



भारतीय समुद्रीय विश्वविद्यालय Indian Maritime University

(केन्द्रीय विश्वविद्यालय, भारत सरकार / A Central University, Govt. of India)
कोलकाता परिसर / Kolkata Campus

Dated: 06.02.2019

CORRIGENDUM- 4

Subject: Tender for supply of Electric Overhead Travelling Crane at IMU Kolkata Campus

Ref 1 : Tender no IMU/KC/EOT dated 05.01.2019

Ref 2 : Corrigendum-1 : 17.01.2019

Ref 3 : Corrigendum-2 : 24.01.2019

Ref 3: Corrigendum -3 : 28.01.2019

Pre-bid meeting – 2 was conducted on 22.01.2019, 03.00 PM.

With reference to the meeting and the discussion of the procurement committee, the following changes are being suggested :

- 1. All corrigenda (Corrigendum -1, Corrigendum -2 & Corrigendum - 3) which were published earlier stand deleted.**
- 2. The Annexure – I which basically contains technical specs is being revised and is attached here separately.**
- 3. The eligibility criterion is also being revised and is also attached separately.**
- 4. The revised tender after incorporating the changes mentioned at Point 2 & Point 3 is attached and is also floated on website www.merical.ac.in**

The date and time of technical bid submission is extended to 18.02.2019, 1500 hrs. The pre-bid meeting mandatory clause has been relaxed. The bidders not attended pre-bid meeting can also apply.

All other terms and conditions remain unchanged.


for Director

Annexure I

Electric Overhead Travelling Crane 5 ton (Inclusive of necessary software & elements and personal computer)

Note:

1. The equipment should meet necessary local & national administration requirements with regard to safety of people. Necessary certificates for SWL must be provided validated by a competent body.
2. IMU may request a load test at site and full functionality demonstration on successful completion of the works.
3. The standard references were made w.r.t to Indian Standards (IS). Equivalent DIN Standards or FEM standards are acceptable.
4. Only OEMs and their authorized resellers are permitted.

S.No.	SUPPLY, ERECTION & COMMISSIONING AND JOB PROVING OF EOT CRANE 5T WITH SPECIFICATIONS AS BELOW:	
1.0.0	APPLICATION:	
1.1.0	The subject crane is meant for the purpose of handling medium to heavy components.	
1.2.0	The shop floor environment will be dust prone, humid, welding fume filled and ambient temperature going upto 45 deg C. Weather conditions are tropical. Crane shall be kept in the normal shop floor condition without any temperature controlled enclosure / shop. Sound level should be minimum and the crane should have decent aesthetic look. Ambient Temperature: 10 ° C to 45° C & Relative Humidity: 95%.	
2.0.0	SCOPE OF SUPPLY:	
2.1.0	Design, Manufacturing, Supply, Erection & Commissioning and Job Proving of floor operated (Pendent) and also Single Girder EOT Crane, Capacity 5 Tonne, Crane Duty Class - M5 for Indoor operations.	
3.0.0	QUANTITY REQUIRED:	
3.1.0	Single Girder EOT Crane 5 Ton	
4.0.0	Major Technical Specification: Type, Capability and general requirements	
4.1.0	Type: Single Girder EOT Crane as per IS: 807 & IS: 3177 (latest version)	<i>Equivalent DIN / FEM Standards are acceptable</i>
4.2.0	Crane Operation: Through Pendant push on floor control of Reputed Make with Push Button for ON, OFF, UP, DOWN, Forward, Reverse, Left, Right & Emergency Stop with option for control selection. Control Voltage for pendant and remote control should be maximum 48 Volts.	<i>Requirement of both remote and local control system is required.</i>
4.2.1	Duty Class: M5 for Indoor operations	
4.3.0	Lifting Capacity:	5 Ton
4.4.0	Span:	About 12.5 Meter
4.5.0	Height of Lift:	About 5.0 Meter
4.6.0	Bay Length:	About 50.0 Meter
4.7.0	Hoist: Hoist should be as per IS: 3938 (latest version) of	<i>Equivalent DIN / FEM</i>

