

Mr Steve Leigh
Program Manager
Network Rail Telecoms
The Quadrant, Level 2 Caldecotte,
Eldergate
Milton Keynes
Buckinghamshire
MK9 1HA

Your Ref : OP158365
R00015

Case Ref : PRM-IOP-0333

IN Number : As listed

Date: 15th June 2021

Contact: Adam Buckland
2 Rivergate,
Temple Quay,
Bristol.
BS1 6EH.

Dear Steve,

THE RAILWAYS (INTEROPERABILITY) REGULATIONS 2011, AS AMENDED UK TYPE AUTHORISATION OF GSM-R V4.0 FITTED TO THE VEHICLES LISTED IN THIS LETTER IN CONFORMITY WITH EUROPEAN REGISTER OF AUTHORISED TYPE REFERENCE 11-095-0001-5-001.

I refer to your application for authorisation against an approved type, received on 7th June 2021. Following a review of your application, I can confirm that ORR grants an authorisation under regulation 9 of the Railways (Interoperability) Regulations 2011, as amended.

This authorisation is for the placing in service of V4.0 GSM-R Cab Mobile sub system fitted with an interference resistant transceiver. In addition, there is an option to replace the current GSM-R antenna with a combined GSM-R/GPS antenna and to fit and additional LTE antenna.

- GSM-R Cab Mobile Type - GSM-R V4.0 Cab Mobile SVR400+ with NR4.0 software (Build 1127) which incorporate an ETSI TS 102 933 V 2.1.1 compliant transceiver.
- GSM-R/GPS antenna (Fitment of combined GSM-R/GPS antennae is optional)
 - Huber & Suhner – SWA-0825/360/5/30/DFRX30
 - Polomarconi – BGLD1/S
- LTE antenna (Fitment of LTE antennae is optional)
 - Huber & Suhner – SWA-0825/360/5/30/MIMO
 - Panorama Antennas – TRNM-7-60-NJ
 - Polomarconi – T01811814
 - Huber & Suhner – Sencity Rail MIMO Antenna 1399.17.0222

This conforms to European Register of Authorised Types (ERATV) type 11-095-0001-5-001.

This authorisation applies to the following inclusive.

| Operator | Class | Vehicle | Cab | V4.0 Installation Date | IN |
|------------------|-------|---------|-----|------------------------------|-----------------|
| Abellio ScotRail | 156 | 156478 | A | 02/05/2021 | UK/51/2021/0002 |
| Abellio ScotRail | 156 | 156478 | B | 02/05/2021 | UK/51/2021/0002 |
| Abellio ScotRail | 158 | 158701 | A | 15/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158701 | B | 15/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158704 | A | 03/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158704 | B | 03/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158706 | A | 05/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158706 | B | 05/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158709 | A | 21/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158709 | B | 21/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158710 | A | 12/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158710 | B | 12/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158715 | A | 26/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158715 | B | 26/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158716 | A | 15/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158716 | B | 15/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158717 | A | 02/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158717 | B | 02/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158719 | A | 12/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158719 | B | 12/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158720 | A | 26/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158720 | B | 26/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158721 | A | 04/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158721 | B | 04/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158722 | A | 05/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158722 | B | 04/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158736 | A | 13/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 158 | 158736 | B | 13/05/2021 | UK/51/2020/0013 |
| Abellio ScotRail | 170 | 170393 | A | 03/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170393 | B | 03/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170403 | A | 12/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170403 | B | 12/05/2021 | UK/51/2020/0051 |

