

TENDER DOCUMENT

**Retrofitting of 10 MT hand operated overhead crane by Electric
Wire Rope Hoisting Trolley**

NIT No.: WEX/SP/COMP/CRANE/11-12

Dated: 07.01.2012

**BHARAT HEAVY ELECTRICALS LIMITED, HEEP,
RANIPUR, HARIDWAR-249403**

BHARAT HEAVY ELECTRICALS LIMITED
HEEP, RANIPUR, HARIDWAR

NIT No.: WEX/SP/COMP/CRANE/11-12

Dated: 07.01.2012

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BHARAT HEAVY ELECTRICALS LIMITED, HEEP, RANIPUR, HARIDWAR-249403 (U.K.)

OFFICE OF SDGM (WEX-SP & PGP),

Phone: 01334-285416, 9927511688 **Fax No.: 01334-226460.**

Email: nk-s@bhelhwr.co.in

TENDER NOTICE

Open Tender in Sealed envelope are invited for **Retrofitting of 10 MT hand operated overhead crane by Electric Wire Rope Hoisting Trolley installed in HEEP, Plant** in single part bid both Techno-Commercial Bid and Price Bid through registered Post/courier/by hand **up to 2.30 PM on dated 31.01.2012** for the under-mentioned work in the office of SDGM (WEX-SP & PGP). Interested Parties may download the tender document from our Web-site www.bhel.com

Last date & time of receipt of filled Tender in all respect: 2:30 PM on 31.01.2012

Date & time of opening of Tender : 3:00 PM on 31.01.2012

Place of opening of Tender : Office of SDGM (WEX-SP&PGP)
At BHEL, HEEP, Ranipur Haridwar

NIT No. & Date	Name of Work	Earnest Money (Rs)	Period of Contract	Tender Cost(Rs)
NIT No.: WEX/SP/COMP/CR ANE/11-12 Date:07.01.2012	Retrofitting of 10 MT hand operated overhead crane by Electric Wire Rope Hoisting Trolley	Rs. 10000/-	02 Months	Rs. 200.00/-

Engineer (WEX-SP&PGP)

NIT No.: WEX/SP/COMP/CRANE/11-12

Dated: 07.01.2012

Name of Work: - Retrofitting of 10 MT hand operated overhead crane by Electric Wire Rope Hoisting Trolley.

INSTRUCTIONS:-

1. Tender shall be submitted in single part Techno-Commercial Bid and Price Bid. Both these bids (i) Super scribing Techno-commercials Bid with NIT NO & name of contractor and (ii) Super scribing with Price bid with NIT No & name of contractor, shall be sealed in an envelope.
2. Tender cost of Rs. 200/= shall be submitted in the form of Bank Draft of any nationalized Bank in favour of Accounts Officer (Finance), HEPP,BHEL, Ranipur, Haridwar and should be kept in sealed envelope. The Tender documents shall be downloaded from our web-site.
3. Earnest Money for Rs. 10,000/= shall be submitted in the form of Bank Draft of any nationalized Bank in favour of Accounts Officer (Finance), HEPP, BHEL, Ranipur, Haridwar payable at Haridwar and shall be placed in sealed envelope.
4. The contractor shall sign each page of tender document set along with their seal.
5. The rates must be quoted in figure as well as in words.
6. Tenders, which are not received in the above manner, shall be rejected.
7. Sealed envelope shall be opened on 03:00 PM on 31.01.2012 in the presence of interested authorized representatives of the parties at the time of opening of the tender.

Signature of the Contractor

NIT No.: WEX/SP/COMP/CRANE/11-12

Dated: 07.01.2012

Name of Work: - Retrofitting of 10 MT hand operated overhead crane by Electric Wire Rope Hoisting Trolley

Pre- QUALIFYING CRITERIA

The Bidders meeting following criteria would only be considered:-

1.0 Experience of having successfully completed similar works ending 31th Dec 2011 should be either of the following:-

- a) Three similar completed works costing not less than the amount equal to Rs. 1.60 Lac.
Or
- b) Two similar completed works costing not less than the amount equal to Rs. 2.00 Lac.
Or
- c) One similar completed work costing not less than the amount equal to Rs. 3.20 Lac.

Similar work means retrofitting or manufacturing of Crane of capacity 10MT or above.

2.0 Bidders shall provide P.O. / work order copy and performance certificate for satisfactory operation of works as per para 1.0 as mentioned above from his customer along with name, address & contact details. BHEL reserves the right to verify the information provided.

