

BHARAT HEAVY ELECTRICAL LIMITED, JHANSI			
	Specification No.	CRJ/9577	
	Item No.	SP/CRJ/9577/1 & SP/CRJ/9577/2	
	Location	NEW M.G.HOUSE	
	Quantity	2 NOS.	
DESIGN, MANUFACTURING, SUPPLY, ERECTION & COMMISSIONING OF 10 TON HAND OPERATED OVER HEAD CRANE COMPLYING AS PER SPECIFICATION BELOW			
NOTE :			
	1. VENDOR must submit complete information against clause No. 10.00 (Qualifying condition). The offer meeting this clause would only be processed.		
	2. The " offered" Column and where applicable, the " Deviations" Column of this format shall be filled in by the Vender and submitted along with the offer.Technical details also submitted with the offer. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specification / requirements shall be treated as non - compliance.		
	3. The offer and all documents enclosed with offer should be in English language only.		
SCOPE :			
SPECIFICATION CUM COMPLIANCE CERTIFICATE OF 10T HOT CRANE			
S.NO.	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / TO BE CONFIRMED BY VENDER	DEVIATIONS
1.0	Hand operated crane of capacity indicated below is required for loading, unloading of motor generator parts. The crane will also be used for loading - unloading of other items. The same has to work on a prepared gantry in M.G.House.	VENDER TO CONFIRM	
2.0	CAPACITY AND LEADING DIMENSION		
2.1	Safe Working Load - 10 T	VENDER TO CONFIRM	
2.2	Duty as per I.S.3177/1965 - Light duty indoor	VENDER TO CONFIRM	
2.3	Span between rail centers -11450 mm	VENDER TO CONFIRM	
2.4	Height of top gantry rail from floor level -7980 mm	VENDER TO CONFIRM	
2.5	Head roon clearance - 2.2 Meter	VENDER TO CONFIRM	
2.6	Clear lift of height above ground level - 7.5 Meter	VENDER TO CONFIRM	
2.7	Hook approaches from rail centers - 600 mm	VENDER TO CONFIRM	
2.8	Distance between rail centrer to roof leg side - 225 mm	VENDER TO CONFIRM	
2.9	Cleaearence between end carriage to vertical face of column - 300 mm	VENDER TO CONFIRM	
2.10	Bay length - 24 Meter	VENDER TO CONFIRM	
2.11	Operation - Floor operated manually driven	VENDER TO CONFIRM	
2.12	Control - Control from floor by endless chain	VENDER TO CONFIRM	
2.13	Rail size - 90 LBS (provided by BHEL)	VENDER TO CONFIRM	
3.0	WORK PIECE MATERIAL		
3.1	The crane shall be designed for class M5 duty (light duty indoor) in accordance with BSS: 466/1960 and or IS:3177. Material shall be of tested quality as per relevant I. S.	VENDER TO CONFIRM	

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3.2	The traveling HOT crane floor operated is required for handling components weighing up to 10 Ton	VENDER TO CONFIRM	

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4.0	CRANE CONSTRUCTION		
4.1	BRIDGE STRUCTURE		
	The Bridge should consist of a single beam of suitable section with end plates. Beam should not have deflection more than 1/900 of the spam on full load as per BS466/1960.	VENDER TO CONFIRM	
4.2	END CARRIAGE		
	The end carriages should be fabricated from rolled steel sections properly strengthened end connected to the bride girder rigidly with machined bolts passing through reamed holes. For Tandon operations you will be providing a suitable arrangement for manually connecting the end carriage of both cranes.	VENDER TO CONFIRM	
4.3	LONG TRAVEL MOTION		
	This motion should be provided from floor by endless hand chain wheel fitted on a close shaft running parallels to bridge in self aligning ball bearings, pedestal mounted on steel brackets fixed to the bridge at suitable points. Steel pinions fixed at both ends of the cross shaft should provide motion to one of the end carriage wheels at both the ends through C.I spur gears. The pinions end gear should have machine cut teeth. All the four end carriage wheel shall be properly machined with suitable tread wheel grooves. The wheels should run on antifriction bearings end axles shall be properly finished end ground for smooth end easy operation. The axles end wheels assembly shall be easily removable. The chain wheel should be at 3.8 meters form rail centre.	VENDER TO CONFIRM	
4.4	HOISTING MOTION		
	The crane should be incorporated with a standard indef triple spur gear chain pulley block manufactured in India in collaboration with heidrich Do Fries G.M.B.H. west Germany as under:	VENDER TO CONFIRM	
4.5	HOOK		
	Hook Should be made of heavy steel forging. Designed to withstand shock loads. It should rotate end swivel. Distance between the hooks of two cranes in tendon operation should not exceed 2.5 meter.	VENDER TO CONFIRM	
5.0	MISCELLANEOUS :		
5.1	GEARS: All gears should be accurately machine cut from special alloy steel case hardened	VENDER TO CONFIRM	
5.2	LOAD WHEEL: Should be made from heavy duty malleable casting mounted on two bail bearings for smooth operation.	VENDER TO CONFIRM	
5.3	HAND CHAIN: Should be made pressed sheet steel provided with guides to prevent snagging and fouling of head chain.	VENDER TO CONFIRM	
5.4	HAND CHAIN WHEEL: Should be made from grade B.S.S 3114 alloy steel heat treated accurately calibrated for free movement. It should tested by you for twince the safe working load. Test certificate to this effect will be provided by you, in quadruplicate.	VENDER TO CONFIRM	
5.5	BRAKING SYSTEM: Should be screw and friction discs type self actuating load pressure brake.	VENDER TO CONFIRM	

