Train Testing Zone (TTZ) Procedure

Document Number: SMCSW-RS-PR-60022 version 5.1

1 Approval Table

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2 Document Control

Control Table			
Author	Version	Date	Description
Emmanual Manolis Rail Operations Manager-MTR	1	10/09/2024	Initial Draft of Rail Safeworking Procedure for Train Testing Zone – Sydenham to Bankstown (Southwest Corridor)
Emmanual Manolis Rail Operations Manager-MTR	2	11/03/2025	Amendments to Document due to business changes
Emmanual Manolis Rail Operations Manager-MTR	3	26/03/2024	Amendments due to change in RIM arrangement for DTT and changes to DTT Stage 1 Testing
Emmanual Manolis Rail Operations Manager-MTR	4	03/06/2025	Amendments post DTT Stage 1(Limited) Capturing all stages of DTT up to Trial running
Emmanual Manolis Rail Operations Manager-MTR Phil Hawkins Principal Systems Integration Manager - MTR	5	31/07/2025	Amendments made due to RIM accreditation change and Included DTT Commander. Document name changed to “Train Testing Zone (TTZ) Procedure” from “Rail Safeworking Procedure - Train Testing Zone (TTZ) for Train Testing and Commissioning Activities within the Southwest Corridor”
Emmanual Manolis Rail Operations Manager-MTR	5.1	27/02/2026	The Dynamic Train Testing (DTT) Initial Hazard Recording App has been incorporated into this Procedure.

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3 Introduction

This document outlines the Rail Safeworking Procedure for planning, implementing and managing a Train Testing Zone (TTZ) to oversee Dynamic Train Testing and Commissioning (T&C) activities within the Metro Southwest Network (SW) and MTS Network. This procedure applies to Dynamic Train Testing (DTT) activities from low-speed to high-speed in Restricted Manual Mode (RM), Protected Manual Mode (PM), and Unattended Train Operations (UTO), as defined in Figure 1 and below.

DTT has five stages:

- Stage 1: Low-speed DTT in Restricted Manual mode
- Stage 2: Low-speed DTT in Protected Manual and UTO modes
- Stage 3: High-Speed DTT in Protected Manual and UTO modes (Stage 3.5 - including ATC Bypass)
- Stage 4: High-Speed mula train tesang
- Stage 5: System Cutover

This procedure has been developed in accordance with the requirements specified in the MTS-SMA Operations Protocol for DTT (SMCSWTS2-MTS-CSW-SA-PLN-004327) and outlines the activities required to safely carry out Dynamic Train Testing Commissioning, including:

- Planning for a TTZ;
- Implemenang a TTZ;
- Requirements during T&C acaviaes;
- Suspending and/or Fulfilling a TTZ;
- Train Stabling;
- Safety Criacal Communicaaon Protocols;
- Training and Competency requirements;
- Emergency & Incident Management during DTT; and
- Roles and Responsibiliaes for DTT.

4 Scope and Purpose

The scope of this procedure includes:

- Activities associated with accessing and working within a Train Testing Zone (TTZ), ensuring safe and controlled operations of the Test Train and associated testing activities.

This procedure applies to:

- all workers involved in the planning, authorisation, coordination, and execution of Dynamic Train Testing (DTT) activities within the Southwest Corridor and MTS Network. This includes, but is not limited to, Train Coordinators, Test Train Pilots, Protection Officers (PPOs), Traffic Controllers (TCs), Safety and Engineering personnel, DTT Commanders, ALSTOM technicians, and representatives from MTS, SMA, MTR, and S2B.
- all workers accessing the Train Testing Zone (TTZ) or supporting testing and commissioning activities, ensuring compliance with safeworking requirements and approved test plans.

The purpose of this procedure is to:

- Establish the principles of a TTZ within SMLPA and/or MTS Network (where required) to conduct DTT acaviaes
- Permit a Test Train to operate above the general SMLPA permissible speed of 15km/h when specifically authorised and within a TTZ. As such, test trains may exceed this limit and operate at higher speeds as approved in the relevant Project Safety Reports and Risk Assessments for train movements.
- requires the establishment of a TTZ for DTT acaviaes within the Southwest Metro SMLPA, the TTZ will be considered a worksite within the SMLPA
- outline the safeworking arrangements for establishing a TTZ with a single test area within the SMLPA and define the operaaonal processes for safely managing the worksite and train tesang acaviaes.
- detail the process for effecave control and management of the test train movements, which will be authorised by the Train Coordinator, aher the S2B-PPO has approved the establishment of the TTZ.
- Support the train transfer arrangements as outlined within the within the *Transfer of Test Trains MTS Network to SWM Corridor – Marrickville for Dynamic Train Tes;ng - SMCSW-HS-PR-60060.*
- defines the area where work outside the TTZ can or cannot be conducted. Prohibit staff and addiaonal worksites from being present within the Rail Corridor (defined as fence-to-fence or on the Staaon plaiorm, behind secured and locked Plaiorm Edge Barriers (PEBs), secured and locked End Walkway Doors (EWDs), and secured and locked Temporary Approved Fencing) while a train is in moaon.
- Test Train movement control and management may be managed from the MTS Operaaons Control Centre (OCC) located at Tallawong. This acaon will be dependent on the specific test cases, and subject to approval of the Project Safety Reports, supporang Risk Assessments, and required DTT Staging.

5 Glossary

Code	Description
ATS	Automatic Train Supervision (ATS) - a centralised system for loading timetables and for automatically setting routes accordingly.
ATS Engineer	The Automatic Train Supervision (ATS) Engineer is a qualified professional specialising in the design, implementation, and maintenance of ATS systems and their associated subsystems.
Buffer Stops	Made of metal and fixed to rail, use friction to slow down trains, common in passenger and freight terminals.
CBTC	Communication Based Train Control – a continuous, automatic train control system utilising high- resolution train determination, independent from track circuits; continuous high-capacity, bi- directional train to wayside data communications; and train borne and wayside processors supporting the implementation of: Automatic Train Protection (ATP) Automatic Train Operations (ATO) and, Automatic Train Supervision (ATS) functions including Automatic Train Regulation (ATR).
CJC-T	MTS Customer Journey Coordinator – Trains: (Train Operator).
DDU	Drivers Display Unit
DTT	Dynamic Train Testing
DTT Commander	A Qualified worker who is designated lead authority responsible for managing all major incidents and emergencies during Dynamic Train Testing, ensuring safety, coordinating response efforts, and maintaining control until the situation is resolved.
DTT Safe Notice	An authorise DTT Safe Notice for Dynamic Train Testing purposes. To provide exceptions to the prescribed rules and procedures for DTT activities. To advertise DTT activities including TTZ details.
DTT Operations Hazard App	The Dynamic Train Testing (DTT) Initial Hazard Recording App was created to enhance real-time hazard awareness and improve safety during Dynamic Train Testing within the Southwest open corridor.
EB	Emergency Brake
EEH	Extended Engineering Hours
EMU	Electric Multiple Unit
FTR	Functional Test Report
GAMA	Geographical Automatic Mode Authorisation
HSDT	High-Speed Dynamic Testing
HSEQ	Health, Safety, Environment, & Quality

ITP	Inspection and Test Plan
LSDT	Low-Speed Dynamic Testing (LSDT).
MTR	Mass Transit Railway Corporation
MTS TC	A Qualified Worker who operates an ATS Workstation to authorise and issue Occupancy Authorities and manages rail traffic paths to ensure the safe and efficient transit of rail traffic in the Network. This role includes OCC Traffic Controllers, Depot Traffic Controllers.
TOCC TC	A Qualified Worker who operates an ATS Workstation to authorise and issue Occupancy Authorities and manages rail traffic paths for Dynamic Train Testing to ensure the safe and efficient transit of rail traffic in the Train Testing Zone within the Temporary Control Centre at Campise.
NOE	Notification of Energisation
Test Train Pilot	Test Train Pilot - A Qualified Worker, who accompanies, directs, and instructs the CJC-Ts on train movement authority. The capability requirement as in Competency Matrix.
PO	Protection Officer - The Qualified Worker responsible for managing the rail safety component of worksite protection.
PM	Protective Manual (PM) Mode: Protected Manual mode of Rolling Stock operation requires a Train Operator to manually control some, or all functions or train operation as follows: The train is manually operated by Qualified Staff following speed limitation indicated on the Train Operators console, with fully Automatic Train Protection available, and Train doors and Platform Screen Doors / Platform Edge Barriers opening may be manually controlled by the Train Operator when authorised by the signalling system, and / or Train doors and Platform Screen Doors / Platform Edge Barriers opening may be manually. Controlled by the Train Operator (through the trains' door commands) and, Automatic update of journey information in salon.
PTE	Permit to energise
RM	Restricted Manual Mode – Restricted Manual mode of operations allows the train operator to manually control the movement of a train in the forward or reverse direction, with a speed limitation of 25 km/hour. The operation of the train doors and Platform Screen Doors / Platform Edge Barriers is manually controlled by the Train Operator.
Project Safety Report	The purpose of this project safety report is to identify and manage: • The project, system design and sub-system configuration. • The list of authorised trains • V&V report results of system design and subsystem including the CC I&V and FIVP result. • Installation Reports. • T&C Reports. • Analyse all the NOKs from Global V&V report and see if any restriction to be provided due to safety impact.

	• Include the CR analysis and see if any safety impact for the open CRs. • Restrictions of use. • Conclusion.
RTC	Risk Triggered Commentary – CJC-T's method of communicating their actions and thought Processes to the Pilot so they understand the train is under control
RWAR	Rail Worksite Access Request Form
SM-LPA	Sydney Metro Local Possession Authority
S2B	S2B – Sydney to Bankstown, a project delivery team through a joint venture between John Holland and Laing O'Rourke.
S2B PPO	Sydenham to Bankstown Possession Protection Officer - The Qualified Worker responsible for coordinating the protection of worksites under a Local Possession Authority (LPA) along the MSW lines between Sydenham and Bankstown.
Stop Blocks	Two sleepers, painted white which are fixed to rail as temporary and movable, designed for use during maintenance or construction work. Deployed as needed and removed when the temporary need has passed.
SSJ	Sydenham Station & Junction is the location where the temporary stop blocks are positioned. It marks the accredited boundary between MTS and SMLPA.
SWMS	Safe Work Method Statement
Test Area	A defined area inside the TTZ where train testing can take place with suitable buffer zones either end. All documented in the TZZ Safe Notice
Test Train Movement	Any EMU Train movement inside the SM LPA, train can either be on test or positioning, with inclusion of moving train from MTS Network to S2B Network.
TOCC	Temporary Operations Control Centre, located at Campise
Train Coordinator	A qualified worker who is responsible for all test train movements withing the TTZ area
TTZ	Train Testing Zone – considered as a worksite across SMLPA and MTS work on Track Authority to enable Trains and Systems testing, consisting of Safe Buffer Zones around the Test Area.
UTO	Unattended Train Operation (UTO) Mode The driverless mode of operation, where trains are automatically controlled by Automatic Train Control with fully Automatic Train Protection.
WAA	Work Activity Advice (Sydney Metro)

6 Document Control

Executive Director Health & Safety (SMA) and GM SQRE (MTS) are accountable for this procedure. Any amendments to this procedure and appendices must be recorded, and any major revision and / or amendments must be consulted with all the organisation stakeholders that are party to the signatory process of this document, and thereafter approved by the governance management process, before being distributed and implemented.

This procedure must be distributed to the following key personnel:

- Sydney Metro Rail Safety Manager & Senior Rail Safety Manager
- MTR staff, including the Head of HSEQ, WHS/Rail Safety Advisor, Test Train Supervisor, Rail Operaaons Manager and Deputy Project Director TSOM.
- MTS staff including Rail Safety & Systems Manager, Head of Operaaons, Possession Planning Manager, MTS Possession Protecaon Officer and the Customer Experience and Operaaon and GM SQRE, and any other key stakeholders as determined by MTS
- S2B Rail Safety Manager and Southwest Possession Protecaon Officer
- Sigcon Test Engineer and Operaaons Manager
- Train Tesang Personnel, including Train Coordinator, Protecaon Staff, Test Train Pilot and Train Operator (CJC-T)
- Any other key stakeholders as determined by the RIM (SMA) and RIM/RSO (MTS) for DTT.

