



TS 04060:1.0
T HR RS 00811 ST
Standard

RSU Appendix A1 – Locomotive Vehicle Information Pack

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Document history

Revision	Effective date	Summary of changes
1.3	19/12/2014	First issue as T HR RS 00811 ST.
1.0	14/12/2023	Renumbered as TS 04060:1.0. Version number recommenced in line with new designation. Changes to previous content include minor amendments and clarification to content, conversion of the standard to AMB format and style, updating content in line with requirements details in the standards applicable to locomotives, and incorporating vehicle design review details.

Preface

This document contains the information pack for locomotive vehicles that operate on the TfNSW Metropolitan Heavy Rail Network. This is a second issue. The changes to previous content include the following:

- updating content in line with requirements details in the standards applicable to locomotives
- incorporating vehicle design review details.

The Asset Management Branch (AMB) has established the interface requirements pertaining to vehicles operating on the TfNSW Metropolitan Heavy Rail Network (formerly known as the RailCorp network).

This standard is part of the Minimum Operating Standards for Rolling Stock. This standard should be read in conjunction with the related standards, which consist of the following parts:

- TS 04052 (T HR RS 00000 ST) *RSU 000 series – Minimum Operating Standards for Rolling Stock –General Requirements*
- TS 04053 (T HR RS 00100 ST) *RSU 100 series – Minimum Operating Standards for Rolling Stock General Interface Requirements*
- TS 04054 (T HR RS 00200 ST) *RSU 200 series – Minimum Operating Standards for Rolling Stock –Common Interface Requirements*
- TS 04055 (T HR RS 00300 ST) *RSU 300 series – Minimum Operating Standards for Rolling Stock – Locomotive Specific Interface Requirements*
- TS 04067 (T HR RS 00820 ST) to TS 04074 (T HR RS 00890 ST) (RSU App B to RSU App I) Appendices.

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1 Scope

This standard contains forms that have mandatory completion requirements for a locomotive to be considered for authorisation to operate on the TfNSW Metropolitan Heavy Rail Network. Refer to TS TOC 1 *Train Operating Conditions (TOC) Manual – General Instructions*, which defines the areas associated with the network.

The purpose of this standard is to ensure that locomotive vehicles operating on the TfNSW Metropolitan Heavy Rail Network meet the minimum standards to ensure compatibility with the network and its infrastructure as required by the TfNSW accreditation with the Office of the National Rail Safety Regulator (ONRSR).

2 Application

The requirements of this standard apply to all new locomotive and substantially modified locomotive vehicles that intend to operate on the TfNSW Metropolitan Heavy Rail Network.

Older vehicles that were operating on the TfNSW Metropolitan Heavy Rail Network as at August 1997 may not fully comply with the requirements of this standard, but they will be assessed considering the design and proposed use of the vehicle(s).

3 Referenced documents

The following documents are cited in the text. For dated references, only the cited edition applies. For undated references, the latest edition of the referenced document applies.

Transport for NSW standards

TS 00003.1 (T MU MD 00011 ST) *Concessions to Transport Standards Part 1 – Concession Process*

TS 04052 (T HR RS 00000 ST) *RSU 000 Series – Minimum Operating Standards for Rolling Stock – General Requirements*

TS 04053 (T HR RS 00100 ST) *RSU 100 Series – Minimum Operating Standards for Rolling Stock – General Interface Requirements*

TS 04054 (T HR RS 00200 ST) *RSU 200 Series – Minimum Operating Standards for Rolling Stock – Common Interface Requirements*

TS 04055 (T HR RS 00300 ST) *RSU 300 Series – Minimum Operating Standards for Rolling Stock – Locomotive Specific Interface Requirements*

TS TOC 1 *Train Operating Conditions (TOC) Manual – General Instructions*

4 Terms, definitions and abbreviations

The following terms, definitions and abbreviations apply in this document.

AAR Association of American Railroads

AEI automatic equipment identification

AMB Asset Management Branch

AS Australian standards

CAD computer-aided design

CG centre of gravity

ECP electronically controlled pneumatic

GVM gross vehicle mass

NDT non-destructive testing

operator the person or body who has ultimate management accountability for safe operation of rolling stock on a railway

owner the owner of the vehicles or rolling stock

RSU rolling stock unit; a term used to designate individual sections of the Minimum Operating Standards for Rolling Stock.

TfNSW Transport for NSW

TOC train operating condition

VDR vehicle design review

5 How to use this information pack

The information pack, when completed by the relevant owner or operator, provides AMB with the required information to confirm that a locomotive is safe to operate on the TfNSW Metropolitan Heavy Rail Network. The information shall therefore be correct and error free to ensure satisfactory and timely assessment. This section provides guidance on how to populate the information pack. Any information packs that are submitted incorrectly or with missing information will be rejected.

Section 6 contains the owner, operator, and declaration details, which shall be populated for all locomotive types. Generally, the owner of the vehicle declares that the information is correct; however the declaration may be by the owner's technical representative. Section 7.1 to Section 7.3 contains general information which shall be populated for all locomotive types. Section 7.4 to Section 9.5 contains requirements as detailed in TS 04052 (T HR RS 00000 ST) applicable to freight locomotives. The response for each requirement shall be reviewed and

confirmed if compliant for the locomotive type. The general layout for the information pack is as detailed by the following example:

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 430, Section 4.4	Bulk commodity vehicles fitted with bottom discharge doors are designed and maintained to prevent leakage?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>

The 'Applicable operating standard' column provides the location within the *Minimum operating standards for rolling stock* where this requirement resides.

The 'Requirement' column specifies the requirement that the locomotive is required to meet.

The 'Owner/Operator' column shall be populated by the owner or operator (or their technical representative), and provides compliance information against the stated requirement. This may be in the form of a 'yes' or 'no' check box, a 'N/A' check box where the requirement does not apply to a particular type of locomotive, or may contain a field to enter a value, dimension, or other information.

The 'RSU compliance' column shall be populated by the owner or operator (or their technical representative). This column is for the AMB to review whether the 'Owner/Operator' section is compliant with the requirements. If a particular requirement is not compliant, this column will not be checked, and the locomotive is considered noncompliant. The locomotive shall be either withdrawn, modified to be compliant, or where the configuration is deemed safe and is the only viable solution so far as is reasonably practicable, a concession request may be raised for this noncompliance. Refer to TS 00003.1 for further information. All 'RSU compliance' columns in Section 7.4 to Section 9.5 shall be populated for a locomotive to be considered compliant.

Some sections have this column labelled 'Required information' instead of 'RSU compliance'. These areas do not relate to a specific RSU clause; however the information is required by the AMB for the vehicle review. Some 'RSU compliance' checkboxes are also associated with non-clause related fields which are required for information.

The 'VDR (AMB use only)' column is part of the AMB network acceptance process and shall not be populated by anyone other than AMB.

6 Part A – Owner and operator information

Please provide information regarding the owner and operator, in Section 6.1 to Section 6.3.

