grooved in the hoisting direction. The drum shall be fabricated as per IS:3177-1999 maintaining ratios (of diameter of the drum to the diameter of the rope). Circumference weld joint shall be checked for 100% X-ray quality. The drum shall be mounted on antifriction ball/roller bearings.
46.0	Gantry Girder	<p>a) Suitable gantry girder (runway steel) for the crane shall be offered by the VENDOR and dimensional drawing of the gantry girder must be submitted along with technical offer. The gantry girder proposed for the crane shall be fabricated, supplied, installed and aligned by the VENDOR for a column to column spacing of 4 meters. Crane runway support steel shall be designed with sufficient strength and rigidity to prevent undue lateral or vertical deflection (shall be suitably braced / strengthened) for the maximum wheel loading of the crane. The runway rails shall be installed straight, parallel and level, at the same elevation and centre distances as approved.</p> <p>b) VENDOR must indicate and offer the fixing components/hardware like; embedment plates, foundation pockets, clamps etc on horizontal and vertical locations of the columns as well as on the bracket for gantry girder and gantry rail. The VENDOR shall also agree to supply embedment plates etc in advance to enable concreting the same. The embedment of plates to the concrete structure alone will be arranged by BHEL (in case of RCC columns) as per supplied drawing and template.</p> <p>c) The detailed drawing of fixing arrangement, foundation pockets etc showing the above must be submitted for approval before manufacturing the items.</p> <p>d) All associated work of fixing, welding, installing the equipments clamping, grouting the foundation pockets etc. shall be completed by the VENDOR using his equipment and man-power.</p>
47.0	Materials to be used	<p>Rope drum: Fabricated rolled steel IS:2062 or seamless tube of suitable diameter and shell thickness.</p> <p>Pulleys : Cast steel IS:1030 Gr.4 (sheaved pulleys)</p> <p>Gear Box : IS: 226/ IS: 2062 fabricated casing duly stress-relieved (horizontal type)</p> <p>Gear : EN9, Pinion: EN19/EN24</p> <p>Hardness : 250 to 280 BHN (of pinion) 225 to 280 BHN (of gears), Heat treatment: Hardened and tempered</p> <p>Wheels: C 55 -Mn 75/ forged alloy steel with hardness of 300-350 BHN</p>

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48.0	Crane Fabrication	All welding must be done with E 7018 electrodes only. All butt joints shall be of radiographic quality. Compression and tension joints, flanges and webs shall also be radiographed to ensure defect free welds.
49.0	Cables and routing	PVC insulated and PVC sheathed tough rubber, multi-strand copper cables (1.1 kV grade) shall be used. Terminations shall be done with copper lugs and suitable ferrules at both ends. All power cables should be sized so as to carry 125 % of rated current safely. Control cables shall have a minimum cross-sectional area of 2.5 sq. mm copper.
50.0	Controls	Individual panel boards (standard make, conforming to IP-54) are to be provided for each motion (LT, CT, Hoist etc). Individual isolating switches for power and control circuits are to be provided in the panels. The control supply voltage shall be maintained as 110 V AC, single phase, 50 Hz.
51.0	Accepted make* of the bought out items * For Indian VENDORS only	a) Bearing : SKF/ZKL/NBC/ZKL/NBC/NTN/FAG b) Thrust brakes : SOC/TSS/SNS c) Cables : Finolex/ LAPP/ Radiant d) Couplings : WMI/Wagman/Nu-Teck/Flexi Tran e) Contactors / Isolators : Siemens/L&T/BCH / Telemecanique/ Schneider / ABB f) Hooks : Herman Mohetta/Hercules/Steel Forging / EEK g) Limit switches : Siemens/SOC/SNS h) Motors : GEC/Crompton/ABB/Siemens/Bharat Bijilee i) Wire rope : Usha martin/Fort William j) Isolator switches : Siemens/ L&T/ Schneider / ABB k) MCCB : Siemens/L&T/MDS/Schneider/ Legrand l) Radio remote control : Stromag/SNT (Model:CC /Acropolis along with charger, if any) m) Fuses and fuse units : Siemens/English Electric n) Controllers, limit switches (IP:54) : SOC/WMI/OMEGA/TSS/SNS o) Panel boards : Siemens / Rico/Rettle /BCH /OEM p) Gear Boxes : Shanti/Elecon/Radicon/Nu-Tech q) DSL (shrouded) : Stromag/Safetrack q) For all other bought out items as per the bought out items specification enclosed herewith
52.0	Earthing	A common electrical Earthing bus is to be installed on the crane, covering the entire span and trolley etc. Double earthing to be provided for all the electrical equipments. Suitable earthing arrangement should be extended from crane to the rail and gantry

