

Certificate of Derogation from a Notified National Technical Rule

(in accordance with part 6 of the Railway Group Standards Code)

1. Type of deviation

Deviation Number: 12/161/DGN

Derogation from a Notified National Technical Rule

2. Details of applicant:

Railway Vehicle Technologies, Windhoff Bahn - und Anlagentechnik GmbH, Hovestrasse 10, D-48431 Rheine, Germany

3. Your reference number:

Windhoff/2400/004

4. Status of applicant:

Manufacturer – Contracting Entity.

5. Title of certificate:

Derogation to GM/RT2400 Issue 4 Clause 3.25 - Structural Requirements

6a. Details of Railway Group Standard (RGS):

RGS Number:	Issue No:	Issue Date:	Title:
GM/RT2400	Four	September 2011	Engineering Design of On-Track Machines

6b. RGS clause(s):

Clause 3.	.25.1	-	General Requirements
Clause 3.	.25.2	-	Load Factors
Clause 3.	.25.3	-	On-track Machine Bodies – Proof Loads – Longitudinal Loads
Clause 3.	.25.4	-	On-track Machine Bodies – Proof Loads – Vertical Loads
Clause 3.	.25.5	-	On-Track Machine Bodies – Fatigue Loads
Clause 3.	.25.6	-	Equipment Attached to On-track Machine Bodies
Clause 3.	.25.9	-	Lifting and Jacking Points
Clause 3.	.25.10	-	Bogie Structures
Clause 3.	.25.11	-	Equipment Attached to Bogie Frames

6c. RGS clause requirements:

Appendix A of this application summarises the requirements of each sub-clause detailed above. Please refer to RGS for full text of standard.

7. Scope of deviation:

This application is to permit non-compliance with the RGS standard clauses of GM/RT2400 Issue 4, as identified above, for the following MPV vehicles.

Type 1 (SOPB):

- 99 70 9131 010 9
- 99 70 9131 013 3
- 99 70 9131 021 6
- 99 70 9131 022 4
- 99 70 9131 023 2.

Type 2 (HOPB):

- 99 70 9131 001 8
- 99 70 9131 005 9
- 99 70 9131 006 7
- 99 70 9131 011 7.

Type 3 (SNPB):

- 99 70 9131 015 8
- 99 70 9131 018 2
- 99 70 9131 020 8.

Type 4 (HNPB):

• 99 70 9131 003 – 4.

Type 5 (SORB):

• 99 70 9131 014 – 1.

8. Impacts of complying with the current RGS requirement:

The MPVs being delivered to the Network Rail High Output OLE Construction System (HOPS) Project are designed to be compliant with the current Loc & Pas TSI and referenced EN standards. Evidence of this compliance will be provided to, and reviewed by, the projects Notified Body (NoBo), Designated Body (DeBo) and Competent Person (CP) as appropriate.

The requirements of the Loc & Pass TSI and referenced EN standards are similar but not identical to the requirements of the sub-clauses of Section 3.25 of GM/RT2400. However, it is considered that the intent of the RGS has been met, and compliance with the specific requirements of GM/RT2400 will not provide any additional safety, engineering or operational benefits.

9. Proposed alternative actions:

The MPVs will be demonstrated as compliant with the Loc & Pas TSI and EN 14033 Part 1 in travelling mode (open line), and the requirements of EN 14033 Part 2 in working mode. Windhoff will provide objective evidence of this compliance to the NoBo, DeBo, CP, or a combination thereof, in support of authorisation.

The MPVs being delivered to the Project are based on current in-service vehicles that provide the functionality required. However, it is acknowledged that the criteria for the structural design of these vehicles differ from that defined in RGS GM/RT2400 Issue 4. Appendix A (attached) provides an assessment that has been carried out to compare the requirements of the Loc & Pass TSI and referenced EN standards with those of GM/RT2400 in support of this application.

