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TOC Waiver – TW: 203-1637

Issued to: Sydney Trains Rail Operations Centre
NSW TrainLink, Sydney Trains

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Issue date: 30 July 2025

Effective dates: 30 July 2025 to 30 January 2026

Prevalence: This TOC Waiver supersedes TOC Waiver 203-1634

Title: Restricted movement and testing of Mariyung (D Set) cars across the Network

This TOC Waiver supersedes TOC Waiver 203-1634, amends testing requirements for possessions, and extends movement and testing of NIF / Mariyung for an additional 6 months.

A waiver to the published conditions in the Train Operating Conditions (TOC) Manual is granted for the restricted movement and testing of NIF / Mariyung cars on the TfNSW Metropolitan Heavy Rail Network.

Operating conditions shall be as follows / detailed in Table 1.

Table 1 – NSW Trainlink trains - Passenger Rolling Stock

Type of car	Set	Car numbers	Code	Max speed (km/h)	Tare mass (t)	Length body (mm)	Length coupled (m)	Width (mm)	Remarks	Notes
Trailer Driver Car w/ATP [H]	D	9301-9372 9401-9467	DDA	160	48.5	19775	20.4	3034	NIF	See Below
Motor Car w/disabled toilet [H]	D	8301-8372 8401-8467	DND	160	52.0	19570	20.3	3034	NIF	See Below
Motor Car [H]	D	8501-8572 8601-8667	DN	160	51.0	19570	20.3	3034	NIF	See Below
Trailer Car [H]	D	9601-9667	DT	160	46.1	19570	20.4	3034	NIF	See Below
Motor Car w/toilet [H]	D	8801-8867	DNL	160	52.1	19570	20.3	3034	NIF	See Below
Trailer Driver Car [H]	D	9701-9772 9801-9867	DD	160	48.3	19775	20.4	3034	NIF	See Below

[H] Hyundai-Rotem Company

Notes:

General (across the network at all times)

1. A copy of this TOC Waiver shall be in all the hauling locomotive cabs and driving trailer cabs.
2. Passengers are not permitted in the cars, only train crew, technical staff, and security are permitted.
3. The cars shall be maintained to the manufacturer's requirements and relevant Technical Maintenance Plans at all times.
4. The cars shall be inspected by a qualified person and confirmed fit for movements/testing prior to any movement. A qualified person should be on-board during the movement to ensure any technical issues are identified and resolved.
A qualified person is a technical person who is knowledgeable and familiar with the equipment and systems of the cars. Where the cars/sets have NOT been accepted by TfNSW or have Interim Provisional Acceptance the qualified person shall be a HRC person.
5. When operating at tare loads, any missing equipment shall be observed and ballasted appropriately to maintain tare mass.
6. Unless otherwise stated, the cars shall operate to the High speed signs (General/Normal speed signs during locomotive hauling) up to a maximum speed as follows:
 - a. Main West (Penrith - Lithgow) - 100 km/h
 - b. Main West (Zig Zag Tunnels and on slab track*) - 50km/h
 - c. Main North - 130 km/h
 - d. Remainder of Network - 145 km/h

* Slab track between 145.430km and 150.550km (Up and Down)

Note, for general transfer and operation across the network, the currently published maximum 130km/h in the TOC Manual for these cars shall be observed (with Main West limited to 100 / 50km/h). For testing purposes, higher speeds are permitted up to 160km/h.

