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TOC Waiver – TW: 203-1277

Issued to: Sydney Rail Management Centre
Transport Heritage NSW

Issued by: Jakub Zawada
Principal Engineer, Fleet Access Integrity

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Prevalence: This TOC Waiver supersedes TOC Waiver 203-1197

Title: Operation of DC6029 Steam Locomotive

This TOC Waiver supersedes TOC Waiver 203-1197, extends operation for a further 6 months.

A waiver to the published conditions in the Train Operating Conditions Manual is granted for the operation of DC6029 steam locomotive on the TfNSW Metropolitan Heavy Rail Network.

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

Table 1 – DC 6029 Unit Trust - Locomotives

Code	Load category	Description	Max speed (km/h)	Live weight (t)	Length coupled (m)	Draw capacity (MN)	Horse power	Remarks	Notes
DC60	See Note	AD 60 Class Beyer Garratt Steam locomotive	75	251.6	33.2	0.90	-	DC6029	R11 and see below

Notes:

R11 – Refer to instructions for Block working of all classes of light locomotives in the Sydney Metropolitan area contained in the **General Instruction Pages, Section 2 – Locomotives Operations**.

1. A copy of this TOC Waiver shall be in the cab of DC6029 and in any cabs of locomotives in the train consist with the DC6029.
2. Maximum speed restricted to 75 km/h to the normal/general speed signs.

3. DC6029 shall have the following marshalling restrictions:
 - a. DC6029 may be marshalled with a 38 class in a double head end operation. Any other locomotive may be marshalled with DC6029 only if there is at least 103m of coupled wagons between the locomotives and DC6029 in a push pull configuration.
 - b. If DC6029 is disabled or defective and requires recovery by coupling to another locomotive, an appropriate locomotive may be used to clear the section of track to an appropriate siding, loop, or road. A speed restriction of 40 km/h applies during recovery.
4. Hauling is permitted up to 530t trailing load for a 1:40 grade. Grades higher or lower may adjust the trailing load proportionally to this limit.
5. Operation between Kiama and Bomaderry shall be block worked.
6. Any BBT wayside alarms that are triggered by this locomotive shall not require the locomotive to be brought to a stop due to the high likelihood of a false alarm from the steam engine. However, the alarm shall be communicated with the operator to confirm the locomotives status.
7. Due to signal visibility requirements, there shall be 3 persons operating DC6029, at least 2 persons shall be drivers or alternatively a driver and second person who is qualified in signal recognition. The third person is to assist in engine working.
8. Appropriate signal distances shall be maintained such that both drivers (or driver and second person) have sufficient visibility of the signals at all times. This may require stopping short of signals or reducing speeds on signal approach.
9. Operation through single bore tunnels shall be achieved under normal steam operations with the assistance of diesel locomotive to minimise the impact of exhaust emissions to the driving crew.
10. With reference to item 9, the driving crew will have all necessary WHS requirements in place for operation through single bore tunnels.
11. The following sections details the allowable areas of operation, maximum speeds and additional operating conditions:

13. North Division Pages

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Maximum speed of locomotives and rolling stock

	Hornsby – Vales Point	Vales Pt – Woodville Junction	Woodville Junction – Newcastle Interchange
Class of Line	1	1	1
Line Map Reference	A	B	C
LOCOMOTIVES			
Class	Max Speed Km/h		
38 (Steam)	75@	75**	50

Notes:

@ Single locomotive only (light engine or train) across Hawksbury River Bridge. Other locomotives may be coupled to the train consist in a push pull arrangement and shall have at least 103m of wagons/carriages separating the two locomotives. Hornsby to Hawksbury River only or Vales Point to Wondabyne only is acceptable for double head end configurations.

