

SPECIFICATION FOR Supply, Erection and commissioning of Passenger lift (G+4) as per spec/details below in Hydro Lab, BHEL Bhopal

SNO	DESCRIPTIONS	REQUIREMENT	Party's Offer	Remarks
	Specification / Features of lift			
1	No. of Elevator (lift)	one		
2	Location	Hydro Lab, BHEL Bhopal		
3	Load	544 Kg approx.(08 persons)		
4	Speed	one metres per second		
5	Type of Drive	VF regenerative (closed loop)		
6	Type of Lift	With Machine room		
7	Controller	Micro processor based controller		
8	Motor	AC permanent magnet synchronous motor gearless		
9	Motor input power supply	Vendor to specify		
10	Travel Distance :- 21 metres (approx.)	Vendor to Note		
11	Stops :- 5 stops 5 opening (G+4)	Vendor to Note & Confirm		
12	Available Hoistway (existing inside Dimention) :- 2000 MM (D) X 1800 MM (W) (approx)	Vendor to Note		
13	Signals and Controls			
13.1	Over speed protection system shall be avialable	Vendor to confirm		
13.2	Combined illuminating hall button and digital hall position indicators at all floors	Vendor to confirm		
13.3	Battery operated alarm bell and emergency light	Vendor to confirm		
13.4	Car operating panel with illumination	Vendor to confirm		
13.5	Overload warning indication in car	Vendor to confirm		
13.6	Automatic Rescue Device(ARD) with battery & battery charger	Vendor to confirm		
13.7	Press & speak intercom (3 way)	Vendor to confirm		
13.8	Visually and audibly notifying facility to help visually handicapped passengers.	Vendor to confirm		
14	Self leveling accuracy :- ± 3 mm	Vendor to confirm		
15	CAR DETAILS :			
15.1	Car Size (approx.) :- Minimum 1100 mm (W) X 1300 mm (D) X 2200 mm (H)	Vendor to specify		
15.2	Car enclosure :- Stainless steel in mirror finish with hand rail on rear car panel	Vendor to confirm		
15.3	Car entrance & Opening :- Stainless steel center opening sliding door in hairline/mirror finish. Clear opening about minimum 800 mm (W) x 2000 mm (H). All opening on same side	Vendor to confirm		
15.4	Door operation :- Automatic door operating system and electronic door detector.	Vendor to confirm		
15.5	Car Door :- Stainless steel with hairline /Vandal Proof / HoneyComb Finish	Vendor to confirm		
15.6	Traction Medium :- Belt/Rope	Vendor to specify		
15.7	Noise level in car :- Maximum noise level shall be 48 dB(A)as per relevant IS at normal load condition, 1meter away from the lift with correction factor for back ground noise, if necessary. This will be measured as per international standards like DIN 45635-16. Supplier to demonstrate compliance to noise level, if asked for.	Vendor to confirm		
15.8	Flooring :- Granite to harmonize with car interior	Vendor to confirm		
15.9	Ceiling :- Stainless steel with hairline finish with concealed LED Lamp	Vendor to confirm		
15.10	Ventilation :- Cross flow fans located in the ceiling	Vendor to confirm		
15.11	Car Operating Panel			
15.11.1	Car operating panel to harmonise with car interiors with following indicator	Vendor to confirm		
15.11.2	Car direction indicator	Vendor to confirm		
15.11.3	Car position indicator	Vendor to confirm		
15.11.4	Capacity indicator(fixed plate)	Vendor to confirm		
15.11.5	Overload warning indicator	Vendor to confirm		
15.11.6	Emergency power operative indicator	Vendor to confirm		
15.11.7	Emergency stop button	Vendor to confirm		

