

[Redacted]  
 North West Electrification  
 Programme  
 Square One  
 4 Travis Street  
 Manchester  
 M1 2NY

Case Ref: - PRM-IOP-305

EIN/UK/62/2019/0001

Date 8<sup>th</sup> July 2019

**Contact: Mark Gough**  
**HM Inspector of Railways**  
 ORR, 3rd Floor, Mallard House, Kings Pool,  
 1-2 Peasholme Green, York.  
 YO1 7PX

Dear [redacted]

**THE RAILWAYS (INTEROPERABILITY) REGULATIONS 2011, AS AMENDED**  
**NWEP5 ELECTRIFICATION PROJECT**

Further to your revised application for authorisation received on the 21<sup>st</sup> June 2019 with Technical File reference:

NCB\_IC4444\_NoBo-DeBo AR\_3027 North West Electrification Programme Phase 4/5 with Addendum Conformity Assessment Report No 1 NCB\_IC4444\_NoBo-DeBo\_AR\_3661

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 of the energy subsystem North-West Electrification Programme (NWEP) Phase 5 which runs east from Manchester Victoria introducing a line electrification comprising of 25kV AC Booster-less Classic, 50 Hz Overhead Contact System comprising Network Rail Series 2 designed for a maximum line speed of 40 mph.

The scope is limited to the following start and finish mileages

ELR	Mileage From	Line	ELR	Mileage TO	line
MVM	0m 3ch	Dn Rochdale Slow	MVM	0m 45ch	Dn Rochdale Slow
MVM	0m 3ch	Dn Rochdale Fast	MVM	0m 45ch	Dn Rochdale Fast
MVM	0m 3ch	Up Rochdale Fast	MVM	0m45ch	Up Rochdale Fast
MVM	0m 3ch	Up Rochdale Slow	MVM	0m 45ch	Up Rochdale Slow
MVM	0m 0ch (buffer)	Platform 1	MVM	0m 9ch	Up Rochdale Slow

MVM	0m 0ch (Buffer)	Platform 2	MVM	0m 9ch	Up Rochdale Slow
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The restrictions or limitations of use on the structural subsystem are those contained in the Declaration of Verification NHE\_132199-NR-MVL1-00-UAP-W-000182 dated 5<sup>th</sup> July 2019 and Declaration of Control of Risk NHE\_128918-NR-MVE1-00-UAP-W-000598 13<sup>th</sup> March 2019. The London North Western System Review Panel (LNW SRP) have endorsed this project and are satisfied that any identified hazards both legacy and residual have been adequately closed and/or transferred to the appropriate body before placing in service in accordance with declaration of control of risk NHE\_128918-NR-MVE1-00-UAP-W-000598. There were no derogations from the TSIs and one derogation from National Notified Technical Rules GM/RT2173 clause 3.4 Pantograph sway RSSB deviation 17-076-DEV granted 31/7/2018

The project demonstrated compliance with CDM/CSM taking the opportunity to install an inspection borehole. This enabled access to inspect critical voids in a voided viaduct using LiDAR and infra-red cameras. Previous to this, the condition of the voids was unknown and they were unmaintainable.

The following Restrictions and Conditions apply

**Restriction 1** This restriction is applied to limit use to trains that meet the terms of the ISV applicability table in terms of number of pantographs, pantograph spacing and authorised speed. Pantograph spacing for overhead contact line

**Design Clause 4.2.13.** Only the pantograph model/manufacturer and train configuration combinations quoted in the Series 2 v6 ISV applicability table may be utilised. Additional pantograph model/manufacturer and train configuration combinations may be demonstrated by further simulation and testing. This requirement is to ensure route compatibility for new rolling stock. Route SRP to endorse compatibility before entry into service of new rolling stock.

**Restriction 2** - This restriction is applied to limit use to trains that meet the terms of the ISV applicability table in terms of the type, width and shape of pantographs.

**Pantograph Gauge Clause 4.2.10** Only pantograph profiles assessed as compliant and detailed in the Series 2 v6 assessment applicability table or as subsequently demonstrated may be utilised. This requirement is to ensure route compatibility for new rolling stock. Route SRP to endorse compatibility before entry into service of new rolling stock.

**Condition 1 Provisions for Maintenance (clause 4.5 Section ref 7.7 and 8.4.414) –**

The project is to implement the maintenance plan by providing asset data, in particular ‘Ellipse’ data, to the maintenance organisation for NWEF Phase 5. This shall be completed within the required timescales as defined in the maintenance strategy, EIS checklist and hazard record. This shall be fully complete within 12 months of Placing into Service. This shall be confirmed by the NoBo/AsBo in the GRIP8 SAR and presented to LNW SPR for endorsement (EC Certificate Condition 6). Note: there are differing timescales for provision of asset data to the maintainer where some (such as

isolation diagrams and instructions) are required prior to Entry into Service for energisation, some are required for maintenance handback (as-built drawings) and some at project completion (handover of Health and safety file).

### **Condition 2 Provisions for Maintenance (clause 4.5 Section 8.442 Addendum CAR**

It was identified that, despite additional controls such as voltage limiting devices touch voltages in excess of those permitted in BSEN50122-1 may arise at the ac/dc interface. To mitigate against this risk exposed metallic parts were protected by a robust insulated obstacle as allowed for in BSEN50122-1 6.2.3.1. The project is to demonstrate that the GRP wrap used to insulate OLE structures on NWEF 5 has the necessary approvals and maintenance instructions in place before placing into use. With close out by the assessment body. Within 12 weeks of placing

The infrastructure 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 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 the person who applied for the authorisation shall send particulars to the owner of the infrastructure to enable the owner of the infrastructure to enter the items on the Register of Infrastructure in accordance with Table 1 Commission Implementing Decision 2011/633/EU. 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. You will receive the type authorisation after providing the relevant data to the ORR.

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 renewed infrastructure subsystem.

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

Yours sincerely

A handwritten signature in black ink, appearing to read 'Steve Fletcher', with a stylized, cursive script.

Steve Fletcher

Deputy Director of Engineering & Asset Management

Copies: [Redacted], Rail Standards & Safety, DFT, Zone32, 4th Floor, Great Minster House, 76 Marsham Street, London. SW1P 4DR.

Ian Prosser Director Railway Safety One Kemble Street, London, WC2B 4AN

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