S.No.	SUPPLY, ERECTION & COMMISSIONING AND JOB PROVING OF EOT CRANE 5T WITH SPECIFICATIONS AS BELOW:	
	STAHL, DEMAG / KONE, INDEF, Powerlift make. Only Low Head Room Hoist shall be acceptable.	<i>Standards are acceptable</i>
5.0.0	Maximum Speed (Meter / Min.):	
5.1.0	Hoisting:	4 ~ 6
5.2.0	Cross Travel (CT) Speed:	8 ~ 10
5.3.0	Long Travel (LT) Speed:	15 ~ 20
6.0.0	Hook Approach:	
6.1.0	Both End	
7.0.0	End Clearance: End clearance to be fixed to suit the Blanking section clearances.	
8.0.0	Long Travel Motion: LT Motion shall be twin drive type.	<i>VFD type drive are acceptable</i>
9.0.0	Design Aspects:	
9.1.0	Bridge Girder: Shall be of Single Girder Box Type construction having Good workmanship, safe engineering design and Minimum vibrations.	
10.0.0	MECHANICAL ELEMENTS:	
10.1.0	Wheel Sizes:	<i>Vendors to provide drawing / data</i>
10.1.1	Cross Travel (CT) - Vendor to submit the size and supply	
10.1.2	Long Travel (LT) - Mention the wheel diameter & <i>Shall be matched with the existing rails.</i>	
10.2.0	Number of Wheels:	<i>Vendors to provide drawing / data</i>
10.2.1	a. Bridge	
10.2.2	b. Trolley	
10.3.0	Brake Drum Sizes:	
10.3.1	Hoist	
10.3.2	Cross Travel	
10.3.3	Long Travel	
10.4.0	Gear & Gear Boxes Details: Gear Box should be of fabricated type duly stress relieved. Pinions made of En 24 and gears of En 18.	
10.5.0	Lubrication: Suitable lubrication system shall be provided for gear box, all rotating parts wherever applicable. Details of the same to be furnished. Please indicate the type of Lub. Oil & grease, quantity also	<i>Vendors to provide drawing / data</i>
10.6.0	Rope Drum: Shall be of fabricated type stress relieved or seamless pipe.	
10.7.0	Machining Operation: All mechanical mating surfaces and wheel seating areas are to be machined to the required finish and protected.	
10.8.0	Hoist Wire Rope Details: Steel core conforming to IS: 2266. Mention Wire rope dia, No. of fall & Construction. Minimum Factors of Safety & Tensile Strength (1960N/mm ² for wire rope) as per ISO: 4309:1990.	<i>Equivalent DIN / FEM Standards are acceptable</i>
10.9.0	Lifting Hook: Drop Forged with latch, Plain 'C' type, Swiveling on Thrust Bearing, Duly tested as per IS: 15560 (latest version)	<i>Equivalent DIN / FEM Standards are acceptable</i>
10.10.0	Buffers (End Stoppers): Buffers of adequate size shall be provided.	
10.11.0	Maintenance Platform: Maintenance / service platform of load carrying capacity apprx. 250 Kgs. of sufficient width shall be provided & fixed through bolted joints only. A hand railing	<i>Cage is also acceptable</i>

S.No.	SUPPLY, ERECTION & COMMISSIONING AND JOB PROVING OF EOT CRANE 5T WITH SPECIFICATIONS AS BELOW:	
	sufficient height and toe guard shall also be provided. Platform shall have anti-skid grating.	
10.12.0	Guards: All the moving parts should be duly covered with guards as per safety norm. Proper guard / cover / tray to prevent falling of bolts from coupling etc should also be provided, wherever required.	
11.0.0	Electricals:	
11.1.0	Input Power Supply: Shall be 415 ± 10% Volts, 50 ± 3% Hz, 3 Phase, AC.	
11.2.0	Control Voltage: Shall be 48 V AC maximum.	<i>It can be 110 V also however OEM has to ensure that the pendants are shock proof and complying all safety standards.</i>
11.3.0	Protection: All Panels, Limit-Switches and Motors shall have IP 54 protection.	
11.4.0	Motor Details: Squirrel Cage Induction Crane duty motors, Totally enclosed, fan cooled, Insulation Class-F & confirming to relevant latest IS:325, and IS-123, S4 duty, Minimum of 150 starts per hour and 40% CDF. Vendor to provide other details like No. of motors, capacity of motor, Frame size, make, type and No. of poles etc.	
	Long Travel (LT) with soft starter / Hydraulic Coupling / Torque converter	<i>VFD is preferred</i>
11.5.0	Type & details of Brakes for all motions: Conical rotor type or "Fail to safe" action type Electromagnetic shoe / disc brakes type to be provided to hold the mechanism in any position instantaneously as soon as the power supply is 'OFF' either accidentally or intentionally for all motions.	
11.6.0	Electric Contactors: shall have SIEMENS / L&T / GE (reputed Electrical OEMS) or manufactured by Crane OEMS, contactors suitable for Crane operations. Crane duty AC-4 ratings.	
11.7.0	Wiring: All the panel wiring should be done by using standard multi core Copper highly flexible, double insulated cables and of Butyl Rubber.	<i>Shrouded Bus Burs DSL system is also acceptable</i>
11.8.0	Limits Switches: Hoist shall be provided with both rotary and counter weight type (Over Hoisting and Over lowering) Shunt, adjustable type limit switches. Limit switches shall be provided for both CT & LT. Two way lever type for CT both direction and LT both direction.	
11.9.0	Supply and Erection of DSL: The details of DSL to be provided by vendor for CT & LT and in scope of vendor.	
11.10.0	Pendent: Pendent should be of Die cast Aluminum or Hard unbreakable plastic having push buttons for each motion e.g. On and off switches and stay push type emergency stop switch and other directional switches.	
12.0.0	Painting Instructions:	
12.1.0	The crane should be thoroughly cleaned and final painting with two coats of Enamel Paint (Colour – Golden Yellow)	
13.0.0	Spares: Essential break-down electrical / electronic spares such as fuses, lamps, contactors, breakers etc should be provided in two sets.	
14.0.0	MAKES OF BOUGHT OUT ITEMS: (Shall be as per the list given below)	

