

Mr. Paul Carter  
Design Assurance and Authorisation Manager  
Bombardier Transportation UK Ltd.  
Registered Office: Litchurch Lane,  
Derby,  
DE24 8AD

Your Ref

Case Ref PRM-IOP-0225  
EIN UK/00/2019/0000

7<sup>th</sup> November 2019

**Contact: Paul Fray**  
HM Inspector of Railways  
25 Cabot Square  
London  
E14 4QZ

Dear Paul

**THE RAILWAYS (INTEROPERABILITY) REGULATIONS 2011, AS AMENDED  
AUTHORISATION OF CLASS 345.**

**UNIT AND VEHICLE NUMBER: 345066 TO 345070**

I refer to your application for authorisation, received on the 22<sup>nd</sup> October 2019.

Following review of your application, I can confirm that ORR grants a type authorisation under regulation 9 of the Railways (Interoperability) Regulations 2011, as amended. This authorisation is for the placing in service an additional five Class 345 vehicles as per appendix 1.

I also refer to your Declaration of Conformity to an Authorised Vehicle Type, reference vehicle type 13-070-0001-6-001 dated 17<sup>th</sup> October 2019 and your Review of Standards, received on the 22<sup>nd</sup> October 2019.

The conditions and constraints of use on the structural subsystem are those contained on your original EC Declaration of Verification dated 6th June 2017 and contained in your technical file, reference Y497AITF/38370.

Constraints /Restrictions:

1. Bombardier shall, within six months of the granting of this authorisation, make engineering modifications in isolation or combination to the Arriva Rail London Limited fleet of Class 345 electric multiple units to reduce the risks of climbing and surfing in the inter-car area to a level which is so far as is as reasonably practicable (SFAIRP). The surfing and climbing risks are for both attended, in service trains, and unattended, not in service or stabled trains. Bombardier shall, prior to service operation, provide to ORR a written commitment in the form of a time-bound plan detailing the modifications to be applied, accepted by ORR in writing.
2. The operator Arriva Rail London Limited, shall for trains put into 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.
3. Bombardier shall, within six months of the granting of this authorisation, upgrade the GSM-R radio system to Version 4.0.

The 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 '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 enter 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 will be issued with a determination of type in accordance with Commission Implementing Decision 2011/665/EC. The person who applied for the authorisation to place in service will receive the type authorisation 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 rolling stock subsystem(s).

This decision letter will be published on ORR website.

Yours sincerely



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

Cc

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