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15.11.8	Floor buttons	Vendor to confirm		
15.11.9	Door open button	Vendor to confirm		
15.11.10	Door close button	Vendor to confirm		
15.11.11	Intercom (3 way) communication	Vendor to confirm		
15.11.12	Door hold button	Vendor to confirm		
16	The lift , including attachment and accessories, should be suitable for 24 X 7 Hrs. Continuous operation to its full capacity	Vendors to confirm		
17	PACKING :			
17.1	Rigid packing for all items of complete lift, all Accessories and other supplied items to avoid any damage/loss in transit. When lift is despatched in containers, all small loose items shall be suitably packed in boxes	Vendors to confirm		
18	All the components / devices of the elevators shall be confirming to the following Latest IS & meeting all the statutory requirements (Latest provision of IE Rules 1946 and the Indian Electricity Act 1910)			
18.1	Electric Traction lifts - - Guide line for outline dimension of Passenger, Goods, Service and Hospital Lifts - IS 14665 (Part-1)	Vendors to confirm		
18.2	Electric Traction lifts - Code of practice for installation - IS 14665 (Part-2)	Vendors to confirm		
18.3	Electric Traction lifts - Safety Rules - IS 14665 (Part-3)	Vendors to confirm		
18.4	Electric Traction lifts - Components - IS 14665 (Part-4)	Vendors to confirm		
18.5	Electric Traction lifts - Inspection Manual - IS 14655 (Part-5)	Vendors to confirm		
19	Code of Practice for Installations operations and Maintenance of Electric Passenger and Goods Lifts - IS 1860	Vendors to confirm		
19.1	Specification for Shafts and Pulleys - IS 4666	Vendors to confirm		
19.2	Specifications for Brakes for Electric Passenger and Goods Lifts - IS 10913	Vendors to confirm		
19.3	Car and Counter Weight Guide Rails, Guide Rail Supports and Fastening for Lift - IS 10191	Vendors to confirm		
19.4	General requirements for car Frames for Electric Passenger and Goods Lifts - IS 11615	Vendors to confirm		
19.5	Specification for Lift Door Locking Devices and Contacts - IS 11706	Vendors to confirm		
19.6	Buffers for Electric Passenger and Goods Lift - IS 7759	Vendors to confirm		
19.7	Specification for Steel Wire suspension Ropes for Lifts, Elevators and Hoists - IS 9803	Vendors to confirm		
19.8	Code of practice for electrical wiring installation (system voltage not exceeding 650 volts) - IS 732	Vendors to confirm		
19.9	Motors shall conform to IEC/Indian Standards	Vendors to confirm		
20	Other Special Features			
20.1	Automatic Fan Switch Off			
	The fan in the car is automatically switched off if there is no hall or car calls for a fixed period of time.	Vendors to confirm		
20.2	Door Failure Operation			
	When the doors are prevented from being closed by small/minor substance in the threshold groove or in a door edge, the doors automatically try to remove the substance by repeated opening and closing.	Vendors to confirm		
20.3	Emergency Alarm			
	At the gentle press of a button located in the car-operating panel, the emergency alarm is activated.	Vendors to confirm		
20.4	Hall Call Detection			
	If the elevator car arrives at a floor to answer hall call and the hall button is kept activated for longer than a predetermined period of time, the car will not be held up at the floor, but will close its doors and proceed to respond to another call.	Vendors to confirm		
20.5	Independent Service			

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	When the independent key switch is turned on, all registered hall calls are cancelled and the elevator responds only to car calls. No hall calls can be registered during this service.	Vendors to confirm		
20.6	Load Nonstop			
	When the car load exceeds 80% of the rated duty load, the elevator does not answer hall calls. When the car load becomes less than 80% of the rated load, the elevator returns to normal operation.	Vendors to confirm		
20.7	Motor Overheat Protection			
	If an abnormal temperature in the elevator motor is detected, the car is forced to stop at the nearest floor and open the doors. It automatically reverts to normal operation as soon as the motor has cooled.	Vendors to confirm		
20.8	Safety Shoe Gate Switch			
	The doors revert to open if the safety shoe detects an obstacle when the doors are closing.	Vendors to confirm		
20.9	Overload Warning			
	When a overload is detected, the car does not start and the doors open. A buzzer is activated along with overload sign on the car operating panel in lift. The elevator operation resumes only upon removal of the overload.	Vendors to confirm		
20.10	Automatic Rescue Device (ARD)			
	This is a UPS system or Battery operated device which comes into action in case of power failure. Within a few seconds of power failure, subject to all safeties being in position, the car is moved at slow speed to the nearest landing and the doors automatically open.	Vendors to confirm		
20.11	Electronic Door Detector			
	The doors revert to open if the screen of infra-red beams acting as safety curtain across the door entrance detects an obstacle when the doors are closing.	Vendors to confirm		
20.12	Fire alarm Home Landing			
	When a fire detecting device installed in the building (by owner) is activated, the elevator rushes to a predetermined emergency purposed landing for passenger evacuation. After which the elevator parks at the landing with doors open and remains inoperative. This feature should be available	Vendors to confirm		
20.13	Fireman's Service			
	Upon switching on the fireman's switch in the hall of a predetermined floor, the elevator rushes to that floor for passenger evacuation. After which the elevator is ready to be used for fire fighting. This feature should be available	Vendors to confirm		
20.14	Hall Lantern & Car Arrival Chime			
	These fixtures visually and audibly notify passengers of the arrival of an elevator in advance. This facility helps visually handicapped passengers.	Vendors to confirm		
20.15	Home Landing			
	The elevator automatically returns to the predetermined home landing after the last call has been answered.	Vendors to confirm		
20.16	Intercom Facility			
	A 3 way communication facility is provided, which connects the elevator car, reception area and the machine room.	Vendors to confirm		
20.17	LIFT LIGHTS:			
	Lift Lights for sufficient illumination of complete lift cabin shall be in the scope of vendor. All light inside car and well area shall be provided by party	Vendors to confirm		
	Any lights required in the pit area shall also be foreseen and supplied by the vendor including wiring.	Vendors to confirm		
	All light fittings, consumables, adapters/receptacles should have compatibility with Indian standard and shall be supplied by the vendor	Vendors to confirm		
21	SAFETY ARRANGEMENTS:			