Signature of the Contractor

**BHARAT HEAVY ELECTRICALS LTD., HARIDWAR
(WEX-SERVICES PLANT)**

NIT No.: WEX/SP/COMP/CRANE/11-12

Dated: 07.01.2012

Terms & Conditions:-

1. Any dispute or difference arising under, out of or in connection with the contract shall be subject to the exclusive jurisdiction of the court of Hardwar.
2. Tender without earnest money as mentioned in point no.3 of page no. A2 shall be rejected.
3. Party shall submit copies of valid sales Tax registered and partnership deed if any along with tender.
4. BHEL reserves the right to negotiate/cancel/split up the work among technically qualified bidders without assigning any reason whatsoever.
5. Earnest money shall be refunded to the unsuccessful bidders after award of the work to the successful bidder. Earnest money shall bear no interest. Earnest money shall be forfeited if a bidder withdraws his offer after opening of tender and/or if the lowest bidder refuses/shows his inability to execute the work and/or stops/abandon the work before completion.

6. SECURITY DEPOSIT (SD) :-

i) Successful vendor shall deposit security. The rate of security deposit will be 10 % of work order value. The security deposit should be submitted before the start of the work in following forms:-

- a) Cash(As permissible under the Income Tax Act)
- b) Pay order, demand Draft in favor of BHEL, Hardwar
- c) Local cheque of scheduled Banks, subject to realization
- d) Bank Guarantee from Scheduled Banks/Public Financial institution as defined in the companies Act. The Bank guarantee format should have the approval of BHEL

ii) Security Deposit shall not carry any interest. EMD of successful bidder can be converted and adjusted against the Security Deposit.

iii) 100 % of Security Deposit amount shall be refunded to the vendor after post commissioning successful running of the crane for 6 months.

7. PAYMENT TERMS :

(Note: No advance payment shall be made to the vendor.)

- a) 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 of material as per scope of supply along with test certificate at HEEP, BHEL Haridwar.
 - ii) Final payment of balance 20 % of material cost, 100 % of commission cost after successful running of the machine for 72 hours.
- b) All the payment 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)
- c) 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.

8. COMMERCIAL TERMS :-

- i) Prices shall be quoted on “Firm price” basis only. The prices should only on F.O.R. BHEL, Haridwar basis inclusive of packing Forwarding charge. Applicable % of ED & Sales Tax, Freight & Insurance, Installation & Commissioning Charges should be clearly indicated in attached price bid format as per “Annexure-A”
- ii) Freight & transit insurance charges from dispatching station to BHEL, Haridwar shall be borne by party.

9. L-1 should be decided by total landed cost.

10. All other General Terms and condition of BHEL will also be applicable to this contract.

SIGNATURE OF CONTRACTOR

Annexure-‘A’**Priced Bid Format**

Name of Work: - Retrofitting of 10 MT hand operated overhead crane by Electric Wire Rope Hoisting Trolley

NIT No. & Date: - WEX/SP/COMP/CRANE/11-12 dated 07.01.2012

Bidder's offer No. & date:-

S. No.	Description	Rate (in Rs.)
1.	Material Cost	
2.	Erection & commissioning charges	
3.	Freight Delivery for BHEL Haridwar	
Total landed Cost(1+2+3)		

Note:- 1. Applicable % of ED, Sales Tax, Service tax etc. should be clearly indicated.

SIGNATURE OF CONTRACTOR

Scope of Work

NIT No.: WEX/SP/COMP/CRANE/11-12

Scope of Work for retrofitting of 10 MT hand operated overhead crane by Electric Wire Rope

Hoisting Trolley:-

1.1 Technical Specification :-

a) Technical Specifications:-The Technical specifications cover the design, manufacture, supply, installation, testing and commissioning of Crab/trolley as per IS: 807, IS: 3938 & IS: 3177 (latest):-

- (i) Class & Duty - M5
- (ii) Capacity - 10 Ton
- (iii) Lift - 4-5 mtrs.
- (iv) Qty - 1nos.
- (v) LT Span - 11 meter
- (vi) CT Span - 910 mm
- (vii) Hoisting Speed - 2-4 mpm (approx.)
- (viii) CT Speed - 3-5 mpm (approx.)
- (ix) Motors
M.H – Slip Ring type, 6 pole and 15 H.P
C.T - Squirrel cage, 4 pole, and 3H.P
- (x) Brakes
M.H - Electro-Hydraulic Thrustor ϕ 200mm, 20 kgm (Twin)
C.T - Electro- Hydraulic Thrustor ϕ 100mm, 6kgm
- (xi) Wire rope Dia - 18mm
- (xii) No. of falls - 4 falls
- (xiii) CT Wheel Dia - ϕ 200mm
- (xiv) No. of CT wheels - 4 nos.

b) Design: - The Hoist will be designed, manufactured, erected and tested generally in accordance with the following specifications:

- i) IS: 807-1976 (or latest) - Indian Standard Code of Practice for design, manufacture, erection and testing (structural portion) hoists.
- ii) IS: 3938-1979 (or latest)-Indian Standard specification for Electric wire rope hoists
- iii) IS: 800 -1984 (or latest) – Indian Standard code of practice for General Construction in steel.