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53.0	Documents with Technical bid	1. General arrangement drawings of the crane showing the requisite details are to be submitted along with technical offer.
		a) Top most point of the crane to bottom most point of the beam
		b) Hook approach on either side from the walls
		c) Rail to rail distance (Span)
		d) Total height of the lift etc.
		2. Sample O&M Manual (soft/hard copy)
		3. Manufacturers reference list and background for last 10 years.
		4. Point-wise response / clarification to all the above points (offer may be rejected if not complied with)
54.0	Drawings and documents (5 sets each)	Following documents and drawings shall be submitted for approval before manufacture of the crane.
		a) GA drawing of the crane
		b) GA drawing of the crab/trolley
		c) GA drawing of the individual mechanism
		d) Drawing of bridges, end carriages and their connections, sub-assembly, drawings for wheels, hook blocks, gear boxes and hoist drum.
		e) Calculation for selection of motors, gear reducers, brakes, couplings
		f) Calculation for bridge girder, end carriage and their connections
		g) Drawing pertaining to power and control wiring circuits
		h) Quality plan
55.0	Stage inspections	i) Document pertaining to BO items / not covered in NIT
		Vendor shall agree to 3 stage inspection as follows:
		Stage- 1
		a) Verification of test-certificates for raw materials for girders, end carriages etc.
		b) Verification of X-ray report of the butt joint of girders
		c) Box girder setting before closing the bottom flanges inspecting the quality of the welding and waviness.
		d) Trolley frame fabrication before setting the mechanism
		Stage-2
		a) Bridge and end carriage with wheel assembly and alignment checking.
		b) Span, diagonal wheel alignment, mechanism assembly and alignment checking.
		c) Free running of the mechanism
		d) Measurement of camber in the bridges
e) End carriage fabrication		
Stage-3		
a) Final load-test and deflection test (Loads shall be arranged by the supplier)		
b) Measurement of deflection and permanent set		

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		c) 25 % overload lifting ability checking
56.0	Quality Plan	Vendor shall submit the complete 'Quality Plan' for the project along with the detailed procedures for all the checks and performance tests to be carried out at works as well as after installation along with the technical offer.
57.0	Spares & Services	a) Vendor shall agree to attend to the installation with in 24 hours of service call (first 12 months). b) A list of mandatory spares must be provided by the supplier. c) A set of special tools and commissioning spares are to be included in the supply.
58.0	Scope of supplies	The scope includes (but not limited to) : design, material, fabrication, assembly, testing (at works and at BHEL site), supply, packaging, forwarding, transportation, receipt, unloading, storage, erection (all tools tackles, crane, equipments that would be required for erection is to be arranged by supplier) , installation, testing (supplier must arrange for all materials, instruments and equipments that will be required for the Load test, including arranging of dead weights), commissioning of the complete package, proving of performance etc.
59.0	Purchaser's scope	a) Electrical power supply : 415 V AC +/- 10 %, 3 phase, 50 HZ +/- 3%, 4 wire supply of suitable capacity will be provided with a DB at one point at floor level. The cabling is to be done from this limit point by the supplier. b) Water and air, if any. c) A copy of civil drawing of the proposed site will be provided to the supplier, for reference.
60.0	Details to be furnished by the supplier	a) Total weight of the crane including electrical equipment. b) Total width of the crane. c) Total weight of the trolley including electrical equipment d) Total Weight of each bridge assembled and ready for erection with and without mechanical and electrical equipment. e) Weight of each end carriage assembled and ready for erection. f) Total weight of structural, mechanical and electrical equipments separately. g) Specifications with respect to civil inputs requirement. h) Details of the capacities of motors (electrical rating). i) Vendor must indicate their requirement and tolerance with respect to the civil concrete bracket (on which the gantry girder would be seating). j) The inputs like maximum wheel load etc. (required for the design of the bracket) k) Vendor must specify the gantry girder section dimension. l) The height difference between hook top most position and the gantry rail. m) Distance between the two hooks (Aux & Main).