6.1 Locomotive owner

Vehicle owner	_____
Contact name	_____
Address	_____

Phone number	_____
Mobile number	_____
Email address	_____

6.2 Locomotive operator (if different from owner)

Vehicle operator	_____
Contact name	_____
Address	_____

Phone number	_____
Mobile number	_____
Email address	_____

6.3 Declaration

I declare that the information submitted in this information pack,

- Please tick Part A
Please tick Part B
Please tick Part C
Please tick Part D

is correct to the best of my knowledge and has been obtained in accordance with the requirements stated in TS 04052 (T HR RS 00000 ST).

Company name	_____
Contact name	_____
Contact signature	_____
Date	_____

VDR (AMB use only)

7 Part B – Locomotive vehicle information and design

If the RSU compliance is not met, it is expected to be supported with evidence to show that the noncompliance is acceptable using the AMB concession process (refer to TS 00003.1).

7.1 Locomotive description

Attribute	Owner/Operator	Required information	VDR (AMB use only)
Locomotive code	_____		
Locomotive type	_____		
Brief description of locomotive	_____		
Locomotive manufacturer	_____		
Year of manufacture	_____		
Previous code(s) (if any)	_____		
Locomotive number range	_____		
Engine type	_____		
Alternator / generator type	_____		
Traction motor type	_____	<input type="checkbox"/>	<input type="checkbox"/>

7.2 Locomotive dimensions

Attribute

Owner/Operator

Required information

VDR (AMB use only)

* Overall length over coupler pulling faces (mm)

mm

* Overall length over headstocks (mm)

mm

* Bogie pivot centres (mm)

mm

* Bogie pivot offset from centre axle or bogie centre (negative inboard, positive outboard) (mm)

mm

Number of axles

Axle configuration (for example Co Co, 4-6-2)

* Bogie wheelbase (for 2 axle or inner for 3 axle) (mm)

mm N/A

* Bogie wheelbase (outer for 3 axle if different) (mm)

mm N/A

* Overall width (mm)

mm

* Overall height (mm)

mm

* Coupler length (mm)

mm

A copy of the locomotive diagram or general arrangement showing key dimensions (as marked above with *) has been provided?

Yes No

Which figure (Figure 1 or Figure 2 below) corresponds to the locomotive?

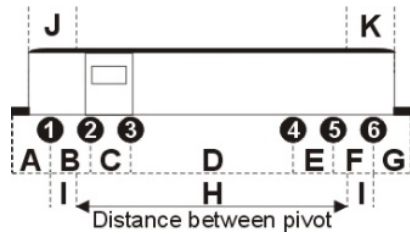


Figure 1 – locomotives with three axle bogies

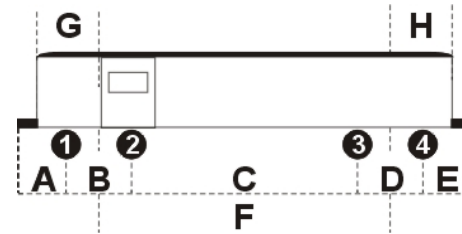


Figure 2 – locomotives with two axle bogies

Provide vehicle dimensions in Table 1 in accordance with the above applicable diagram to the vehicle.

Table 1 – Locomotive axle spacing dimensions

A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	H (mm)	I (mm)	J (mm)	K (mm)

7.3 Rolling stock outline design

Applicable operating standard

RSU 110, Section 2.3

Requirement

The vehicle by design complies with which rolling stock outline?

Owner/Operator

RSU compliance

VDR (AMB use only)

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 110, Section 2.3.2	The vehicle complies with the rolling stock outline in tare condition, new wheels, and maximum packing?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 110, Section 2.3.2	The vehicle complies with the rolling stock outline with minimum wheel diameter and solid suspension?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 110, Section 2.3.3 RSU 110, Section 2.4	The vehicle complies with swept path requirements on horizontal curve radii of 100 m?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 110, Section 2.3.3 RSU 110, Section 2.4	The vehicle complies with swept path requirements on vertical curve radii of 300 m?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 110	If the vehicle does not comply with any static outline, swept outline, provide the details:	_____ _____ _____ _____ _____ _____ _____ _____ _____		_____ _____ _____ _____ _____ _____ _____ _____ _____
				<input type="checkbox"/>

7.4 Vehicle track and civil interface and operating conditions

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 120, Section 3.3, 3.4 RSU 340, Section 6.6	Vehicle design fully provisioned mass? (t)	_____ t	<input type="checkbox"/>	_____
	Vehicle design tare mass? (t)	_____ t	<input type="checkbox"/>	_____
	Vehicle fully provisioned centre of gravity height above rail level? (mm)	_____ mm		_____
RSU 120, Section 3.8 RSU 340, Section 6.6	A bridges and structures report or letter has been submitted as per the requirements in RSU 120?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 120, Section 3.8 RSU 340, Section 6.6	The vehicle is within the bridges and structures loading limits (at the fully loaded mass)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 120, Section 3.3	What is the maximum operating speed? (km/h)	_____ km/h	<input type="checkbox"/>	_____
	What is the maximum vehicle unsprung mass per wheel? (kg)	_____ kg	<input type="checkbox"/>	_____
RSU 120, Section 3.3 RSU 340, Section 6.5	Calculated P2 force for Class 1 track and maximum operating conditions? (kN)	_____ kN	<input type="checkbox"/>	_____
RSU 120, Section 3.3 RSU 340, Section 6.5	Calculated P2 force for Class 2 track and maximum operating conditions? (kN)	_____ kN	<input type="checkbox"/>	<input type="checkbox"/> _____

7.5 Traction details and operating conditions

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 341, Section 7	Maximum engine power? (hp)	_____ hp	<input type="checkbox"/>	_____
	Maximum power available for traction? (hp)	_____ hp	<input type="checkbox"/>	_____
	Maximum tractive effort? (kN)	_____ kN	<input type="checkbox"/>	_____
	Continuous tractive effort? (kN)	_____ kN	<input type="checkbox"/>	_____
	At what speed is continuous tractive effort available? (km/h)	_____ km/h	<input type="checkbox"/>	_____
RSU 321, Section 4	Dynamic brake available?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 321, Section 4 RSU 341, Section 7.6	Peak dynamic brake effort? (kN)	_____ kN	<input type="checkbox"/>	_____
RSU 341, Section 7.6	At what speed is peak dynamic effort available? (km/h)	_____ km/h	<input type="checkbox"/>	_____
RSU 341, Section 7.6	Dynamic brake performance within the limits for 0km/h to 16km/h and 16+ km/h?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 366, Section 17.2.3	For high speed passenger, dynamic brake accounts for continuous operation on all terrain and conditions on the network, including any traction modes (for multi-mode traction)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
	A tractive effort and dynamic brake speed curve has been provided?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
	What type of traction system is fitted (DC, AC)?	_____	<input type="checkbox"/>	<input type="checkbox"/> _____

