

Heavy Power Equipment Plant, Bharat Heavy Electricals Limited, Ramachandrapuram -502032, Hyderabad, INDIA.		Enquiry No. & Dt.:	
		Due Date :	
		Supplier's Ref.:	
		Date :	
Specification cum Compliance Certificate for BATTERY OPERATED TROLLEY - 80T			
Note:-			
1. The Column "VENDOR'S OFFER WITH TECHNICAL DETAILS & REMARKS" of this format shall be filled in by the Vendor and submitted along with the offer. Inadequate incomplete, ambiguous or unsustainable information against any of the clauses of the specifications / requirements shall be treated as non-compliance.			
2. The offer and all documents enclosed with offer should be in English language only.			
Name & Address of the supplier:		Name & Address of the Indian Agent:	
Telephone No.		Telephone No.	
Fax No.		Fax No.	
e-mail :		e-mail :	
Scope: Supply, Erection & Commissioning of BATTERY OPERATED TROLLEY - 80T complying with the following specification			
SNO	BHEL TECHNICAL SPECIFICATION	VENDOR'S OFFER WITH TECHNICAL DETAILS & REMARKS	
1.0	This specification covers the design, manufacturing, supply & commissioning of 80Ton Battery Operated Inter Bay Transfer Trolley.		
2.0	TECHNICAL PARTICULARS		
2.1	The leading dimensions and parameter of trolley shall be as under-		
2.2	Pay load	80 Tons	
2.3	Rail gauge	1676mm	
2.4	Curve of track	Straight	
2.5	Length of trolley platform	12000mm	
2.6	Width of trolley	3000mm	
2.7	Height of platform (loaded)	1100-1200 mm	
2.8	Height of platform (tare)	1250mm (max)	
2.9	Traveling length for trolley	200mtrs/trip	
2.10	Braking distance	10 mtrs	
2.11	Speed of trolley (Backward & Forward)	20-30mts/min	
3.0	UNDERFRAME / BOGIES		

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3.1	The under frame of the wagons shall rest on two nos two axle bogies . The under frame shall be of fabricated design using IS-2062 GradeB steel and is of welded construction. The Bogies shall be of fabricated design made out of plates and stress releived before assembly. The under frame shall rest on the bogies over adequately rated centre pivot and side bearers.	Vendor to confirm	
3.2	The wagons shall be provided with IRS standard side buffers two numbers on either side and IRS type ABC couplers for wagons on both the ends of the wagon as standard.		
3.3	Platform of trolley should have a 50 mm thick plate 150 mm wide beading on all the four side.	Vendor to confirm	
3.4	Top Platform of Trolley should have 20mm thick. Plate	Vendor to confirm	
4.0	BATTERY SYSTEM		
4.1	The trolley should be driven by 110V DC, 400AH flooded lead acid traction battery of 5 hour rating.	Vendor to confirm	
5.0	ELECTRIC MOTOR		
5.1	Suitable DC motor of GEC / CROMPTON / NGEF / AEI/BENN make to carry out the pay load. This output shall be used to drive the trolley through axle mounted reduction gear box (having gear of metric sizes only) having suitable reduction ratio to achieve speed of 20- 30 Meter/Min.	Vendor to accept & confirm	
6.0	WHEELS & AXLE ASSEMBLY		
6.1	Wheel and axle assembly to withstand the applicable loads shall be provided. Out of four wheel & axle assy, one will be powered by electric motor through suitable gear box. Axle boxes to be mounted on suitable Helical springs. Wheel material should be C55 Mn <u>75</u> Carbon steel, Hardened to BHN- 300 to 325. or as per IRS R-19 .	Vendor to accept & confirm	
7.0	AXLE BOX		
7.1	NEI/FAG/SKF make doube row spherical roller bearings shall be provided on the trolley.Each axle box shall be fitted with two nos. roller bearings	Vendor to accept & confirm	
8.0	ELECTRICS & CONTROL		
8.1	All electrics and controls with suitable feature and reputed make shall be provided on the trolley.		
8.2	Control of trolley is through electro-magnetic contactors and resistance box controlled by master controller..	Vendor to accept & confirm	

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8.3	Trolley control by suitable Master controller provided with dead man control (spring return to neutral). Additional pendant controller shall be offered with 5 mtr cable for remote operation.	Vendor to accept & confirm	
9.0	MISCELLANEOUS		
	Suitable lifting hooks should be provided on the sides of trolley to lift or for turning over the trolley.	Vendor to accept & confirm	
	Trolley should be provided with Siren operated by a switch provided on RRC.	Vendor to accept & confirm	
	All electrical items and controls should be of reputed make and of latest type (ELECTROMAG,SPEEDO CONTROL) and suitably selected for the motor.	Vendor to accept & confirm	
	A device for protection against overloading and short-circuit should be provided.	Vendor to accept & confirm	
	Rail cleaners /guards should be provided at both ends of the transfer car to push forward or off the track in the events of any object / material placed across or on the rail.	Vendor to accept & confirm	
	Trolley should comply with all safety norms as applicable.	Vendor to confirm	
10.0	PAINTING		
	Trolley should be painted with 2 coat of red oxide before dispatch and 2 coats of post office red enamel paint after commissioning at site by supplier	Vendor to confirm	
11.0	TESTING & COMMISSIONING		
	Testing of trolley shall be done at site with 20% over load condition. Final commissioning of trolley will be done at customer premises i.e. BHEL Works.	Vendor to confirm	
12.0	MANUAL		
12.1	Two sets of CD's & 4 sets of operating & maintenance manual shall be given with each no. of trolley	Vendor to confirm	
12.2	Giving all circuit diagrams, mechanical assembly drawings with fast moving spare part drawing i.e gears, drive shafts & wheels etc.	Vendor to confirm	
13.0	DRAWINGS		
	Supplier shall submit 3 view G.A. drawing & all the major drawings along with offer for approval.	Vendor to confirm	
14.0	ACCESSORIES		
	All essential and optional accessories should be listed and quoted by the supplier with quantity and price of each items.	Vendor to confirm	
15.0	SPARES (OPTIONAL)		

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	All the recommended spares should be listed and quoted by the supplier with quantity and price of each items for trouble free maintenance of trolley for 5 years after expiry of guarantee period.	Vendor to confirm	
16.0	GUARANTEE		
	The trolley supplied should be guaranteed for a period of minimum 24 months from the date of commissioning.	Vendor to confirm	
17.0	INSPECTION		
	The trolley will be inspected by BHEL at supplier works before dispatch.	Vendor to note & accept	
18.0	Along with offer, supplier to furnish Clause wise comments on purchase specification. Deviations, if any, must be separately submitted with reasons for each.	Vendor to confirm	
19.0	The successful Vendor is required to measure all necessary dimensions like Trolley Gauge, Rail size and Power supply system etc. at site before starting of the trolley design/ manufacturing.	Vendor to confirm	
20.0	Technical offer in DUPLICATE must contain GA drawing with complete details of parts / components, Weight of trolley, Motor rating with details calculations for motor rating selected, Frame size, Brake details, Gear box details and wheel dia etc.	Vendor to offer & confirm	
21.0	<u>Supplier must submit point wise reply to specification, Deviations if any must be separately submitted with reasons for each.</u>	Vendor to accept & confirm	