7. Where brakes revert to auto braking mode, the speeds shall be reduced by 10 km/h below the high speed boards. For testing purposes, speed restrictions are not required however braking performance shall be taken into account whilst testing.
8. All temporary track speeds and WOLO conditions shall be observed and adhered to.
9. The cars shall have secondary suspension (air bags) inflated during movements/testing. If the secondary suspension is deflated the maximum speed shall be reduced to 70 km/h (unless required for testing purposes).
10. When the cars are block worked or in a possession area, all points over which the cars operate shall be secured by the signaller, by operating the point key to the required position.
11. Where the train traverses or partially traverses a level crossing, the train is not permitted to change direction (reverse back through the crossing) without first confirming the level crossing is activated.
12. ETCS on board equipment shall be operating, unless as detailed below:
 - a. ETCS on board equipment that is not type approved shall be isolated unless testing in a possession area, or unless authorised by AMB in a concession. When operating with ETCS isolated in such instances, the speeds shall be reduced by 10 km/h below the high speed boards.
 - b. If testing speeds above posted speed boards are required in ETCS fitted trackside areas, ETCS may be isolated, and in such instances, a second authorised person shall be present in the cab.
13. Movements/testing on the network may be either by locomotive hauling or self-propelled.
14. Movements/testing on the network may be under track signalling, and may include block working or operation within a possession area as required for testing.
15. Movements and testing is permitted across the network on Wide, Extended Medium, Medium and Sub-Medium corridors. Movement and testing on Narrow corridors is not permitted.

General (across the network at all times)

16. The cars are permitted to be transferred between Yards/Depots and testing sites on the Network by locomotive hauling (with pantographs raised or lowered) with an appropriate locomotive.
17. Up to 10 cars are permitted to be transferred by locomotive hauling at any one time.

18. Use of transition couplers between locomotive and cars will require speed restrictions as follows:
 - a. If emergency couplers are used, the speed shall be restricted to 25 km/h as per the TOC Manual (TS TOC 1).
 - b. If heavy duty Scharfenberg adaptor couplers (2.010.515) are used, the speed may be up to a maximum of 80 km/h.
19. The train shall have appropriate end of train marker lights fitted or displayed.
20. The cars shall have the BP and MR connected and continuous throughout the train.
21. Independent or dynamic brake shall be avoided during hauling (emergency situations are accepted as required).
22. When locomotive hauling on the East Hills Line, restrictions detailed in TS TOC 2 shall be observed.
23. Locomotive hauled cars (dead attached) shall operate under the following conditions:
 - a. When stabled for 45 days or less (or any cars stabled at Kangy Angy), may operate under track signalling.
 - b. When stabled for more than 45 days, shall be block worked for the initial section and then may continue under track signalling.
This applies to cars stabled at Lithgow, Eveleigh, Broadmeadow, Enfield and Mt Victoria (does not apply to Kangy Angy). The block working section shall be as follows:
 - i. Lithgow – from neck of yard (153.500km) until signal 93.8 (150.989km)
 - ii. Eveleigh – from maintenance centre (2.097km) until Sydney Terminal (0.000km) (inbound movements only)
 - iii. Broadmeadow – from (Sydney end) neck of yard (161.500km) until signal 99.0 (159.374km)
 - iv. Enfield – from (North end) neck of yard (16.500km) until signal 18.7 (18.648km)
 - v. Mt Victoria – from neck of yard (127.000km) until signal 77.4 (124.598km)

General (across the network at all times)

24. Where ride, brake and kinematic testing is carried out (above the speed boards or above 70 km/h for flat airbags), the testing shall be block worked or within a possession area. Narrow single line possession areas with traffic on adjacent lines are acceptable.
 - a. Where testing speeds exceed the high (XPT) speed boards, the testing shall be in a possession area only. Block working not permitted.

