

MUMBAI METRO RAIL CORPORATION LIMITED				
Mumbai Metro Line-3 Project				
IFB No: MM3-CBS-DEQ-9-06A				
Manufacture, Supply, Installation, Testing & Commissioning of Material Handling Equipment				
Response to Bidders' Queries (SET-1)				
Sr. No.	Part No., Section No., Clause No. & Page No.	Bid Document Clause Description	Bidder's Query /Clarification	MMRC Response
1	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.1.3 <b>Electric Stacker</b>	Main features: The Equipment shall: . • <b>Be provided with dead man handle type brakes.</b> .	Electro magnetic brakes are fail safe . Dead man switch not applicable in stacker because it is a standing operation	The brakes on the stacker shall get applied as the operator leaves this control on the Stacker .  <b>Bidding Documents condition Prevails.</b>
2	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.1.3 <b>Electric Stacker</b>	Main features: The Equipment shall: . • <b>Be provided with up/ down limit switches.</b> .	Mechanical stop is available at the end of Lifting Height	Mechanical stops are acceptable for limiting the lift movement.  <b>Bidding Documents condition Prevails.</b>
3	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.1.5 <b>Electric Stacker</b>	Hydraulic part: The supply shall comprise (minimum) of: • <b>A mast angle tilt cylinder.</b> .	Mast does not have tilt operation & this feature is not offered in electric stacker	Please refer to Addendum No. 1, Sr No. 1
4	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.1.5 <b>Electric Stacker</b>	Hydraulic part: The supply shall comprise (minimum) of: • <b>A mast angle tilt cylinder.</b> . • <b>The hydraulic cylinder shall be chrome plated for corrosion protection and fitted with a scraper joint to prevent any dust getting in.</b>	Mast Tilt option is not available in stackers,  Hydraulic cylinders are submerged in oil, hence Chrome Plating is not required.	Please refer to Addendum No. 1, Sr No. 1
5	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.2.3 (a) <b>Diesel Fork Lift Truck</b>	Mechanical Part : (a) Diesel Engine The fork lift truck shall be provided with diesel engine conforming to <b>Bharat Stage VI/ Euro VI/ Equivalent emission norms.</b> Engine shall be provided with air cleaner, fuel filter, lubricating oil filter and fuel filter cap.	Still Bharat stage IV is continued in India	Please refer to Addendum No. 1, Sr No. 2
6			Diesel Engine will be BS IV compliant. This as per the latest Government Guidelines.	
7	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.2.4 <b>Diesel Fork Lift Truck</b>	Hydraulic part . • <b>The hydraulic cylinder shall be chrome plated for corrosion protection and fitted with a scraper joint to prevent any dust getting in.</b>	Hydraulic cylinders are submerged in oil, hence Chrome Plating is not required.	Please refer to Addendum No. 1, Sr No. 3
8	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.2.5 (b) <b>Diesel Fork Lift Truck</b>	Electrical Part: (b) Instruments <b>Gauges for reading engine hours, engine oil pressure, engine coolant temperature, battery charging rate, speedometer and fuel level indicator shall be provided on dashboard.</b>	Since this is Diesel operated forklift, battery is used only for start. Hence battery charging rate not applicable.	Please refer to Addendum No. 1, Sr No. 4.
9			Speedo Meter is not available on forklift trucks. Fuel Low level indicator is available.	
10	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.2.6(a) <b>Diesel Fork Lift Truck</b>	Special Requirements : Each truck shall be equipped with: <b>a) a roll bar to protect the driver in case of an accident,</b>	Seated operation . Roll bar not needed.	Please refer to Addendum No. 1, Sr No. 5
11	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.2.6 (a) <b>Diesel Fork Lift Truck</b>	Special Requirements Each truck shall be equipped with: <b>a) a roll bar to protect the driver in case of an accident,</b>	Operator Cabin as per IS Standard is available.	