7 Dynamic Train Testing (DTT) Stages

DTT is delivered in five stages, with two CBTC Migration Stages overlaid across them. Each stage will undergo an assurance process through MTR and MTS Tier 2 Configuration Change Boards (CCB). Three of these stages are considered Significant and will require additional assurance gateways via MTS Tier 1.

RIM and RSO arrangements are detailed in the MTS/SMA Operations Protocol. Where the changes are significant relevant supporting procedures will be updated accordingly as outlined within the MTR Safety Assurance Statement. Figure 1 outlines high level DTT Stages.

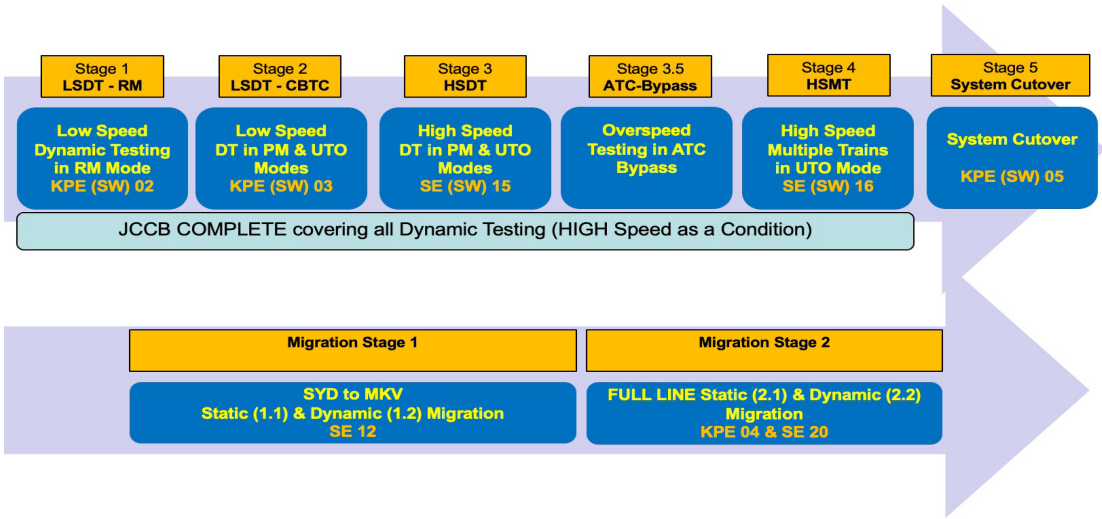


Figure 1 Dynamic Train Testing Stages

8 Accredited Parties

8.1 Accredited Parties and Boundary Definitions

As per the MTS-SMA Operations Protocol for DTT document the accredited parties for the applicable stage of dynamic train testing are as follows:

- Sydney Metro is the RIM for rail infrastructure within the Local Possession Authority (LPA) during dynamic train tesang.
- SMA is the RIM for the Track & Transit Space, Fenceline incl. Security, Civils incl. Geotech and OHW incl. Power
- Metro Trains Sydney (MTS) is the RIM for the Systems (TSOM Works)
- MTS is accountable for scheduling, control and monitoring of railway operaaons for DTT
- MTS is accountable for Train, Signalling System, Communicaaons & Control System for DTT acaviaes
- MTS is accountable for Emergency Management during DTT
- MTS is the RSO for rolling stock used for DTT and therefore has RTO safety duaes and RSO safety duaes relaang to the subject rolling stock.
- When a TTZ is not in place, exisang RIM arrangements apply. Assurance that Rail Infrastructure and systems are fit to use for DTT acaviaes will be undertaken through the IBA process.
- SMA must provide assurance of compliance with its safety duaes.
- MTS must provide assurance of compliance with its safety duaes.

Further roles of parties include:

- SMA is the RIM for the HV network. SMA has engaged SCLW to be the interim operator and maintainer of the HV network. MTS is the DNSP.
- S2B & Maranus Rail will be the Principal Contractors for the SWM Project for the purpose of the WHS Act. and will operate under the direcaon and oversight of SMA
- During DTT, SMA will establish a Local Possession Authority (SMLPA) using SMA Network Rules and Procedures.
- In consultaaon with SMA Possession Protecaon Officer (PPO), a Train Tesang Zone (TTZ) will be established by paraes defined within the TTZ Procedure, inside the SMLPA.
- Within the TTZ, MTS Rail Safety Rules & Procedures apply for all rolling stock movements.
- For completeness, MTS is the RIM for NW and City rail infrastructure.
- When a TTZ is not in place, SMA has appointed RSO's for Construcaon on SWM to Laing O'Rourke, UGL, Taylor Rail and Maranus.

8.1.1 Rail Infrastructure within the TTZ

For the avoidance of doubt SMA is the RIM for Track & Transit Space, Fenceline incl. Security, Civils incl. Geotech and OHW incl. Power inside the TTZ. MTS is RIM for the Signalling System, Communicaaons & Control System for DTT acaviaes inside the TTZ. This is further explained in Figures 2 and 3 below.

To ensure all Rail Workers are aware of the concurrent RIM duaes and the SMS that applies on the specific rail infrastructure the Town Hall for High Speed Dynamic Tesang will include this detail and a Safe Noace will be issued to all Rail Workers prior to commencement of High Speed Dynamic Tesang

"**rail infrastructure**" means the facilities that are necessary to enable a railway to operate safely and includes--	**RIM**
(a) railway tracks and associated railway track structures; and	**SMA**
(b) service roads, **signalling systems, communications systems, rolling stock control systems, train control systems and data management systems**; and	**MTS (except service roads)**
(c) notices and signs; and	**SMA**
(d) electrical power supply and electric traction systems; and	**SMA**
(e) associated buildings, workshops, depots and yards; and	**SMA**
(f) plant, machinery and equipment,	**SMA**
but does not include--	
(g) rolling stock; or	
(h) any facility, or facility of a class, that is prescribed by the national regulations not to be rail infrastructure;	

Figure 2 Responsible RIM for Rail Infrastructure within the TTZ

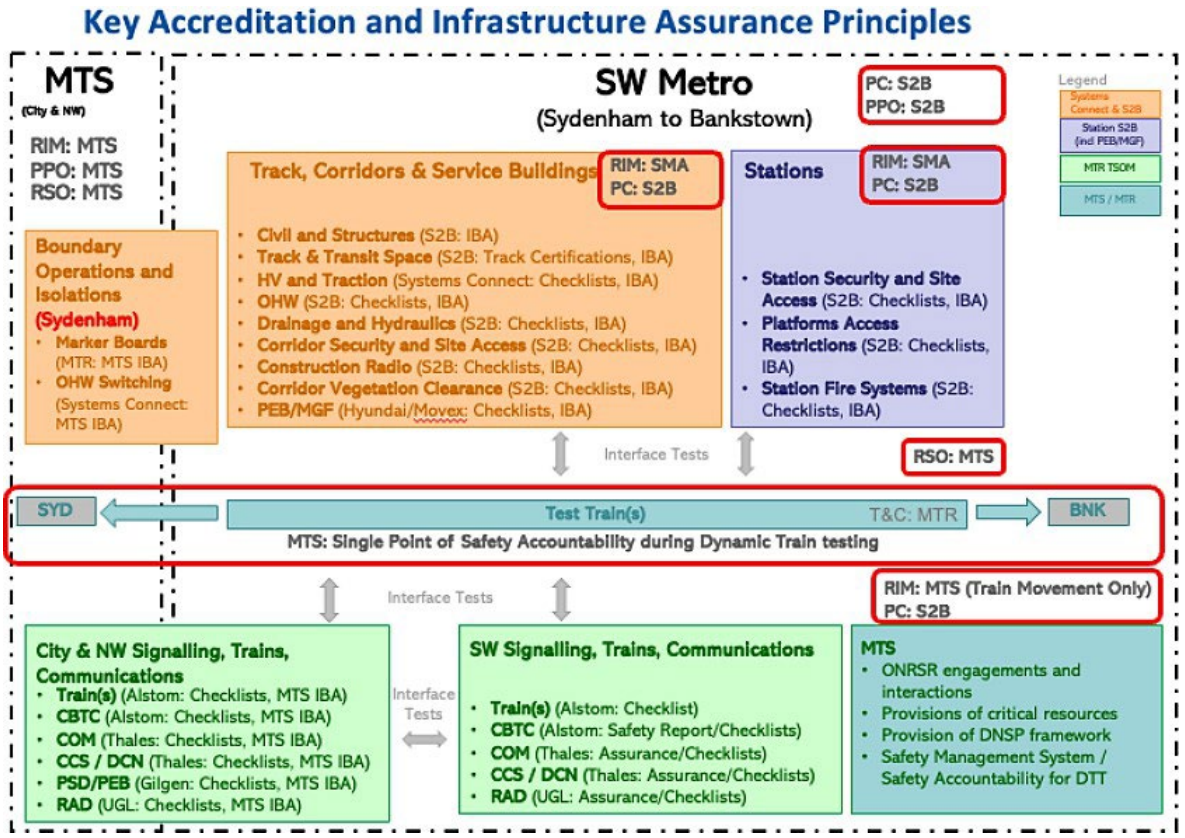


Figure 3 Further details regarding responsible RIM for assets and systems within the TTZ

8.2 MTS RIM Area Boundaries

The Rail Infrastructure Manager (RIM) boundary for Metro Trains Sydney (MTS) covers train operations, possession management, and all works within the rail corridor from the hard barrier fence located at approximately 5.440 km (Up & Down MSW at Sydenham) to the end of the terminal line at the Sydney Metro Trains Facility – North (SMTF-N).

The MTS network includes all associated rail infrastructure and yards between Sydney Metro Trains Facility – North (SMTF-N), Sydney Metro Trains Facility – South (SMTF-S), the Eastern Bypass Road, and the shunt necks, extending through to Sydenham Metro Station, including the Sydenham terminations.

8.3 SMA RIM Area Boundary

The RIM boundary for Sydney Metro Authority (SMA) begins at the southern side of the hard barrier fence at approximately 5.440 km (Up & Down MSW) and extends to the end of the terminal line at Bankstown Station (18.632 km at the buffer stops).Sydney Metro Local Possession Authority (SMLPA) on the UP/DN Metro Southwest Lines (MSW) between Sydenham Countryside Stop Blocks at approximately 5.565 km and Bankstown Station Cityside Buffer Stop 18.632 km.

Any changes to the RIM Boundary will be revised through the Operations Protocol then advertised via the Safe Notice platform.

8.4 Sydney Metro Local Possession Authority - SMLPA

Sydney Metro Local Possession Authority (SMLPA) on the UP/DN Metro Southwest Lines (MSW) between Sydenham Countryside Stop Blocks at 5.565 km (approx.) and Bankstown Station Cityside Buffer Stop 18.632 km.

Sydney Metro will establish an SM-LPA to facilitate the construction and commissioning of Metro South West. This arrangement will include a Train Testing Zone designated for dynamic train testing activities. The TTZ will be further detailed in subsequent section below.

8.5 Dynamic Train Testing across RIM Boundaries

Dynamic test train operations within the MTS Network, particularly at Sydenham Station, will be managed under the Train Testing Zone (TTZ) Procedure. Although MTS is the Rail Infrastructure Manager (RIM) for the M1 network, the TTZ may be extended into the MTS area under certain conditions. This extension requires a valid MTS Work Access Request and a Safe Notice where required and agreement between MTS and SMA on safety and operational protocols. This TTZ Procedure outlines the process to ensure all train movements are safe and compliant.

Dynamic Train testing within SW will be managed by the Sydenham to Bankstown Possession Protection Officer (S2B-PPO) and the Train Coordinator, in coordination with a TOCC Traffic Controller (TOCC TC) and/or appointed ATS Engineer. The S2B-PPO will operate from the Possession Protection Officer's Office, while the Train Coordinator and TOCC Traffic Controller and/or ATS Engineer will operate from the Temporary Operations Control Centre (TOCC). Both locations are situated at Campsie.

Depending on the type of testing being undertaken, the Train Coordinator and Traffic Controller may operate from either the TOCC or the Operations Control Centre (OCC).

Occasions where a TTZ is required to conduct DTT activities within MTS M1 Network, an MTS Possession Protection Officer or an MTS Qualified Protection Officer holding a valid MTS Work on Track Authority must authorise all test train movements within the MTS M1 Network. The Train Coordinator will continue to manage these movements in accordance with the approved test scope.