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| Abellio ScotRail | 170 | 170406 | A | 12/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170406 | B | 12/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170407 | A | 04/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170407 | B | 04/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170410 | A | 04/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170410 | B | 04/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170413 | A | 03/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170413 | B | 03/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170414 | A | 03/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170414 | B | 14/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170428 | A | 05/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170428 | B | 05/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170429 | A | 05/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170429 | B | 05/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170430 | A | 29/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170430 | B | 29/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170431 | A | 15/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170431 | B | 15/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170432 | A | 21/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170432 | B | 21/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170434 | A | 14/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170434 | B | 14/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170452 | A | 04/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170452 | B | 04/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170470 | A | 06/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170470 | B | 06/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170471 | A | 17/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 170 | 170471 | B | 17/05/2021 | UK/51/2020/0051 |
| Abellio ScotRail | 334 | 334017 | A | 13/05/2021 | UK/51/2021/0005 |
| Abellio ScotRail | 334 | 334017 | B | 13/05/2021 | UK/51/2021/0005 |
| Abellio ScotRail | 380 | 380007 | A | 21/05/2021 | UK/51/2021/0025 |
| Abellio ScotRail | 380 | 380007 | B | 19/05/2021 | UK/51/2021/0025 |
| Abellio ScotRail | 380 | 380009 | A | 02/05/2021 | UK/51/2021/0025 |
| Abellio ScotRail | 380 | 380009 | B | 02/05/2021 | UK/51/2021/0025 |
| Abellio ScotRail | 380 | 380011 | A | 19/05/2021 | UK/51/2021/0025 |
| Abellio ScotRail | 380 | 380011 | B | 19/05/2021 | UK/51/2021/0025 |
| Abellio ScotRail | 380 | 380014 | A | 13/05/2021 | UK/51/2021/0025 |
| Abellio ScotRail | 380 | 380014 | B | 13/05/2021 | UK/51/2021/0025 |
| Abellio ScotRail | 380 | 380016 | A | 20/05/2021 | UK/51/2021/0025 |

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| Abellio ScotRail | 380 | 380016 | B | 20/05/2021 | UK/51/2021/0025 |
| Abellio ScotRail | 380 | 380019 | A | 14/05/2021 | UK/51/2021/0025 |
| Abellio ScotRail | 380 | 380019 | B | 14/05/2021 | UK/51/2021/0025 |
| Abellio ScotRail | 380 | 380116 | A | 02/05/2021 | UK/51/2021/0025 |
| Abellio ScotRail | 380 | 380116 | B | 02/05/2021 | UK/51/2021/0025 |
| Abellio ScotRail | 43 | 43003 | A | 17/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43026 | A | 21/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43028 | A | 21/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43031 | A | 25/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43032 | A | 21/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43033 | A | 21/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43034 | A | 28/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43035 | A | 24/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43036 | A | 28/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43037 | A | 18/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43124 | A | 25/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43129 | A | 21/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43130 | A | 20/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43131 | A | 20/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43134 | A | 21/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43136 | A | 21/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43137 | A | 20/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43138 | A | 24/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43139 | A | 21/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43141 | A | 13/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43142 | A | 25/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43143 | A | 18/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43144 | A | 25/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43145 | A | 25/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43146 | A | 25/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43148 | A | 21/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43163 | A | 21/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43168 | A | 21/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43169 | A | 17/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43175 | A | 24/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43177 | A | 24/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43181 | A | 13/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43182 | A | 19/05/2021 | UK/51/2020/0056 |
| Abellio ScotRail | 43 | 43183 | A | 21/05/2021 | UK/51/2020/0056 |