** Maximum speed of 50 km/h over Northcott Drive Bridge (160.300km) at Kotara, and Dora Ck Bridge (127.025km) at Dora Ck

14. West Division Pages

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Maximum speed of locomotives and rolling stock

	Penrith – Lithgow DOWN MAIN	Lithgow – Valley Heights UP MAIN	Valley Heights – Penrith UP MAIN
Class of Line	1	1	1
Line Map Reference	A	B	C
LOCOMOTIVES			
Class	Max Speed km/h		
38 (Steam)	75**	75**	75

Notes:

** Maximum speed of 30 km/h over James St Bridge (156.334km)

15. West Division Pages

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Maximum speed of locomotives and rolling stock

	Waterfall - Port Kembla	Coniston- Unanderra	Unanderra – Berry	Berry – Boma derry	Coniston – Inner Harbour	South Frk Unanderra North Junction	Allans Creek – Unanderra North Junction	Port Kembla Balloon Loop	Quarry Siding Bombo 2	Unanderra – 91.0km Moss Vale line
Class of Line	1	1	1(f)	2(f)	1	1	1	1	2	1
Line Map Reference	A	B	C	D	E	F	G	H	I	J
LOCOMOTIVES										
Class	Maximum Speed km/h									
38 (Steam)	75	75	75/40*	75	25	35	60	25	N/A	50

Notes:

(f) Class 2 line includes Omega Tunnels (121.000km to 125.000km)

* Maximum speed 40 km/h on class 2 line.

16. Sydney Metropolitan Area Pages

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Maximum speed of locomotives and rolling stock - Sydney Metropolitan Area

SECTION	Class of Line	Notes	LOCOMOTIVES															FREIGHT VEHICLES						PASSENGER VEHICLES				
			^1	^2	^3	^4	^5	^6	^7	^8	^9	^10	^11	^12	^13	Class						XPT	Xplorer	Loco Hauled	Diesel Railcars			
			L, LQ, LZ, 31	Note O lists applicable locomotives	82, CLP, GL, NR	14, 81, ALF, AN, BL, CLF, G, VL	42, 80, 80s, B, DL	18	442, 442s, 700, GM12, S, X	Note Q lists applicable locomotives	43, 44s, 930	423	D, K, T, 32	47, 48, 48200, 48s, 49, 830, 900, GPU, MM, PL	73, (K)	46, 86	AD60 Steam	Multi Loco Wkg (Hp limited to 16000hp)	A	B	C					D	E	F
City Circle																												
Central-Quay-Central (Inner)	1	A,B,C,H	40	40	40	40	40	40	40	40	40	40	40	40	40	40	N/A	U	40	40	40	40	N/A	N/A	40	40	40	40
Central-Quay-Central (Outer)	1	A,B,H	40	40	40	40	40	40	40	40	40	40	40	40	40	40	N/A	U	40	40	40	40	N/A	N/A	40	40	40	40
Main Suburban/West																												
Sydney Terminal-Granville (Main)	1		100	100	100	100	100	90	100	100	100	80	100	100	70	100	75	U	100	100	80	65	80	65	100	100	100	100
Granville-St Marys (West Sub/Sub)	1		100	115	115	115	115	90	115	115	115	80	100	100	70	100	75	U	115	100	80	65	80	65	160	145	115	115
St Marys-Penrith (Main)	1		100	115	115	115	115	90	115	115	115	80	100	100	70	100	75	U	115	100	80	65	80	65	160	145	115	115