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12	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.2.6 (b) <b>Diesel Fork Lift Truck</b>	Special Requirements : Each truck shall be equipped with: <b>b) a protection system preventing access to the mechanical parts in movement when in the immediate vicinity of the driver</b>	Seated operation. Driver does not come in vicinity of moving parts. No need of protective system	Protective system is only needed if moving parts are in the vicinity of the driver.  <b>Bidding Documents condition prevails.</b>
13	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.2.6 (e) <b>Diesel Fork Lift Truck</b>	Special Requirements Each truck shall be equipped with: <b>e) a load limiter,</b>	Overload alarm is available	Overload alarm is acceptable in place of load limiter.  <b>Bidding Documents condition prevails.</b>
14	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.2.6 (g) <b>Diesel Fork Lift Truck</b>	Special Requirements Each truck shall be equipped with: <b>g) up and down limit switch,</b>	Mechanical stop is available at the end of Lifting Height	Mechanical stop is acceptable for limiting the lift movement.  <b>Bidding Documents condition prevails.</b>
15	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.3.8 <b>Electric Fork Lift Truck</b>	Hydraulic part The supply shall comprise (minimum) of: <b>• The hydraulic cylinder shall be chrome plated for corrosion protection and fitted with a scraper joint to prevent any dust getting in.</b>	Hydraulic cylinders are submerged in oil, hence Chrome Plating is not required.	Please refer to Addendum No. 1, Sr No. 6
16	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.3.9 <b>Electric Fork Lift Truck</b>	Safety features and Protection equipped with Forklift. <b>• Stop tilt forward movement when truck is off</b>	Tilt operation not required when machine is off.	Please refer to Addendum No. 1, Sr No. 7
17			This is not available in Forklift Trucks	
18	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.4.2 <b>Articulated Forklift Truck</b>	Technical Requirement: <b>Wheel type, drive side/load side Solid Rubber</b> <b>Turning radius 2200 mm</b> <b>Battery voltage/capacity 80 V / 500 Ah</b>	Front Polyurethane, Rear Solid  Clear Aisle Requirement – 2200 mm Transfer Aisle – 2850 mm  48 V / 720 Ah – 900 Ah	All proposed variations are acceptable.  <b>Bidding Documents condition prevails.</b>
19	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.4.8 <b>Articulated Forklift Truck</b>	Hydraulic part: The supply shall comprise (minimum) of: <b>• A mast angle tilt cylinder.</b> <b>• The hydraulic cylinder shall be chrome plated for corrosion protection and fitted with a scraper joint to prevent any dust getting in.</b>	Mast Tilt / Carriage Tilt will be provided.  Hydraulic cylinders are submerged in oil, hence Chrome Plating is not required.	Please refer to Addendum No. 1, Sr No. 8



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20	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.4.9 <b>Articulated Forklift Truck</b>	Safety features and Protection equipped with Articulated Forklift. • • <b>Stop tilt forward movement when truck is off</b> •	Tilt operation not required when machine is off.when truck is off cylinders will not operate	Please refer to Addendum No. 1, Sr No. 9
21	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.4.9 <b>Articulated Forklift Truck</b>	Safety features and Protection equipped with Articulated Forklift. • • <b>Stop tilt forward movement when truck is off</b> •	This is not available in Forklift Trucks	
22	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.4.9 <b>Articulated Forklift Truck</b>	Safety features and Protection equipped with Articulated Forklift. • <b>Speed reduction at turns – Reduced speed while turning.</b> • <b>Anti-rollback system - Ramp hold</b> •	Not required for Articulated Forklift  Not required for Articulated Forklift	
23	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.5.3 <b>Hand Pallet Truck</b>	Main features The equipment shall: • • <b>Be provided with dead man handle type brakes.</b> •	Dead man handle not required.	Please refer to Addendum No. 1, Sr No. 10
24	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.5.5 <b>Hand Pallet Truck</b>	Hydraulic part The supply shall comprise (minimum) of: • <b>A motor pump unit with oil tank and filter.</b> • <b>A lifting cylinder with a system maintaining a constant lowering speed.</b> • <b>A mast angle tilt cylinder.</b> • <b>The hydraulic cylinder shall be chrome plated for corrosion protection and fitted with a scraper joint to prevent any dust getting in.</b>	Component not present. Manual operation. Mast tilt not available. This feature is not required.	Please refer to Addendum No. 1, Sr No. 11
26	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.5.5 <b>Hand Pallet Truck</b>	Hydraulic part The supply shall comprise (minimum) of: • • <b>The hydraulic cylinder shall be chrome plated for corrosion protection and fitted with a scraper joint to prevent any dust getting in.</b>	Hydraulic cylinders are submerged in oil, hence Chrome Plating is not required.	