25. High speed (above the speed boards, or above 70 km/h for flat airbags) testing shall be carried out in the normal running direction (unless specifically permitted in the conditions below).
26. During high speed testing, appropriate braking distances shall be taken into account to ensure the speeds at the ends of the test sections are as required (for traversing track or for signalling/possession limits).
27. For high speed ride and brake testing (up to 143 km/h), testing is permitted between Blacktown and St Marys under the following conditions:
 - a. An overall testing schedule for all high speed testing shall be provided to the Sydney Trains Electrical Maintenance Engineer and Civil Maintenance Engineer, 3 weeks in advance of the proposed testing programme (or as agreed with Sydney Trains).
 - b. 3 working days notice shall be given to the Electrical Maintenance Engineer, and Civil Maintenance Engineer, to confirm OHW and track conditions.
 - c. Approval shall be obtained from the Civil Maintenance Engineer and Electrical Maintenance Engineer prior to testing.
 - d. At the commencement of tests, the (HRC) Train Captain shall advise the Electrical Operating Centre (EOC) by phone (94911 or 02 9379 4911). This ensures a quick electrical response in the event of an OHW problem occurring.
 - e. High speed testing shall be monitored as per T HR RS 00200 ST (RSU 280, RSU 287, RSU 288) for ride and brake performance, if any limits are exceeded (refer to T HR RS 00600 ST, RSU 642, RSU 641), the cars shall be immediately slowed to a speed where the characteristics are within the limits. Monitoring is exempt if speeds are below 130 km/h.
 - f. When testing in the test track section between St Marys and Blacktown, the maximum speed of the train may be increased progressively up to a maximum speed of 143 km/h, when required, on the Suburban lines only between the 36 km post and the 47 km post, and as directed by the test engineer accompanying the train. Please note the following details below in 27 g, h, i, j.
 - g. Where testing speeds exceed 130 km/h between Blacktown and St Marys, the adjacent Suburban Line shall be included in the possession area or traffic shall be restricted on the adjacent Suburban Line so no passing traffic occurs.
 - h. High speed running shall not exceed 130 km/h on the Down Suburban between 40+800 km and 42+200 km (Rooty Hill area). 143 km/h is permitted in the remaining areas between 36 km and 47 km posts.
 - i. High speed testing may be carried out in the down direction on the Up Suburban line (wrong way running) to a maximum speed of 143 km/h. When running wrong way the rear trip arm shall be raised so as not to damage train stops (all arms to be lowered once wrong way running has finished).

- j. The existing speed signs shall not be exceeded while traversing the turnouts at either end of the test section (35.909km and 46.572km).
28. For high speed ride and brake testing (up to 143 km/h), testing is permitted between East Hills and Glenfield under the following conditions:
- a. An overall testing schedule for all high speed testing shall be provided to the Sydney Trains Electrical Maintenance Engineer and Civil Maintenance Engineer, 3 weeks in advance of the proposed testing programme (or as agreed with Sydney Trains).
 - b. 3 working days notice shall be given to the Electrical Maintenance Engineer, and Civil Maintenance Engineer, to confirm OHW and track conditions.
 - c. Approval shall be obtained from the Civil Maintenance Engineer and Electrical Maintenance Engineer prior to testing.
 - d. At the commencement of tests, the (HRC) Train Captain shall advise the Electrical Operating Centre (EOC) by phone (94911 or 02 9379 4911). This ensures a quick electrical response in the event of an OHW problem occurring.
 - e. High speed testing shall be monitored as per T HR RS 00200 ST (RSU 280, RSU 287, RSU 288) for ride and brake performance, if any limits are exceeded (refer to T HR RS 00600 ST, RSU 642, RSU 641), the cars shall be immediately slowed to a speed where the characteristics are within the limits. Monitoring is exempt if speeds are below 130 km/h.
 - f. When testing in the test track section between East Hills and Glenfield, the maximum speed of the train may be increased progressively up to a maximum speed of 143 km/h, when required, but only between the 24 km post and the 31 km post, and as directed by the test engineer accompanying the train.
 - g. Track restrictions at Holsworthy points and crossovers on the up and down line at approximately 29.500 km require track speed not to exceed the medium speed signs (115 km/h).
29. For very high speed ride testing above the speed signs, in excess of 143 km/h, the following conditions shall be followed:
- a. The requirements in section 27 shall be followed with the additional allowance as follows:
 - i. Where 143km/h is permitted, the speed may be raised progressively to approximately 160 km/h.
 - ii. The test track section may be increased from 36 km - 47 km to 32 km - 55km on the suburban lines (and Main lines from St Marys to Penrith), subject to speed restrictions in section 29.a.iii below.