10. Impacts of the alternative actions:

It is not considered that compliance with the Loc & Pas TSI and referenced EN standards rather than the identified sub-clauses of GM/RT2400 Issue 4 Section 3.25, will have any impact on the safe operation or maintenance of the MPVs.

The HOPS Project have considered the impacts of the alternative actions in relation to the current RSSB and Railway Group initiatives to align the UK RGS (GM/RT2400) for the Engineering Design of OTMs in Travelling Mode with the Technical Specifications for Interoperability (TSI) and Euro Norms (ENs).

The project has reviewed the latest draft of GM/RT2400 Issue 5 and RIS 1702 as part of the compilation of this application. The following extract from GM/RT2400 Issue 5 Draft 2h dated July 2012 issued for consultation by the RSSB is considered relevant to this application since the requirements align with the current design of the MPVs.

Strength of vehicle structure:

- The static frame strength of on-track machines shall comply with BS EN 14033-1:2011, clause 6.2.
- The dynamic frame strength of on-track machines shall comply with BS EN 12663-1:2010, clause 6.6.
- Attachments to the on-track machine frame, including bogie attachments, shall comply with BS EN 12663-1:2010, clause 6.5.2 and clause 6.7.
- Bogies and axle box equipment shall comply with BS EN 13749:2011 clause 4. Axle boxes and equipment fitted to non-bogied OTM shall also comply with BS EN 13749:2011 clause 4. The validation of these requirements shall comply with BS EN 13749:2011 clause 6.2.
- For on-track machines that include a bogie frame, the integrity of the structure of a bogie frame, all attached equipment and body to bogie connections shall be demonstrated using one of the methods set out in BS EN 13749:2011 clause 6.2.
- In the application of the load cases referred to in the clauses of BS EN 13749:2011, the exceptional payload shall be taken as the fully laden condition.
- The hypothesis taken to evaluate the loads due to bogie running (formulas and coefficients) set out in BS EN 13749:2011 Annex C shall be stated in the technical file.

Lifting and jacking:

• Lifting and jacking points on on-track machines shall comply with BS EN 14033-1:2011 clause 6.3.

11. What other options have been considered?

No other options have been considered since the machines are designed in compliance with the current Loc & Pass TSI and referenced EN standards. Whilst there are some difference between these requirements and those of GM/RT2400 Issue 4, it is believed that the machines comply with the intent of this standard and will be compliant with the proposed new version of GM/RT2400 if adopted as proposed.

12. Consultation with affected parties

The application has been sent to Network Rail and the Operator/Maintainer (OMD).

The OMD has reviewed the detail of this application and is satisfied that, since the design will be in compliance with the structural integrity requirements of the Loc & Pas TSI and referenced EN standards, it will be suitable and sufficient for its defined purpose on the Network Rail Managed Infrastructure (NRMI), and that this will not have any impact on the safety of the Train or other members of the Railway Group.

Any consultation comments will be raised in the relevant Standards Committee meeting.

13. Additional actions/observations:

Upon receipt, the applicant is required to identify affected, interfacing parties and copy this certificate, together with supporting information, to those parties.

The derogation will be in place for the life of the MPVs detailed in Section 7 - Scope of deviation.

However, if the Railway Group revise GM/RT2400 in the manner consulted, the alternative EN Standards being applied will become the UK railway industry standard.

Attachment:

• Appendix A - Derogation to GM/RT2400 Issue 4 Clause 2.25.

14. Method of elimination:

N/A

15. Start and end date:

N/A

16. Signature of applicant:

Railway Vehicle Technologies

Date of application: 17/01/2013

17. Lead Standards Committee details:

Name of Committee:	Date of meeting	Minute reference:
Plant	07/02/2013	13/PLT/02/019
Authorised by:		Date of Authorisation

Signed by Cliff Cork on 08/03/2013

Cliff Cork Head of Delivery, Infrastructure and Rolling Stock

on:

08/03/2013