Occasions where a MTS Work on Track Protection or a TTZ within M1 network is not required to facilitates a Test Case, the alternative arrangement must be documented in a Safe Notice and all parties briefed prior to commencing DTT activities.

9 Train Testing Zone (TTZ)

The TTZ is a safety measure used to ensure the safety of workers by designating an area within either the SMLPA and/or within MTS Network to conduct DTT activities. The purpose of a TTZ is to ensure train testing can be conducted safely. Below are the principles of a TTZ:

- The limits of the TTZ can vary depending on the type of tesang to be carried out, however, the limits must be located from defined clearance points such as e.g., staaon to staaon, terminal points such as Sydenham Stop Blocks to Bankstown Terminaaons, PPI's or Points Clearence Signs, etc.
- A **Test Area** must be designated within the TTZ limits. This boundary defines where test train movements are allowed.
- A **Safety Buffer Zone** must be designated between the Test Area and TTZ Limits. This is also referred to as a "Safe Stoppage Area"

- Mandatory signage to be used to idenafy Test Area and TTZ Limits
- Movement managed by the Train Coordinator

9.1 Planning for a TTZ

Applications for implementing a Train Testing Zone (TTZ) must be coordinated through the MTR & SMA Systems Testing and Commissioning committee. This process involves collaboration with the MTR Rail Operations Team and the MTR Rail Safety team to address all Health, Safety, and Environmental (HSE) requirements, as well as Rail Safeworking protocols. The details are reviewed in the MTR Testing Workshop's Weekly Planning meeting and documented in the Possession and Test Plan Lookahead Schedule spreadsheet.

A SMA Worksite Access Request (WAR) must be submitted to the S2B Possession Planner by the MTR Rail Operations Team T-minus four weeks. Furthermore, a Work Activity Advice (WAA) must also be submitted by MTR to SMA no later than four weeks prior to implementing the Train Testing Zone (TTZ).

If the planned train testing scope requires access to the MTS Network, an MTS Work Access Request (WAR) form must also be submitted to the MTS Possessions Team in accordance with the MTS WAR process.

The work request forms mentioned above must stipulate the following as a minimum requirement:

- track(s) affected by the potenaal Train Tesang Zone (TTZ)
- duraaon of the Train Tesang Zone (TTZ)
- defined Tesang Area
- summary of the type of Tesang and Commissioning to be carried out.
- any other relevant requirements.

MTS Possession Coordination / Possession meetings take place on a weekly basis chaired by the relevant Possession Planner or delegate where all Rail Safeworking requirements will be communicated and consulted with all relevant parties.

During these meetings, the following will be communicated:

- any changes in classificaaons of the secaons and implementaaon of a Train Tesang Zone (TTZ) within the MTS Network.
- any planned rolling stock movements from within secaons, or transit between secaons of the SMLPA and MTS Work on Track Authority (vice versa).
- any changes to proposed access points of the track.
- clashes or conflicts in scope of work.

9.2 1500v OHW Switching Program

Switching programs will be managed and conducted under MTS Electrical Safety Rules NWRLOTS-NRT-SWD-SF-FRW-726001. The process for the Electrical Switching to allow for the train testing between CSW and MTS Network will be conducted as per the process outlined in the “Rail Safeworking Procedure, Transfer of Test Trains. Sydenham SMTF-S to SW Corridor - Marrickville)

9.3 Infrastructure Booking Authority (IBA) for DTT

To enable DTT within SW, the Infrastructure Booking Authority Procedure must be followed. Refer to the IBA Procedure: *S2B IBA Procedure - SMCSWSSJ-JHL-WSS-PC-PRO-000001*

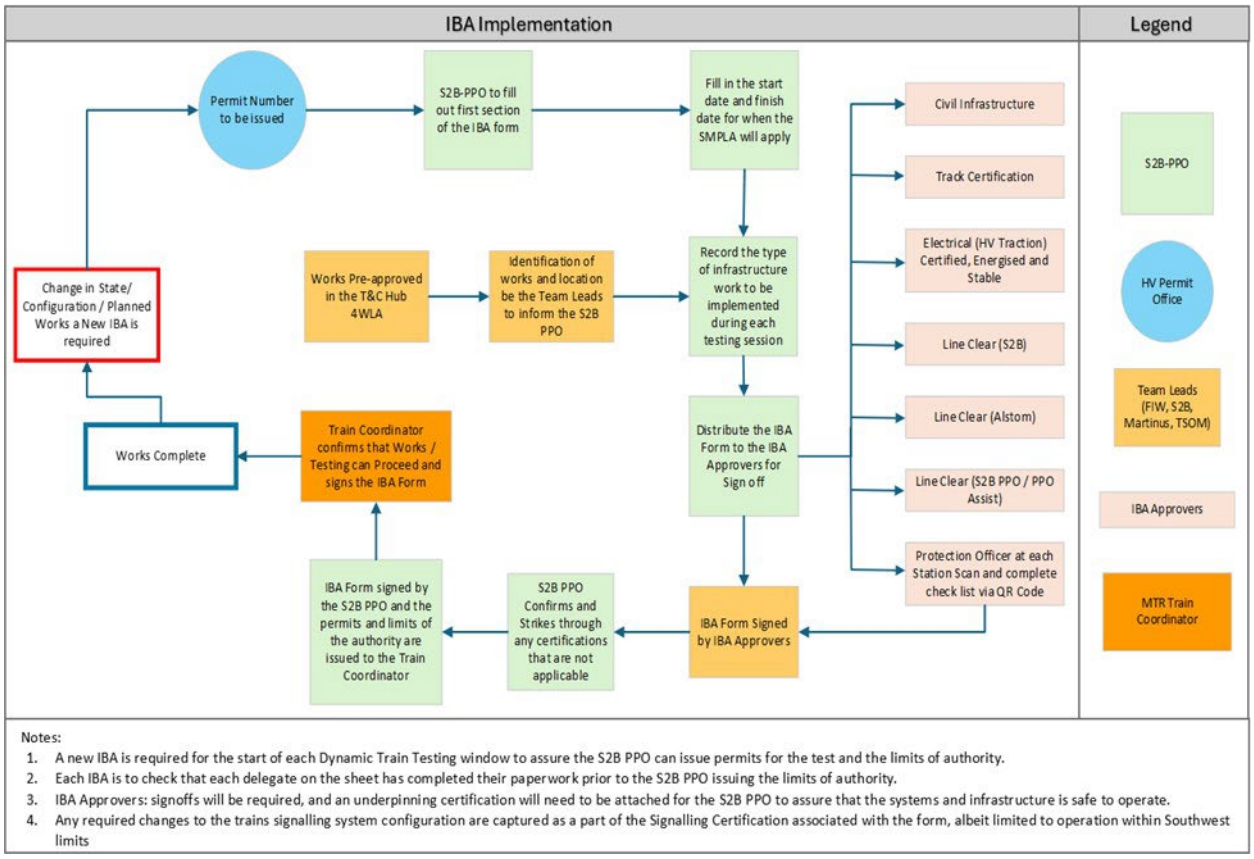


Figure 4 IBA Implementation Flow Chart

9.4 TTZ Limits within the SM-LPA / MTS Work on Track Protection

A designated worksite for train testing purposes will be exclusively established (TTZ) within an SM-LPA or MTS Work on Track Authority within MTS Network (where required). The limits of the TTZ can vary depending on the type of testing to be carried out, however, the limits must be located from defined clearance points such as e.g., station to station, terminal points such as Sydenham Stop Blocks to Bankstown Terminations, PPI's or Points Clearence Signs, etc. The defined clearance points utilised as TTZ limits will be outlined with the DTT Safe Notice.

When conducting DTT within SM Network, the TTZ must be established within SMLPA prior to the commencement of any Testing and Commissioning train movements, including before the initiation of Train Transfer between the MTS Network and the SMLPA (or vice versa).

Access to the rail corridor during DTT activities is restricted to those involved in DTT operations or for incident and emergency management purposes only. All access points to TTZ must remain closed or fenced off for the duration of DTT activities.

9.5 Worksites outside of Rail Corridor

The TTZ limit is defined above and for clarity, are limits from one clearance point to another such as e.g., station to station, terminal points such as Sydenham Stop Blocks to Bankstown Terminations, PPI's or Points Clearence Signs, etc.

Rail Corridor is defined as from fence-line to fence-line (UTO Fence Line as per figure 6), or if there are no fences, everywhere within 15 metres of the outer rails. Station Platform where there is a PEB is not considered a Rail Corridor. No other work is to be approved in the rail corridor whilst TTZ is in place.

Note: Where work is being conducted outside of Rail Corridor, the work must be assessed to ensure that it does not have a credible potential to encroach within the Rail Corridor.

In SWM Sydney Metro defines and approves temporary non-UTO zones in accordance with the Establishing a RISI exempt area Procedure (SM-18-00054654). This redefines the boundaries of the Rail Corridor. Approval is subject to a risk assessment and the adoption of controls to ensure safety SFAIRP.

Works adjacent to the rail corridor are subject to risk assessment defined in S2B – JHLORJV Possession Management Plan (SMCSWSSJ-JHL-WSS-PC-PLN-000125).

9.6 Training and Competency

Access to the TTZ is only permitted to workers who hold the competencies and inductions as noted within the MTR Southwest Testing & Commissioning Matrix (SMCSW-RS-RG-60148). Exceptions will be made for Emergency and Incident Management.

All workers must also complete either briefing and/or training relevant to their roles and responsibilities for DTT activities. It is the responsibility of the relevant organisation to ensure that their workers have been either briefed or trained.

9.6.1 DTT Commander Role Competency

MTS Manager Network Control (MNC) performing the DTT Commander role must complete a dedicated training package before High-Speed DTT commencement.

This includes:

- Understanding all roles and responsibiliaes during incident response.
- Familiarisaaon with SW Corridor configuraaons and Plaanum Card requirements.
- Knowledge of relevant incident types.
- Knowledge of DTT acaviaes and relevant test case
- Understand the TTZ Procedure and other relevant incident management plans and procedures.
- Understand corridor security arrangements for SW
- Understand the current status of CBTC and sub-systems such as CIDS/ODS, etc.

9.7 Example Diagram of TTZ Overlay on the SMLPA & MTS

The example below outlines the basic principles of the TTZ between the Sydenham stop blocks and Bankstown Buffer Stops including the Test Area and Safe Buffer Zone.