15.1.0	Control Panel: <i>It should be of reputed make. OEM own brand is also acceptable. Control panel (dead front) can be fabricated by the vendor. However it should be in good workmanship and aesthetically pleasing and must ensure protection as per IP 55.</i>	
16.0.0	Documents / Details for submission: The following documents / details shall be submitted to IMU Kolkata Campus for reference / checking within 30 days from the date PO placement, prior to taking up the manufacture of the crane.	<i>Can be supplied at the time of delivery</i>
16.1.0	Drawings / Documents:	
16.1.1	GA Drawing of the Crane (for approval)	
16.1.2	GA Drawing of Hoist / Trolley (for approval)	
16.1.3	Calculations for Bridge Girder.	
16.1.4	QAP for manufacturing & erection shall be submitted for approval.	
16.1.5	GA Drawing of Individual Mechanisms (for approval).	
16.1.6	Drawings of Bridge, End-Carriage, Leg and their connections.	
16.1.7	Sub-Assembly Drawing for Wheels, Gear Boxes & Hoist.	
16.1.8	Calculations for Selection of Electric Motors, Gears, Brakes, Couplings, Wheels, Wire Rope etc.	
16.1.9	Design calculations for Bridge Girder, Crab etc.	
16.1.10	Wiring Diagram with Logic Circuits and Bill of Material (for approval)	
16.1.11	Cable Selection based on current rating.	
17.0.0	INSPECTION: The following Schedule of Inspections shall be strictly adhered to, prior to dispatch from the Supplier's Works, witness by Competent Authority of IMU Kolkata Campus. Stage / pre-dispatch inspection shall be carried out according to these drawings only.	IMU reserves the right to carry out a pre-dispatch inspection.
17.1.1	Inspection of Bridges and End – Carriages with Wheel Assembly and Alignment checking	IMU reserves the right to carry out a pre-dispatch inspection.
17.1.2	Verification of Span & Diagonal Dimensions, Checking of Wheel Alignment, Mechanical Assemblies and Total Alignment.	
17.1.3	Free running of the all the Mechanisms.	
17.1.4	Measurement of CAMBER in the Bridges.	
17.1.5	Full / Rated Load Test and Deflection Test.	
17.1.6	Deflection and Permanent Set Measurement.	
17.1.7	25% OVER-LOAD Lifting Ability Check.	
18.0.0	CRANE ERECTION & COMMISSIONING:	
18.1.0	Unloading & Erection: For unloading the consignment, shifting the all crane material to site & erect the crane at IMU Kolkata Campus workshop, the vendor has to make all necessary arrangements. Necessary tools & equipments required for erection shall be brought by the supplier.	
18.2.0	Crane Commissioning: Prove out for the Crane's Capacity and Smooth Functioning of the Crane (at IMU Kolkata Campus) shall be the responsibility of the supplier. Final Load testing as per IS at 125% of rated load shall be conducted at site. Acceptance of Crane by competent person as approved by Govt. of West Bengal has to be done by Vendor and certificate is to submitted.	
18.2.1	All safety equipments like safety boot, safety belt, helmet, gloves, loader, goggles etc. required for erection personnel shall	

