# DESIGN, MANUFACTURE, SUPPLY, TESTING, COMMISSIONING AND TRAINING OF 24 Nos. OF STANDARD GAUGE CARS FOR AIRPORT METRO EXPRESS PROJECT

## TENDER ‘RS14 Dev.’

## Addendum No. 3

**Tender Document: Tender 'RS14 Dev.': Addendum No. 3**

| Part, Section, Description, Clause, Location etc. | Amendments |
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| • Volume 3<br>• ERTS<br>• Clause no. 1.3.3<br>• Page 6 of 80 | **Replace**<br>"<br>**Deleted**<br>"<br>**With**<br>"<br>**The rolling stock contractor shall ensure the compatibility of proposed trains with existing trains of Airport Express Line, wherever these trains shall be required to be coupled in event of rescue operation.**<br>" |
| • Volume 3<br>• ERTS<br>• Clause no. 4.1.1 (i)<br>• Page 40 of 80 | **Replace**<br>"<br>**The carbody, as the shell of the vehicle, shall be created to respond to the technical, aesthetic and operation requirements. The car body should be lightweight, conforming to EN 12663:2000 category P-II – railway application – 'Structural Requirements of Railway Vehicle Bodies'. The car strength shall comply with UIC 566 --'Loading of car bodies and their components'. However, compressive load shall be 1200 kilo Newton.**<br>"<br>**With**<br>"<br>**The mechanical strength of the car body structure shall comply with the requirements of EN 12663 Category PIII. The Contractor shall carry out stress analysis of car body as well as for important structural components which affect safety and availability using the finite element method. However, the strength of the car body shall be decided during design stage by meeting EN 15227 & EN 12663 with exceptional passenger load of 8 passenger/m2.**<br>" " |
| • Volume 3<br>• ERTS<br>• Clause no. 4.1.4 (i)<br>• Page 40 of 80 | **Replace**<br>"<br>The carbody structure shall be designed to resist with no permanent deformation and without exceeding the maximum admissible stresses of the material used. All the static load hypotheses are defined in sections 4.2, 4.3 and 4.4 of **Eurostandard 12663 for P-II** category vehicles.<br>"<br>**With**<br>"<br>The carbody structure shall be designed to resist with no permanent deformation and without exceeding the maximum admissible stresses of the material used. All the static load hypotheses are defined in sections 4.2, 4.3 and 4.4 of **EN 12663 for P-III** category vehicles. " |

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| • Volume 3<br>• ERTS<br>• Clause no. 4.1.6<br>• Page 42 of 80 | **Replace**<br>"<br>The securing of all equipment, and in general, of any item mounted on the inside or outside of the carbody, shall be sized to withstand the stresses defined in standard **EN 12663 for P-II** category vehicles without incurring in permanent deformations.<br>"<br>**With**<br>"<br>The securing of all equipment, and in general, of any item mounted on the inside or outside of the carbody, shall be sized to withstand the stresses defined in standard **EN 12663 for P-III** category vehicles without incurring in permanent deformations.<br>" |
| • Volume 3<br>• ERTS<br>• Page 55 of 80 | **ADDITIONAL CLAUSE:**<br><br>**Add the following after 6.8.7**<br>"<br>**6.9 Brake control under rescue operation**<br><br>**6.9.1 During the rescue operation of pushing/pulling of a defective train loaded with passengers, the healthy train shall ensure simultaneous brake application in both healthy and defective train. Release of parking brake/holding brake of the defective train shall be possible from healthy train after mechanical and pneumatic connections.**<br>**For brake application purpose, the contractor shall provide extension of EP brake and emergency brake lines from healthy train to defective train through a suitable jumper cable which can be connected manually during such eventualities. The extended EP brake lines shall be in form of coded hardwires brake lines. The jumper connection shall be easily accessible, flexible and self lockable after connection. The connector housing shall have protection level not less than IP65 and shall be designed to automatically protect the connector against dust and water. The cover shall harmonise with the external finish. One set of jumper cable shall be kept in each driving console duly secured. The hardware lines as well as jumpers shall be with 100 % redundancy with one jumper connector on each side of the driving console front. The system shall ensure the integrity of these lines by built-in self test and also their isolation in case of extension of feed to the faulty brake lines of the defective train.**<br>**Details shall be discussed during design stage.**<br><br>**6.9.2 The rolling stock contractor shall ensure the compatibility for rescue and coupling with existing trains of Airport Express Line. Design shall be discussed and finalized during design stage.**<br><br>" |