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 341, Section 7.3	What type of traction control (wheel slip control) system is fitted?	_____	<input type="checkbox"/>	_____
RSU 341, Section 7.4	What is the traction control system software version?	_____	<input type="checkbox"/>	_____
RSU 341, Section 7.3	Wheel slip detection system fitted and train lined?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 341, Section 7.5	Maximum wheel creep 0–5 km/h? (%)	_____ %	<input type="checkbox"/>	_____
RSU 341, Section 7.5	Maximum wheel creep 5+ km/h? (%)	_____ %	<input type="checkbox"/>	_____
	What is the fuel capacity? (L)	_____ L	<input type="checkbox"/>	_____
	What is the sand capacity? (L)	_____ L	<input type="checkbox"/>	_____
RSU 341, Section 7.2	Sanding system prevents leakage or abnormal sanding?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 341, Section 7.2	Sanding system prevents water ingress and box/pipe blockages?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 341, Section 7.2	Is the locomotive fitted with de-sanding equipment?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
	The locomotive may operate in multiple unit operation with how many locomotives?	_____	<input type="checkbox"/>	_____
RSU 330, Section 5.7	For multiple unit operation, what is the control jumper coupling type?	_____	<input type="checkbox"/>	_____
RSU 330, Section 5.7	Does the control jumper coupling wire/pin designation conform to RSU 330?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 330, Section 5.7	If the wire/pin designation differs, what are the differences?	_____ _____ _____	<input type="checkbox"/>	_____ _____ _____
RSU 366, Section 17.2.4 RSU 643, Section 8	For high speed passenger, the traction requirements as per RSU 643 have been met?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 366, Section 17.2.5 RSU 680, Section 12	For high speed passenger with multi-mode traction, the requirements of RSU 680 have been met?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 366, Section 17.2.6	For high speed passenger, remote controlled locomotives are not susceptible to interference from other trains (like cross talk in ECP systems), are fail-safe in the event of loss of signal, and have safe operation under all conditions and terrain with respect to L/V?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 361, Section 12.1	Procedure for hauling dead locomotives is in place (including any cardan shaft preparation where fitted)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 361, Section 12.2 RSU 363, Section 14.4	For diesel and steam locomotives, are spark arrestors fitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 363, Section 14.1	For steam locomotives, the boiler has been inspected/tested in accordance with the requirements of SafeWork NSW and applicable Australian Standards?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 363, Section 14.3	For steam locomotives, procedures are in place for the firebox or ash pan to be discharged/cleaned appropriately and not onto the track?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 362, Section 13 RSU App E	For electric locomotives, the locomotives meet the requirements of RSU App E?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 362, Section 13.1	For electric locomotives, where two pantographs are fitted, is a pantograph isolation switch fitted between the pantographs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 362, Section 13.3	For electric locomotives, is an energy consumption meter fitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 365, Section 16.2	For WDP operation, does the system confirm to AAR E2 S4250?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 365, Section 16.2	For WDP operation, are the locomotives compatible with the ECP system used on the wagons and other locomotives?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 365, Section 16.2	For WDP operation, has a functionality test been carried out for correct operation on all train configurations intended to operate?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/> _____

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 365, Section 16.2	For WDP operation, has a risk register and risk assurance report been provided to ensure WDP operation is SFAIRP?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>

7.6 Vehicle-to-vehicle interface and coupling

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 140, Section 5.1.1 RSU App G, Section G9/G10	The location of vehicle end equipment is in accordance with the requirements in section G9/G10 in RSU Appendix G?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 140, Section 5.1.3 RSU 285, Section 23 RSU 330, Section 5	All vehicle-to-vehicle connections and interfaces are compatible in height, loading, and under all track curvatures and dynamic conditions are not capable of fouling or locking together?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 140, Section 5.2	Vehicles are fitted with bottom shelf automatic couplers with 10A contour to AAR) Standard S106?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 140, Section 5.2	Coupler material is cast steel to AAR or AS standards in accordance with RSU 140, Section 5.2?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 140, Section 5.3	Are non-standard, combined, or multi-function couplers fitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 140, Section 5.3 RSU 366, Section 17.2.7	If non 10A couplers fitted, emergency couplings provided to allow coupling to 10A couplers, including BP, MR?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 140, Section 5.10	Couplers have sufficient swing to allow coupling with short and long vehicle overhangs and to couple on curves?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 140, Section 5.5	Uncoupling mechanism is designed to prevent damage when loading, unloading, or coupling of vehicles?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 140, Section 5.7	Slackless drawbars are designed to permit movement in vertical and lateral planes?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 140, Section 5.6 RSU 140, Section 5.7	Slackless or rigid drawbars lengths comply with vehicle L/V requirements and curve negotiation specified in RSU 140?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 140, Section 5.7	Slackless drawbars have means to prevent the system binding in curves?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 140, Section 5.7	Slackless drawbars are designed with an assembly incorporating components for load transfer and self-adjustment of wear-induced slack without draft gear?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 140, Section 5.6 RSU 140, Section 5.7	Slackless drawbars, rigid drawbars, and associated components are equivalent in strength to those of automatic couplers?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/> _____

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 140, Section 5.9	Draft gear has sufficient capacity to withstand forces equivalent to those of couplers?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 140, Section 5.9	Draft gear has sufficient capacity to withstand forces and shock loading due to train dynamics?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 140, Section 5.9	What is the draft gear capacity (MN)? What is the coupler or drawbar capacity (MN)?	_____		_____
RSU 140, Section 5.11 RSU 330, Section 5.2	Coupler height is within the limits as detailed in RSU 140?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> _____

7.7 Vehicle structure and body

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 330, Section 5.1	The vehicle structure complies with RSU 330, Section 5.1 requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 330, Section 5.1	The vehicle anti-climbers comply with RSU 330, Section 5.1 requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 330, Section 5.4	A cowcatcher, pilot, or wheel guard irons fitted to deflect beasts/objects passing under the locomotive?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 330, Section 5.4	Cowcatcher or pilot, at least 80 mm ARL with solid suspension and worn wheels and any wheel guard irons at least 40 mm ARL under any conditions?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> _____

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 297, Section 34.2	A jacking point vertical load test has been carried out or simulated as per RSU 297, Section 34.2?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 297, Section 34.3	A static end compression test or single vehicle impact test has been carried out or simulated as per RSU 297, Section 34.3 or 34.4?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 298, Section 35	A curve stability test has been carried out or simulated as per RSU 298, Section 35?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 170, Section 8.2	The vehicle body is fitted with lifting brackets that meet the requirements of RSU 170, Section 8.2?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 170, Section 8.3	The vehicle body is fitted with towing fixtures that meet the requirements of RSU 170, Section 8.3?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 170, Section 8.4	The vehicle body is fitted with lifting pads that meet the requirements of RSU 170, Section 8.4?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 130, Section 4	Body/electrical design is compliant to EN 50153 to provide protection against direct and indirect contact with OHW.	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 330, Section 5.6 RSU 364, Section 15.1	The drivers cab is able to be locked when unattended?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> _____

