



BHARAT HEAVY ELECTRICAL LIMITED
UNIT'S ADDRESS:

CONTACT PERSON'S NAME/DESIGN/PHONE NO./E-MAIL (FROM PURCHASE DEPTT.)

Enquiry No. : _____

Due Date : _____

Supplier Qtn. No.: _____

Date : _____

SPECIFICATION CUM COMPLIANCE CERTIFICATE OF 350 TON AERO CASTER SYSTEMS

(REV:00)

NOTE:-

1. Vendor must submit complete information against clause no. 13.0 (Qualifying Condition). The offer meeting this clause would only be processed.
2. Vendor to furnish the offer using this standard template of the specification. While furnishing the offer, no change is to be made in the first three columns (i.e. 'S.NO.', 'DESCRIPTION FOR BHEL REQUIREMENT' & 'ACTION BY VENDOR). Only the "Offered" column and where applicable, the "Remarks" Column 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.
3. The offer and all documents enclosed with offer should be in English language only.

NAME & ADDRESS OF THE SUPPLIER :

TELEPHONE NOS.:

E-MAIL ADDRESS :

NAME & ADDRESS OF THE INDIAN AGENT :

TELEPHONE NOS.:

E-mail:

SCOPE: SUPPLY, ERECTION & COMMISSIONING OF 350 TON AERO CASTER COMPLYING WITH SPECIFICATIONS AS BELOW :

SNO	DESCRIPTION FOR BHEL REQUIREMENT	ACTION BY VENDOR	OFFERED	REMARKS
1.0	PURPOSE & WORK PIECE MATERIAL			
1.1	Purpose:			
	The Aero caster is required for transportation of heavy transformer from one place to another place (i.e. from Assembly Bay into VPD oven & back into assembly Bay, from Assembly Bay into test Bay & back into test Bay) in new transformer block. Aero caster should be squeeze protection frame shall comprise of mover of rigid construction covered with a top plate of steel, suitable nos of air bearings, no load-wheels, drive units, pneumatics and air supply system.	VENDOR TO NOTE		
	Currently we are having 350 T Aero Caster of M/s Delu and the entire Pallets are as per their design. The quoted Aero caster shall be such as to incorporate inside Pallets of Delu. Drawing of existing loading pallet (Drg. No. 12068174501, Rev :00) is attached here with for reference.			
2.0	TECHNICAL SPECIFICATION :			
2.1	Load carrying capacity : 350 Ton (Including weight of pallet)			
2.2	Dimensions of Aero-caster			
2.2.1	Length : 6800 to 7200 mm	VENDOR TO SPECIFY		
2.2.2	Width : 2480 mm (+/- 5 mm)	VENDOR TO CONFIRM		
2.2.3	Height : 425 mm (+/-10mm)	VENDOR TO SPECIFY		
	The above dimensions are as per the Aero caster we have right now. The quoted Aero Caster(Mover) should be easily accommodated inside the corresponding Pallet.	VENDOR TO CONFIRM		
2.3	Movers :- With built in driving unit and Radio Remote control. Details to be furnished along with the offer.	VENDOR TO CONFIRM & FURNISH		
2.4	Air Bearings:- Suitable no. of air bearings should be provided in the mover for moving the mover with the load. It should be possible that air bearings could be easily drawn out for inspection and service with unloading or lifting up through mover. Details to be furnished along with the offer.	VENDOR TO CONFIRM & FURNISH		
2.5	Drive unit: The mover should be equipped with electrical/pneumatic steerable drive units, suitably located in the steel construction. The speed should be controllable from the control handle bar / RRC, in forward/ reverse, left & right direction. Details to be furnished along with the offer. For electrical steerable drive unit the mover should be equipped with suitable battery pack including a battery charger & a battery status indicator. Provision of oil lubrication of air motor.	VENDOR TO CONFIRM & FURNISH		