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| Arriva Rail London | 710 | 710261 | A | 18/05/2021 | UK/51/2021/0039 |
| Arriva Rail London | 710 | 710261 | B | 18/05/2021 | UK/51/2021/0039 |
| Arriva Rail London | 710 | 710266 | A | 05/05/2021 | UK/51/2021/0039 |
| Arriva Rail London | 710 | 710266 | B | 05/05/2021 | UK/51/2021/0039 |
| Arriva Rail London | 710 | 710267 | A | 05/05/2021 | UK/51/2021/0039 |
| Arriva Rail London | 710 | 710267 | B | 05/05/2021 | UK/51/2021/0039 |
| Arriva Rail London | 710 | 710268 | A | 21/05/2021 | UK/51/2021/0039 |
| Arriva Rail London | 710 | 710268 | B | 21/05/2021 | UK/51/2021/0039 |
| Babcock | 073 | 073109 | A | 17/05/2021 | UK/51/2020/0018 |
| Babcock | 073 | 073109 | B | 17/05/2021 | UK/51/2020/0018 |
| Class 20 Preservation Society | 20 | 20142 | A | 24/05/2021 | UK/51/2021/0027 |
| Class 20 Preservation Society | 20 | 20227 | A | 21/05/2021 | UK/51/2021/0027 |
| Colas Rail | 70 | 70809 | A | 28/05/2021 | UK/51/2020/0002 |
| Colas Rail | 70 | 70814 | A | 07/05/2021 | UK/51/2020/0002 |
| Colas Rail | 70 | 70815 | A | 03/05/2021 | UK/51/2020/0002 |
| Colas Rail | 70 | 70816 | A | 21/05/2021 | UK/51/2020/0002 |
| Cross Country | 221 | 221130 | A | 14/05/2021 | UK/51/2020/0062 |
| DB Cargo | 60 | 60010 | A | 28/05/2021 | UK/51/2020/0064 |
| DB Cargo | 66 | 66014 | A | 12/05/2021 | UK/51/2020/0001 |
| DB Cargo | 66 | 66015 | A | 05/05/2021 | UK/51/2020/0001 |
| DB Cargo | 66 | 66023 | A | 03/05/2021 | UK/51/2020/0001 |
| DB Cargo | 66 | 66056 | A | 06/05/2021 | UK/51/2020/0001 |
| DB Cargo | 66 | 66077 | A | 13/05/2021 | UK/51/2020/0001 |
| DB Cargo | 66 | 66078 | A | 27/05/2021 | UK/51/2020/0001 |
| DB Cargo | 66 | 66083 | A | 06/05/2021 | UK/51/2020/0001 |
| DB Cargo | 66 | 66101 | A | 10/05/2021 | UK/51/2020/0001 |
| DB Cargo | 66 | 66117 | A | 14/05/2021 | UK/51/2020/0001 |
| DB Cargo | 66 | 66127 | A | 06/05/2021 | UK/51/2020/0001 |
| DB Cargo | 66 | 66161 | A | 04/05/2021 | UK/51/2020/0001 |
| DB Cargo | 90 | 90024 | A | 06/05/2021 | UK/51/2020/0004 |
| DRS | 57 | 57308 | A | 28/05/2021 | UK/51/2020/0071 |
| DRS | 66 | 66421 | A | 24/05/2021 | UK/51/2020/0001 |
| DRS | 66 | 66430 | A | 27/05/2021 | UK/51/2020/0001 |
| DRS | 66 | 66434 | A | 21/05/2021 | UK/51/2020/0001 |
| DRS | 68 | 68017 | A | 27/05/2021 | UK/51/2021/0040 |
| DRS | 68 | 68033 | A | 26/05/2021 | UK/51/2021/0040 |
| DRS | 88 | 88003 | A | 28/05/2021 | UK/51/2021/0041 |
| East Midlands Railway | 156 | 156473 | A | 10/05/2021 | UK/51/2021/0002 |
| East Midlands Railway | 156 | 156473 | B | 10/05/2021 | UK/51/2021/0002 |