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21.1	lift should have adequate and reliable safety interlocks / devices to the machine, passengers due to the malfunctioning or mistakes. lift functions should be continuously monitored and alarm / warning indications through lights/ alarm number with messages should be available.	Vendors to confirm		
21.2	All the pipes, cables etc. on the lift should be well supported and protected. These should not create any hinderance to persons	Vendors to confirm		
21.3	All the rotating parts used on lift should be statically & dynamically balanced to avoid undue vibrations.	Vendors to confirm		
21.4	Emergency Switches at suitable locations as per International Norms should be provided.	Vendors to confirm		
22 AMBIENT CONDITIONS & THERMAL STABILITY :				
22.1	The controller, the drives & various component of the elevators should work trouble free & efficiently under the following conditions : Ambient Conditions: Temperature = 5 to 45 degree celsius Relative Humidity = 95% max.	Vendors to confirm		
23 GENERAL :				
23.1	Lift Model No.	Vendors to Provide		
23.2	Total connected load (KVA/KW):	Vendors to Provide		
23.3	Total weight of the lift	Vendors to Provide		
23.4	Weight of heaviest part of lift	Vendors to Provide		
23.5	Weight of the heaviest assembly / sub-assembly of the lift	Vendors to Provide		
23.6	Dimensions of largest part/ sub-assembly/ assembly of the	Vendors to Provide		
24 SPARES:				
24.1	Mechanical, electrical and electronic etc. spares used for the lift in sufficient quantity shall be ensured during guarantee/warrantee period (2 years) for trouble free operation and in case of failure/damage it shall be replaced free of cost during guarantee/warrantee period.	Vendors to confirm		
24.2	All types of spares for lift and accessories should be available for atleast 10 years after supply of the lift. If lift or control is likely to become obsolete in this period, the vendor should inform BHEL sufficiently in advance and provide drawings of parts / details of spares & suppliers to enable BHEL to procure these in advance, if required	Vendors to confirm		
25 DOCUMENTATION : Two sets of following documents (Hard copies) in English language should be supplied along with the lift				
25.1	Commissioning, Operating & maintenance manuals of lift	Vendors to Submit		
25.2	Catalogues & drawings	Vendors to Submit		
25.3	Complete Master List of parts used in the lift shall be submitted by the vendor.	Vendors to Submit		
25.4	One additional set of all the above documentation on soft copy	Vendors to Submit		
25.5	Vendor to furnish list of lift component & constructional details including complete layout drawings of various components/assemblies like Door, Drive, Controller, Synchronous Motor, Flooring, Ceiling, Operation Panel etc.	Vendors to Submit		
26 TRAINING				
26.1	BHEL Persons should be trained in the area of (a) Basic featuers about lift. (b) Electrical, Electronic & maintenance for lift & other supplied equipments (c) Mechanical maintenance of the lift & other supplied equipments (d) Operation of the lift & other supplied equipments.	Vendors to confirm		
27 ERECTION & COMMISSIONING				
27.1	Dismantling of existing lift is in the scope of vendor. Dismantled material will be deposited to BHEL. The cost of dismantling will be inclusive in the offer.	Vendors to confirm		
27.2	After dismantling of lift all the civil work inside well and machine room as per requirement for installation of new lift will be done by BHEL.	Vendors to give requirement		