2.6	Pneumatics :- All pneumatics control system should be housed in a pneumatic control cabinet suitably located on the mover. The pressure in the air bearing should be automatically regulated from the control system in relation to the weight of the load and the location of the centre of gravity.	VENDOR TO CONFIRM	
2.7	RRC:- The mover should be easily manoeuvred by a radio remote control with following functions	VENDOR TO CONFIRM	
	1) Key switch	VENDOR TO CONFIRM	
	2) Emergency stop	VENDOR TO CONFIRM	
	3) Air bearings On/ OFF	VENDOR TO CONFIRM	
	4) Provision for the control of speed and direction of the drive units	VENDOR TO CONFIRM	
2.7.1	RRC shall be provided with 3 sets of batteries and 1 set of charger for its transmitter unit.	VENDOR TO CONFIRM	
2.7.2	The RRC system should be operable in the Suitable frequency range for which no license is required in INDIA.	VENDOR TO CONFIRM	
2.7.3	It should be possible to control operation of two nos. 350 T movers when used in tandem by a single RRC, if required in future.	VENDOR TO CONFIRM	
2.7.4	RRC should be of reputed / established make.	VENDOR TO SPECIFY	
2.8	AIR SUPPLY SYSTEM :- BHEL will provide compressed air supply at minimum 90 PSI.	VENDOR TO CONFIRM	
2.9	Hose Reel :- Hose reel system with friction free and controlled winding and un-winding of hose to be integrated with system		
	1) Hose length :- 20 mtr (minimum)	VENDOR TO CONFIRM	
	2) Hose dia. :- 32 mm/suitable to operational requirement	VENDOR TO SPECIFY	
	3) Sets of 3-way ball valves and quick lock coupling. Quantity : 3 sets.	VENDOR TO CONFIRM	
2.9.2	The hose reel should be mounted on suitable location on mover itself.	VENDOR TO CONFIRM	
2.9.3	The hose is drawn out manually and the hose reel should rotate freely with low friction.	VENDOR TO CONFIRM	
2.9.4	Rolling up the hose should be through motor of the hose reel.	VENDOR TO CONFIRM	
2.9.5	Vendor should submit details with sketch of the offered hose reel system alongwith technical offer.	VENDOR TO FURNISH	

3.0	ENVIRONMENTAL PERFORMANCE OF THE SYSTEM:			
3.1	The system shall be suitable for VPD oven loading / Unloading upto 130 °C (Max.) and System to generate audible alarm if temperature exceeds the limiting value.	VENDOR TO CONFIRM		
3.2	The electronic cabinet of aero caster shall be suitable to withstand temperature upto 45°C. System to generate audible alarm if temperature exceeds the limiting value.	VENDOR TO CONFIRM		
4.0	ACCESSORIES: (To be included in the scope of supply)			
4.1	Hose pipes : 5 Nos. (20 in each) as spare with quick change couplers with each set of Aerocaster	VENDOR TO CONFIRM		
5.0	DOCUMENTATION :	VENDOR TO CONFIRM		
	3 copies of each of the following shall be supplied along with the system in english.			
5.1	Instruction manual	VENDOR TO CONFIRM		
5.2	Maintenance manual along with circuit diagrams and schematics. Hard & soft copy of the ladder diagram.	VENDOR TO CONFIRM		
5.3	Test & Guarantee Certificate.	VENDOR TO CONFIRM		
5.4	Conformance certificate for safety standards	VENDOR TO CONFIRM		
5.5	10 yrs backup for H/W & S/W upgrade	VENDOR TO CONFIRM		