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| East Midlands Railway | 156 | 156497 | A | 12/05/2021 | UK/51/2021/0002 |
| East Midlands Railway | 156 | 156497 | B | 12/05/2021 | UK/51/2021/0002 |
| East Midlands Railway | 156 | 156917 | A | 07/05/2021 | UK/51/2021/0002 |
| East Midlands Railway | 156 | 156917 | B | 07/05/2021 | UK/51/2021/0002 |
| East Midlands Railway | 170 | 170419 | A | 25/05/2021 | UK/51/2020/0051 |
| East Midlands Railway | 170 | 170419 | B | 25/05/2021 | UK/51/2020/0051 |
| East Midlands Railway | 180 | 180110 | A | 11/05/2021 | UK/51/2021/0030 |
| East Midlands Railway | 180 | 180110 | B | 11/05/2021 | UK/51/2021/0030 |
| East Midlands Railway | 180 | 180111 | A | 11/05/2021 | UK/51/2021/0030 |
| East Midlands Railway | 180 | 180111 | B | 10/05/2021 | UK/51/2021/0030 |
| East Midlands Railway | 180 | 180113 | A | 17/05/2021 | UK/51/2021/0030 |
| East Midlands Railway | 180 | 180113 | B | 17/05/2021 | UK/51/2021/0030 |
| East Midlands Railway | 222 | 222001 | A | 04/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222001 | B | 04/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222004 | A | 27/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222004 | B | 27/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222005 | A | 11/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222005 | B | 11/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222008 | A | 21/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222008 | B | 21/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222010 | A | 24/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222010 | B | 24/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222012 | A | 21/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222012 | B | 21/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222019 | A | 14/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222019 | B | 14/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222022 | A | 06/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222022 | B | 06/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222101 | A | 21/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222101 | B | 21/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222104 | A | 26/05/2021 | UK/51/2021/0031 |
| East Midlands Railway | 222 | 222104 | B | 26/05/2021 | UK/51/2021/0031 |
| GB Railfreight | 66 | 66706 | A | 20/05/2021 | UK/51/2020/0001 |
| Govia Thameslink Railway | 717 | 717007 | A | 02/05/2021 | UK/51/2021/0023 |
| Govia Thameslink Railway | 717 | 717007 | B | 02/05/2021 | UK/51/2021/0023 |
| Great Western Railway | 165 | 165104 | A | 07/05/2021 | UK/51/2020/0042 |
| Great Western Railway | 165 | 165104 | B | 07/05/2021 | UK/51/2020/0042 |
| Great Western Railway | 165 | 165121 | A | 02/05/2021 | UK/51/2020/0042 |
| Great Western Railway | 165 | 165121 | B | 02/05/2021 | UK/51/2020/0042 |

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|-----------------------|-----|--------|---|------------|-----------------|
| Great Western Railway | 387 | 387132 | A | 28/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387132 | B | 28/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387140 | A | 05/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387140 | B | 05/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387154 | A | 25/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387154 | B | 25/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387155 | A | 26/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387155 | B | 26/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387163 | A | 21/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387163 | B | 21/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387165 | A | 21/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387165 | B | 21/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387166 | A | 27/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387166 | B | 27/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387169 | A | 21/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387169 | B | 22/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387171 | A | 15/05/2021 | UK/51/2020/0009 |
| Great Western Railway | 387 | 387171 | B | 15/05/2021 | UK/51/2020/0009 |
| Greater Anglia | 379 | 379005 | A | 24/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379005 | B | 24/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379006 | A | 18/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379006 | B | 18/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379010 | A | 07/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379010 | B | 07/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379011 | A | 19/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379011 | B | 19/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379021 | A | 13/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379021 | B | 13/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379023 | A | 14/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379023 | B | 14/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379025 | A | 18/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379025 | B | 18/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379027 | A | 10/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379027 | B | 10/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379028 | A | 21/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379028 | B | 21/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379030 | A | 27/05/2021 | UK/51/2021/0032 |
| Greater Anglia | 379 | 379030 | B | 27/05/2021 | UK/51/2021/0032 |
| LNER | 800 | 800102 | A | 25/05/2021 | UK/51/2021/0013 |