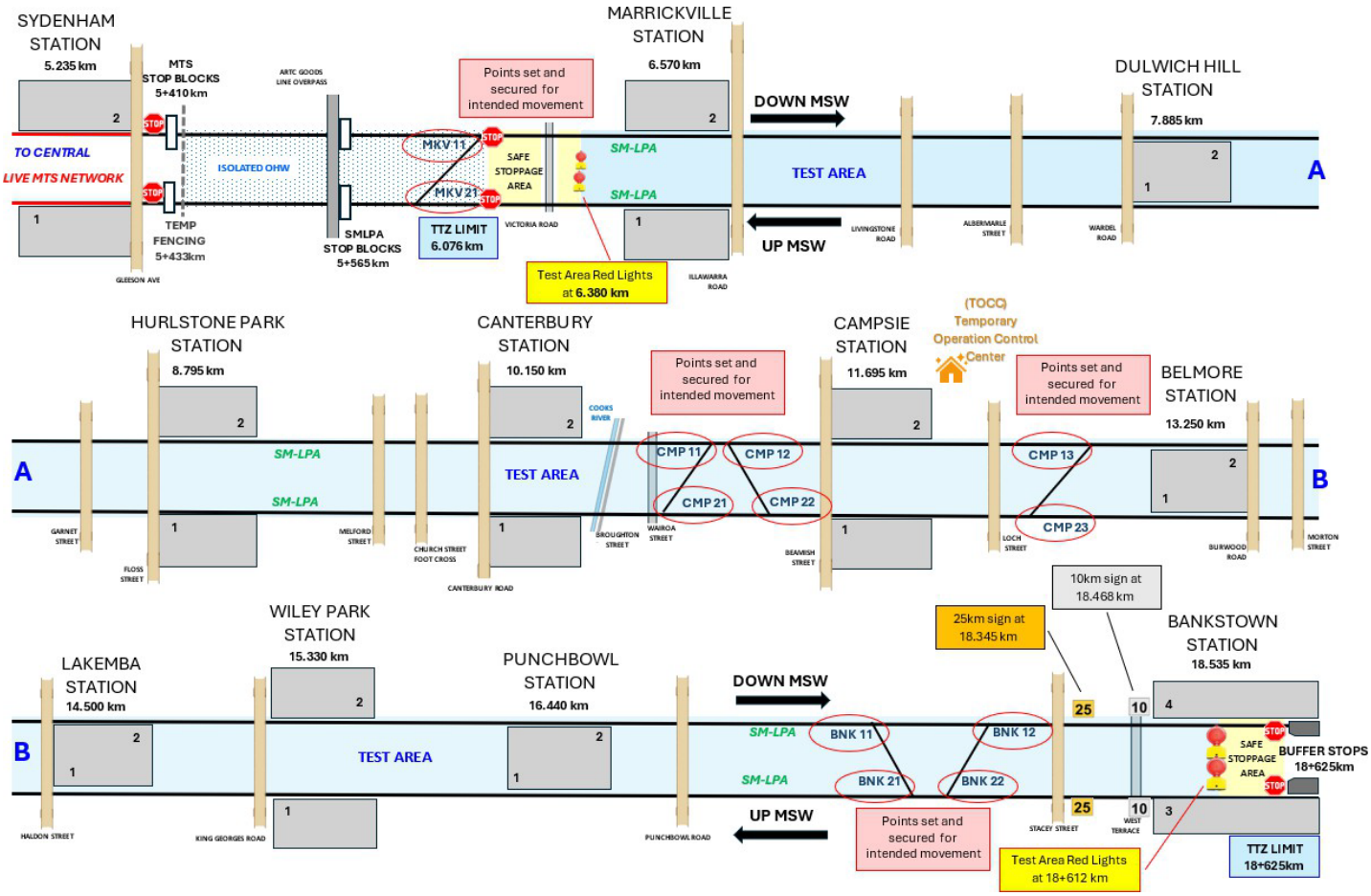
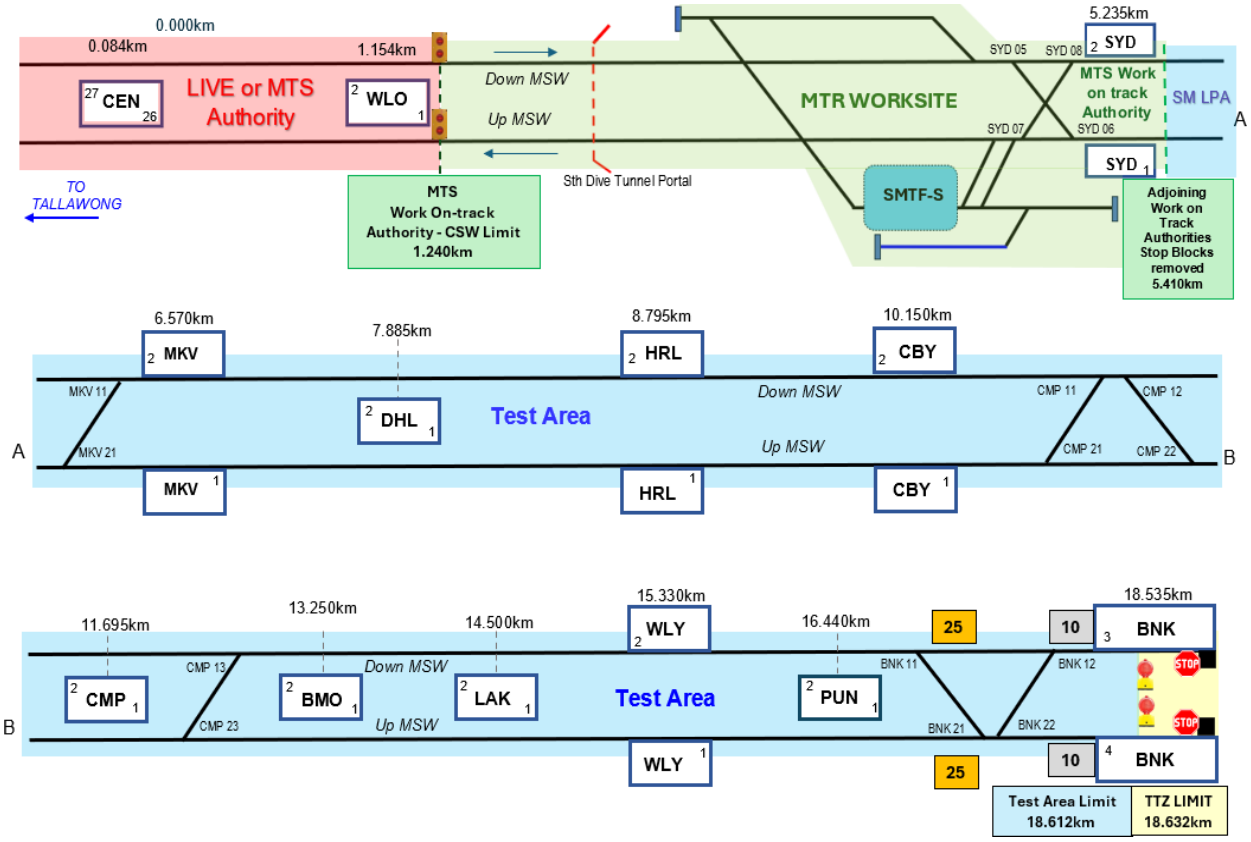


Figure 5 Example of a TTZ overlay on the SMLPA

The example below outlines the basic principles of the TTZ between the Bankstown stop blocks and nominated location within MTS Network including the Test Area and Safe Buffer Zone.



9.8 Workers NOT permitted within the UTO Boundary fence lines during TTZ

Only workers and rolling stock directly involved in the DTT activities will be permitted access to the designated Train Testing Zone (TTZ) area. The Train Coordinator must ensure that the Test Train is restrained prior to permitting access to the TTZ for the purpose of DTT activities.

Any worksites established outside the UTO Zone must be carefully managed to ensure it does not impact the UTO Zone.

For the avoidance of doubt, while a TTZ is in place there is to be no works in the rail corridor which is defined as UTO to UTO fence Sydenham to Bankstown. Works will be permitted on station platforms and buildings behind the PSDs and at locations outside the UTO fencing only.

Works adjacent to the rail corridor are subject to risk assessment defined in S2B – JHLORJV Possession Management Plan (SMCSWSSJ-JHL-WSS-PC-PLN-000125).

To allow for works such as the CIRA bridge works, Sydney Metro defines and approves temporary non-UTO zones in accordance with the Establishing a RISI exempt area Procedure (SM-18-00054654). This redraws the boundaries of the Rail Corridor. Approval is subject to a risk assessment and the adoption of controls to ensure safety SFAIRP.

9.9 Diagram of UTO Boundary Fence Line – Southwest Rail Corridor

Figure 6 Diagram of the UTO boundary fence line for the SWM corridor

9.10 Working on Station Platforms during TTZ

Station platforms are deemed to be outside the boundaries of the Rail Corridor - Train Testing Zone (TTZ), provided that the Platform Edge Barrier (PEBs), End Walkway Door (EWDs), and Approved Temporary Fencing are securely closed and locked, and light barriers are installed at PSDs designated for emergency egress for the Train Testing Team.

Construction work on station platforms is permitted during TTZ operations under the following conditions: Plaiorm Screen Doors are closed and secured.

- Plaiorm Screen Doors are closed and secured.
- A comprehensive risk assessment has been completed and approved by Senior Management.
- A work access request has been approved for the acaviaes as per S2B Possession Planning Manual.
- The S2B Possession Protecaon Officer (S2BPPO) has authorised the acavity.
- A qualified Protecaon Officer has conducted a thorough risk assessment.
- A physical hard barrier is established outside Safe Approach Distance from Electrical Infrastructure and the Danger Zone.
- There is no potenaal for intrusion into the Danger Zone.

9.11 Samples of physical hard barriers for Platform working

Light Barrier
For very light-duty work on station platform for Train Emergency Egress purposes
Not to be used up against live train testing corridor

Lightweight Plastic Expanding Barrier
For light-duty work and station platform use platform for Train Emergency Egress purposes
Not to be placed in front of open Platform Screen Doors (PEB) while Test Trains are operating

The use of demarcation tape is strictly prohibited under all circumstances.

9.12 DTT Safe Notices

DTT Safe Notices are critical documents used to formally communicate the operational and safety arrangements for Dynamic Train Testing activities. They define the Train Testing Zone (TTZ) and Defined Test Area, outline any temporary deviations from standard procedures, and specify how associated risks will be mitigated. These notices ensure all workers involved in DTT are aware of expectations, safety protocols, and procedural changes.

Unlike standard Safe Notices issued under MTS Rail Safety Rule MTR 428 – Safe Notices (which only advertise variations to approved MTS Rail Safety Rules), the DTT Safe Notice is a jointly endorsed mechanism developed specifically for managing the unique operational and safety requirements of DTT.

9.12.1 Purpose and Content of a DTT Safe Notice

The DTT Safe Notice must be developed by the MTR Rail Operations Team and:

- Clearly define the Train Tesang Zone (TTZ) and its limits
- Idenafy the Defined Test Area and Safe Buffer Zones
- Specify dates and ames for the introducaon of the TTZ
- Detail worksite protecaon arrangements for both the TTZ and Test Area
- Indicate Overrun Marker Light locaaons and trackside signage
- Outline any excepaons to the TTZ and Train Transfer Procedure
- Include any new instrucaons outside of this procedure, if applicable

The Safe Buffer Zone must be established at both ends of the TTZ. The TTZ Exclusion Zone must cover both Up and Down Metro Southwest (MSW). The Test Area must commence and conclude at station ends, with an appropriate safety overlap to the next station if required.

Any testing outside the defined TTZ limits will require special protection arrangements to be agreed upon by MTS, MTR, SMA, and S2B, and must be reflected in the DTT Safe Notice.

9.12.2 Responsibilities and Approvals

The MTR Rail Operations Team is responsible for drafting the DTT Safe Notice and leading associated planning activities. If the TTZ extends into the MTS network, the MTS PPO and/or MTS Traffic Controller assumes this responsibility for the M1 Network. The DTT Safe Notice must be:

- Reviewed by the S2B Rail Safety Manager / Possession Manager
- Endorsed by MTR and SMA Rail Safety representaYves
- Approved by MTS Rail Safety

9.12.3 Distribution

Once approved, MTS must issue the Safe Notice to stakeholders within:

- MTR
- MTS
- S2B

- SMA
- Any other relevant stakeholders associated with DTT

Each party is responsible for cascading the Safe Notice to all affected staff and stakeholders. The DTT Safe Notice must be distributed with sufficient lead time to ensure workers have the opportunity to review and familiarise themselves with the requirements prior to implementation.

DTT Safe Notices will also be distributed via the S2B Possession Notes to key stakeholders.

9.13 Test Train Preparation

Alstom must provide a fully commissioned and certified Train to undertake train testing and will be prepared by an Alstom Technician in accordance with the Alstom Preparation (T&C) procedure. There must be no outstanding faults present on the train.

Once the train preparation has been completed, the Test Train Pilot and the CJC-T shall conduct an external train inspection alongside ALSTOM's technician.

In addition to normal checks, the Test Train Pilot must ensure that the 2 x wheel chocks have been removed from the track and stored in the train and the Alstom technician subsequently records in the rolling stock pre-test checklist.

In addition to normal operation the CJC-T is to ensure the front window is clear of dirt, the wipers work, and the PA is functional. All parties must ensure all testing equipment is safe and secured to prevent slip, trip, or fall hazards.

10 Implementing the TTZ between both MTS Work on Track Authority and SMA LPA

10.1 General Requirements prior to the commencement of Testing

DTT activities will occur between MTS M1 and SWM Networks. A TTZ may be established

All rail safety workers involved in the Testing and Commissioning activities must be briefed about the testing procedures and operational safety and hold a thorough understanding of the Testing and Commissioning requirements.