	be brought by the vendor.	
19.0.0	O&M MANUALS: 5 Sets of Erection, Operation & Maintenance Manual with 2 set of CDs, containing the following technical drawings & details shall be submitted. All copies shall be hard bound in high quality leather folders, encased in decent individual boxes.	
19.1.0	Drawings & Details:	
19.1.1	Crane GA Drawing	
19.1.2	Hoist Assembly Drawing	
19.1.3	Total Crane Wiring Schematics	
19.1.4	Detailed Wiring Diagrams for Sub-Systems / Panels	
19.1.5	Wheel Assembly Drawings	
19.1.6	Gear Box Assembly, Sub assembly Drawings	
19.1.7	Sectional drawings of gear boxes, Gears with no. of teeth, module, helix angle, center distance, size & no. of bearings, Drive shafts, wheels, pulleys drums & seals etc. Supplier shall supply the drawings of item manufactured by them without additional charges.	
19.1.8	Coupling Drawing and Details.	
19.1.9	Complete detail of BOI including Technical specifications & catalogue shall be part of O&M manual. List of suppliers of BOI with mailing address including phone no. should also be submitted.	
19.1.10	Warranty / Guarantee Card for all Bought-Out-Items.	
19.1.11	Trouble Shooting Chart for Main and all Sub-Systems.	
19.1.12	1 No. spare parts manual.	
20.0.0	PERFORMANCE GUARANTEE:	
20.1.0	The Performance of the Total Crane and / or the Components / Sub-Assemblies / Bought out Items shall be guaranteed for a minimum period of 24 months from the date of acceptance of the crane at IMU Kolakta Campus.	
21.0.0	SPECIAL INSTRUCTIONS:	
21.1.0	In the design of Crane, all safety regulations as applicable under provision of factory Act, Indian Electricity rules etc. as prevailing in the country / State of West Bengal (site of installation) shall be taken into consideration.	
21.2.0	All nuts should have chuck Nut / Locking nut / suitable locking arrangement to eliminate loosening.	
21.3.0	Rope Guide: Precision machined Rope Guide nut to suit rope drum grooves and moving over the drum like a nut to be provided to prevent overlapping / loosening of rope over drum.	
21.4.0	Anti-friction Ball/Roller/Needle bearing. Grease nipples to be provided wherever required. Bushings are not acceptable.	
21.5.0	Any component / part damaged during erection and commissioning or job proving to be replaced by supplier free of cost.	
21.6.0	Maintenance tools must be included in the supply and should be submitted with the offer.	
21.7.0	All cables should be properly covered and protected.	
21.8.0	Technical offer must have 3 view GA drawing with complete details of parts / components, clearances, hook approaches, wheel loads, Wheel base, Crab, Total crane weight, motor rating, frame size, Brake drum dia. Thruster rating, Gearbox details for	

	all the motions.	
21.9.0	TC / GC in respect of Crane & BOI to be submitted by the supplier.	
21.10.0	Supplier must submit point wise reply to specifications, Deviations if any must be separately submitted with reasons for each.	
21.11.0	DUPLICATE COPY OF TECHNICAL OFFER MUST BE SUBMITTED.	
21.12.0	The successful Vendor is required to measure all necessary dimensions i.e. Span, Head Room, Clearances between rail center to existing column and rail size etc, at site before starting submission of quotation / tender.	

2.1. Eligibility Criteria:

The bidder should have mandatory qualification as per the following table. Only the proposal of the bidders who are fulfilling the mandatory qualification criteria will be considered for the Financial evaluation. The offer will be rejected if the bidder does not fulfil any one of the mandatory qualification criteria.

