



OFFICE OF RAIL AND ROAD

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Case Ref PRM-IOP-0277

EIN UK/51/2019/0013

14 August 2019

**Contact: Giles Turner**  
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Dear Mr Carter

**THE RAILWAYS (INTEROPERABILITY) REGULATIONS 2011, AS AMENDED  
AUTHORISATION OF UPGRADE OF CLASS 710/2 ELECTRIC MULTIPLE UNITS  
710256-710273 FOR OPERATION AS DUAL VOLTAGE FOUR-CAR SINGLE  
UNITS**

I refer to your application for authorisation, received on 29 July 2019. Following review of your application, I can confirm that ORR grants authorisation under regulation 4(1)(a) of the Railways (Interoperability) Regulations 2011, as amended. This authorisation is for the placing in service as single units of the upgraded Class 710/2 Electric Multiple Units numbered 710256-710273 inclusive, composed of individual vehicles numbered in accordance with Appendix 1. The vehicles have been upgraded to dual voltage operation from AC-only operation.

Document 3EER400030-4552 referred to by the declaration of verification dated 26 July 2019 and contained in your technical file, reference 3EER400027-4839, concludes that there are no outstanding conditions and constraints other than the permanent constraints inherent in the Vehicle Design for the operation of Single Unit 4 car CL710/2 DV units.

Safety Assessment Report AES/1016/R03 Issue 1 30 January 2019, modified by AES/1016/L13 26 July 2019, identifies outstanding hazards which require actions to be taken. The conditions which must be met in respect of these hazards are:

- (1) Bombardier shall, before 11 April 2020, make engineering modifications in isolation or combination to the Arriva Rail Limited fleet of Class 710 electric multiple units to reduce the risks of climbing and surfing in the inter-car area to a level which is as low as reasonably practicable (ALARP). The surfing and climbing risks are for both attended, in service trains, and unattended, not in service or stabled trains.

- (2) The operator Arriva Rail Limited shall, for trains placed in use before modifications are implemented to address inter-car surfing and climbing risks, reach agreement with the manufacturer on a time-bound plan which provides details of how these risks will be effectively managed and mitigated in the interim whilst modifications are implemented. This condition applies to both trains in service and those not in service or stabled.

The upgraded rolling stock subsystem(s) authorised by this letter must be operated and maintained in accordance with Regulation 20.

You should be aware that any future modifications to the authorised subsystem may constitute a further 'renewal' or an 'upgrade' as defined in Regulation 2. If a project entity, in relation to the project, considers that the modification meets either of these definitions they may apply, in accordance with the provisions of Regulation 13, to the Department for Transport (DfT) for a decision on whether a new authorisation will be required. Should DfT decide that an authorisation is not required they must consult with ORR whether authorisation is required on safety grounds.

As the project entity you are responsible for retaining the technical file, keeping it up to date and making it available to the ORR in accordance with Regulations 18 and 19.

If you are not the owner of the authorised subsystem you shall within 60 days, in accordance with Regulation 19(3), transfer the technical file, certificate of verification and verification declaration to the owner of the subsystem and the owner shall then be regarded as the project entity. If the owner, in accordance with Regulation 19(4), disposes of his interest in the authorised subsystem, he shall within 60 days of the disposal transfer the technical file, certificate of verification and verification declaration to the person acquiring that interest and that person shall be regarded as the project entity.

Please note that under Regulation 36, the person who applied for the authorisation shall send particulars to the Registration Entity to enable the registration entity to update the information on the National Vehicle Register. This will include such further information as the registration entity may reasonably require set out in the relevant standard.

The person who applied for the authorisation to place in service may apply to the ORR for a determination of type in accordance with Commission Implementing Decision 2011/665/EC. The person who applied for the type authorisation will receive it after providing the data to the Registration Entity in accordance with Annex II of Commission Implementing Decision 2011/665/EC.

If you are the operator, may I remind you of the need to have adequate arrangements within your Safety Management System to control the risks associated with this upgraded rolling stock subsystem(s).

Yours sincerely



**Steve Fletcher**  
**Deputy Director, Engineering & Asset Management**

cc

|                           |  |
|---------------------------|--|
| Ian Jones                 | Head of Interoperability, Safety and Standards DfT               |
| Ian Prosser               | ORR Director Railway Safety                                      |
| Matt Raine                | ORR HM Inspector of Railways                                     |
| Paul Hooper               | ORR HM Principal Inspector of Railways                           |
| Gary Taylor               | ORR Interoperability and Standards                               |
| David Galloway            | Head of System Compatibility, Network Rail                       |
| National Vehicle Register | <a href="mailto:nvr@networkrail.co.uk">nvr@networkrail.co.uk</a> |

## Appendix 1

| <b>Unit</b> | <b>DMS1</b> | <b>PMS</b> | <b>DMS2</b> | <b>MS1</b> |
|-------------|-------------|------------|-------------|------------|
| 710256      | 432156      | 432356     | 432556      | 432256     |
| 710257      | 432157      | 432357     | 432557      | 432257     |
| 710258      | 432158      | 432358     | 432558      | 432258     |
| 710259      | 432159      | 432359     | 432559      | 432259     |
| 710260      | 432160      | 432360     | 432560      | 432260     |
| 710261      | 432161      | 432361     | 432561      | 432261     |
| 710262      | 432162      | 432362     | 432562      | 432262     |
| 710263      | 432163      | 432363     | 432563      | 432263     |
| 710264      | 432164      | 432364     | 432564      | 432264     |
| 710265      | 432165      | 432365     | 432565      | 432265     |
| 710266      | 432166      | 432366     | 432566      | 432266     |
| 710267      | 432167      | 432367     | 432567      | 432267     |
| 710268      | 432168      | 432368     | 432568      | 432268     |
| 710269      | 432169      | 432369     | 432569      | 432269     |
| 710270      | 432170      | 432370     | 432570      | 432270     |
| 710271      | 432171      | 432371     | 432571      | 432271     |
| 710272      | 432172      | 432372     | 432572      | 432272     |
| 710273      | 432173      | 432373     | 432573      | 432273     |