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|---------------------|-----|--------|---|------------|-----------------|
| LNER | 800 | 800102 | B | 25/05/2021 | UK/51/2021/0013 |
| LNER | 800 | 800109 | A | 05/05/2021 | UK/51/2021/0013 |
| LNER | 800 | 800109 | B | 05/05/2021 | UK/51/2021/0013 |
| LNER | 800 | 800208 | A | 26/05/2021 | UK/51/2021/0013 |
| LNER | 800 | 800208 | B | 26/05/2021 | UK/51/2021/0013 |
| LNER | 800 | 800209 | A | 27/05/2021 | UK/51/2021/0013 |
| LNER | 800 | 800209 | B | 27/05/2021 | UK/51/2021/0013 |
| LNER | 801 | 801102 | A | 25/05/2021 | UK/51/2021/0014 |
| LNER | 801 | 801102 | B | 25/05/2021 | UK/51/2021/0014 |
| LNER | 801 | 801106 | A | 28/05/2021 | UK/51/2021/0014 |
| LNER | 801 | 801106 | B | 28/05/2021 | UK/51/2021/0014 |
| LNER | 801 | 801108 | A | 14/05/2021 | UK/51/2021/0014 |
| LNER | 801 | 801108 | B | 14/05/2021 | UK/51/2021/0014 |
| LNER | 801 | 801205 | A | 11/05/2021 | UK/51/2021/0014 |
| LNER | 801 | 801205 | B | 11/05/2021 | UK/51/2021/0014 |
| LNER | 801 | 801228 | A | 17/05/2021 | UK/51/2021/0014 |
| LNER | 801 | 801228 | B | 17/05/2021 | UK/51/2021/0014 |
| Locomotive Services | 08 | 08780 | A | 04/05/2021 | UK/51/2020/0065 |
| Locomotive Services | 20 | 20096 | A | 18/05/2021 | UK/51/2021/0027 |
| Locomotive Services | 37 | 37667 | A | 13/05/2021 | UK/51/2020/0015 |
| Locomotive Services | 43 | 43046 | A | 18/05/2021 | UK/51/2020/0056 |
| Locomotive Services | 43 | 43055 | A | 18/05/2021 | UK/51/2020/0056 |
| Locomotive Services | 47 | 47805 | A | 04/05/2021 | UK/51/2020/0034 |
| Locomotive Services | 98 | 98531 | A | 19/05/2021 | UK/51/2020/0017 |
| Locomotive Services | 98 | 98746 | A | 13/05/2021 | UK/51/2020/0017 |
| Network Rail | 075 | 075015 | A | 11/05/2021 | UK/51/2020/0016 |
| Network Rail | 075 | 075015 | B | 11/05/2021 | UK/51/2020/0016 |
| Network Rail | 080 | 080201 | A | 04/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080201 | B | 04/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080205 | B | 19/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080206 | A | 20/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080206 | B | 20/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080209 | A | 24/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080209 | B | 24/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080211 | A | 18/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080211 | B | 18/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080214 | A | 14/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080214 | B | 14/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080216 | A | 11/05/2021 | UK/51/2021/0042 |