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27.3	One 415V +/- 10% /,50HZ +/- 3 %, 3 Phase AC (3 wire system with out neutral) Power Supply, One Single Phase Supply and One Separate Earth point will be provided by BHEL at a single point near the machine, as per layout recommended by Vendor. All types of cable connectors, circuit breakers etc. required for connecting BHEL's power supply point to different parts of the machine/control cabinets, shall be in the scope of party/vendor.	Vendors to Note		
27.4	BHEL will provide facilities at one point indicated by supplier during E & C, like Air, Water, Electricilty etc.			
27.5	All the required work for E & C i.e. civil works, scaffolding, electrical works, structural work and steel items, etc are in the scope of supplier.	Vendors to confirm		
27.6	Supplier to take full responsibility for carrying out the erection, start up, testing of lift, it's control & all types of other supplied equipment.	Vendors to confirm		
27.7	Successful proving of lift opeation by the supplier shall be considered as part of commissioning. All tests, as mentioned shall form part of the commissioning activity.	Vendors to confirm		
27.8	Commissioning spares, required for commissioning of the lift within stipulated time, shall be brought by the supplier on returnable basis.	Vendors to confirm		
27.9	All Cover Plates required for the lift and its peripherals including pits, if any, shall be supplied and installed by the vendor.	Vendors to confirm		
27.10	Portion, if any, of the lift, accessories and other supplied items where paint has rubbed off or peeled during transit or erection should be repainted and merged with the original surrounding paint by the vendor. For this purpose, the vendor should supply sufficient quantity of touch-up paint of various colours of paint used.	Vendors to confirm		
27.11	Erection and Commissioning shall be completed within two months from the date of site clearance from BHEL.	Vendors to confirm		
27.12	All moving cables should be installed properly. Additionally, all the cable trays required for laying of cables should be included in the offer.	Vendors to confirm		
27.13	Vendor should ensure the proper earthing for the lift and its peripherals. BHEL will provide earth pit and single earth point will be in the scope of BHEL	Vendors to confirm		
27.14	LEVELING & ANCHORING SYSTEM Complete anchoring system including foundation bolts, anchoring materials, fixators, leveling shoes etc should be supplied	Vendors to confirm		
27.15	TOOLS FOR ERECTION, OPERATION & MAINTENANCE : Special tools and equipment required for erection of the lift shall be brought by the party/vendor. Necessary tools like Torque Wrench, Spanners, Keys, grease guns etc.	Vendors to confirm		
28	Pre-Dispatch Inspection			
28.1	Physical verification of all the material & Test certificate verification of belt/rope, motor and other major components	Vendors to confirm		
28.2	Demonstration of features of control system.	Vendors to confirm		
29	FINAL ACCEPTANCE OF LIFT:			
29.1	Geometrical accuracies as per relevant standard	Vendors to confirm		
29.2	Positioning accuracies as per relevant standard	Vendors to confirm		
29.3	The lift should be tested for continuous running as per relevant standard	Vendors to confirm		
29.4	Full load test to demonstrate the maximum power & capacity of the lift	Vendors to confirm		
29.5	Demonstration of all features of the lift, signal & control system.	Vendors to confirm		
29.6	Demonstration by actual use of all supplied attachments and accessories to their full capacity.	Vendors to confirm		

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29.7	Two weeks supervision by the OEM of operation of lift after commissioning of lift.	Vendors to confirm		
29.8	Training of lift operators in operation of lift & accessories etc by the supplier's experts / engineers during their stay at BHEL works after proving of lift.	Vendors to confirm		
29.9	Commisioning report to be submitted by the vendor	Vendors to confirm		
30	Guarantee/Warranty			
30.1	Warranty period shall be minimum Two years from the date of commissioning for complete lift & its accessories including workmanship.	Vendors to confirm		
31	Qualifying Condition :			
31.1	The supplier must be the original equipment manufacturer (OEM) or authorized dealer of OEM	Supporting Documents to be submitted		
31.2	The lift Manufacturer shall be approved by CPWD category "A".	Vendors to submit copy of approval /letter by CPWD		
31.3	Vendor should confirm the availability of spares & services for at-least 10 years from the date of commissioning. In case of authorised dealer, confirmation regarding technical support & spare availability from OEM also to be submitted	Vendor to submit		

- Before quoting the offer vendor shall visit the site to explore actual requirement/assesment