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 330, Section 5.8	The vehicle design has considered fire resistance and has minimised the flammability and toxicity properties of materials used in the construction, and their level and effect on combustion?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 330, Section 5.8	The vehicle design has considered fire and minimised the risk of fire, rate of spread, and spread between compartments?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 366, Section 17.2.9 T MU RS 01000 ST	For high speed passenger locomotives, body structural integrity and crashworthiness meets the requirements of T MU RS 01000 ST?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/> _____

7.8 Bogies

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
	Bogie manufacturer?	_____		_____
	Bogie year of manufacture?	_____		_____
	Bogie code?	_____	<input type="checkbox"/>	_____
	Bogie mass? (t)	_____ t	<input type="checkbox"/>	_____
	Type and description of bogie?	_____	<input type="checkbox"/>	_____
		_____		_____
		_____		<input type="checkbox"/> _____

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
		_____		_____
		_____		_____
		_____		_____
RSU 250, Section 8.1	The bogie has been designed appropriately for the intended loads and conditions (proven design)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 250, Section 8.1.4	The bogie has a bogie code and unique bogie number on both sides of the bogie for identification?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 284, Section 22	The bogie is designed to operate under the locomotive on curves down to 70 m radii with new wheels and solid suspension?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

7.9 Suspension

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 310, Section 2.7 RSU 261, Section 10 RSU 262, Section 11 RSU 263, Section 12 RSU 264, Section 13.3	Procedures in place for safe operational limits for suspension springs, damping, resilient components, and CCSB defects?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 310, Section 2.7 RSU 262, Section 11	Appropriate suspension damping has been design/selected for the vehicle to ensure acceptable performance for ride/stability/twist?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 264, Section 13	Where fitted, CCSB are appropriately designed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>
RSU 264, Section 13	% Load supported by CCSB?	_____ % <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>
RSU 264, Section 13	Maximum torque (kNm)?	_____ kNm <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>
RSU 264, Section 13	Maximum X factor	_____ <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>

7.10 Wheels

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 210, Section 3.2.2	What is the new wheel diameter? (mm)	_____ mm	<input type="checkbox"/>	<input type="checkbox"/>
RSU 210, Section 3.2.2	What is the condemn wheel diameter? (mm)	_____ mm	<input type="checkbox"/>	<input type="checkbox"/>
RSU 212, Section 4.3	Does the variation in wheel diameters on an axle, bogie, and vehicle meet the requirements in RSU 212 Section 4.3?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>
RSU 210, Section 3.2.3 RSU 212, Section 4.2	What is the condemning rim thickness? (mm)	_____ mm	<input type="checkbox"/>	<input type="checkbox"/>
RSU 210, Section 3.2.4	What is the rim width? (mm)	_____ mm	<input type="checkbox"/>	<input type="checkbox"/>
RSU 120, Section 3.4 RSU 210, Section 3.2.2 RSU 310, Section 2.1	What is the P/D ratio when at maximum vehicle mass and condemn wheels? (t/m)	_____ t/m	<input type="checkbox"/>	<input type="checkbox"/>
RSU 210, Section 3.3.4 RSU 310, Section 2.2	What is the wheel tread profile?	_____	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 210, Section 3.4.2	What is the wheel tread profile tolerance or deviation from true profile? (mm)	_____ mm	<input type="checkbox"/>	_____
RSU 210, Section 3.2.1	What standard is the wheel designed to?	_____	<input type="checkbox"/>	_____
RSU 210, Section 3.2.5	What is the wheel web shape?	_____	<input type="checkbox"/>	_____
RSU 210, Section 3.3.1	What standard is the wheel manufactured to?	_____	<input type="checkbox"/>	_____
RSU 210, Section 3.4.1	What is the surface finish of the wheel tread profile?	_____	<input type="checkbox"/>	_____
	What material grade is the wheel manufactured from?	_____	<input type="checkbox"/>	_____
RSU 210, Section 3.3.2	Is the wheel material and brake blocks material compatible?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 210, Section 3.3.3 RSU App G, G11	Are the wheels marked and identified as per RSU Appendix G, diagram G11?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 363, Section 14.2	For steam locomotives, where flangeless wheels are utilised, details of the flangeless wheels and associated information (bogie to body arrangement, wheel spacing, wheelset clearance) has been provided?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>

7.11 Axles

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 220, Section 5	The axle has been designed, manufactured, and operated in accordance with AS 7515?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

7.12 Wheel and axle assembly

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 230, Section 6.2	Wheel and axle assembly has been carried out to a proven industry standard?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 230, Section 6.4	Wheelsets are marked with a unique identifier for the facility assembling the wheelset, the month and year, and the unique wheelset identification number?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 230, Section 6.5	The wheelset assembly information in accordance with RSU 230, Section 6.5, is recorded and retained for wheelset life?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 230, Section 6.6	Wheelset back to back, and alignment dimensions, are within the required limits?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

7.13 Axle bearings

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
	What is the axle bearing type (package unit bearing, axle box)?	_____		_____
	What is the bearing manufacturer?	_____		_____
	What is the bearing size?	_____	<input type="checkbox"/>	_____
RSU 240, Section 7.1	Bearing sizes are within their design load capacity compared to the maximum vehicle mass?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 240, Section 7.2	Bearings are a proven design and reliability for Australian mainline railway operating environment?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

7.14 Brakes system

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
	What is the brake system manufacturer?	_____	<input type="checkbox"/>	_____
	What is the brake system type?	_____	<input type="checkbox"/>	_____
		_____		_____
		_____		_____
RSU 320, Section 3.2	Does the system meet the general requirements for locomotives as detailed in RSU 320, Section 3.2?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 366, Section 17.2.1 RSU 620, Section 3	For high speed passenger operation, does the brake system meet the requirements of RSU 620?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 364, Section 15.1	Is a pressure maintaining brake valve fitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
	Does the locomotive have an appropriate control valve for controlling the brakes when the locomotive is hauled in a consist not adjacent to the hauling locomotives?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
	What is the type of vent valves fitted?	_____	<input type="checkbox"/>	_____
	What is the number of vent valves fitted?	_____	<input type="checkbox"/>	_____
RSU 320, Section 3.8	Is the locomotive fitted with an ECP brake system?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 320, Section 3.8	For an ECP brake system, does the system conform to the functional requirements of AAR E2 S4200 series?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 320, Section 3.8	For an ECP brake system, is the system compatible with the ECP brakes on the wagons that are intended to be hauled?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 320, Section 3.8	For an ECP brake system, does the system include an update to minimise the occurrence of cross-talk?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
	What type of park/hand brake is fitted?	_____	<input type="checkbox"/>	_____
		_____		_____
		_____		_____
	How many axles does the park/hand brake operate on?	_____	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 342, Section 8.1.4	The park/hand brake has been applied to the maximum number of axles as is feasible?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