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| • Volume 3<br>• ERTS<br>• Clause no. 9.1.5<br>• Page 61 of 80 | **Replace**<br>"<br>**The units shall be housed in dust and waterproof casings and shall be installed under the floor of the TC cars.**<br>"<br>**With**<br>"<br>**The box for the power converter - inverter shall be of stainless steel/Anodized Aluminium so as to avoid any corrosion in service on any account and the box shall last for the lifetime of the converter / inverter unit without needing any attention. The IP protection level of Converter box and that of aux. converter shall not be less than IP65. The connectors shall have IP67 protection. The cooling arrangement shall ensure no dust deposition on the component and associated electronics. The box cover which may have to be removed for maintenance shall be suitable secured against falling. Hinged opening cover arrangement shall be preferred.**<br>" |
| • Volume 3<br>• ERTS<br>• Clause no. 9.5.1<br>• Page 63 of 80 | **Replace**<br>"<br>The battery shall be charged according an IUoU -characteristic. The output voltage shall be temperature compensated.<br>"<br>**With**<br>"<br>The battery shall be charged according an IUoU -characteristic **or with Float Charging characteristic.** The output voltage shall be temperature compensated.<br>" |
| • Volume 3<br>• ERTS<br>• Clause no. 9.6.1<br>• Page 63 of 80 | **Replace**<br>"<br>**The temperature shall be measured with help of an temperature sensor whose value shall be: - Nominal value: 10k at +25°C, tolerance ±1%.**<br>"<br>**With**<br>"<br>**The temperature shall be measured with help of a temperature sensor.**<br>" |
| • Volume 3<br>• ERTS<br>• Clause no. 5.5.2<br>• Page 48 of 80 | **Replace**<br>"<br>Axle bearings shall be of a proven type. The roller bearings shall have a minimum life rating of 3 million kilometers when computed in accordance with the method given in ISO 281/1.<br>"<br>**With**<br>"<br>Axle bearings shall be of a proven type. The roller bearings shall have a minimum life rating of 3 million kilometers in accordance with the method given in ISO 281/1 **and the test report shall be submitted to DMRC.**<br>" |

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| • Volume 3<br>• ERTS<br>• Clause no. 7.1.1.1<br>• Page 56 of 80 | **Replace**<br>"<br>The two doors (corresponding to the luggage doors of DMLC of existing trains) of DMC1 shall only be opened manually by maintenance staff.<br>"<br>**With**<br>"<br>**Deleted**<br>" |
| • Volume 3<br>• ERTS<br>• Clause no. 13.9.6<br>• Page 74 of 80 | **Replace**<br>"<br>**The car body shall also be subjected to a vertical deflection test. All side doors, including the cab side doors, on one side of the car shall be installed, complete with drive mechanisms, and all sealing and weather-stripping.**<br>"<br>**With**<br>"<br>**The car body shall also be subjected to a vertical deflection test in the following two stages**<br>**i) The car body vertical deflection test on a test bed (without installed side doors).**<br>**ii) The operation test of the side doors under car body loading conditions during vehicle type test.**<br>" |
| • Volume 3<br>• ERTS<br>• Clause no. 12.3 (iv)<br>• Page 68 of 80 | **Replace**<br>"<br>When the TO answers a PIC call from the passenger, it shall be made through the PA system only in the train car in which the PIC call request is made. **After handling the PIC call, the PIC unit shall be able to be reset by staff carrying the reset keys to terminate the communication path between the train cab and PIC unit.**<br>"<br>**With**<br>"<br>When the TO answers a PIC call from the passenger, it shall be made through the PA system only in the train car in which the PIC call request is made. **PIC once operated should be resettable from remote i.e. from operating / Driving console.**<br>" |