6.0 SYSTEM INSPECTION:			
6.1 Inspection at suppliers works before dispatch		VENDOR TO CONFIRM	
6.2 Demonstration of all features of the Aero-caster system and all Accessories		VENDOR TO CONFIRM	
6.3 Complete prove out of system shall be done by Vendor at BHEL works to the specified accuracy as per specification. Load for the proveout of system shall be provided by BHEL. Vendor shall be fully responsible for proveout of system as per BHEL requirements.		VENDOR TO CONFIRM	
7.0 TRAINING:			
7.1 BHEL engineers should be trained at supplier's Works for <u>A</u> period in the area of <u>Mutually agreed</u> (a) Operation, use of all system features, supplied accessories etc. (b) Electrical, Electronic & maintenance for system & other supplied equipments <u>to Vendor to quote based charges on man/day basis.</u>		VENDOR TO CONFIRM	
7.2 Competent, English speaking experts shall be arranged by the vendor during training for satisfactory & effective training of BHEL personnel.		VENDOR TO CONFIRM	
8.0 INSTALLATION & COMMISSIONING			
8.1 Supplier to take full responsibility for carrying out the start up and commissioning		VENDOR TO CONFIRM	
8.2 Supplier to take full responsibility for carrying out installation, start up, testing of supplied aero caster. Installation work shall be carried at BHEL works by the supplier with their own manpower, tools & tackles etc. Other erection equipment's like mobile crane, measuring instruments & devices for testing & commissioning of machines should be brought by the supplier on returnable basis. However, EOT Crane will be provided by BHEL depending on the availability. Service requirement like air, water, electricity will be provided by BHEL at one point to be indicated by the supplier in advance. Complete commissioning & demonstration of all the features of machine/equipment to the entire satisfaction of BHEL is the sole responsibility of vendors at BHEL Bhopal work. Complete commissioning, testing including all the test is in the scope of supplier. Successful proving on BHEL Transformer (weighing 250 Ton to 350 Ton) by the supplier shall be considered as part of commissioning. Successful proving shall be considered by transportation of transformer from one place to another place (i.e. from Assembly Bay into VPD oven & back into assembly Bay, from Assembly Bay into test Bay & back into assembly Bay on existing aero caster worthy floor) in new transformer block.		VENDOR TO CONFIRM	
8.3 Demonstration of all features of the Aero-caster system & all accessories to the satisfaction of BHEL for their efficient and effective use.		VENDOR TO CONFIRM	
8.4 Demonstration by actual use of all supplied items and accessories to their full capacity.		VENDOR TO CONFIRM	
8.5 Commissioning spares, required for commissioning of the system within stipulated time, shall be brought by the supplier on returnable basis.		VENDOR TO CONFIRM	
8.6 Schedule of Commissioning shall be submitted with the offer.		VENDOR TO SPECIFY	

9.0	AMBIENT CONDITIONS & THERMAL STABILITY :			
9.1	Total System and all supplied items should work trouble free and efficiently under following operating conditions and should give specified accuracies. Power Supply: Voltage: 415 V +/- 10 % , 3-Phase ,no neutral OR 230 V single -phase Frequency: 50 Hz ± 1.5 Hz Operating Humidity : 15% to 80% (Vendor to confirm that system is suitable for above).	VENDOR TO CONFIRM		
10.0	PACKING:			
10.1	Air worthy/Sea worthy & rigid packing for all items of complete system, all Accessories and other supplied items to avoid any damage/loss in transit. When system is despatched in containers, all small loose items shall be suitably packed in boxes.	VENDOR TO CONFIRM		
11.0	WARRANTY :			
11.1	12 months from the date of commissioning of the system.	VENDOR TO CONFIRM		
12.0	GENERAL : The vendor should submit the following information:			
12.1	The mover should be prevented with a bumper of steel and a movable brush guard for preventing bodily injuries and loose objects from coming in under the mover.	VENDOR TO CONFIRM		
12.2	Equipment Make & Model	VENDOR TO FURNISH		
12.3	Total weight of the system	VENDOR TO FURNISH		
12.4	Detailed catalogues, sketch/ photographs of the equipment and accessories/ attachments should be submitted with the offer.	VENDOR TO FURNISH		