7.15 Brake and pneumatic equipment

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
	Is the brake system a clasp type brake system or a single shoe type brake system?		<input type="checkbox"/>	
RSU 271, Section 15.7	All brake gear is securely mounted/supported and has safety loops or other means of security?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 271, Section 15.7	If there are any spring loaded type pin securing mechanisms (R clip, grip clip, lynch pin, and so on) are they only found above the axle centreline?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	
RSU 271, Section 15.7	All split cotter pins are installed with a minimum split angle of 60 degrees?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	
RSU 271, Section 15.8 RSU 320, Section 3.6	Dummy couplings or coupling hose receptacles are fitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 271, Section 15.7	Brake blocks are centrally located on the wheel treads?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
	What is the brake block manufacturer?		<input type="checkbox"/>	
	What is the brake block type?		<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
	What is the minimum dynamic coefficient of friction of the brake blocks?	_____	<input type="checkbox"/>	_____
	What is the minimum static coefficient of friction of the brake blocks?	_____	<input type="checkbox"/>	_____
RSU 272, Section 16.2	What is the brake block friction type (low, medium, high, cast iron)?	_____	<input type="checkbox"/>	_____
RSU 272, Section 16.1 www.unife.org www.nicnas.gov.au	Do the brake blocks contain any materials likely to cause damage to the environment or human health or both?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 272, Section 16.1 RSU 210, Section 3.3.2	Is the brake blocks material compatible with the wheel material?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 271, Section 15.5	All flexible coupling hoses and connections comply with the requirements of AS 2435?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 271, Section 15.5	All brake pipe flexible coupling hoses have an internal diameter (NB) of 35 mm?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 271, Section 15.5	All main reservoir flexible coupling hoses have an internal diameter (NB) of 29 mm?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 271, Section 15.5	All locomotive control flexible coupling hoses have an internal diameter (NB) of 12 mm?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 271, Section 15.5	All independent brake release flexible coupling hoses have an internal diameter (NB) of 12 mm?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 271, Section 15.5	All brake pipe coupling heads have a coupling head size of 32 mm?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 271, Section 15.5	All main reservoir pipe coupling heads have a coupling head size of 25 mm?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 271, Section 15.5	All locomotive control coupling heads have a coupling head size of 19 mm?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 271, Section 15.5	All independent brake release coupling heads have a coupling head size of 12 mm?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 271, Section 15.4	All brake pipe coupling cocks have a nominal bore (NB) of 32 mm?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 271, Section 15.4	All brake pipe coupling cocks by design operate by application of force on the handle in the direction of rotation and stays in the selected position whilst the vehicle is in motion (by way of indent and ramp design feature)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 271, Section 15.4	All brake pipe coupling cocks vent on the flexible hose side when closed?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 271, Section 15.4	All brake pipe coupling cocks conform to figure 8 in RSU 271?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 271, Section 15.4	All main reservoir, locomotive control and independent brake coupling cocks are approved ball type cocks with spring loaded or positively latching handles to prevent accidental operation to the closed positions?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 271, Section 15.4	All coupling heads, nipples, and seals conform to figure 9, figure 10, figure 11, and figure 12 in RSU 271?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> _____

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 273, Section 17	All pressure vessels comply with AS 1210?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 320, Section 3.6	Are air dryers fitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> _____ _____ _____

7.16 Toilets

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 330, Section 5.3 RSU 150, Section 6.7	Vehicle is fitted with toilets?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
	If fitted, what type of toilets are fitted?	_____	<input type="checkbox"/>	_____ _____ _____
RSU 330, Section 5.3 RSU 150, Section 6.7	If fitted, toilets have holding tanks and decanting features?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 330, Section 5.3 RSU 150, Section 6.7	If fitted, toilets have waste processing features and do not discharge untreated water to track?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
	If the toilets are fitted with any other features, please describe these:	<input type="checkbox"/> N/A	<input type="checkbox"/>	_____ _____ _____ _____
				<input type="checkbox"/> _____ _____

7.17 Marking and identification

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 330, Section 5.5.1	Is the vehicle fitted with a code and number on each side of the vehicle with minimum 125 mm lettering in contrasting colour to the body?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 330, Section 5.5.1	Is the vehicle fitted with number lights containing code and number on each end of the vehicle with minimum 125 mm lettering?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 330, Section 5.5.2	Is the vehicle fitted with markings detailing the fully provisioned mass, tare mass, and coupling length with minimum 50 mm lettering at underframe/solebar level?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 330, Section 5.5.3	Are vehicle ends painted in contrasting colours against the locomotive and operating environment, a minimum of 1m ² and 0.6 m continuous height or width?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 330, Section 5.5.4 RSU App I	Is the vehicle fitted with reflective delineators in accordance with RSU App I?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 330, Section 5.5.6 RSU App H	Is the vehicle fitted with automatic equipment identification (AEI) tags within the allowable location and coded in accordance with RSU App H?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 320, Section 3.5	All cut-out or isolation cocks, operating handles and embossed letters of the air brake equipment are painted white?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

7.18 Safety equipment

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 350, Section 10.1 RSU App D	The vehicle is fitted with a driver safety system as per RSU App D?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU App D	The following driver safety systems are fitted:			_____
	Vigilance control system	<input type="checkbox"/> Yes <input type="checkbox"/> No		_____
	Operator enabled system	<input type="checkbox"/> Yes <input type="checkbox"/> No		_____
	Trip gear system	<input type="checkbox"/> Yes <input type="checkbox"/> No		_____
	Automatic train protection system	<input type="checkbox"/> Yes <input type="checkbox"/> No		_____
	Second person	<input type="checkbox"/> Yes <input type="checkbox"/> No		_____
	Other (please provide details)		<input type="checkbox"/>	_____
		_____		_____
		_____		_____
		_____		_____
		_____		_____
		_____		_____
RSU App D, Section 11 RSU 364, Section 15.1	The vigilance control system has the following features:			_____
	Task linked	<input type="checkbox"/> Yes <input type="checkbox"/> No		_____
	Non-predictive	<input type="checkbox"/> Yes <input type="checkbox"/> No		_____
	Speed dependant	<input type="checkbox"/> Yes <input type="checkbox"/> No		_____
	Reduced timing for driver only operation	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
	Brake valve position	<input type="checkbox"/> Yes <input type="checkbox"/> No		_____
	Vigilance acknowledgment	<input type="checkbox"/> Yes <input type="checkbox"/> No		_____
	Sanding operation	<input type="checkbox"/> Yes <input type="checkbox"/> No		_____
	Horn operation	<input type="checkbox"/> Yes <input type="checkbox"/> No		_____
	Headlight operation	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.4 RSU App D, Section 8	Is the vehicle fitted with a drivers emergency cock at each driving position that vents BP?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.5	Is the vehicle fitted with a flowmeter that indicates audibly and visually that air is being fed into the brake pipe?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.6 TS TOC 1, Section 3.11	Is the vehicle supplied with emergency equipment as per TS TOC 1 section 3.11?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 364, Section 15.1	For driver only operation, is a dump valve clamp (DVC) provided in the lead locomotive?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 350, Section 10.7 RSU 190	Is the vehicle fitted with the following train radio system:			_____
	National Train Communication System (NTCS)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
	Digital Train Radio System (DTRS)	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.8.1	Headlights fitted with an effective peak intensity of at least 200,000 cd?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.8.1	Headlights are dimmable with a low beam peak intensity of not more than 80,000 cd?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 350, Section 10.8.1	Headlights aimed at centre of track at rail level at least 240 m ahead?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.8.2	Marker lights fitted, with a pair of red marker lights at any trailing end and a pair of white maker lights at any leading end?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.8.2	Marker lights fitted with an intensity of at least 75 cd each?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.8.2	Marker lights fitted as high and wide as practicable on both sides of each end (with sufficient separation from other light sources)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.8.3	A pair of visibility lights fitted at each end with an intensity of at least 20,000 cd?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.8.3	Visibility lights fitted at least 600 mm ARL?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.8.3	Visibility lights fitted not more than 1200 mm ARL?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.8.3	Visibility lights separated laterally by 900 mm or 1500 mm if below 1500 mm below or above headlights?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.8.3	Visibility lights aimed 25 m in front of locomotive at rail level and 7.5–15 deg cross-eyed ?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.8.3	Visibility lights flash alternatively on and off at the leading end when the horn is sounded or when the locomotive changes direction?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> _____