Test Train Protection Officer (PO) must ensure that the Test Train Pilot and CJC-T are aware of the SMLPA / MTS Work on Track Authority limits, Test Area and TTZ limits before any train movements take place. The test train Pilot ensures that the CJC-T understands the limits of every train movement they authorise, and the locations of any Possession Limit Marker boards (Stop Boards), Speed Boards and Overrun Marker Lights.

MTR Train Testing Supervisor is to prepare a Pre-Start Briefing including instructions to brief all DTT workers involved in conducting the DTT activities for the shift.

The S2B PPO must ensure that all Stop Blocks, and additional protection arrangements are removed after the MTS Work on Track Authority is obtained by the Protection Officer assigned to the worksite. The MTS Train Testing Supervisor must brief the workers on below as a minimum prior to commencing DTT activities:

- Ensure the train crew are aware of the DTT acaviaes to be conducted.
- Ensure all train occupants have been briefed appropriately and have signed the Prestart Brief and all required documentaaon.
- Brief about the MTR Stop Work Authority
- Ensure all hazards have been idenafied during the pre-work brief and made safe.
- Ensure all required documentaaon is on the train with a minimum of one copy in each cab for the train crew.

Only individuals and rolling stock directly involved in the operaaon of the test train movement will be permised access to the designated Train Tesang Zone (TTZ) area.

10.2 Removing and Re-instating Temporary Stop Blocks and associated equipment at Sydenham

For the Train Testing to be conducted between the SMLPA and MTS Work on Track Authority, the Temporary Stop Blocks and associated equipment at Sydenham must be removed and re-instated as outlined in this procedure.

When the MTS Work on Track Authority and SM LPA's have been implemented and the protection arrangements have been provided, the Train Testing Protection Officer must then allow workgroups to enter the track to remove the Temporary Stop Blocks and Possession Limit Boards Countryside of Sydenham Platforms in readiness for the DTT activities between MTS M1 Network and SWM Network.

Once the Dynamic Train Testing has been completed and the Test Train secured, the S2B-PPO in consultation with the MTS PPO must authorise the Train Testing Protection Officer to allow workgroups to enter the track to reinstate the Temporary Stop Blocks and associated equipment.

For detailed process for Transfer of Test Train, refer to the Transfer of Test Trains Procedure (SMCSW-HS-PR-60060).

10.3 Command and control when performing Dynamic Train Testing across RIM Boundaries

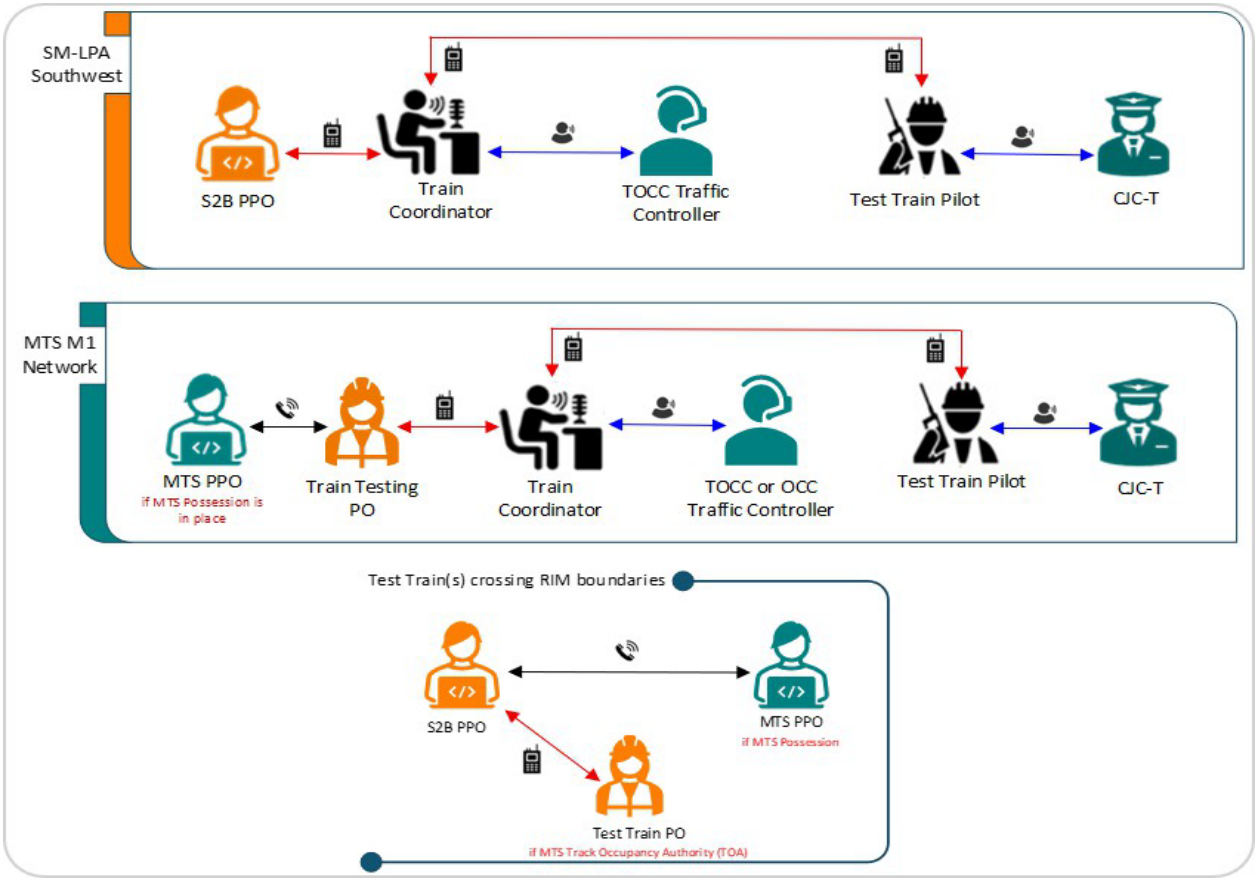


Figure 7 Command and control when performing DTT across RIM Boundaries

10.4 TTZ - Trackside signage:

Rail track signage is critical in ensuring the clear demarcation for the end limits of the TTZ and its Test Area limits for a visual indication to the CJC-T and Test Train Pilot. The CJC-T and Test Train Pilot must be informed of the location of the trackside signage implemented for the TTZ. This must be provided to all workers during the Pre-Start brief including:

- Locaaon of the trackside signage
- Purpose of the trackside signage
- Expected acaons to take when the trackside signage is observed.

Below signages will be positioned to conduct DTT:

- 25 kph speed board will be posiaoned on stanchions 18+345 km Up MSW Line and 18+345 km Down MSW line.
- 10 kph speed board will be posiaoned on Locaaon Marker Boards, BNK-1303 at 18.463 km Up MSW Line and BNK-1304 at 18.468 km Down MSW line.
- Flashing Red Overrun Marker Light will indicate the end of the test area 20m aher the stopping point of the plaiorm to ensure they can be sighted clearly.

- Stop Boards (possession limit boards with red light), will also be posiaoned at the end of the TTZ limits.

The track side signages are to remind the CJC-T & Test Train Pilot that they are reaching the end of the testing area. The following information regarding the location of notice boards will form part of the Safe Notice. The Safe Notice must also be issued on paper to the Test Train Pilot and the CJC-T for reference purposes throughout the testing All boards must be placed in position prior to testing or train movements commencing.

The location of required track side signages must form part of the pre-test briefing between the Test Train Pilot and the CJC-T.

25 kph speed sign Installed at the approach to the 10 kph speed sign,

10 kph speed sign Installed at the approach to the TTZ end limits,

Flashing Red Overrun Marker Light marking the end of Test Area

Possession Limit Marker Board (Stop Board) marking the end of TTZ

Note: CJC-Ts must provide Risk triggered commentary (Aspect Calling) on approaching any track side signage to ensure the Test Train Pilot is aware they have identified them. If the CJC-T fails to communicate that they have observed the warning board the Test Train Pilot must check to see if the CJC-T is aware of their presence.

In addition to the track side signage station names will be positioned on the approach side of the station in a clearly visible location for SW Stations. This is to ensure the CJC-T and Test Train Pilot maintain situational awareness regarding their current location inside the Test Area and TTZ boundaries/limits.

10.5 Handover of signalling control from the OCC to the TOCC

Given the requirements to book out part of the MTS Traffic Controller's ATS in order to conduct Train Testing between SMLPA and MTS Network, the S2B-PPO and Traffic Controller within TOCC Campsie (TOCC TC) must receive the MTS Infrastructure Booking Authority (MTS IBA) MRF 003 Form.

The Alstom Engineer responsible for booking out and booking into use the ATS system within OCC must complete the IBA form and provide a copy to the MTS Engineering Controller (EC). The MTS EC will then provide a copy to the MTS TC and Manager Network Control.

The S2B-PPO must use the MTS IBA provided by the Engineering Controller from OCC as part of the Infrastructure Booking Authority (Southwest IBA) to gain assurance that the TC within TOCC has the control of the MTS Network for the purpose of commencing Train Testing between the two networks.

Refer to MTS IBA Procedure (MPR704 - Using Infrastructure Booking Authorities and the MTS IBA Form – MRF 003 - Infrastructure Booking Authority (IBA)

10.6 Authorising trains to enter the TTZ from the MTS Network

Prior to authorising a test train to enter the TTZ within SWM Network, the Sydenham to Bankstown Possession Protection Officer (S2B-PPO) must obtain an assurance that all required infrastructure and systems are certified and fit for DTT Testing. Transfer of Test Trains from MTS Network to SW Network and return must be completed as per the Transfer of Test Trains MTS Network to SWM Corridor – Marrickville for Dynamic Train Testing - SMCSW-HS-PR-60060.

The S2B IBA form will assure the S2B-PPO of which infrastructure is booked in, and which is booked out and the applicable certified status of that infrastructure during a test.

The S2B IBA will also provide Constraints / Operational Limitations for each of the System / Infrastructure to support the S2B IBA.

This approved set of certifications outlined in the S2B IBA will provide the assurance that the S2B-PPO requires to set the limits of authority and establish the TTZ in conjunction with the MTS PPO for train testing.

- The S2B-PPO must follow the S2B IBA Procedure prior to establishing a TTZ between the CSW and SW Networks.
- The S2B-PPO must also receive the MTS IBA as an assurance for the following:
    - Stop Blocks and associated equipment have been removed and secured within SSJ juncaon.

The MTS Traffic Controller's ATS is handed over to TOCC TC within the Temporary Operations Control Centre as required to support tests planned. Once the TTZ is established and permission has been obtained for the test train to enter the TTZ, the authority required for the test train to move within the limits of the TTZ is authorised by the Train Coordinator.

Only one test train per track will be permitted within the TTZ at any given time, until the Project Safety Report, supporting risk assessments, and the uplift of DTT Stages have been approved.

In the event of a train failure, a second train may be authorised to enter the same track for the sole purpose of recovering the failed train.

Access to track for the purpose of conducting DTT Activities must be risk assessed and approved SWMS must be followed. Controls noted and not limited to the following:

- Confirmaaon that the train is staaonary i.e. restrained and will not move. Train Pantograph must be lowered before workers can enter the rail corridor
- Test Crews are to be counted on and off on a roll call register when entering and leaving the rail corridor
- Any other safety controls as noted within SWMS and Safe Noace.

10.7 Stopping a train in an emergency

If anyone involved in testing needs to stop the test train immediately the radio call is:

"**EMERGENCY – EMERGENCY – EMERGENCY**." In the event of hearing such a communication the Pilot must ensure the CJC-T places the brake handle to the emergency brake position or strikes the emergency plunger.

In a non-emergency scenario the radio call is "**STOP – STOP – STOP**." The pilot informs the CJC-T to bring the train to a controlled stop.

Refer to section 13 for Incident & Emergency Management.

10.8 Authorising trains to depart the TTZ

Prior to departing the TTZ, the Train Coordinator must obtain approval from S2B and MTS PPOs and or the MTS Traffic Controller to authorise the test train to depart the TTZ.

10.9 Requirements during testing

Below are high level requirements during DTT. The detailed requirements for each test will be contained within the applicable Test Procedure and SWMS.

Before each test, the Test Engineer in charge clearly communicates and brief the test team about the test details, including how and when the CJC-T react if a test fails.

The Test Train Pilot must follow and relay instructions to the CJC-T and/or onboard testing workers for all train movements given to them by the Trains Coordinator.

