

Jaipur Metro Rail Corporation Limited

NCB No. JP/EW/1B/E3

Addendum – 2 Summary

S.No	Part / Section / Volume	Document/Chapter	Addendum
01	Volume-II Section-6 Part –A	Clause no -6.2.5(a)	Correction done: (Rs Twenty Ten thousand only)
02	Volume-II Section-6 Part –A	Clause no -6.21.3	Correction done: Shall park there with the doors open for 15-20 seconds and then close .
03	Volume-II Section-6 Part –B	Clause no -5.3.12 (b)	Correction done and EN12150 added: Glass and glazing shall gently comply with BS 952 Part 1, BS5713, BS6206 and BS 6206 and BS6262 and EN12150

complete its function and lift doors open at designation floor to evacuate the passenger. Thereafter, Elevator designated by the authorized person may resume operation depending on the capacity of emergency power.

6.21.3 Emergency Operation of Elevators in the Event of Fire

In the event of fire when any fire detection device is activated, all Elevators shall automatically be brought to the designated floor (Ground Floor in case of Ground to concourse lift and to Concourse in case of Concourse to Platform Lift or as per requirement of Employer) and shall park there with the doors open. ~~for 15-20 seconds and then close.~~ All Elevators shall automatically be rendered inoperative after it has been brought to the designated floor. The essential buttons such as "Door Open", intercom and alarm bell etc on the car operating panels shall remain functional and illuminated. Normal operation of the elevators shall be manually reset by the operation of a reset key switch.

6.21.4 Emergency Operation of Elevators In the Event of Power Failure and Fire

In the event of power failure and fire, the operation of the Elevators shall be in accordance with the "Emergency Operation of Elevators in the Event of Fire" and the power supply shall be from the emergency supply panel at the stations.

6.21.5

A battery back-up device to home the Elevators to the landing in the event of power failure shall be provided. This shall be battery operated and shall be able to move the elevators with any load from no load to full load at reduced speed to the landing and open the doors, which shall be achieved by provision of ARD and BDT or ERT. The elevators door shall remain close until resumption of power supply and the Elevators shall automatically reset to normal. The direction of travel shall depend upon the load in the Elevator which shall be provided by defining different loading conditions such as more than 50% / less than 50%/at 50%. During this operation all safety features of the Elevator shall remain operational. The rescue time of the device from the time of power failure to the time the doors fully open shall not exceed two minutes. However, the ARD start time can be adjusted from 0 to 30 sec depending upon resumption of emergency supply from alternative source/ DG sets. The requirement of ARD will be finalized during the design stage depending upon availability of power from DG set. The landing accuracy shall be less than +/- 10.0 mm. The capacity of the battery when fully charged shall be capable of operating the Elevator at rated load from one landing to another for a minimum of 3 trips without further charging. To ensure the same new battery shall be capable to perform the test for 6 trips without intermediate charging at the time of commissioning. The battery shall be housed in a cabinet/ rack with a corrosion proof finish. The device shall immediately stop the Elevator and prevent its further immediate movement, if there is a short circuit or open circuit in the inverter output. The rating of the battery

components including major components should be clearly mentioned in the design submission (refer Annexure – 4, Appendix – D2 of ITT) . Major components are mentioned at clause – 6.2.4.

6.2.4 Major components shall mean replacement of car frame, car enclosure, car and landing doors, elevator shaft wiring (except travelling cables), guide rails, drive machine and driving sheave but parts attached to these components which are subjected to normal wear and tear are excluded.

6.2.5 The reliability, availability and maintainability requirement of elevator are as follows:

(a) Reliability Requirement

The Reliability requirements of this TS shall be subsidiary to the Availability and Maintainability requirement of this TS. The reliability of equipment should be of level that it does not result in trapping of Lift User in the Elevator due to equipment failure. Any claim / Damage / Compensation claimed by the affected passenger / elevator user on account of equipment failure shall be recovered from the firm. In addition, JMRC shall impose a penalty @ Rs.10000/- (Rs Twenty Ten Thousand Only) per case. The penalty shall be applicable during DLP and AMC.