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 350, Section 10.8.3	Visibility lights flash at 40–180 flashes per min for at least 15 s?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 350, Section 10.9	Horns have been fitted with a Country/High horn and a Town/Low horn fitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> _____

AMB officer name _____

Signature _____

Date _____

8 Part C – Vehicle static tests

If the RSU compliance is not met, it is expected to be supported with evidence to show that the noncompliance is acceptable using the AMB concession process (refer to TS 00003.1).

8.1 Static rolling stock outline test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 281, Section 19 RSU 110, Section 2.3.2	A rolling stock outline test in accordance with RSU 281 has been conducted and the vehicle complies with the rolling stock outline?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<hr/>
RSU 281, Section 19 RSU 110, Section 2.3.2	The vehicle complies in the tare condition with new wheels and maximum packing?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<hr/>
RSU 281, Section 19 RSU 110, Section 2.3.2	The vehicle complies in the solid suspension with worn wheels (simulated or measured clearance)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<hr/>
	A report detailing the static outline test has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> <hr/>

8.2 Static vehicle weigh test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 282, Section 20 EPR 0026	Has the vehicle had a static weigh test as per the requirements of EPR 0026?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<hr/>
RSU 282, Section 20 EPR 0026	Is the vehicle within the balancing requirements of EPR 0026?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> <hr/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
	Vehicle measured tare mass? (t)	_____ t		_____
	Vehicle measured fully loaded mass? (t)	_____ t		_____
RSU 120, Section 3.6 RSU 282, Section 20.5	Is the measured maximum axle load within the axle load limits of the network?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
	A report detailing the static weigh test has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> _____

8.3 Static vehicle twist test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 283, Section 21	The vehicle has been tested in accordance with RSU 283, Section 21?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 283, Section 21.6	Type A and B or Type C twist test carried out?	<input type="checkbox"/> A & B <input type="checkbox"/> C	<input type="checkbox"/>	_____
RSU 283, Section 21.6	Specify the wheel packing used? (mm)	_____ _____ _____ _____ _____	<input type="checkbox"/>	_____ _____ _____ _____ _____
RSU 283, Section 21.5	Twist test carried out in tare condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 283, Section 21.4	Maximum % wheel unloading (corner 1L)	_____ %	<input type="checkbox"/>	_____
RSU 283, Section 21.4	Maximum % wheel unloading (corner 1R)	_____ %	<input type="checkbox"/>	<input type="checkbox"/> _____

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 283, Section 21.4	Maximum % wheel unloading (corner 4/6L)	%	<input type="checkbox"/>	
RSU 283, Section 21.4	Maximum % wheel unloading (corner 6R)	%	<input type="checkbox"/>	
RSU 283, Section 21.4	Does the vehicle exceed 58% wheel unloading and require 20% of the fleet to be twist tested?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 283, Section 21.4	Has the 20% fleet twist test been carried out and submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	
RSU 283, Section 21.3	Maximum centre bearing lift during twist test? (mm)	mm <input type="checkbox"/> N/A	<input type="checkbox"/>	
RSU 283, Section 21.3	Minimum centre bearing engagement with bogie centre casting? (mm)	mm <input type="checkbox"/> N/A	<input type="checkbox"/>	
	A report detailing the twist test has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

8.4 Static vehicle – bogie swing test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 284, Section 22	The vehicle has been tested in accordance with RSU 284 to confirm the vehicle-to-bogie swing function?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
	What method was used to swing the bogie (traverser, turntable, and so on)?			<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 284, Section 22.2	Was the bogie suspension in the solid condition (or simulated solid condition) and fitted with new wheels?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 284, Section 22.3 RSU 284, Section 22.5	What is the required bogie yaw angle to achieve a simulated 70 m curve? (Deg)	_____ Deg		_____
RSU 284, Section 22.1	What bogie yaw angle was the bogie tested to? (Deg)	_____ Deg	<input type="checkbox"/>	_____
RSU 284, Section 22.4	All bogie-vehicle components are free of interference and contact?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 284, Section 22.4	All bogie-vehicle components have adequate clearance to account for all possible modes of bogie-vehicle relative movement?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
	A report detailing the vehicle-to-bogie swing test has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> _____

8.5 Static vehicle-vehicle swing test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 285, Section 23 RSU 140, Section 5.1.3	The vehicle has been tested in accordance with RSU 285 to confirm the vehicle-to-vehicle swing function?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 285, Section 23.1	What method was used to carry out the swing test (physical test or CAD)?	_____		_____
RSU 285, Section 23.3	The vehicles were simulated on a 100 m curve?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> _____

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 285, Section 23.3	The vehicles were simulated on a 120 m reverse curve?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 285, Section 23.4	The vehicles were simulated on a 300 m vertical curve?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 285, Section 23.2 RSU 285, Section 23.5	The vehicle was simulated by coupling to an identical vehicle, a base vehicle, and other vehicles that may be coupled in service or recovery?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 285, Section 23.6	All vehicle-vehicle components are free of contact or interference?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 285, Section 23.6	All vehicle-vehicle components have adequate clearance to account for all possible modes of vehicle-vehicle movement?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
	A report detailing the vehicle-to-vehicle swing test has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> _____

8.6 Static brake test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 286, Section 24 RSU 342, Section 6	The vehicle has been tested in accordance with RSU 286 and RSU 342?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
	What are the masses used in determining net brake ratio:			
	Tare mass?		<input type="checkbox"/>	<input type="checkbox"/> _____