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61.0	Supplier shall submit	<p>a) Test-certificates for Hoist rope, Hook, Electrical motors, Couplings, Gear boxes, Pulleys, Wheels, Bearings, etc.</p> <p>b) Material test-certificates for the structural steel, drums, rope, brake drums, pulleys, wheels, shafts etc.</p>
62.0	O&M manuals	Equipment operation instructions, maintenance and service manuals (together with all VENDOR manuals for bought out items), Mechanical and Electrical drawings, Part list are to be supplied in 5 sets each.
63.0	Miscellaneous	<p>a) Hand rails, jacking pads for jacking up and changing wheels, safety pads in case of breakage of fasteners, dimension in metric system, locking of all fasteners are to be provided.</p> <p>b) All equipments like gear-boxes, motors, brakes are to be mounted on machined surface and shall have machined foot.</p> <p>c) A well designed chequered plate platform for attending maintenance of the crane shall be provided. The platforms shall be complete with hand railing and toe-guards.</p> <p>d) A safety Ladder shall be provided at suitable location to reach the crane platform for attending maintenance of the crane</p> <p>e) Three nos. of each 150 watts Metal Halide lamps with fittings should be provided under the crane bridge. The lights on/off controls are to be provided at pendant push-button station.</p> <p>f) As safety feature, a hooter alarm should be provided with control.</p>
64.0	Major scope of the contract	<p>Consists of the following major systems which are to be designed, manufactured, supplied, transported, installed, integrated completely and commissioned in total with all tests and checks (works and site).</p> <p>a) Single/double (Option) girder 5T EOT crane (complete package)</p> <p>b) Shrouded type DSL System for crane bay length of ≈12m</p> <p>c) Gantry girder and rail for bay length of ≈ 24 m.</p> <p>d) Total erection, integration, commissioning and testing of the above said packages as complete unit.</p>
65.0	General	<p>a) Any other requirements not set forth in these specifications, but necessary for the safe and reliable operation of the equipment shall be included.</p> <p>b) Quantities other than specified shall be supplied for satisfactory commissioning of the equipment. Variations due to structural constraints shall be incorporated; increase in quantities if any shall be informed to and approved by BHEL. Prorate cost of additional material shall be admissible.</p> <p>c) BHEL reserves right to use uncompleted/ unsatisfactory equipment</p>