The Reliability measure for the Elevators shall be the Mean Time Between Maintenance Action (MTBMA). This covers both preventive as well as corrective maintenance.

The Elevators shall achieve a MTBMA not less than 7 days. **Each day means 24 hours. MTBMA shall be calculated for each calendar month separately and MTBMA calculation shall be done based on the total number of elevators operational on 01st day of that applicable month.**

(b) Availability

Service Availability Targets:

- (i) The Systems shall be designed to ensure that failure of any major equipment, caused by an external accident or negligence of internal staff, will not lead to unavailability of the whole System, other than temporary outage of the failed equipment.
- (ii) All elements of the systems shall be able to be maintained during out-of-traffic hours to avoid interrupting passenger train services.
- (iii) If elevator is kept out of service for more than 24 hrs due to non-availability of Spares or due to lack of proper attention. JMRC shall impose a penalty of Rs. 10,000/-(Rs Ten Thousand Only) per day for each such case. The penalty shall be applicable during DLP and AMC.
- (iv) The Employer will assess the reasons for the equipment not being in service, accordingly the penalty will be imposed. The Employer decision is

and sprayed – on fire resistant vibration / sound attenuating backing material subject to the acceptance of the "Engineer". The cladding shall be provided on all three sides including bottom side.

- (d) Skirt panels : Minimum 2.0 mm thick stainless steel, grade SS-304 hairline finish, with a material of low coefficient of friction such as Teflon or equivalent as reviewed without objection by the "Engineer" applied on the surface.
- (e) Lighting : LED comb lighting. Power supply shall be supplied from the UPS, to be supplied by the E&M Contractor.

Measures other than frictional or gravitation methods shall be provided to prevent the inner panels from dislodging during normal operation. The fixing method shall be subject to the acceptance of the "Engineer".

- 5.3.9 (a) The distance between the inner decking immediately below the handrail shall not be less than 1200 mm.
- 5.3.9 (b) Horizontal clearances between skirt and the steps should be kept as per EN 115.
- 5.3.10 Where necessary, all outer sides of the balustrades and truss shall be provided with reinforced claddings. The gap between escalators and the sides of escalator and the adjoining walls/ parapet walls/ stairs shall be provided with decking extensions. The Contractor shall allow a gap of approximately 15mm between the decking and the adjacent walls/ parapet walls. The gap shall be filled up by the Escalator Contractor with flexible sealant subject to review without objection by the "Engineer". The claddings and decking extensions shall be fabricated from stainless steel (thickness to be as per TS Clause 5.2.12 and 5.3.8) with hairline finish (SS 304). The inner surface shall be reinforced to prevent warping. It shall be sprayed with fire resistant vibration/sound attenuating backing material to the acceptance of the "Engineer". The claddings and decking extensions shall have tight butt joint and be fastened to the truss with concealed stainless steel bolts, nuts and washers. The joint line shall be perpendicular to the escalator step nose line without any longitudinal joints. All joint lines of interior decking, exterior decking/decking extension shall be aligned and staggered in arrangement in line with the joint line of interior panel. The design and the fixing details are subject to the acceptance by the "Engineer".
- 5.3.11 The balustrade shall withstand the loading without permanent deformation after removal of loading as specified in EN115.
- 5.3.12 Glass Balustrade shall meet the following requirement:-
- a. The glass balustrade shall be fabricated of tempered safety glass with minimum thickness 10mm and sufficient mechanical strength and rigidity in accordance with EN115 as a minimum.
 - b. Glass and glazing shall gently comply with BS 952 Part 1, BS 5713, BS 6206, and ~~BS6206 and BS 6262~~ and **EN 12150**
 - c. All glass shall be capable of easy replacement.
 - d. The balustrade shall be glazed at the entire section from upper to lower newel ends.