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Technical Direction – TD 00003:2026

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Title: Updated P/D limits for specific road/rail vehicles – Amendments to TS 04059:1.0 RSU 700 Series – Minimum Operating Standards for Rolling Stock – Infrastructure Maintenance Vehicle Specific Interface Requirements

This technical direction is issued by Prioritisation and Asset Management (PAM) as an update to TS 04059:1.0 *RSU 700 Series – Minimum Operating Standards for Rolling Stock – Infrastructure Maintenance Vehicle Specific Interface Requirements*.

The updates include amendments to the maximum allowable P/D limits for specific road/rail vehicles under work mode conditions and clarification of P/D limits for stability testing on the TfNSW Metropolitan Heavy Rail Network.

1 Amendments to TS 04059

The sections in TS 04059 *RSU 700 Series – Minimum Operating Standards for Rolling Stock – Infrastructure Maintenance Vehicle Specific Interface Requirements* are to be amended as follows:

Section 16.9 Rail wheels

Delete the contents of Section 16.9 in their entirety and replace with the following:

Rail wheels shall be designed for all intended vehicle operating conditions, vehicle loading conditions, network track conditions, and any additional loadings imposed by any movable elements or plant equipment found on the vehicle (for example EWPs). Refer to RSU 211 of TS 04054 (T HR RS 00200 ST) for wheel design requirements.

Refer to Section RSU 211 of TS 04054 (T HR RS 00200 ST) for permissible tread profiles on rail wheels.

The minimum wheel diameter shall be such that the P/D ratio does not exceed the limits specified in RSU 120 of TS 04053 (T HR RS 00100 ST). Vehicles exceeding a P/D ratio of 12.66 t/m shall be restricted to operation on class 1 track only. This is identified and published as note T23 in TS TOC 1 and TS TOC 4. Road/rail vehicles shall not exceed a P/D ratio of 15.13 t/m.

Vehicles designed with lifting capacities or designed to operate with large asymmetric loading shall take into account the maximum asymmetric loading under work mode conditions to determine the maximum P/D that may be generated. The maximum P/D under work mode conditions for vehicles with lifting capacities or large asymmetric loading (limited to excavators, cranes and EWP's only and as per stability testing) may be up to a maximum of 17.56t/m. Operation under travel mode shall meet the 12.66t/m or 15.13t/m requirement.

The minimum wheel diameter shall not be less than 250 mm.

Wheels shall be inspected to ensure that they remain within the allowable wear and defect limits. Refer to TS 03976 (ESR 0330) for wheel defect limits.

Welding of any type in wheels is not permitted. Welding as part of wheel fabrication (for example, welding a wheel web to wheel rim), repair of wheel tread defects, or building up wheel tread on worn wheels is not permitted.

Section 30.1 Stability test for static EWPs – static work mode

Delete the contents of Section 30.1 in their entirety and replace with the following:

All EWPs or vehicles fitted with EWPs, both on-track (railbound) and road/rail vehicles, shall be tested for stability on rail.

Testing shall be carried out in accordance with the requirements in AS/NZS 1418.10.

The test track conditions shall be as follows:

- minimum fore/aft slope shall be 1 in 30 grade (approximately ± 2.0 degree)
- minimum side slope shall be 160 mm super elevation (approximately ± 6.4 degrees).

The testing shall include the EWP or specific road/rail vehicle fitted with an EWP on test track conditions, with the EWP loaded in accordance with AS/NZS 1418.10, with the EWP extended and positioned in an arrangement that would give the worst stability.

AS/NZS 1418.10 shall be complied for additional inclination of the test track in general, additional inclination of the test track based on the type of suspension fitted, and additional testing when using pneumatic tyres.

Note: Consideration should be given to all working positions, such that the vehicle centre of gravity is closest to the theoretical tipping point. This position may be with the boom fully extended in a vertical position so that the basket load and vehicle's counterweight are on the same side of the rail centreline.

Although the lifting of wheels or stabilisers alone does not indicate a condition of instability, as detailed in AS/NZS 1418.10, the loss of contact between rail and rail wheels during the stability test is considered a failure of the test.

P/D limits shall be met with the rated load under stability test conditions as specified in Section 16.9.

EWP vehicles that have not carried out a stability test but meet the requirements of TS 04052 (T HR RS 00000 ST) in all other respects, may operate on the TfNSW Metropolitan Heavy Rail Network. However the EWP shall not be used on rail. This is identified and published as note T24 in TS TOC 1 and TS TOC 4.

Section 32.1 Stability test requirements

Delete the contents of Section 32.1 in their entirety and replace with the following:

This test is considered a type test. This only applies if all vehicles are of the same type (including any base vehicles).

To determine the working load limit in rail mode, the vehicle shall undergo a stability test in compliance with the relevant part of AS 1418, on a minimum side slope of 6.4 degrees (superelevation of 160 mm) and grade of 2.0 degrees (1 in 30 grade).

During stability testing, lifting of rail wheels during the test is not permitted. This contrasts with the content in AS 1418. As such, the wheel load on the rail wheels may require monitoring during the test.

Multi gauge vehicles shall be tested in standard gauge configuration.

The working load limit may be specified for slewed over the side positions and slewed forward/aft position.

P/D limits shall be met with the rated load under stability test conditions as specified in Section 16.9.

Results of the testing shall be included in the engineering report.

Authorisation:

Approved by	Professional Head Multi Modal Fleet Engineering Prioritisation and Asset Management Passenger, Integration and Planning
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