The CJC-T and onboard testing workers must follow all instructions given to them by the Test Train Pilot. Train Coordinator and Test Train Pilot are responsible to ensure the Test train movement are in accordance with MTS Network Rules and Procedures and applicable DTT Safe Notice

No other workers are permitted in the vicinity of the driver consol. Alstom to create a 3-meter zone and place tape on the floor and no workers or visitors are to enter this area except in case of emergency.

If computers are to be connected to the train, they are not to be placed on the dashboard while the train is in motion.

Any exceptions to this procedure must be approved in writing by the MTR T&C Manager.

During testing, train movements must be conducted within the designated Test Area, which is located within a Train Testing Zone (TTZ). To maintain safety, a Safe Buffer Zone is established at the end of the Test Area within the TTZ.

Hard barriers have been provided as part of corridor security and to prevent worker, intruders, equipment, vehicles, etc, from entering the danger zone while DTT activities is being conducted. The IBA process must be followed prior to commencing DTT. If during the DTT, the hard barrier is compromised or becomes unacceptable, testing must be halted.

Accessing the Rail Corridor for DTT Activities

Where Train Testing workers are required to access the rail corridor for DTT activities only, the following protocols must be followed:

- The Train Coordinator must instruct all Test Train Pilots to come to a complete stand and secure test train immediately within the TTZ and confirm when this is completed. Train movements are now suspended.
- After the Train Coordinator has confirmed with the Test Train Pilot that the Test Train is stationary, the park brakes are applied, and the pantographs have been lowered, the Train Coordinator can approve worker to access the Rail Corridor for DTT activities.

10.10 Passenger Interface Controls During Testing at Interchange Stations

During Train Testing within MTS Network, the following must be implemented to prevent passengers from entering the Test Train at interchange stations such as Sydenham, Central, Chatswood, Matin Place and Epping. The following controls are to implemented where the Test Train will stop and conduct tests and there is a possibility of passenger onboarding a Test Train:

- Where possible, schedule tests involving PSD opening during ames outside MTS Trains passenger service hours (Cross-check Test Possessions slots against MTS service hours)
- Minimise PEB opening on plaiorm during Test Train running (Minimise overlap ame; limit PSD opening to door-set at train cab doorway)
- Plasac mesh with signage across train doorway for doors to be opened during tesang (other than cab doorways used for test team access / egress)
- Signage on PEB panels: “Tesang in Progress / Do Not Board!” or similar wording
- Signage at Interchange staaon indicaang Train Tesang in Progress
- Presence of Protecaon Officer at Sydenham, Bankstown and other staaons as required, to oversee PSD opening / plaiorm interface, to help prevent staaon users boarding Test Train
- Messages on Passenger Informaaon Display Screens (PIDS) such as “Tesang in Progress / Do Not Board” or similar wording

11 Stabling Trains following the completion of Testing activities

11.1 Stabling Test Train(s) within the Southwest Corridor

Upon completion of testing, the train must be stabled within the Train Test Zone (TTZ) at a predetermined Southwest station, as agreed upon by the S2B-PPO and the Train Coordinator. Once the train is positioned at this location, it must be securely stabled.

The S2B-PPO must also ensure that worksite protection is established, preventing any other rail traffic from approaching or encroaching upon the stabled and secured test train. This is critical to maintaining a safe work environment during the stabling period.

11.2 Stabling at SMTF-S

Once testing is completed and the train is positioned at the end of the Sydenham test area - within the TTZ, the Train Coordinator must coordinate with the S2B-PPO, TOCC TC, and MTS TC to confirm that the Overhead Wiring (OHW) is correctly energized. Upon confirmation, the S2B-PPO will arrange for the removal of the applicable Test Area Stop boards, SMPLA and interface limit Stop Blocks, and any temporary fencing.

Once it has been verified that all necessary stop boards and Stop Blocks have been removed, the SMTF-South Train Controller will authorise the Test Train Pilot to advance the train to the designated end of the applicable road as directed by MTS Operations.

When the train arrives at the specified stabling road, the Pilot must inform the S2B-PPO of the train's exact location. The S2B-PPO will then arrange for the protection measures at Sydenham to be restored.

- For planning purposes, when stabling test trains within SMTF-S, the test train shall only be stabled according to the direcaons provided by MTS TC Operaaons. The following procedures must be followed:
- The Pilot must obtain the necessary authority from the Train Coordinator and MTS TC before accessing the track.
- The Pilot is also responsible for placing two 'wheel chocks' on either side of the leading wheel, under the control of the CJC-T control desk, if directed by MTS SMTF-South Train Controller.
- ALSTOM Technical Engineers are responsible for performing all tasks required to stable the test train.
- The SMTF-S TC will ensure that ALSTOM staff are adequately protected during all operaaons related to the stabling of the train.

Test Train Personnel must oblige to MTS Network Rules and MTS Network Procedures when accessing, working within and egressing SMTF-S.

12 Suspending the Train Testing Zone (TTZ)

The TTZ may be suspended under specific circumstances, either for emergency/incident situations that require immediate access to the rail corridor or for planned work activities. Any suspension of the TTZ must be agreed upon by the DTT Commander, S2B-PPO and the Train Coordinator. Before the TTZ can be suspended, all test trains operating within the TTZ must be confirmed as fully stopped, shut down, and with pantographs lowered. The Train Coordinator must then verify the status of the trains and confirm to the S2B PPO/DTT Commander that the TTZ is safe to access. Once these conditions are met, the DTT Commander can formally suspend the TTZ, permitting access for emergency services or authorised work crews depending on the nature of the suspension.

During the suspension, any person entering the rail corridor must be accompanied by a Qualified Protection Officer (PO), who is responsible for conducting and maintaining a head count of all personnel within the zone. Re-establishing the TTZ requires the S2B PPO to ensure that all personnel are clear of the rail corridor, that UTO gates and station Platform Edge Barriers (PEBs) have been properly secured and locked, and that no equipment has been left behind within the rail corridor. These safety confirmations must be provided to the S2B PPO by the Qualified PO on site.

Following these checks, the S2B PPO must determine whether a new Infrastructure Booking-out Authority (IBA) is required. If no new IBA is needed, the S2B PPO consults with the Train Coordinator and DTT Commander before proceeding to re-establish the TTZ. However, if a new IBA is deemed necessary, the S2B PPO must follow the S2B IBA procedure in full before the TTZ can be reinstated. Additionally, the S2B PPO and the Train Coordinator must collaboratively assess whether a Test Train Line Clear is required prior to resuming test train operations, and if so, determine the appropriate train speed for the section. This process ensures that the suspension and re-establishment of the TTZ are managed safely.

13 Fulfilling the TTZ

Once the Test Lead or Engineer, in collaboration with the Train Supervisor, has determined that the Dynamic Train Testing is complete for the designated time period, the Train Supervisor must promptly notify the Train Coordinator. Upon receiving this notification, the Train Coordinator is responsible for organising and confirming the stabling location of the test train(s) with the S2B PPO. After this coordination, the Train Coordinator gives instructions to the Test Pilot to proceed. If the Test Train is to be stabled within MTS M1 Network, the Train Coordinator is to liaise with MTS Traffic Controller prior to fulfilling the TTZ.

The Test Pilot then ensures that the test train(s) are properly stabled at the designated location, with the pantographs lowered, the train(s) fully shut down, and the wheels chocked.

The Test Pilot also confirms that all necessary protections are in place, and that all personnel involved in the Dynamic Testing have safely exited the corridor.

The S2B-PPO and the Train Coordinator are required to meticulously record all details pertaining to the stabling of the train(s), the specific arrangements made for train protection, and the exact time when the Train Test Zone (TTZ) was fulfilled. These records must be documented in a permanent and secure form to ensure accuracy, traceability, and compliance with operational protocols.

Before fulfilling the TTZ, the following conditions must be met:

- Train Keyed out and Pantographs lowered.
- Train Protected with Stop Boards
- Wheels of Train Chocked (2 x Wheel Chocks as per secaon 5.2 – Train Preparaaon)
- train tesang must be completed, and the test train has stabled.
- all associated protecaon arrangements e.g., Flashing Red Overrun Marker Lights are removed.
- all workers and equipment are clear of the rail corridor.
- RIM Boundary protecaon reinstated at Sydenham

When these conditions have been met, the Train Coordinator will contact the S2B-PPO and the MTS PPO to advise that the TTZ has been fulfilled.

14 Safety critical communications protocols

14.1 General requirements

Safety is of utmost importance in this process, all safety-critical communication must be conducted using either recorded phones or MTR-issued recorded Tetra Radios.

The following roles: S2B-PPO, DTT Commander, Train Coordinator, and Test Train Pilots, must use MTR-issued Tetra Radios to communicate within the Rail Operations Group Chat (Radio Channel). This channel is officially designated as a Safeworking channel for Dynamic Train Testing operations.

In the event of a Tetra Radio system failure, safety-critical communications must be conducted using recorded telephone lines where available, such as those in the TOCC, OCC, and PPO Office, to ensure continued compliance and traceability. The use of mobile phones connected to a recorded landline is

permitted solely for notifying parties of the Tetra Radio failure and carrying out immediate necessary actions.

All DTT activities must be suspended until the Tetra Radio system is restored or an alternative communication method has been implemented.

For Train Test Engineers and Train Supervisors, all Tetra Radio communications must occur within the DT Group Chats using MTR-issued devices.

Any non-safety-critical communication related to Train Testing and Commissioning within the MTS network must be conducted through non-Safeworking designated Group Chats on MTR-issued Tetra Radios, such as the “Construction” group chat.

The principals of Safety Critical Communications outlined in the MTS Rule ‘MGE 204 Network Communications’ and MTS Network Procedure ‘MPR 721 Spoken and written communication’ remains apart from exceptions below for normal DTT activities:

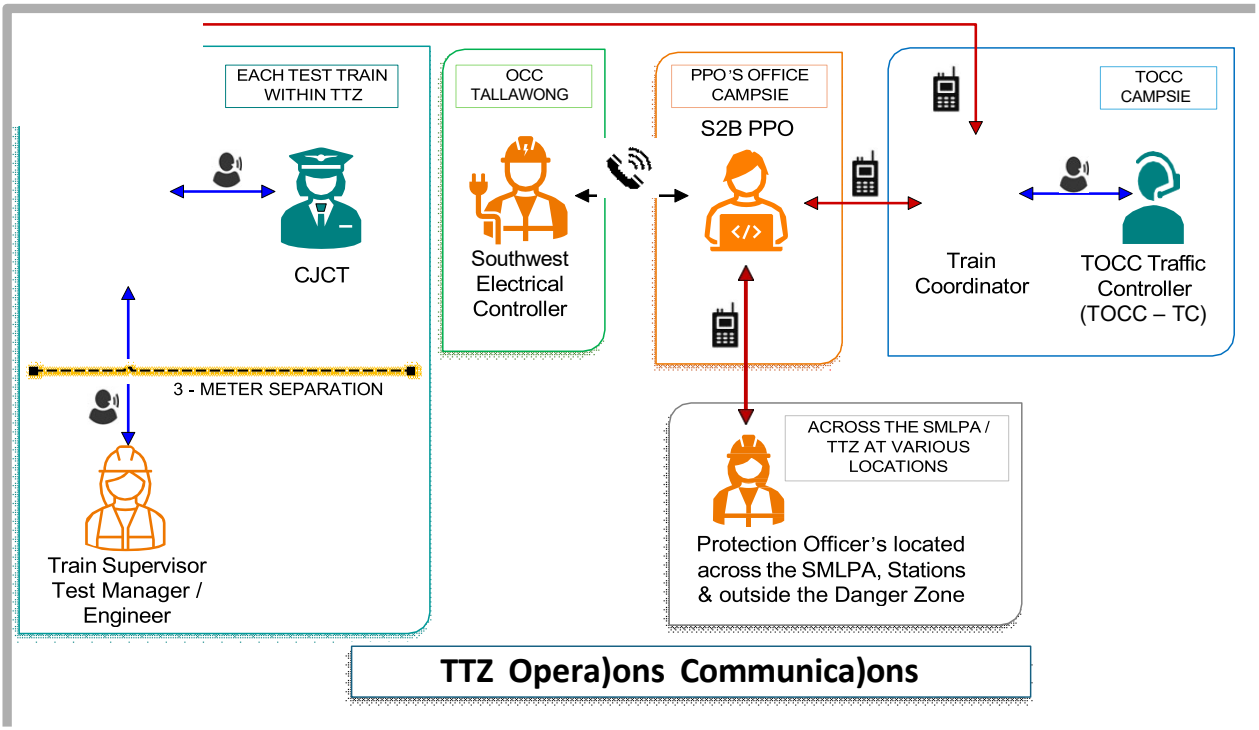


Figure 8 TZZ Operations Communications

14.2 Communications between the Test Train Pilot and CJCT

All communications between the Test Train Pilot and CJC-T regarding the movement of the test train must follow Safety Critical Communication protocols and as outlined in this TTZ Procedure.