Central-Homebush (Suburban)	1	D	50	50	50	50	50	50	50	50	50	50	50	50	50	50	N/A	U	50	50	50	50	50	50	100	100	50	100
Homebush-Granville (Suburban)	1	D	80	80	80	80	80	80	80	100	100	80	100	100	70	80	N/A	U	100	100	80	65	80	65	100	100	100	100
Granville-St Marys (West Main/Main)	1		100	115	115	115	115	90	115	115	115	80	100	100	70	100	75	U	115	100	80	65	80	65	160	145	115	115
Central-Homebush (Local)	1	D,H	50	50	50	50	50	50	50	50	50	50	50	50	50	50	N/A	U	50	50	50	50	N/A	N/A	100	100	50	100
Clyde																												
Clyde-Parramatta Rd	2	H	50	50	50	50	50	50	50	50	50	50	50	50	50	50	N/A	U	50	50	50	50	N/A	N/A	60	60	50	60
Richmond																												
Blacktown-Richmond	1	H	50	50	50	50	50	50	50	50	50	50	50	50	50	50	N/A	U	50	50	50	50	N/A	N/A	115	115	50	115
Seven Hills-Blacktown (Down Bch)	1	H	70	70	70	70	70	70	70	70	70	70	70	70	70	70	N/A	U	70	70	70	70	N/A	N/A	70	70	70	70
Main North																												
Strathfield-Hornsby (Main)	1		100	115	115	115	115	90	115	115	115	80	100	100	70	100	75	U	115	100	80	65	80	65	115	115	115	115
Strathfield-North Strath Jct (Flyovers)	1	H	40	40	40	40	40	40	40	40	40	40	40	40	40	40	N/A	U	40	40	40	40	N/A	N/A	40	40	40	40
Nth Strath Jct-Rhodes (Down Relief)	1		80	80	80	80	80	80	80	80	80	80	80	80	70	80	75	U	80	80	80	65	80	65	80	80	80	80
West Ryde-Epping (Down Suburban)	1		90	90	90	90	90	90	90	90	90	80	90	90	70	90	N/A	U	90	90	80	65	80	65	90	90	90	90
Epping-West Ryde (Up Suburban)	1		90	90	90	90	90	90	90	90	90	80	90	90	70	90	N/A	U	90	90	80	65	80	65	90	90	90	90
Epping-Thornleigh (Down Relief)	1		75	75	75	75	75	75	75	75	75	75	75	75	70	75	75	U	75	75	75	65	75	65	90	90	75	75
Thornleigh-Pennant Hills (Up Relief)	1		50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	U	50	50	50	50	50	50	50	50	50	50
Normanhurst-Hornsby (Down Relief)	1		75	75	75	75	75	75	75	75	75	75	75	75	70	75	N/A	U	75	75	75	65	75	65	80	80	75	75
Rhodes-Nth Strath Jct (Up Relief / NSRU)	1		75	75	75	75	75	75	75	75	75	75	75	75	70	75	75	U	75	75	75	65	75	65	75	75	75	75
North Shore																												
Central-North Sydney	1	A,C,H	30	30	30	30	30	30	30	30	30	30	30	30	30	30	N/A	U	30	30	30	30	N/A	N/A	80	80	30	80
North Sydney-Hornsby	1	H	30	30	30	30	30	30	30	30	30	30	30	30	30	30	N/A	U	30	30	30	30	N/A	N/A	80	80	50	80
Main South																												
Lidcombe-Macarthur (via Regents Pk)	1	T	100	115	115	115	115	90	115	115	115	80	100	100	70	100	75/50 ^T	U	115	100	80	65	80	65	160	145	115	115
Granville-Cabramatta	1		100	100	100	100	100	90	100	100	100	80	100	100	70	100	50	U	100	100	80	65	80	65	100	100	100	100