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| Network Rail | 080 | 080216 | B | 11/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080217 | B | 12/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080301 | A | 11/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080301 | B | 11/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080302 | A | 05/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080302 | B | 05/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080303 | A | 26/05/2021 | UK/51/2021/0042 |
| Network Rail | 080 | 080303 | B | 26/05/2021 | UK/51/2021/0042 |
| Network Rail | 97 | 97302 | A | 27/05/2021 | UK/51/2021/0034 |
| Network Rail | 97 | 97304 | A | 27/05/2021 | UK/51/2021/0034 |
| North Yorkshire Moors Railway | 98 | 98429 | A | 25/05/2021 | UK/51/2020/0017 |
| North Yorkshire Moors Railway | 98 | 98476 | A | 11/05/2021 | UK/51/2020/0017 |
| North Yorkshire Moors Railway | 98 | 98528 | A | 12/05/2021 | UK/51/2020/0017 |
| Northern Trains Ltd | 150 | 150101 | A | 24/05/2021 | UK/51/2021/0009 |
| Northern Trains Ltd | 150 | 150101 | B | 24/05/2021 | UK/51/2021/0009 |
| Northern Trains Ltd | 150 | 150108 | A | 20/05/2021 | UK/51/2021/0009 |
| Northern Trains Ltd | 150 | 150108 | B | 20/05/2021 | UK/51/2021/0009 |
| Northern Trains Ltd | 150 | 150123 | A | 05/05/2021 | UK/51/2021/0009 |
| Northern Trains Ltd | 150 | 150123 | B | 05/05/2021 | UK/51/2021/0009 |
| Northern Trains Ltd | 150 | 150141 | A | 19/05/2021 | UK/51/2021/0009 |
| Northern Trains Ltd | 150 | 150141 | B | 19/05/2021 | UK/51/2021/0009 |
| Northern Trains Ltd | 150 | 150149 | A | 18/05/2021 | UK/51/2021/0009 |
| Northern Trains Ltd | 150 | 150149 | B | 18/05/2021 | UK/51/2021/0009 |
| Northern Trains Ltd | 150 | 150211 | A | 07/05/2021 | UK/51/2021/0009 |
| Northern Trains Ltd | 150 | 150211 | B | 07/05/2021 | UK/51/2021/0009 |
| Northern Trains Ltd | 150 | 150269 | A | 28/05/2021 | UK/51/2021/0009 |
| Northern Trains Ltd | 150 | 150269 | B | 28/05/2021 | UK/51/2021/0009 |
| Northern Trains Ltd | 153 | 153363 | A | 19/05/2021 | UK/51/2021/0024 |
| Northern Trains Ltd | 155 | 155341 | A | 25/05/2021 | UK/51/2021/0018 |
| Northern Trains Ltd | 155 | 155341 | B | 25/05/2021 | UK/51/2021/0018 |
| Northern Trains Ltd | 155 | 155344 | A | 05/05/2021 | UK/51/2021/0018 |
| Northern Trains Ltd | 155 | 155344 | B | 05/05/2021 | UK/51/2021/0018 |
| Northern Trains Ltd | 156 | 156427 | A | 21/05/2021 | UK/51/2021/0002 |
| Northern Trains Ltd | 156 | 156427 | B | 21/05/2021 | UK/51/2021/0002 |
| Northern Trains Ltd | 156 | 156460 | A | 04/05/2021 | UK/51/2021/0002 |
| Northern Trains Ltd | 156 | 156460 | B | 05/05/2021 | UK/51/2021/0002 |
| Northern Trains Ltd | 158 | 158752 | A | 21/05/2021 | UK/51/2020/0013 |

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| Northern Trains Ltd | 158 | 158752 | B | 21/05/2021 | UK/51/2020/0013 |
| Northern Trains Ltd | 158 | 158868 | A | 06/05/2021 | UK/51/2020/0013 |
| Northern Trains Ltd | 158 | 158868 | B | 06/05/2021 | UK/51/2020/0013 |
| Northern Trains Ltd | 170 | 170474 | A | 07/05/2021 | UK/51/2020/0051 |
| Northern Trains Ltd | 170 | 170474 | B | 07/05/2021 | UK/51/2020/0051 |
| Northern Trains Ltd | 195 | 195015 | A | 27/05/2021 | UK/51/2021/0019 |
| Northern Trains Ltd | 195 | 195015 | B | 06/05/2021 | UK/51/2021/0019 |
| Northern Trains Ltd | 195 | 195016 | A | 20/05/2021 | UK/51/2021/0019 |
| Northern Trains Ltd | 195 | 195016 | B | 20/05/2021 | UK/51/2021/0019 |
| Northern Trains Ltd | 195 | 195018 | A | 17/05/2021 | UK/51/2021/0019 |
| Northern Trains Ltd | 195 | 195018 | B | 17/05/2021 | UK/51/2021/0019 |
| Northern Trains Ltd | 195 | 195021 | A | 13/05/2021 | UK/51/2021/0019 |
| Northern Trains Ltd | 195 | 195021 | B | 13/05/2021 | UK/51/2021/0019 |
| Northern Trains Ltd | 195 | 195117 | A | 15/05/2021 | UK/51/2021/0019 |
| Northern Trains Ltd | 195 | 195117 | B | 15/05/2021 | UK/51/2021/0019 |
| Northern Trains Ltd | 195 | 195118 | A | 14/05/2021 | UK/51/2021/0019 |
| Northern Trains Ltd | 195 | 195118 | B | 14/05/2021 | UK/51/2021/0019 |
| Northern Trains Ltd | 323 | 323238 | A | 07/05/2021 | UK/51/2020/0025 |
| Northern Trains Ltd | 323 | 323238 | B | 07/05/2021 | UK/51/2020/0025 |
| Northern Trains Ltd | 331 | 331004 | A | 04/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331004 | B | 04/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331006 | A | 04/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331006 | B | 04/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331027 | B | 13/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331101 | A | 06/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331101 | B | 06/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331102 | A | 08/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331102 | B | 08/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331103 | A | 21/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331103 | B | 21/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331104 | A | 18/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331104 | B | 18/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331105 | A | 24/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331105 | B | 24/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331106 | A | 09/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331106 | B | 09/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331107 | A | 27/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331107 | B | 27/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331108 | A | 05/05/2021 | UK/51/2021/0020 |