13.0	<p>QUALIFYING CONDITIONS : This is mandatory requirements for all the vendors for qualification of</p> <p>13.1 Only OEM (Original equipment manufacturer) or their authorized dealer should quote, who have supplied and commissioned at least one no. air-cushion transport systems of 250 Tons or higher capacity during the past ten years (from the tender opening date). In case of dealer, valid authorization certificate from OEM to be furnished along with offer.</p> <p>Further,</p> <p>i) Such air-cushion transport system should be working satisfactorily for more than one year after commissioning and</p> <p>The following information is to be submitted by the vendor about the companies where similar air-cushion transport systems have been supplied.</p> <p>1. Copy of Purchase order in line with requirement of clause 13.1 should be furnished.</p> <p>2. Performance certificate from the customer regarding satisfactory performance of air-cushion transport system supplied to them. The Performance Certificate to be addressed to OEM or their authorized dealer.</p> <p>3. BHEL reserves the right to verify information submitted by vendor. In case the information is found to be false / incorrect, the offer shall be rejected.</p> <p>4. Financial POC: Vendor should have average turnover of Rs. 161 Lacs minimum or Equivalent amount in any Foreign currency for last 3 consecutive years ending March 2024 and it should be supported by copies turnover certificate / Profit & Loss statement certified by Chartered Accountant.</p>	<p>VENDOR TO CONFIRM & FURNISH</p>
	<p>VENDOR TO FURNISH</p>	
	<p>VENDOR TO FURNISH</p>	
	<p>VENDOR TO NOTE</p>	
	<p>Vendor to Confirm</p>	

Sandeep Bhagat

Santosh Kumar Singh

Sanjay Kumar

Bhaskar Singh

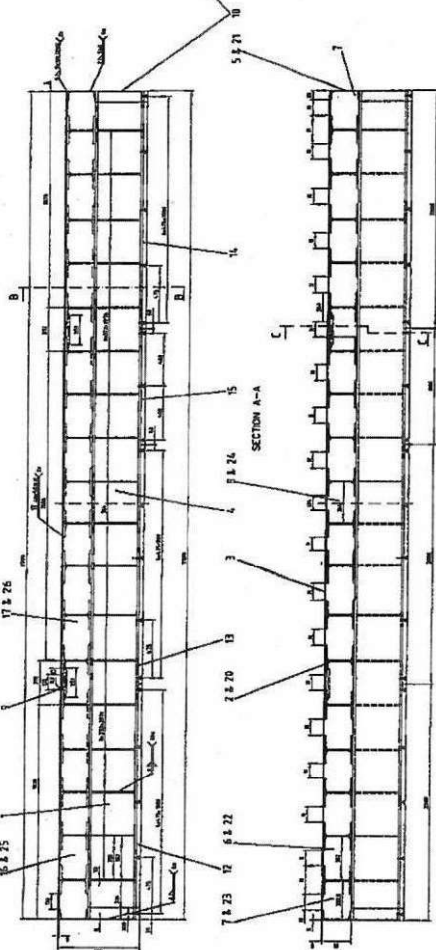
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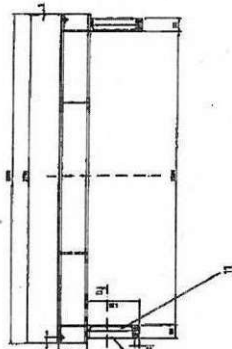
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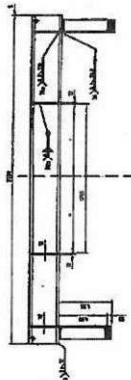
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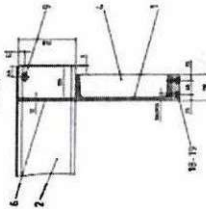
SECTION A-A



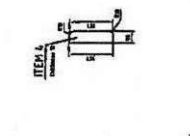
SECTION B-B



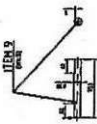
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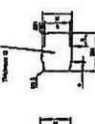
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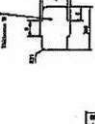
U. K. JAIN



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SECTION F-F

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Print

James C. Smith