		LOCOMOTIVES														FREIGHT VEHICLES						PASSENGER VEHICLES													
		^1	^2	^3	^4	^5	^6	^7	^8	^9	^10	^11	^12	^13	Class																				
Lidcombe Triangle Loop	1	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	N/A	U	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	
Granville Y-Link	1	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	75	U	75	75	75	65	75	65	75	75	75	75	75	75	75	75	75	75	
Illawarra																																			
Central-Hurstville (Illawarra)	1	D	100	100	100	100	100	90	100	100	100	80	100	100	70	100	75	U	100	100	80	65	80	65	100	100	100	100	100	100	100	100	100	100	
Hurstville-Waterfall (Main)	1		100	115	115	115	115	90	115	115	115	80	100	100	70	100	75	U	115	100	80	65	80	65	115	115	115	115	115	115	115	115	115	115	
Central-Meeks Rd Jct (Illawarra Local)	1	D	50	50	50	50	50	50	50	50	50	50	50	50	50	50	40	U	50	50	50	50	N/A	65	100	100	50	100	100	100	100	100	100	100	
Meeks Rd Jct-Hurstville (Illawarra Local)	1	D	100	100	100	100	100	90	100	100	100	80	100	100	70	100	75	U	100	100	80	65	N/A	65	100	100	100	100	100	100	100	100	100	100	100
Up Engine Dive Redfern-Acdep	1	H	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	U	10	10	10	10	N/A	N/A	10	10	10	10	10	10	10	10	10	10	
Illawarra Dives Redfern-Illawarra Jct	1	I	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	U	30	30	30	30	N/A	N/A	30	30	30	30	30	30	30	30	30	30	
Eastern Suburbs																																			
Ersleville Junction-Martin Place	1	A,L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	40	40	40	40	N/A	U	N/A	N/A	N/A	N/A	N/A	N/A	40	40	N/A	N/A	N/A	N/A	N/A	N/A		
Martin Place-Bondi Junction	1	A,L	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	15	15	15	15	N/A	U	N/A	N/A	N/A	N/A	N/A	N/A	15	15	N/A	N/A	N/A	N/A	N/A	N/A		
Bankstown																																			
Sydenham-Regents Park	1	G,H	50	50	50	50	50	50	50	50	50	50	50	50	50	50	N/A	U	50	50	50	50	N/A	N/A	80	80	50	60	50	60	50	60	50		
Airport / East Hills																																			
Central – Wollie Creek Junction	1	D, H	50	50	50	50	50	50	50	50	50	50	50	50	50	50	N/A	U	50	50	50	50	N/A	N/A	80	80	50	80	50	80	50	80	50		
Wollie Creek Junction-Glenfield (main)	1	R, X	N/A	80	80	80	80	80	80	80	80	80	80	80	80	70	80	75 ^x	U	80	80	80	65	N/A	N/A	125	125	80	60	80	60	80	60	80	
Turrella-Revesby (local)	1	R	N/A	80	80	80	80	80	80	80	80	80	80	80	80	70	80	N/A	U	80	80	80	65	N/A	N/A	115	115	80	60	80	60	80	60	80	
Leppington																																			
Glenfield-Leppington	1	H, N	N/A	N/A	N/A	35	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	35	N/A	N/A	N/A	U	35	35	35	N/A	N/A	N/A	115	115	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Cronulla																																			
Sutherland-Cronulla	1	S	N/A	50	50	50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	U	50	50	50	50	N/A	N/A	100	100	50	60	50	60	50	60	50	
Freight Lines																																			
North Strathfield-Flemington South Jct	1		50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	U	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	
Flem Middle Junction-Flem West Jct	1		35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	N/A	U	35	35	35	35	35	35	50	50	35	35	35	35	35	35	35	
Flem East Jct/Flem Middle Junction-Homebush Bay Loop (Olympic Park)	1	H	20	20	20	20	20	20	20	50	50	50	50	50	50	20	N/A	U	20	20	20	20	N/A	N/A	50	50	20	20	20	20	20	20	20	20	
Lidcombe Goods Jct-ARTC Boundary	1		70	70	70	70	70	70	70	70	70	70	70	70	70	70	70	U	70	70	70	65	70	65	70	70	60	60	60	60	60	60	60	60	
ARTC Boundary-Sefton Park Sth Jct	1		80	80	80	80	80	80	80	80	80	80	80	80	80	80	75	U	80	80	80	65	80	65	80	80	60	60	60	60	60	60	60	60	
Chullora North Jct-Chullora West Jct	1	P	Refer to ARTC for operating conditions																																
Chullora West Jct-Pac. Nat. Depot	1	P	Refer to ARTC for operating conditions																																
Chullora NRC Jct-Industrial Siding	1	P, H	Refer to ARTC for operating conditions																																
Chullora Sth Jct - Wardell Rd West Jct	1	P	Refer to ARTC for operating conditions																																
ARTC Boundary-Meeks Rd Tempe Jct	1		40	40	40	40	40	40	40	40	40	40	40	40	40	N/A	10	U	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40		
Meeks Rd Syd'ham Jct-Meeks Rd Wst Jctn	1	I	25	25	25	25	25	25	25	25	25	25	25	25	25	25	N/A	N/A	U	25	25	25	25	N/A	N/A	25	25	25	25	25	25	25	25	25	
Meeks Rd Sth Jct-Meeks Rd Nth Jct	1	I	25	25	25	25	25	25	25	25	25	25	25	25	25	25	N/A	N/A	U	25	25	25	25	N/A	N/A	25	25	25	25	25	25	25	25	25	
Marrickville Junction-Cooks River	1	I, P	Refer to ARTC for operating conditions																																
Cooks River-10.410km Botany	1	I, P	Refer to ARTC for operating conditions																																