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| Northern Trains Ltd | 331 | 331108 | B | 05/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331109 | A | 11/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331109 | B | 11/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331111 | A | 19/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331111 | B | 19/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331112 | A | 05/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 331 | 331112 | B | 05/05/2021 | UK/51/2021/0020 |
| Northern Trains Ltd | 333 | 333013 | A | 27/05/2021 | UK/51/2021/0036 |
| Northern Trains Ltd | 333 | 333013 | B | 27/05/2021 | UK/51/2021/0036 |
| Northern Trains Ltd | 333 | 333014 | A | 14/05/2021 | UK/51/2021/0036 |
| Royal Scot Trust | 98 | 98702 | A | 13/05/2021 | UK/51/2020/0017 |
| Steam Loco | 98 | 98435 | A | 25/05/2021 | UK/51/2020/0017 |
| Steam Loco | 98 | 98526 | A | 26/05/2021 | UK/51/2020/0017 |
| TransPennine Express | 185 | 185118 | A | 28/05/2021 | UK/51/2021/0043 |
| TransPennine Express | 185 | 185118 | B | 28/05/2021 | UK/51/2021/0043 |
| TransPennine Express | 185 | 185123 | A | 27/05/2021 | UK/51/2021/0043 |
| TransPennine Express | 185 | 185123 | B | 27/05/2021 | UK/51/2021/0043 |
| TransPennine Express | 185 | 185142 | A | 27/05/2021 | UK/51/2021/0043 |
| TransPennine Express | 185 | 185142 | B | 27/05/2021 | UK/51/2021/0043 |
| TransPennine Express | 185 | 185143 | A | 27/05/2021 | UK/51/2021/0043 |
| TransPennine Express | 185 | 185143 | B | 26/05/2021 | UK/51/2021/0043 |
| Volker Rail | 075 | 075503 | A | 06/05/2021 | UK/51/2020/0016 |
| Volker Rail | 075 | 075503 | B | 06/05/2021 | UK/51/2020/0016 |

The restrictions or limitations of use on the structural subsystem are those referenced in the Determination of Type.

The rolling stock subsystem 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 declaration of conformity to an authorised type of railway vehicle, documentation recording any alterations, and

maintenance manuals in relation to the subsystem, keeping them up to date and making them available to the ORR in accordance with Regulation 19.

If you are not the owner of the authorised subsystem you shall within 60 days, in accordance with Regulation 19(3), transfer the declaration of conformity to an authorised type of railway vehicle, documentation recording any alterations, and maintenance manuals in relation to the subsystem 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 declaration of conformity to an authorised type of railway vehicle, documentation recording any alterations, and maintenance manuals in relation to the subsystem 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.

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.

This decision letter will be published on ORR's website.

Yours sincerely



Steve Fletcher - ORR Deputy Director, Railway Planning and Performance.

Cc

Ian Jones

Head of Interoperability, Safety and Standards DfT.

Ian Prosser Director, Railway Safety, ORR.

National Vehicle Register nvr@networkrail.co.uk

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Pete Gracey Head of Interoperability and Rail Vehicle Engineering,
ORR.

Ian Maxwell Head of Train Control Systems, ORR.