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66.0	Guarantee	a) The vendor shall guarantee 12 month trouble free service after installation of the equipment. b) Optionally Indicate price separately for additional 3 and 5 years Guarantee.
67.0	Annual Maintenance Charges	Yearly AMC Charges after warrantee period separately for a period of 3 and 5 years.
68.0	Optional	The pricing to be indicated clearly in the price bid for the following optional items: a) Bridge and carriages with double girder b) Radio Remote control (RRC) Operation c) Additional 3 and 5 Year Guarantee separately d) Yearly AMC Charges after warrantee period separately for a period of 3 and 5 years.
69.0	IS Reference	a) Crane duty class : IS 3177-1999, IS 807 (indoor) b) Rails : IS 3443 c) Ropes : IS 2266, IS 1835 d) Hooks : IS 3815 e) Rolled steel : IS 226 (1975), IS 2062 (1992) f) Pulleys : IS 1030 Gr 4 (Sheaved Pulleys) g) Steel for rope drum : IS 2062, IS 3177-1999 h) Gear box : IS 226, IS 2062 i) Painting : IS 557
70.0	Important	1. Vendor must submit complete information against clause no. 53,55,56,60 and 61. The offer meeting this clause would only be processed. 2. The offer and all documents enclosed with offer should be in English language only. 3. BHEL reserves the right to verify the information submitted by the vendor. The offer with false/ incorrect/incomplete information may be rejected. 4. Vendor shall sign and stamp all sheets 5. Offers submitted shall be valid for a period of minimum 8(eight) months from date of commercial bid. 6. Revised technical bid may be necessary should the specification need up gradation/ modification on technical scrutiny. 7. Vendor must answer all points

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SPECIFICATION FOR BOUGHT OUT ITEMS OF 5 TON EOT CRANE

SL. NO.	ITEM	MAKE	OTHER DETAILS
1	Bearings	SKF/ZKL/NBC/ZKL/NBC/NTN/FAG	
2	Cables	Finolex/ LAPP/ Radiant	ISI approved Cables with copper conductors only
3	Connectors /Isolators	Siemens/L&T/BCH / Telemecanique/ Schneider / ABB/ Elmex / Wago	
5	Master Controller	Siemens / SOC / WMI /OMEGA/TSS/SNS	
6	Couplings	Hi-Cliff / WMI	
7	Fuse / Fuse holders	English Electric	
8	Hooks	Herman Mohatta / Hercules	
9	Isolator Switch	SIEMENS	
11	Limit Switches	Siemens / SOC / OMEGA	IP54 or better
12	Lubrication Pump/motor	CENLUB	
13	MCB	SIEMENS	
15	Motors (Auxiliary)	GEC / BBL / CROMPTON GREAVES / ALSTOM	IEC Frame sizes, IP54 or better
16	Motors (Squirrel cage)	GEC / BBL / CROMPTON GREAVES / ALSTOM	IEC Frame sizes, IP54 or better, Crane duty, 1 hour rated, 40% CDF
17	Overload relay (Electrical)	SIEMENS	
18	Overload relay (Mechanical)	ELECTROGEAR	
19	Panels	SIEMENS / GODAVARI ELECTRICALS / DANDAPANI / Original equipment manufacturer	Should be made from 18 G sheet steel, Powder coated and should be provided with panel locking facility.

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20	Pendent pushbutton station	HANSU	With colour coded pushbuttons and name plates
21	Pneumatic timers	Bharatia Cutler Hammer	
22	Push Buttons	SIEMENS	
23	Radio Remote Control	Stromag / SNT	3-0-3 step operation, Hand held / Joy stick type with rechargeable batteries and charger
24	Rails		CR-80/CR-100/CR-120 as per IS-3443
25	Resistance Box	BCH / SOC / WMI / OMEGA	IP11 or better
26	Thruster Brakes	SOC / WMI / OMEGA	IP54 or better
27	Squirrel cage induction motors (suitable for crane duty application and to run with VVVF drives)	ABB / SIEMENS / ALSTHOM	IEC Frame sizes, IP54 or better, Crane duty, 1 hour rated, 40% CDF.
28	Variable frequency drives with regenerative braking resistance	ABB drives - Type ACS800 / ACC 800 Mitsubishi - Type FR - A 740	Digital type
29	Wire Rope	Usha Martin / Fort William / Bharat wire ropes	

				11	
Prepared by				Approved by	
Turbomachinery Laboratory			COE for Compressors and Pumps		
Corporate R&D Division, BHEL, Vikasnagar, Hyderabad 500093					



BHARAT HEAVY ELECTRICALS LIMITED

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

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

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

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

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

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

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

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

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



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

Suppliers' compliance statement to basic conditions of enquiry

(In case Order to be placed on Indian supplier in Indian currency)