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5.6	CROSS TRAVEL MOTION: The cross travel motion should be provided from floor level by endless hand chain and chain wheel actuating the geared travel type trolley with four wheels of graded case iron mounted on antifriction bearings for smooth working. Axles and shafts should be of carbon steel and accurately machines. The trolley wheels should exactly match the profile of the beam.	VENDER TO CONFIRM	
5.7	END STOPPERS: Should be provided at each end of the beam to avoid over travel of the trolley.	VENDER TO CONFIRM	
6.0	VENDER TO INDICATE FOLLOWING INFORMATION IN THEIR OFFER		
	a) Dead weight of structure including LT drive.	VENDER TO SPECIFY	
	b) Dead weight of hoist	VENDER TO SPECIFY	
	c) Make of hoist with assembly details.	VENDER TO SPECIFY	
	d) Details of LT & CT drive.	VENDER TO SPECIFY	
	e) Layout drawing of crane showing all dimensions and clearances.	VENDER TO SPECIFY	
	f) Details of braking arrangement for all motion.	VENDER TO SPECIFY	
	h) Hook approach of hoist on both ends.	VENDER TO SPECIFY	
	j) Any other details which may be relevant to the crane supply and fixing	VENDER TO SPECIFY	
	k) Price for crane & erection of crane to be given separately.	VENDER TO SPECIFY	
	n) Details of chain rope used for hoist & other to be given	VENDER TO SPECIFY	
7.0	MAINTENANCE:		
7.1	We would stress the need of adequate maintenance facility for all gearboxes and working mechanism which shall be located above platform level and shall be easily approachable for good maintenance	VENDER TO CONFIRM	
8.0	SPARES :		
8.1	Recommended spares for two years normal working of the equipment is to be furnished with the estimate, separately quoted for each items. Details of bearings, oil seals used should be supplied along with location of each item	VENDER TO CONFIRM	
9.0	MISCELLANEOUS :		
9.1	First fill oil, grease etc. for the commissioning of the crane shall be provided by the supplier.	VENDER TO CONFIRM	
9.2	Tool box with standard tools shall be supplied with the crane.	VENDER TO CONFIRM	
9.3	List of bought out items should be furnished with names of makers and complete literature about the items should be supplied.	VENDER TO CONFIRM	
9.4	Crane to be fabricated for its satisfactory performance for a period of 24 months from the date of commissioning with guarantee certificate.	VENDER TO CONFIRM	
9.5	Lifting hook, rope and crane to be tested to IS standard and test certificate to be provided (4 copies each). Test certificate of hook should from a recognized Govt. Test House.	VENDER TO CONFIRM	
9.6	Four copies of manual of Operation and servicing to be with erection drawings. G.A. drawing, wiring diagram etc. to be supplied along with the crane.	VENDER TO CONFIRM	

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9.7	Four copies of structural drawing, wheel assembly, maximum crane wheel load etc. hook approach, gear box details, weight of crane to be supplied.	VENDER TO CONFIRM	
9.8	Mechanical drawings should be sent in triplicate for approval before finalizing the design. Make and technical specification of all items is also to be submitted for approval.	VENDER TO CONFIRM	
9.9	Supplier shall inform BHEL in advance to witness assembly and load test at manufacturing works before dispatch.	VENDER TO CONFIRM	
9.10	The crane is to be erected by the supplier at site with their own labour, tools and tackles, winch. The crane is to be commissioned and tested before handing over.	VENDER TO CONFIRM	
9.11	All motions at various steps of speed shall be checked along with current being taken by respective motion motors.	VENDER TO CONFIRM	
9.12	After test but before crane is put to use, it shall be tested with overload of 125 percent of the S.W.L. when load is located at the center of span. During testing the overload test each motion shall be maneured in both direction and the crane shall sustain the load under full control.	VENDER TO CONFIRM	
9.13	Erection / commissioning charges to be quoted separately.	VENDER TO CONFIRM	
10.0	QUALIFYING CONDITIONS		
10.1	Only those vender, who have supplied and commissioned 5 Nos. 10T or higher Capacity HOT/SEMI GANTRY/ EOT cranes in the past ten years and such crane is presently working satisfactorily for more than one years after commissioning should quote. The following information is to be submitted by the vender about the companies where similar cranes have been supplied. This is required from all vendors for qualifications of their offers.	VENDER TO CONFIRM & SUBMIT DETAILS	
10.2	Name of the customer/ company where similar machine/ crane is installed	VENDER TO SUBMIT	
10.3	Complete postal address of the customer	VENDER TO SUBMIT	
10.4	Year of commissioning	VENDER TO SUBMIT	
10.5	Name and designation of the contact person of the customer	VENDER TO SUBMIT	
10.6	Phone , Fax No. and e.mail address of the contact person of the customer	VENDER TO SUBMIT	
10.7	Performance certificate from the customer regarding satisfactory performance of the machine/ crane supplied to them	VENDER TO SUBMIT	
S.J.CHAKRABORTY AGM (WE&S)		A.K.SHIVPURI Sr. Manager (WE&S)	INDER MATHUR Sr. Manager (WE&S)