14.3 Communication between Testing Engineers/Technician and CJCT.

Test Engineers and Technicians must not communicate with the Test Train Pilot and CJC-T while the test train is moving during Testing and Commissioning, or during train shunting and transition activities, unless there is an identified issue or the test activity requires interaction.

14.4 Emergency Communication

If anyone involved in testing needs to stop the test train immediately the radio call is **"EMERGENCY – EMERGENCY – EMERGENCY."** In the event of hearing such a communication the Pilot must ensure the CJC-T places the brake handle to the emergency brake position or strikes the emergency plunger.

Emergency channel: The use of this channel will allow the person broadcasting to override all other channels on the system.

14.5 TTZ Communication Protocols

14.5.1 Temporary Operation Control Centre (TOCC)

The Temporary Operations Control Centre (TOCC) is located at Campsie for the purpose of Southwest Train Testing during TTZ. The Train Coordinator, Traffic Controller and key DTT workers required will be at the TOCC. Where DTT activities are undertaken across both networks, the above workers can also be positioned at MTS OCC. This change must be documented and communicate via DTT Safe Notice.

14.5.2 Sydenham to Bankstown Possession Protection Officer's Office (S2B PPO Office)

The Sydenham to Bankstown Possession Protection Officer's Office (S2B PPO Office) is located at Campsie next to the TOCC.

14.5.3 Operation Control Centre (OCC)

During Dynamic Train Testing where an MTS IBA is issued for testing requirements within the MTS M1 Network, control of train movements will be led by the Train Coordinator supported by MTS Traffic Controllers who is situated within OCC, with instructions outlined in the relevant DTT Safe Notice.

During this period, the MTS Traffic Controller must:

- Notify the Train Coordinator of any safety-critical alarms observed on the MTS Network.
- Use the designated Dynamic Train Testing Tetra radio channel to maintain communication with the Train Coordinator.
- Coordinate with the MTS PPO to establish and implement the MTS Local Possession Authority (LPA), or MTS Qualified PO to establish an MTS Track Occupancy Authority (TOA) along with any other required arrangements to support DTT activities affecting the M1 Network, in accordance with the relevant RSRs.

MTS TC is also required to communicate with the MTS PPO for the purposes of establishing and fulfilling (as per relevant RSR's) the MTS Local Possession Authority or MTS Qualified PO for the purposes of establishing and fulfilling (as per relevant RSR's) the MTS Track Occupancy Authority and any required arrangements for the purpose of DTT activities impacting M1 Network.

14.5.4 MTS Possession Protection Officer (MTS PPO) or MTS Protection Officer (MTS PO)

MTS PPO will be located within the PPO Office at SMTF-N. The PPO is responsible for communicating with the OCC TC, S2B-PPO) for the purpose of the Train Testing.

Where an MTS Possession is in place i.e., Engineering or Weekend Possession, the MTS PPO will manage the communication protocols as the current MTS Rail Safety Rules and Procedures.

In instances where an MTS Work Track Authority, such as an MTS TOA, is in place, the MTS-qualified Protection Officer will be stationed at the MTS worksite. The Protection Officer will also be responsible for communication.

14.5.5 Using Hand-held Portable Radios

Hand portable radios are to be issued for the purposes of safety critical communication for Train Testing.

There are two configurations for Tetra Radio Group Chats operating on the same frequency across the entire MTS Network and Southwest alignment.

14.5.6 Tetra Radio Groups:

1. MTS-issued Tetra Radios: Configured for MTS Network Operation Channels
2. MTR-issued Tetra Radios: Configured for Trains Testing and Commissioning Channels, including a Construction Channel.

It is important to note that an MTS-issued Tetra Radio cannot communicate with an MTR-issued Tetra Radio, and vice versa.

Rail safeworking personnel requiring communication with staff at various locations, including the Operational Control Centre, MTS Possessions Office at Tallawong, and the Temporary Operational Control Centre at Campsie, MUST carry both an MTS-issued and an MTR-issued radio.

To meet the Interconnecting TTZ requirements, specific Tetra Radio Group Chats have been designated as follows:

a) MTS-issued radio – Group Chat: “MQP”

b) MTR-issued radio – Group Chat: “Rail Operations”

14.6 Safety Critical Communication Flow Chart for the TTZ with ATS – CBTC

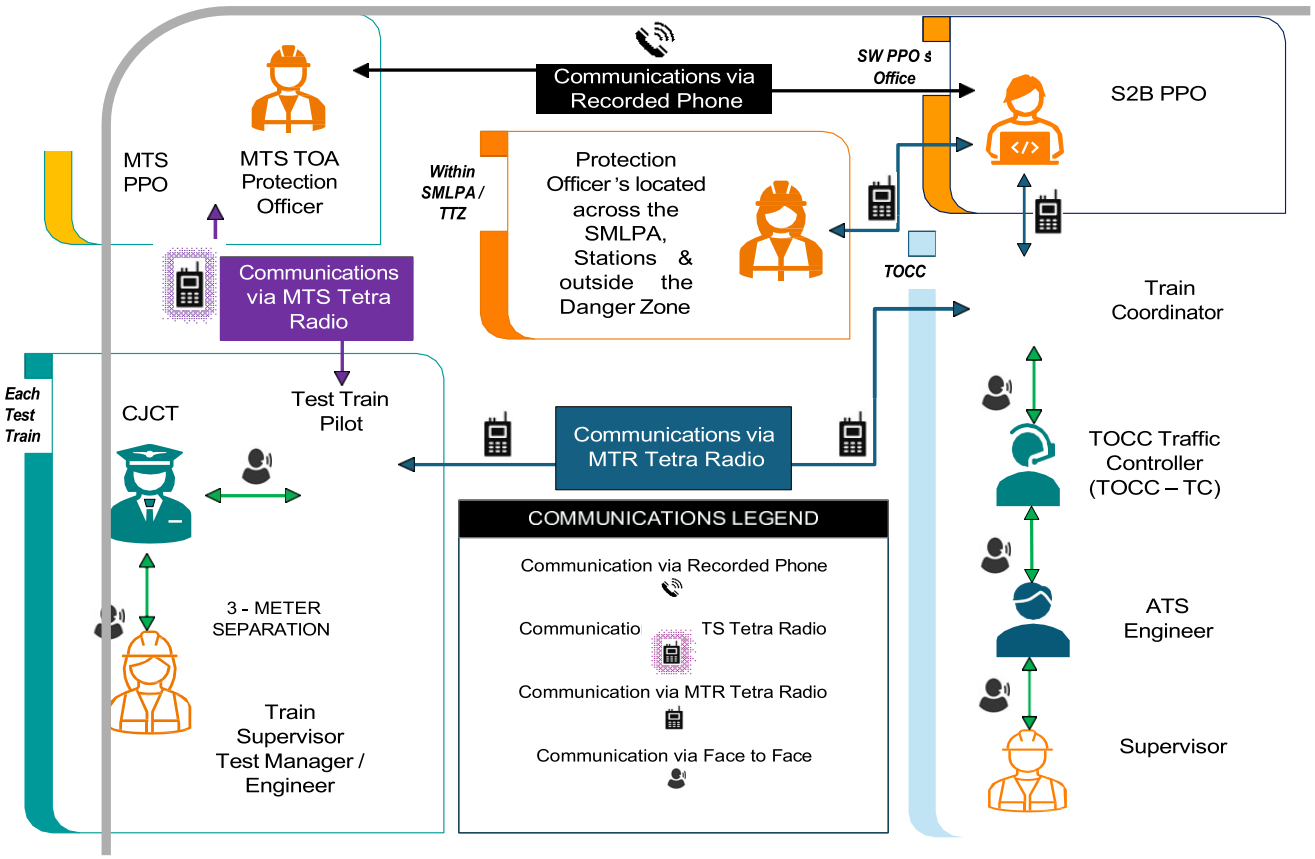


Figure 9 Safety Critical Communication Flow Chart for the TTZ with ATS – CBTC

15 Incident & Emergency Management

Incidents and Emergencies during Train Testing must be managed in accordance with the MTR Incident Response Plan (SMCSWTS2-MTR-RFT-SM-PLN-010180). This plan details the specific tasks, roles and responsibilities for effectively managing the foreseeable emergency and incident scenarios that could occur during train testing activities. Classifications and definitions for emergencies and incidents are aligned with those used in MTS Emergency Management Plan (MTS-CSF-PL-35117)

This MTR Incident Response Plan (SMCSWTS2-MTR-RFT-SM-PLN-010180) is informed by the following plans:

- MTS Emergency Management Plan (MTS-CSF-PL-35117)
- MTS Incident Management Plan (MTS-CSF-PL-35116)

Any incident and emergency not associated with and not impacting DTT activities within SWM Network will be managed in accordance with S2B Incident Emergency and Crisis Management Plan (SMCSWSW8-JHL-WBK-HS-PLN-000006 S2B).

The Incident and Emergency Management Process in 10 below provides a structured process that specifies the key steps to follow during an incident.

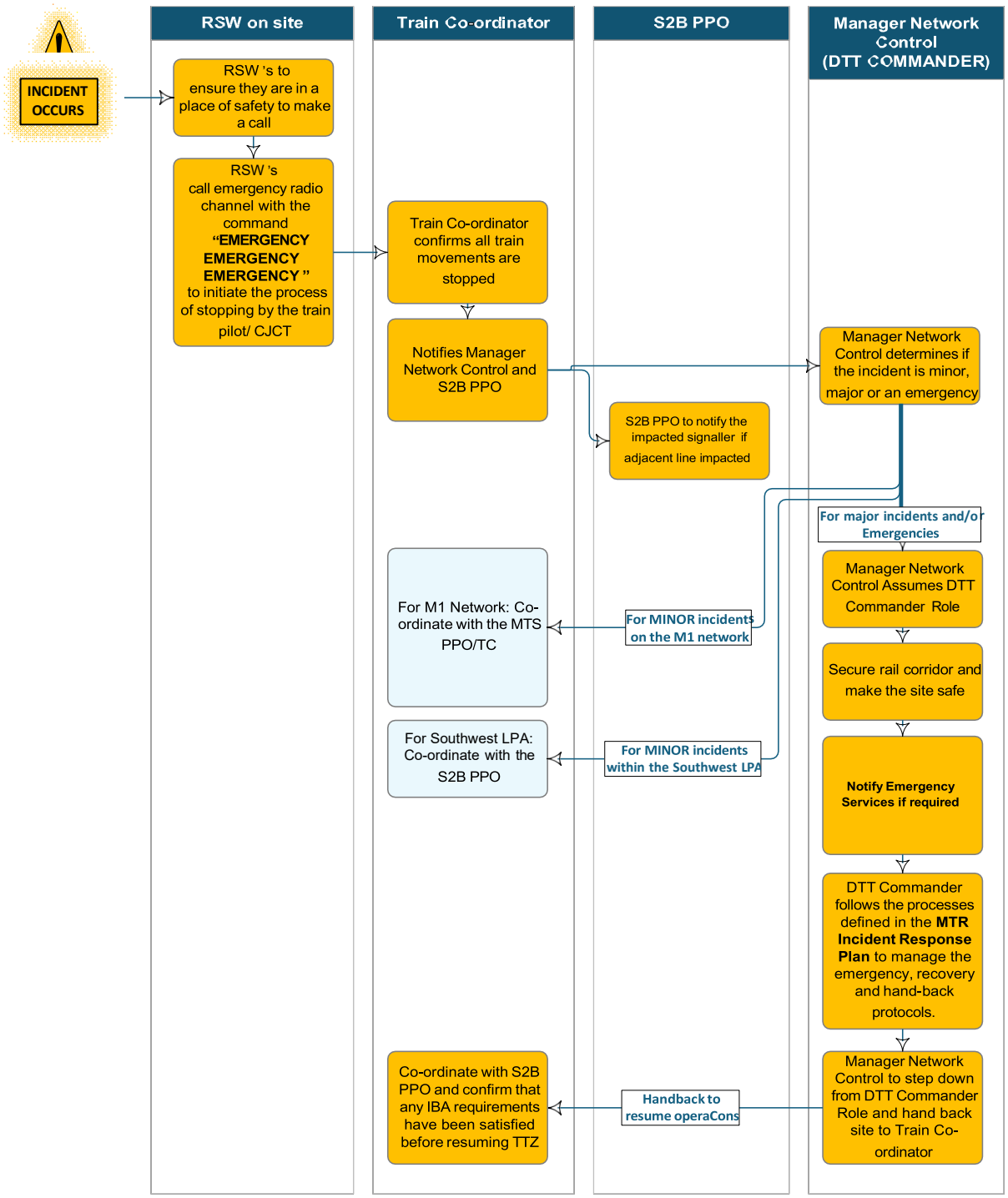


Figure 10 Emergency and Incident response process

15.1 DTT Commander - Emergency & Major Incident Response Role

MTS Manager Network Control (MNC) undertakes the role of the Dynamic Train Testing Commander responsibilities as outlined in Table 1 **DTT Responsibilities**. The DTT Commander is the single point of contact for the command and control of any major incident or emergency that occurs during Dynamic Train Testing activities.