c) RIGIDITY CONTROL SAFETY:-

- i) The Hoist will be rigid, robust and of sturdy construction.
 - ii) Hoist controls will be conveniently located.
 - iii) For outdoor Hoists all electrical and mechanical equipment will be protected from the Weather-proof covers.

d) MAINTAINABILITY:-

- i) Safe accesses of maintenance and removal of all mechanical, electrical and structural components would be ensured. All parts requiring replacement, inspection and lubrication will be easily accessible without the need of dismantling other equipment or structures.
- ii) All electrical cables will be so laid that they are not liable to damage and can be easily Inspected and maintained. The cables will be weatherproof and of any reputed make.

e) GEARS & GEAR BOX :-

Gears in all motions will be of case carburizing low carbon alloy steels ie En8 for Gears and En24 for Pinions. High speed reductions are given only through helical gears with surface hardness of 50 to 60 HRC. The hardness of pinions will be 2-3 HRC higher than hardness of Gears. The Gearbox will be fabricated type duly stress relieved.

f) MOTORS:-

HOISTING MOTOR:-

- i) The motor of Hoist will be of (ABB / BBL / CROMPTON / GEC / SIEMENS/ Kirloskar/MARATHON) make and with totally enclosed Slip ring type designed for 150 starts per hour.
- ii) The type of enclosure will be IP-55 for terminal box. The motor will be suitable for 50 Deg. C ambient temp. and 415V +/- 10%, 50 cycle per second +/- 3%, 3 phases, 3 wire AC supply.
- iii) The motor will confirm to IS 325 and will be of 6 or 8 pole type.
- iv) The motor will be of suitable for heavy duty crane hoisting service having cyclic duty factor not less than 60% for class M5 cranes.

CT MOTOR:-

The CT motor of Crane will be of S4 duty (ABB / BBL / CROMPTON / GEC / SIEMENS / Kirloskar) Make and will be totally enclosed fan cooled (TEFC) squirrel cage type and designed for 150 starts per hour. The copper winding motor specially insulated to with stand moist tropical climate.

RESISTORS (For Slip Ring motors):-

The resistors will be air-cooled, robust, heavy duty, corrosion resistant stainless steel punched grid type. The resistance boxes will be placed in racks and will be capable of independent removal of any selected box. All resistors will be rated for 10 minutes continuous loading.

g) BRAKES:-

Main Hoisting: - The main hoisting will be provided with Electro-hydraulic Thrustor Brake, will be provided with Electromagnetic AC Disc Type brakes with coil Voltage 24 volt.

Cross Traverse: - MAKE (SPEED-O-CONTROL/CCE/ELCTROMAG/OMEGA)

h) ROPE DRUM:-

- i) The rope drum will be designed to withstand the compressive stresses caused by the wound on rope and the bending stress due to beam action of the drum.
- ii) The seamless steel Pipes are used as rope drums and drum diameter is strictly confirm to IS: 2062-1984 (or latest) quality.
- iii) The drum will be designed to take the entire length of the rope in a single layer. The drum will be flanged at both ends.
- iv) The grooves are accurately machined for proper sitting of rope, specially designed arrangement is provided so that wire rope changing is easy without involving any clamping or tightening in the drum.

i) WIRE ROPE:-

Hoisting ropes would be of 6x36 constructions, 8mm made out of the best plough steel having tensile strength of 180 Kg/sq.mm. Ropes would be parallel right hand lay as per IS: 2266-1976 (latest). (**Any reputed make**)

j) LIFTING HOOK

- i) Standard plain shank type trapezoidal section hooks will be used.
- ii) Hooks will be mounted on grease lubricated anti-friction thrust bearings and a protective skirt will fitted to prevent rotation of the hook.

k) LIMIT SWITCHES

All hoist motions will be provided with limit switches to prevent from over hoisting and over lowering. Two limit switches will be provided for proper back up protection. The first limit switch will act in the event of over hoisting and over lowering. The second limit switch will be of gravity operated hand resetting type switch connected in the trip circuit. MAKE (SPEED-O-CONTROL/CCE/ELCTROMAG)

l) OVERLOAD RELAY

Overload bimetal relays will be provided for protection to Motor. Make (L&T/BCH/SIEMENS /SCHNEIDER/TELEMECHANIQUE)

m) CONTROL PANEL

- i) All power and Aux. Contactors, individual overload relay will be mounted in a sheet steel cubical with lockable sheet Box.
- ii) All the equipments will be so mounted in panel as to enable its easy removal /replacement.

n) POWER SUPPLY 415±10% Volt 50 Hz 3 phase AC.

o) OPERATION / CONTROL

Push Button pendent station supported with wire rope steel chain operated through 110 V, AC.

SUPPLY: - Retrofitting & commissioning of overhead crane by Electric wire rope hoist trolley at site (Compressor house, HEEP, BHEL Haridwar) should be done by bidder.