Sl.No	Qualification Criteria	Supporting documents
1	The Bidder should be in the Business of Providing 'Similar Supply' for a period not less than 5 years i.e. since 2013 – 14	Certificate of Incorporation / Registered partnership deed / Copies of the Work order, Agreement and Work Completion certificate for the Completed or ongoing supply – Proof for providing similar supply during 2013-14 or earlier to be enclosed.
2	The Bidder should have satisfactorily completed "Similar Supply" involving values as listed below during the last 5 financial years i.e. since 2013-14 : a) at least 1 Similar Supply with a minimum value of i.e. Rs. 13.6 Lakh [OR] b) at least 2 Similar Supply with a minimum value of Rs. 10.2 Lakh [OR] c) at least 3 Similar Supply with a minimum value of Rs. 6.8 Lakh	Copies of the supply order, Payment advice, Certification from buyer entity.
3	The Bidder should have a positive net worth and an average annual turnover of at least Rs. 10 Crore during the past 3 financial years i.e. 2015-16, 2016-17 & 2017-18.	Annual accounts duly certified by a Chartered Accountant / Income tax Returns.
4	The Bidder should have a valid PAN and GST Registration Certificate.	Copy of the PAN Card and GST registration certificate.
5	The Bidder shall be the reputed Original Equipment Manufacturer (OEM) / their authorized / certified partner or authorized reseller. He shall furnish necessary authorization from the OEM and authorizing him to provide all goods and services support indicated in this tender and confirming that necessary assistance would be provided to him in providing required support during the Warranty Period.	OEM Authorisation / Certification as per the Annexure III. In case of participation by OEM, self-declaration.
6	The Bidder should not have been debarred country wide so far.	Self-declaration to this effect.

2.2.1. 'Similar Supply' means supply of Electric overhead Travelling crane to Government / Semi-Government/ Public Sector organizations/ National level educational institutes like IIT, IIM, NIT and Central Universities/ State Universities / Public Limited Companies. / Reputed UGC/ AICTE Recognized or private Sector Universities / Maritime training institutes and port organizations / Central Govt. Research laboratories such as CSIR / DRDO / ISRO or Public / Private Industries.

- 2.2.2. With regard to the various proof/supporting documents produced by the bidders for establishing that they meet the various eligibility conditions, it shall be IMU's prerogative to decide whether the document produced is valid evidence or not and to call for additional proof, if required.
- 2.2.3. All the Mode of Proof Documents for meeting eligibility criteria enclosed with the tender are to be duly signed by the authorized signatory. If required, IMU-KC may insist for notarized copy or ask to produce originals to ascertain the veracity of the documents. IMU-KC also reserves the right to ask more proof to corroborate the eligibility declarations.

2.2.4	QUALIFYING CONDITIONS :
	Only those vendors (OEMs), who have supplied and commissioned at least one EOT Crane min. cap. 3T to 5T for similar applications or more in the past ten years (on the date of opening of Tender) and referred EOT Crane is presently working satisfactorily for more than one year (on the date of opening of Tender) after commissioning, should quote. The following information should be submitted by the vendor about the companies where referred Crane (s) have been supplied. This is required from all the vendors for qualification of their offer.
1	Name of the customer / company where similar EOT Crane is installed.
2	Complete postal address of the customer.
3	Month & Year of commissioning.
4	Parameters of EOT Crane (s) supplied.
5	Name and designation of the contact person of the customer.
6	Phone, FAX no. and e-mail address of the contact person of the customer.
7	Performance certificate from the customers regarding satisfactory performance of EOT Crane supplied to them (Original Certificate or Through E-mail directly from the customer). The original performance certificate may be returned after verification by IMU Kolkata, if required.
IMU Kolkata reserves the right to verify information submitted by vendor. In case the information is found to be false / incorrect, the offer shall be rejected.	

2.2. Pre-bid Meetings Clarification:

IMU KC shall organize a pre bid meeting on the scheduled date, time and venue as mentioned in Tender Abstract, at Indian Maritime University P19, Taratala Road, Kolkata-700088. The prospective bidders shall submit their queries in writing in prescribed format below in writing to the address mentioned in the invitation of tenders or E-Mail to akeswara@imu.ac.in with a copy to director.kolkata@imu.ac.in & amall@imu.ac.in three days before the pre-bid meeting and the same shall be clarified during the pre-bid meeting.

Sl.No.	Clause No. & Page No.	Reference Clause Details	Clarification Sought

IMU KC may or may not incorporate any changes in the Tender document based on acceptable suggestions received during the Pre-Bid Conference. The decision of IMU KC regarding acceptability of any suggestion shall be final in this regard and shall not be called upon to question under any circumstances. Bidders should attend pre-bid meeting on the day mentioned. The technical staff/personnel (representative) should endeavour to inspect Crane and site in IMU-KC Workshop and be present in the pre-bid meeting for finalising scope of work.