For note details, see notes on the following page.

Notes for *Maximum speed of locomotives and rolling stock - Sydney Metropolitan Area*

- N/A Not allowed to run on this section under normal working conditions.
- ^ Numbered columns represent axle loadings. Column 1 heaviest to column 13 lightest.
- A The maximum speed for all non-stopping trains, for all underground platforms, is 10 km/h in the tunnel before the platform and 15 km/h through the platform.
- B The max speed for all locomotives in the Circular Quay area, outside of the platform, between the Harrington St and the Macquarie St portals is 25 km/h.
- C Heavy axle loads and unscrubbed diesel locomotives (i.e. diesel locomotives not fitted with approved exhaust conditioners) are only approved for restricted operation in the city underground as follows :-
 (a) Locomotives designated **in columns numbered 1 to 6 (Includes 86 class) above** and freight vehicles heavier than 76 tonnes gross are not permitted to run through platforms at: (1) Wynyard station, Up and Down Shore, and (2) Town Hall station, Up and Down Shore and City Inner except in an emergency and only when issued with a current TOC waiver covering each movement.
 (b) Unscrubbed diesel locomotives are also permitted to operate in the city underground but only when issued with a current TOC waiver covering each movement.
- D The following rolling stock is not allowed to run over the Flying Junctions between Redfern and Central in the Up direction:
Locomotives designated in columns numbered 1 to 6 above and freight vehicles heavier than 76 tonnes gross.
- F Electric locomotives are allowed on the **UP NORTH FORK** between Meeks Road West Junction and Meeks Road Sydenham Junction **ONLY**.
- G 81/82/NR class locomotives and E/F class freight vehicles allowed between Sefton Park North Junction and Sefton Park East Junction at a max speed of 25 km/h.
- H Freight vehicles loaded greater than 20 tonnes axle load NOT PERMITTED, unless authorised by a **TOC Waiver**.
- I Freight vehicles loaded greater than 23 tonnes axle load NOT PERMITTED, unless authorised by a **TOC Waiver**.
- J Electrified between Rosehill & Electric train Stop sign located at location CC22+736 (Overhead Wire Structure).
- K Only locomotives fitted with vigilance control system are approved to operate outside shunting yards.
- L **Maximum load**
 Freight trains shall not contain any freight vehicles with a **gross mass exceeding 73 tonnes**.
- Operational requirements**
 Between Martin Place and Bondi Jct to conform to structure loading limits on the viaducts the following conditions shall be obeyed:
 The only time that simultaneous movements are permitted on adjacent tracks over this section is when the freight trains are in the **empty** condition.
All trains when passing each other on the above section shall not exceed **a maximum speed of 15 km/h**.
- N 81, 48, and 38 Class locomotives only.
- O 1100, 92, 93, 6000, 6020, ACC, C, CF, CM, CEY, CSR, FIE, GWA, GWU, LDP, LDP10, MRL, PHC, QBX, RL, SCT, TT(134t), TT100 (134t), WH, XRN, SSR. **Note CSR/QBX locomotives not permitted on all lines, refer to TS TOC 1 section 10 for allowable routes/lines.**
- P Refer to ARTC for operating conditions.
- Q 1200, 22, 421, 422, 44, 45, 45s, 600, DC, EL, FL, GM1, HL
- R Operation of freight vehicles over 18 tonne axle loads NOT PERMITTED, unless authorised by a TOC Waiver or operating under conditions detailed in this section, *East Hills Line – operation of freight vehicles with axle loads greater than 18 tonnes*, page 74.
- S Operation of freight vehicles over 20 tonne axle loads NOT PERMITTED, unless authorised by a TOC Waiver or operating under conditions detailed in this section, *Cronulla Line – operation of 81, 82, BL, C, G, GL, RL, and VL locomotives*, page 76.
- T Operation of DC6029 over Cabramatta Ck underbridge at 32.963km shall be restricted to a maximum speed of 50 km/h.
- U Unlimited number of locomotives for multiple working of locomotives (subject to a maximum horsepower limit of 16000Hp per locomotive group).
- X DC6029 not permitted to traverse the East Hills Viaduct (between signal EH12 at 24.160 km and EH15.05 at 24.720 km). Traversing from Wollli Creek to Glenfield not permitted via the East Hills Line, only Wollli Creek to East Hills (up to signal EH12) or Glenfield to East Hills (up to signal EH15.05).

Jakub Zawada

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