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

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

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

(Signature and Stamp/Seal of Vendor)



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

VENDOR REGISTRATION FORM

[FORM TO BE SUBMITTED* BY THE BIDDER ALONG WITH TECHNICAL-BID]

Before filling please refer to instructions on page-4

1.0 VENDOR PROFILE:

1.1 & 1.2 Name and address of the vender:

Phone Nos.:

Fax No.:

Email:

1.4 Local representative of the vender in India/ Hyderabad:

Phone Nos.:

Fax No.:

Email:

Contact person:

Mobile No.:

2.0 & 2.1 Type of Organisation:

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

3.0 Annual Turn Over:

Name and address of the Banker:

Sr.No.	Bank	Address

4.0 REGISTRATION PARTICULARS

4.1 IT Permanent Account No.(PAN):

4.2 & 4.3 State and central sales tax Registration No.:

4.4 ED/ Service Tax Registration No.:

PF Account No.:

Labour Licence No.:

ESI Account No.:

5.2 Contact person:

Mobile No. :

5.3 Total Number of employees:

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

6.0 Wish to register for supplies/ services other than one bidding for :

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

6.1 Reference list :

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

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

7.0 & 8.0 Infrastructure / facilities :

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

9.0 Registration with other BHEL Unit/Units:

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

Any Other information :

Declaration:

The information furnished above is true and authentic.

(CEO / Proprietor)

SEAL:

Date:

The competent authority reserves the right to accept or reject the registration. Registered vendors will be informed by mail / email, as convenient. Contact Sr.DGM (MM) for clarification/ additional information on registration.
A separate communication will be sent to you in case of non-registration, citing reasons thereof.

Instructions

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

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

AUTHORISATION LETTER FOR E-PAYMENT/ NEFT / RTGS

(PLEASE FILL UP THE FORM COMPLETELY IN CAPITAL LETTERS ONLY)

1	Type of Request (Tick One)	NEW / CHANGE
2	BHEL Vendor Code	
3	Company's Name	
4	Address	
5	City with Pin Code	
6	State	
7	PAN NUMBER	
8	Name of Contact Person	
9	Phone No with STD Code	
10	Fax No with STD Code	
11	Email Id	
12	Web Site (URL)	

BANK DETAILS FOR EFT / RTGS

1	Bank Name	
2	Branch	
3	Branch Code	
4	Address	
5	PHONE No.	
6	Account No.	
7	MICR/ IFSC Code	
8	Bank Swift Code	
9	NEFT/ RTGS enabled	Yes / No
10	Cancelled Cheque	Enclosed / Not Enclosed

1. I, as representative / owner of the above named company, hereby authorise BHEL R&D Hyderabad, to electronically make payments to the designated bank account. I hereby certify that the particulars given above are true, complete and correct.
2. If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information, I would not hold BHEL / transferring Bank responsible.
3. This authority remains in full force until BHEL receives and acknowledge written notification requesting a change or cancellation

Date:

Authorised Signatory
Designation :

COMPANY SEAL



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

IMPORTED

Suppliers' compliance statement to basic conditions of enquiry

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

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

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

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

(Signature and Stamp/ Seal of Vendor)



BHEL CORPORATE R & D
VIKAS NAGAR- HYDERABAD - 500 093
ANDHRA PRADESH – INDIA
SUPPLIER REGISTRATION FORM

(FOREIGN SUPPLIER)

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

1.0 GENERAL INFORMATION:

1.1....NAME OF COMPANY

1.2....DETAILS OF HEAD OFFICE:

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

1.3....DETAILS OF FACTORY/WORKS:

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

1.4....DETAILS OF MARKETING AGENT

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

1.5 CHIEF EXECUTIVE

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

AUTHORISED SIGNATORY



BHEL CORPORATE R & D
VIKAS NAGAR – HYDERABAD – 500 093
ANDHRA PRADESH – INDIA

SUPPLIER REGISTRATION FORM

(FOREIGN SUPPLIER)