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
	Maximum loaded fully provisioned mass?	t	<input type="checkbox"/>	
RSU 286, Section 24.3 RSU 342, Section 8.1.2	What is the automatic net brake ratio when the vehicle is at tare load? (%)	%	<input type="checkbox"/>	
RSU 286, Section 24.3 RSU 342, Section 8.1.2	What is the automatic net brake ratio when the vehicle is at the maximum load? (%)	%	<input type="checkbox"/>	
RSU 286, Section 24.3 RSU 342, Section 8.1.2	What is the independent net brake ratio when the vehicle is at tare load? (%)	%	<input type="checkbox"/>	
RSU 286, Section 24.3 RSU 342, Section 8.1.2	What is the independent net brake ratio when the vehicle is at the maximum load? (%)	%	<input type="checkbox"/>	
	What is the park/hand brake net brake ratio when the vehicle is at the maximum load? (%)	%	<input type="checkbox"/>	
RSU 286, Section 24.3 RSU 342, Section 8.1.4	The park/hand brake can hold the vehicle indefinitely on a 1:30 grade?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 286, Section 24.3 RSU 342, Section 8.1.4	The park/hand brake status is indicated in the cab and is train-lined for indication to driver when in multiple unit operation?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
	A report on the park/hand brake performance has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 286, Section 24.4 RSU 342, Section 8.1.3 RSU 342, Section 8.4	Has a single car air test been carried out and met the pressure and timing requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 320, Section 3.3	The brake system complies with the pressures and timings detailed in RSU 320, Section 3.3?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 320, Section 3.8 EPR 0029	An ECP functionality acceptance test has been carried out for the consist size intended to operate?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 320, Section 3.8 EPR 0029	What is the ECP consist size intended to operate (locomotives and wagons)?	<input type="checkbox"/> N/A _____ _____ _____ _____ _____	<input type="checkbox"/>	_____ _____ _____ _____ _____ _____
	A report detailing the static brake tests and/or ECP function tests has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/> _____

8.7 Static (basic) kinematic test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 289, Section 27	The vehicle has undergone a basic (static) kinematic outline test in accordance with RSU 289, Section 27?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 289, Section 27.3	The loading has been arranged to give the highest mass/centre of gravity (CG)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 289, Section 27.3	What is the maximum superelevation (cant) that has been simulated? (mm)	_____ mm	<input type="checkbox"/>	<input type="checkbox"/> _____

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 289, Section 27.3	What is the maximum measured body roll relative to the track plane? (Deg)	Deg	<input type="checkbox"/>	
RSU 289, Section 27.3	What is the maximum measured lateral body movement relative to the axle? (mm)	mm	<input type="checkbox"/>	
	A report detailing the static kinematic test has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

8.8 Signal visibility test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 293, Section 30 RSU 160, Section 7.6	The vehicle has been assessed for signal visibility from all driving positions?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 293, Section 30 RSU 160, Section 7.6	Seated ground mounted signals visible?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 293, Section 30 RSU 160, Section 7.6	Seated gantry mounted signals visible?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 293, Section 30 RSU 160, Section 7.6	Standing ground mounted signals visible?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 366, Section 17.2.8 RSU 160, Section 7.7, 7.8	For high speed passenger locomotives, EMU and DMU signal visibility requirements have been met?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	
	A report or appropriate drawing detailing the signal visibility has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

8.9 Electrical safety inspection

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 294, Section 31	The vehicle has been inspected in accordance with T HR RS 00200 ST, Section 31 (RSU 294)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>
	Are warning signs required?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>
	Warning signs have been fitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

8.10 Signal compatibility test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 295, Section 32 T HR SC 00006 ST	The vehicle has been tested for signal compatibility as per T HR SC 00006 ST?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>
	A report has been submitted detailing the signal compatibility?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

8.11 Signal/communication interference test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 296, Section 33 RSU App F T HR SC 00006 ST	The vehicle has been tested for signal/communications interference as per T HR SC 00006 ST?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
	A report has been submitted detailing the signal/communication interference?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

8.12 Safety system function test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 299, Section 36.2 RSU App D, Section 11	The vigilance control system timing has been tested and has the following timings and functions:			
	Acknowledgement to visual warning (s)		s	<input type="checkbox"/>
	Visual warning to audible warning (s)		s	<input type="checkbox"/>
	Audible warning to emergency brake application (s)		s	<input type="checkbox"/>
	Reset time (s)		s	<input type="checkbox"/>
	Each button/pedal resets vigilance cycle?	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/>
	Each button/pedal resets vigilance cycle if continuously pressed?	<input type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/>
	For task linked vigilance, do all task linked functions reset vigilance cycle?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A		<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 299, Section 36.2 RSU App D, Section 10	Operator enabled device has been tested and functions correctly (brakes apply if pedal or handle released)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 299, Section 36.2 RSU App D, Section 9	Trip gear system tested and functions correctly?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 299, Section 36.2 RSU 160, Section 7.5	Automatic train protection tested and functions correctly?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 299, Section 36.2	Any other driver safety system fitted has been tested and functions correctly?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 299, Section 36.3	All drivers emergency cock tested to ensure BP vents and brakes apply?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 299, Section 36.4 RSU 350, 10.8.1	Operation of all headlights function has been confirmed?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 299, Section 36.4 RSU 350, 10.8.2	Operation of all marker light function has been confirmed?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 299, Section 36.4 RSU 350, 10.8.3	Operation of all high visibility light function has been confirmed?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 299, Section 36.4 RSU 350, 10.8.3	Operation of all high visibility light flashing function has been confirmed when horn is sounded or vehicle changes direction?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 299, Section 36.5 RSU 350, Section 10.9	All horns function have been checked and all horns tested to confirm Country/High and Town/Low horns are within external noise limits (88–93 dB(A) at 200 m and 85–90dB(A) at 100 m)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard

RSU 299, Section 36.6
 RSU 350, Section 10.2

Requirement

All speed indicating devices function has been checked and accuracy against true vehicle speed has been tested across the speed range and is within the accuracy requirements?

Owner/Operator

Yes No

RSU compliance

**VDR
 (AMB use only)**

AMB officer name

Signature

Date

9 Part D – Vehicle dynamic tests

If the RSU compliance is not met, it is expected to be supported with evidence to show that the noncompliance is acceptable using the AMB concession process (refer to TS 00003.1).

9.1 Dynamic brake performance test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 287, Section 25 RSU 342, Section 8.4	The vehicle has been tested in accordance with RSU 287 and RSU 342, for stopping distance and complies with the required brake curves in all loading conditions: What brake curve is the vehicle compliant to?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	 <hr/> <hr/>
RSU 286, Section 24.5 RSU 342, Section 8.1.4	The park/hand brake has been tested on grade (1:30 or equivalent) for performance and meets the requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	 <hr/>
RSU 366, Section 17.2.2 RSU 641, Section 6	For high speed passenger, the normal consist with dedicated high speed cars (in worst consist arrangement) has been tested and meets the performance as detailed in RSU 641? A report detailing the dynamic brake and park brake test has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	 <input type="checkbox"/> <hr/>