27	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.6.1 <b>Electric Pallet truck</b>	Main features : The equipment shall: • • <b>Be provided with dead man handle type brakes.</b>	Dead man handle not required.	The brakes of he pallet truck shall get applied as the operator leaves his control of the Pallet Truck.  <b>Bidding Documents condition prevails</b>



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28	Part 2 - Employer's Requirements Section VI B-Technical	Electrical Part (Battery and Charger) : <b>The battery charger shall be suitable for working on standard 3-phase supply and .....</b>	Single phase supply required	Single Phase and 3-Phase systems are acceptable for charging of batteries subject to interface with Interfacing Contractor (Depot E&M).  <b>Bidding Documents condition prevails</b>
29	Specifications, Clause no.3.6.4 <b>Electric Pallet truck</b>		Single Phase or 3 Phase charger will be provided.	
30	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.6.5 <b>Electric Pallet truck</b>	Hydraulic part : The supply shall comprise (minimum) of: • <b>A lifting cylinder with a system maintaining a constant lowering speed.</b> • <b>A mast angle tilt cylinder.</b> • <b>The hydraulic cylinder shall be chrome plated for corrosion protection and fitted with a scraper joint to prevent any dust getting in.</b>	Only 130 mm stroke. This feature is not required. Mast tilt not available. This feature is not required.	Please refer to Addendum No. 1, Sr No. 12
31	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.6.5 <b>Electric Pallet truck</b>	Hydraulic part : The supply shall comprise (minimum) of: • <b>A mast angle tilt cylinder.</b> • <b>The hydraulic cylinder shall be chrome plated for corrosion protection and fitted with a scraper joint to prevent any dust getting in.</b>	Not available for Battery Operated Pallet trucks  Hydraulic cylinders are submerged in oil, hence Chrome Plating is not required.	
32	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.7.2 (b) <b>Scissor Lift</b>	Technical Requirements (but not limited to below): b. Power and Control System . <b>Raise time 10 to 20 seconds</b> <b>lower time 10 to 20 seconds</b>	27 secs 29 secs	Please refer to Addendum No. 1, Sr No. 13
33	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.7.2 (d) <b>Scissor Lift</b>	Traction parameters: Drive Dual front wheel . <b>Turning radius – outside Max. 1600 mm</b> .	2120 mm	Please refer to Addendum No. 1, Sr No. 14
34	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.7.8 <b>Scissor Lift</b>	Control Post : . • <b>a dead man pushbutton slaving all functions,</b> .	Dead man push button not required.	The brakes of scissors lift shall get applied after the operator leaves his control of the Scissors lift.  <b>Bidding Documents condition prevails.</b>
35	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.7.10 <b>Scissor Lift</b>	Hydraulic part The supply shall comprise (minimum) of: . • <b>A mast angle tilt cylinder.</b> .	Mast tilt not available.	Please refer to Addendum No. 1, Sr No. 15
36	Part 2 - Employer's Requirements Section VI B-Technical Specifications, Clause no.3.7.10 <b>Scissor Lift</b>	Hydraulic part The supply shall comprise (minimum) of: . • <b>The hydraulic cylinder shall be chrome plated for corrosion protection and fitted with a scraper joint to prevent any dust getting in.</b>	Hydraulic cylinders are submerged in oil, hence Chrome Plating is not required.	