- 1.6 CONTACT PERSON(S)
FOR PRODUCT OFFERED
NAME(S)
OFFICIAL CAPACITY
ADDRESS:
TELEPHONE
FAX
E-MAIL
- 1.7 YEAR OF ESTABLISHMENT
- 1.8 PRODUCTION CAPACITY PER ANNUM
- 1.9 PARTICULARS OF PRODUCT INCLUDING
SPECIFICATION AND RANGE OFFERED
FOR REGISTRATION
(ATTACH BROCHERS AND CATALOGUE)
- 1.10 NAME(S) OF BANKERS
- 1.11 BANKER’S CERTIFICATE
- 1.12 PORT OF LOADING
- 1.13 NEAREST AIRPORT
- 1.14 NAME OF THE INDIAN AGENT, IF ANY
WITH AUTHORISATION LETTER
- 1.15 ANY OTHER INFORMATION:

AUTHORISED SIGNATORY



BHEL CORPORATE R & D
VIKAS NAGAR – HYDERABAD – 500 093
ANDHRA PRADESH – INDIA

SUPPLIER REGISTRATION FORM

(FOREIGN SUPPLIER)

2.0 FINANCIAL INFORMATION

2.1...TOTAL CAPACITY

2.2...ANNUAL TURN OVER FOR LAST 3 YEARS

2.3...WHEHER CREDIT LICENSE ACCEPTABLE YES/NO

3.0 QUALITY MANAGEMENT SYSTEMS
ENCLOSED FORMAT PART-B

3.1 EXPERIENCE LIST FOR SAME/SIMILAR ITEMS
TO BE ENCLOSED

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

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

6.0 ANY OTHER INFORMATION

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

AUTHORISED SIGNATORY

BHEL R&D RD:DP:MPX:F-22		LOADING FACTORS			<div><div>बी एच ई एल</div><div>BHEL</div></div>	
NOTE : IN CASE OF DEVIATION TO BHEL TENDER SPECIFIED TERMS, LOADING FACTOR INDICATED IN FOLLOWING TABLE WILL BE APPLIED TO QUOTED PRICE WHILE EVALUATING THE LOWEST QUOTE ()						
A. FOR INDIGENOUS PURCHASES						
SLNO	SCOPE	COMMERCIAL TERMS	BHEL STANDARD TERM	AS OFFERED	LOADING FACTOR FOR NON COMPLIANCE TO BHEL STANDARD TERMS	
A.1	SUPPLY OF EQUIPMENT	PAYMENT TERMS	100% PAYMENT, WITH IN 30 DAYS FROM THE DATE OF RECEIPT AND ACCEPTANCE OF MATERIAL	SAME	NIL	
PAYMENT AGAINST PROFORMA INVOICE / DESPATCH DOCUMENT OR CASH ON DELIVERY (COD) / CASH AGAINST PROOF OF DESPATCH				11% PER ANNUM INTEREST ON THE TOTAL PO VALUE FOR ONE MONTH		
ADVANCE PAYMENT WITH BANK GUARANTEE				11% PER ANNUM INTEREST ON THE TOTAL VALUE FOR OFFERED DELIVERY PERIOD (Rounded off to nearest month) + 1 MONTH		
PART ADVANCE PAYMENT WITH SUPPORTING BANK GUARANTEE AND BALANCE WITH IN 30 DAYS				11% PER ANNUM INTEREST ON ADVANCE FOR OFFERED DELIVERY PERIOD (Rounded off to nearest month) + 1 MONTH		