9.2 Ride performance test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 288, Section 26, RSU 343, Section 9	The vehicle has been tested in accordance with T HR RS 00200 ST, Section 26 (RSU 288)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	
RSU 288, Section 26.4	Vehicle tested in tare condition?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 288, Section 26.5	Vehicle test wheel profile?	_____	<input type="checkbox"/>	_____
RSU 343, Section 9.1	Location of accelerometer on vehicle?	_____ _____ _____	<input type="checkbox"/>	_____ _____ _____
	Test consist?	_____ _____	<input type="checkbox"/>	_____ _____
RSU 288, Section 26.6	Test location?	_____ _____	<input type="checkbox"/>	_____ _____
RSU 288, Section 26.6	Test track condition index (TCI)	_____	<input type="checkbox"/>	_____
RSU 288, Section 26.6	Distance that test speed was maintained? (km)	_____ km	<input type="checkbox"/>	_____
RSU 288, Section 26.3	Test speed (km/h)	_____ km/h	<input type="checkbox"/>	_____
RSU 288, Section 26.3 RSU 343, Section 9.1	Mean peak lateral acceleration (g) at 110% of design speed	_____ g	<input type="checkbox"/>	_____
RSU 288, Section 26.3 RSU 343, Section 9.1	Peak lateral acceleration (g) at 110% of design speed	_____ g	<input type="checkbox"/>	_____
RSU 288, Section 26.3 RSU 343, Section 9.1	Mean peak vertical acceleration (g) at 110% of design speed	_____ g	<input type="checkbox"/>	<input type="checkbox"/> _____

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 288, Section 26.3 RSU 343, Section 9.1	Peak vertical acceleration (g) at 110% of design speed	g	<input type="checkbox"/>	
RSU 343, Section 9.2,9.3	Ride index (Lateral)		<input type="checkbox"/>	
RSU 343, Section 9.2,9.3	Ride index (Vertical)		<input type="checkbox"/>	
RSU 288, Section 26.3 RSU 343, Section 9.1	Hunting within limits (greater than 0.5 Hz at less than 0.35 g for less than 10 s)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
	A report detailing the ride test has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

9.3 Pitch and bounce test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 290, Section 28	The vehicle has been tested or simulated in accordance with RSU 290, Section 28?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 290, Section 28.3	The maximum and average vertical accelerations are within limits?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 290, Section 28.3	The minimum vertical wheel loads are within limits?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 290, Section 28.5	If the test has been simulated, has the simulation been validated with data from measured dynamic response of the vehicle?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	
RSU 290, Section 28.3	A report detailing the pitch and bounce test has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

9.4 Dynamic kinematic performance test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 340, Section 6 RSU 289, Section 27	The vehicle has been tested in accordance with RSU 289, Section 27?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
	The loading has been arranged to give the highest CG/mass?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 289, Section 27.5	Test location?	_____	<input type="checkbox"/>	_____
		_____		_____
	Testing speeds? (km/h)	_____ km/h	<input type="checkbox"/>	_____
RSU 289, Section 27.4	Tested cant deficiency? (mm)	_____ mm		_____
RSU 289, Section 27.4	Percentage tested cant deficiency above design cant deficiency? (%)	_____ %	<input type="checkbox"/>	_____
RSU 289, Section 27.6	Maximum measured lateral body displacement relative to wheelset? (mm)	_____ mm	<input type="checkbox"/>	_____
RSU 289, Section 27.6	Maximum measured body roll relative to wheelset? (Deg)	_____ Deg	<input type="checkbox"/>	_____
RSU 289, Section 27.7	The vehicle kinematic behaviour has been simulated to determine the maximum kinematic movement?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	_____
RSU 289, Section 27.7	The simulation has been validated using data from measured dynamic responses from the vehicle?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	<input type="checkbox"/>	<input type="checkbox"/> _____

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 289, Section 27.6	Maximum simulated lateral body displacement relative to wheelset? (Deg)	Deg <input type="checkbox"/> N/A	<input type="checkbox"/>	
RSU 289, Section 27.6	Maximum simulated body roll relative to wheelset? (mm)	mm <input type="checkbox"/> N/A	<input type="checkbox"/>	
RSU 289, Section 27	A report detailing the dynamic kinematic test has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

9.5 Traction performance test

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 341, Section 7.8 T HR RS 40001 PR	The vehicle has been tested with an all weather adhesion test in accordance with RSU 341 and T HR RS 40001 PR?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 341, Section 7.9	Test location?			
RSU 341, Section 7.11 T HR RS 40001 PR	What is the trailing test load? (t) Test locomotive was at tare or at minimal provisions for the test?	t	<input type="checkbox"/>	
RSU 341, Section 7.10 T HR RS 40001 PR	Was there any indication of uncontrolled wheel slip?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	
RSU 341, Section 7.10 T HR RS 40001 PR	What was the minimum speed during the test? (km/h)	km/h	<input type="checkbox"/>	
RSU 341, Section 7.10 T HR RS 40001 PR	What was the maximum wheel creep during the test? (%)	%	<input type="checkbox"/>	
	Continuous tractive effort during test? (kN)	kN	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
	What is the all weather adhesion limit? (%)	_____ %	<input type="checkbox"/>	_____
RSU 341, Section 7.10 T HR RS 40001 PR	What was the running time for the test? (mm:ss)	_____	<input type="checkbox"/>	_____
RSU 290, Section 28.3 T HR RS 40001 PR	A report detailing the all weather adhesion test has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
	What is the time required for power to be applied from idle to full power (self load) in a stationary throttle sweep test? (mm:ss)	_____	<input type="checkbox"/>	_____
	A report detailing the throttle sweep test has been submitted?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

9.6 Environmental tests

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 292, Section 29.2 RSU 150, Section 6.2, 6.3	The vehicle has been tested for noise emissions as per RSU 292/RSU 150?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
	A report has been submitted detailing the test results of the type testing for noise performance?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
RSU 292, Section 29.3 RSU 150, Section 6.5	The vehicle has been tested for vibration as per RSU 292/RSU 150?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
	A report has been submitted detailing the test results of the type testing for vibration performance?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

Applicable operating standard	Requirement	Owner/Operator	RSU compliance	VDR (AMB use only)
RSU 292, Section 29.4 RSU 150, Section 6.6	The vehicle has been tested for exhaust emissions as per RSU 292/RSU 150?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	_____
	A report has been submitted detailing the test results of the type testing for vibration performance?	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>

AMB officer name _____

Signature _____

Date _____

10 Vehicle summary (AMB use only)

Additional notes or details with vehicle design review:

Is the vehicle design and operation fully within the scope of TS 04052 (T HR RS 00000 ST) <i>Minimum Operating Standards for Rolling Stock – General Requirements</i> ?	<input type="checkbox"/> Yes <input type="checkbox"/> No
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If No, provide reference to the TfNSW internal safety change management standard:

11 Vehicle acceptance (AMB use only)

Code	Load Category	Description	Maximum Speed (km/h)	Maximum Gross Mass (t)	Coupling Length (m)	Draw Capacity (MN)	Horse Power (Hp)	Remarks	Notes

Special conditions / notes:

11.1 Publication

TOC Waiver authority not issued: (TOC Waiver not issued, vehicle rejected)

TOC Waiver authority number issued: _____

TOC Waiver authority will expire on: _____

Amendment to appear in TOC amendment pages: _____

11.2 Sign-off

AMB officer name: _____

Signature: _____

Position: _____

Date: _____

AMB Fleet