- iii. Test speed shall not exceed track speed (high speed boards) outside of the track bound by the points/turnouts located at 35.909km and 46.572km (very high speed testing only permitted between 35.909km and 46.572km).
 - iv. If wrong way running between Kingswood and Penrith (53km - 55km) the speed shall be restricted to 80 km/h.
30. For standard kinematic testing, testing is permitted between Waterfall and Helensburgh (DOWN Illawarra line only) under the following conditions:
- a. An overall testing schedule for all high speed testing shall be provided to the Sydney Trains Electrical Maintenance Engineer and Civil Maintenance Engineer, 3 weeks in advance of the proposed testing programme (or as agreed with Sydney Trains).
 - b. 3 working days notice shall be given to the Electrical Maintenance Engineer, and Civil Maintenance Engineer, to confirm OHW and track conditions.
 - c. Approval shall be obtained from the Civil Maintenance Engineer and Electrical Maintenance Engineer prior to testing.
 - d. At the commencement of tests, the (HRC) Train Captain shall advise the Electrical Operating Centre (EOC) by phone (94911 or 02 9379 4911). This ensures a quick electrical response in the event of an OHW problem occurring.
 - e. All running above the Medium (EMU) track speeds shall be block worked or run in a possession area. All running above High (XPT) track speed shall be in a possession area. In addition when operating under block working, the sections ahead shall be clear prior to starting the run.
 - f. Single line working shall take effect when running in the up or down direction on the Down line (no passing traffic on the Up line). No single line restrictions apply when running on the Up line.
 - g. The maximum speeds between Waterfall and Helensburgh will be as follows:
 - i. Between 42.3 km and 43.1 km the speed shall be shall be maintained at 72.5 km/h on the down line or 73.1 km/h on the up line (test speeds).
 - ii. Allowance is given for accelerating and decelerating from the medium (EMU) track speeds to the test speeds between 41.9 km and 42.3 km and between 43.1 km and 44.1 km.
 - iii. In all other areas between Waterfall and Helensburgh, the speed shall be limited to the Medium (EMU) speed boards.

Therefore, speeds above that of the Medium (EMU) track speeds are permitted between 41.9 km and 44.1 km.
 - h. The test set shall avoid stopping at OHW overlap sections located at 42.183km - 42.200km and 46.057km - 46.130km on both Up and Down lines.

- i. Testing shall be staged such that the test speeds are incrementally increased which each pass between Waterfall and Helensburgh subject to clause 30j below. Initially the test speed shall be the EMU track speed (60 km/h) followed by the XPT track speed (65 km/h) and then finally the test speeds of 72.5 km/h or 73.1 km respectively for down and up lines.
 - j. The kinematic performance of the train shall be recorded and monitored in real time to ensure kinematic limits are maintained at all times. If the limits are exceeded at anytime the speed shall be reduced immediately to maintain the kinematic limits.
31. For sub-medium kinematic testing, testing is permitted between Edgecombe (145.430km) and Zig Zag (150.550km) under the following conditions:
- a. An overall testing schedule for all high speed testing shall be provided to the Sydney Trains Civil Maintenance Engineer, 3 weeks in advance of the proposed testing programme (or as agreed with Sydney Trains).
 - b. 3 working days notice shall be given to the Civil Maintenance Engineer, to confirm OHW and track conditions.
 - c. Approval shall be obtained from the Civil Maintenance Engineer prior to testing.
 - d. Single line working shall take effect when testing on the Up and Down lines above that of the speed signs (50 km/h is considered the track speed for the test area).
 - e. When testing above the High (XPT) speed boards, the testing shall be in a possession area.
 - f. The maximum test speed between Edgecombe (145.430km) and Zig Zag (150.550km) shall be maintained at 65 km/h. Speeds outside of the test area shall be as per existing speed signs.
 - g. Testing shall be staged such that the test speeds are incrementally increased with each Up and Down pass between Edgecombe and Zig Zag subject to clause 31h below. Testing shall provide the test speed for each Up and Down pass (i.e 60km/h Up and Down, 65km/h Up and Down).
 - h. The kinematic performance of the train shall be recorded and monitored in real time to ensure kinematic limits are maintained at all times. If the limits are exceeded at anytime the speed shall be reduced immediately to maintain the kinematic limits.

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