PART ADVANCE PAYMENT WITH SUPPORTING BANK GUARANTEE AND BALANCE ON RECEIPT OF MATERIAL				11% PER ANNUM INTEREST ON ADVANCE FOR OFFERED DELIVERY PERIOD (Rounded off to nearest month) + 1 MONTH AND 11% PER ANNUM INTEREST ON BALANCE AMOUNT FOR ONE MONTH		
A.2	SUPPLY OF EQUIPMENT INCLUDING E&C	PAYMENT TERMS (THE SUPPLIER MUST SUBMITT A PERFORMANCE BANK GUARANTEE (PBG) FOR 10% OF THE BASIC VALUE OF THE ORDER VALID FOR WARRANTY PERIOD.)	90% PAYMENT, WITH IN 30 DAYS FROM THE DATE OF RECEIPTAND ACCEPTANCE OF MATERIAL . BALANCE 10% WITH IN 30 DAYS OF COMPLETION OF E&C AND ON SUBMISSION OF PERFORMANCE BANK GUARANTEE (PBG) FOR 10% OF BASIC PO VALUE.	SAME	NIL	
100% PAYMENT WITH IN 30DAYS AFTER COMPLETION OF SUPPLIES AND ERECTION AND COMMISSIONING				NIL (PBG WILL NOT BE INSISTED FROM THE SUPPLIER)		
90% PAYMENT AGAINST PROFORMA INVOICE/ DESPATCH DOCUMENT OR CASH ON DELIVERY (COD) / CASH AGAINST DESPATCH AND BALANCE 10% WITH IN 30 DAYS OF E&C				11% PER ANNUM INTEREST ON 90% OF THE VALUE OF PO FOR ONE MONTH		
90% PAYMENT AGAINST PROFORMA / DESPATCH DOCUMENT OR CASH ON DESPATCH (COD) / CASH AGAINST DESPATCH AND BALANCE 10% AFTER COMPLETION OF E&C				11% PER ANNUM INTEREST ON TOTAL PO VALUE FOR ONE MONTH		
90% ADVANCE PAYMENT WITH BANK GUARANTEE AND BALANCE 10% WITH IN 30 DAYS OF E&C				11% PER ANNUM INTEREST ON 90% OF THE TOTAL VALUE FOR DELIVERY PERIOD(ROUNDED OF TO THE NEAREST MONTH) + 1 MONTH		
PART ADVANCE (x%) PAYMENT WITH SUPPORTING BANK GUARANTEE AND (90 - x) % PAYMENT ON RECEIPT OF MATERIAL AND 10% PAYMENT WITH IN 30 DAYS AFTER E&C				11% PER ANNUM INTEREST ON THE ADVANCE AMOUNT FOR THE DELIVERY PERIOD(ROUNDED OF TO THE NEAREST MONTH)+ 1 MONTH AND 11% PER ANNUM INTEREST ON (90-X)% PAYMENT FOR ONE MONTH		
PART ADVANCE (x%) PAYMENT WITH BANK GUARANTEE AND (90 - x) % PAYMENT ON RECEIPT OF MATERIAL AND 10% PAYMENT AFTER E&C				11% PER ANNUM INTEREST ON THE ADVANCE AMOUNT FOR THE DELIVERY PERIOD(ROUNDED OF TO THE NEAREST MONTH)+ 1 MONTH AND 11% PER ANNUM INTEREST ON BALANCE AMOUNT		

SLNO	SCOPE	COMMERCIAL TERMS	BHEL STANDARD TERM	AS OFFERED	LOADING FACTOR FOR NON COMPLIANCE TO BHEL STANDARD TERMS
B. FOR FOREIGN PURCHASES (IMPORTED)					
B.1	SUPPLY OF EQUIPMENT	PAYMENT TERMS.	AGAINST SIGHT DRAFT ON PRESENTATION OF DESPATCH DOCUMENTS VIZ INVOICE, AWB ETC TO OUR BANKERS (ALL BANK CHARGES INSIDE INDIA TO BHEL ACCOUNT AND OUTSIDE INDIA WILL BE TO THE SUPPLIER'S ACCOUNT)	SAME	NIL
				100% PAYMENT AFTER RECEIPT AND ACCEPTANCE OF MATERIAL AT BHEL R&D BY WIRE TRANSFER. (DESPATCH DOCUMENTS WILL BE SENT TO BHEL R&D DIRECTLY ALONG WITH BANK DETAILS)	NIL
				LC PAYMENT	11% PER ANNUM INTEREST ON THE BASIC VALUE FOR ONE MONTH
				ADVANCE BY WIRE TRANSFER WITH BANK GUARANTEE	11% PER ANNUM INTEREST ON THE BASIC VALUE FOR DELIVERY PERIOD + 1 MONTH
				PART ADVANCE (x%) PAYMENT WITH SUPPORTING BANK GUARANTEE AND BALANCE PAYMENT AFTER RECEIPT OF MATL	11% PER ANNUM INTEREST ON THE ADVANCE AMOUNT FOR THE DELIVERY PERIOD+ 1 MONTH AND 11% PER ANNUM INTEREST ON BALANCE AMOUNT FOR ONE MONTH
B.2	SUPPLY OF EQUIPMENT INCLUDING E&C	PAYMENT TERMS (THE SUPPLIER MUST SUBMITT A PERFORMANCE BANK GUARANTEE (PBG) FOR 10% OF THE BASIC VALUE OF THE ORDER OF THE BASIC VALUE OF THE ORDER VALID FOR WARRANTY PERIOD.)	90% PAYMENT WILL BE MADE WITH IN 30 DAYS FROM THE DATE OF RECEIPT OF MATERIAL ON ACCEPTANCE AND BALANCE 10% WITH IN 30 DAYS OF COMPLETION OF E&C AND ON SUBMISSIONOF PERFORMANCE BANK GUARANTEE FOR 10% OF BASIC VALUE	SAME	NIL
				LC PAYMENT FOR 90% OF THE ORDER VALUE + 10% AFTER E&C WITH IN 30 DAYS	11% PER ANNUM INTEREST ON 90% OF BASIC VALUE FOR ONE MONTH
				90% OF BASIC VALUE AS ADVANCE BY WIRE TRANSFER WITH BANK GUARANTEE AND BALANCE 10% AFTER E&C BY WIRE TRANSFER WITH IN 30 DAYS	11% PER ANNUM INTEREST ON 90% OF THE BASIC VALUE FOR DELIVERY PERIOD + 1 MONTH
				x% OF TOTAL VALUE AS ADVANCE PAYMENT WITH BANK GUARANTEE AND BALANCE (I.E. 90-X)AFTER RECEIPT OF MATL BY WIRE TRANSFER AND 10% AFTER COMPLETION OF E&C	11% PER ANNUM INTEREST ON THE ADVANCE AMOUNT FOR THE DELIVERY PERIOD+ 1 MONTH AND 11% PER ANNUM INTEREST ON BALANCE AMOUNT OF 90% OF ORDER VALUE (I.E. 90-X%)
				C. PERFORMANCE BANK GUARANTEE, PBG (COMMON FOR INDIGENOUS AND IMPORTS)	
C.1		PERFORMANCE BANK GUARANTEE	PBG FOR 10% OF THE BASIC PO VALUE SHALL BE FURNISHED IN BHEL PRESCRIBED FORMAT.	IF NOT AGREED	10% OF THE BASIC MATERIAL COST
D. PENALTY (COMMON FOR INDEGENOUS & IMPORTS)					
D.1		LD CLAUSE	IN THE EVENT OF DELAY IN AGREED CONTRACTUAL DELIVERY, PENALTY OF 0.5% (HALF PERCENT) PER WEEK BUT LIMITED TO A MAX OF 10% VALUE OF UNDELIVERED PORTION OF BASIC MATERIAL COST WILL BE APPLICABLE	AGREED	NIL
				IF NOT AGREED	10% OF THE BASIC MATL COST
				IF AGREED FOR 5%	5% OF THE BASIC MATERIAL COST
				OTHER THAN THE ABOVE	10% MINUS THE AGREED MAX PERCENTAGE OF THE BASIC MATERIAL COST WILL BE LOADED.