A Level 2 or 3 Incident (as defined in MTS Emergency Management Plan), or Category A Notifiable Occurrence, will trigger a DTT Commander response.

The DTT Commander is responsible for managing the above mentioned incident category, coordinate emergency and recovery efforts, ensure the safety of all workers, and maintain communication with key stakeholders until the incident is resolved and testing activities can safely resume.

Table 1 DTT Responsibilities

No	Event	Responsibility	Details
1	Incident Occurs	RSW's involved to communicate on the radio to stop train movements.	All Test Trains to come to a complete stop and Test Train Pilot/s to advise Train Coordinator
2	Incident Notification	Train Coordinator to confirm location of incident and notify MNC & S2BPPO	If adjacent line impacted, S2B PPO to notify the impacted signaller
3	Incident Triage	MNC to determines if the Incident is Minor, Major or Emergency	For Minor incidents: S2B PPO to manage for SW TC/PPO to manage for M1
4	Major Incident / Emergency	Assumes the role of DTT Commander	
5	Secure Corridor & make site safe	Confirm all test train movements have ceased and are restrained. Confirm the exact location of all Test Trains. Advise impacted adjacent operators of the incident status where required.	• Record the exact location of the incident, including: Track ID (e.g., Up MSW / Down MSW), Chainage, Suburb, Nearest road or access point, etc. • Test Train restrained • Instruct Electrical Controller or Engineering Controller to isolate Power (where required) • manage and keep external adjacent impacted parties informed of status of incident
6	Incident/Emergency Management	Organise required Emergency Services to the incident site	Contact Emergency Services and provide a clear and accurate description of the incident and location details to facilitate a quick response.
7	Incident/Emergency Management	Once made safe determine if MTS Crisis Event Team is to be stood up	Advise Crisis Event Chair as Level 3 Incident.
8	Preserve Site & Notify Stakeholder	Notify key stakeholders	• Regulatory Notifications and approval to disturb the site from Regulator • Provide update to Crisis Event Chair
9	Preserve Site	Depending on the location and type of the incident, stop all works within SW and/or M1 Corridor	Undertake a Dynamic Risk Assessment and determine if other works in the corridor needs to cease.
10	Preserve Site	Deploy the relevant qualified workers to secure the area and ensure no unauthorised personnel enter the Rail Corridor (UTO Fence line to UTO Fence line).	Assign a Qualified Worker to the scene to manage safe access for emergency services or other authorised responders entering the rail corridor.

11	Incident/Emergency Management	Update key stakeholders on the status of the incident.	• Maintain open lines of communication with all parties involved. Provide timely and accurate updates as the situation evolves. • Keep a record of actions taken
12	Restoration and Recovery	Once the incident has been resolved, coordinate rectification of the incident site and obtain relevant certifications to confirm if safe to resume worksite or train movements, noting any restrictions.	Coordinate with S2B PPO and relevant MTS stakeholders for system and infrastructure certifications.
13	Handover to DTT Train Coordinator	Advise Train Coordinator of completion of incident, any relevant restrictions or operating conditions before the recommencement of train testing and/or work activities	• Step down as DTT Commander • Level 3 (Crisis Event) suspended
14	Re-Commencement of DT	Train Coordinator to brief all TTZ participants on any relevant restrictions or operating conditions	Re-commence DTT activities

15.1.1 DTT Support and Contingencies

- If MNC workload during BAU operations is too high, a secondary support person will be appointed to assist or assume specific functions.
- The DTT Commander will escalate such cases to the MTS Crisis Event Chair and may request allocation of additional DTT support staff as required.

15.1.2 DTT Commander – Communications Protocol

To maintain clear and accountable communication during Dynamic Train Testing (DTT), a defined communications protocol (as below) must be followed by the DTT Commander. This ensures effective coordination, prevents miscommunication, and supports post-incident investigations through accurate record-keeping.

All communications initiated or received by the DTT Commander must be conducted using recorded channels — specifically, the MTR TETRA Recorded Radio (Rail Operations Group Chat) or Recorded Phone Lines.

15.1.3 Approved Communication Channels:

- DTT Commander ↔ S2B and/or MTS PPO – via Recorded Phone Line
- DTT Commander ↔ Train Coordinator – via MTR TETRA Radio (Rail Operations Group Chat)
- DTT Commander ↔ Test Train Pilot – via MTR TETRA Radio (Rail Operations Group Chat)
- DTT Commander ↔ Train Supervisor – via MTR TETRA Radio (Rail Operations Group Chat)
- DTT Commander ↔ Worksite Protection Officer(s) – via MTR TETRA Radio (Rail Operations Group Chat)

15.1.4 Other Essential Communications:

- Train Coordinator ↔ Test Train Pilot – via MTR TETRA Radio (Rail Operations Group Chat)
- S2B and/or MTS PPO ↔ Worksite Protection Officer(s) – via MTR TETRA Radio (Rail Operations Group Chat)
- Train Supervisor ↔ Test Train Pilot – Verbal (face-to-face)
- Test Train Pilot ↔ CJCT – Verbal (face-to-face)
- DT Commander ↔ South Electrical Controller – Verbal (face-to-face)

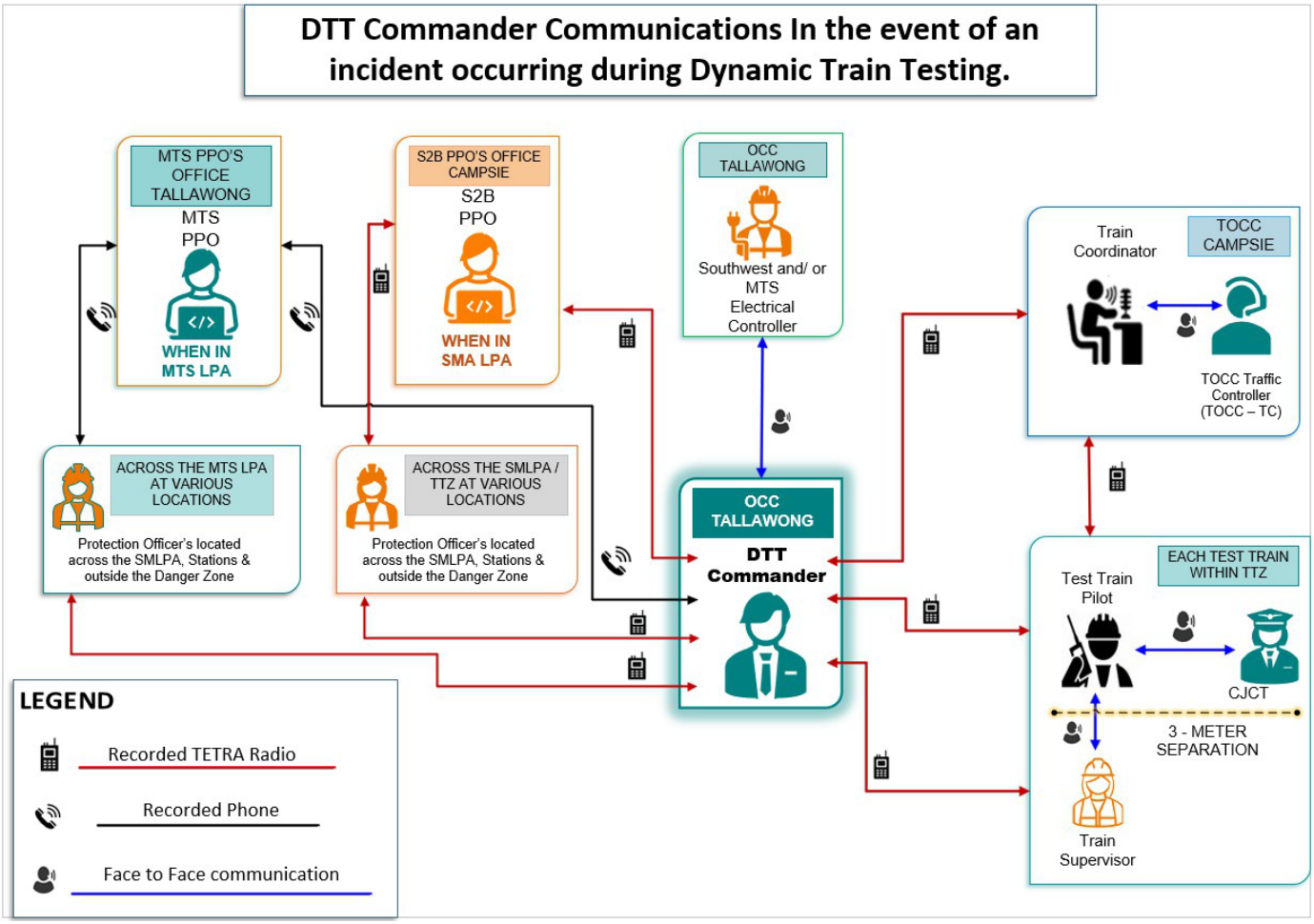


Figure 11 DTT Commander Communication

15.2 Exceedance of authority during testing

Prior to ATP being proven, there exists an increased risk of the following occurrences during testing:

- A test train exceeds the limit of the CBTC test area,
- A PPI signal being inadvertently passed at stop,
- Exceed the limit of a Movement Authority, or
- Over-speeding event.

A test train passing a signal at Stop or exceeding a Movement Authority while performing a test step as prescribed in a test script is not considered to be a reportable occurrence if the overrun does not exceed the limits of the TTZ area.

To protect against any adverse event resulting from a test overrun, the assigned Traffic Controller must ensure route integrity is in place prior to authorising the test to commence.
Note: this is a term used to ensure the route is set and any points are locked in normal, in the event of an overrun.

Where an authorised speed or Movement Authority has been exceeded, the CJC-T must bring the train to a stand immediately using the Emergency Brake and the Pilot must report the occurrence immediately to the Train Coordinator or MTS PPO /S2B-PPO and Test Coordinator.

The Pilot must supervise all authorised speed and Movement Authority compliance and act in the event the CJC-T does not attempt to control the train correctly by stopping the train immediately if necessary.

After conducting a comprehensive risk assessment, the Test Coordinator, Supervisor and Alstom Technicians / Train Coordinator must liaise to determine if it is safe to continue testing.
A train passing a signal at stop or exceeding a movement authority outside of a prescribed test movement is a reportable occurrence.

15.3 Record Keeping:

The following workers are required to maintain a written permanent log of all events and communications:

- DTT Commander
- S2B and/or MTS PPO
- Train Coordinator

These records must be accurate and legible to support operational transparency and potential investigations.

15.4 Incident and Emergency Contacts

Table 2 Incident and Emergency Contacts

INCIDENT AND EMERGENCY CONTACTS		
Name	**Title**	**Contact Number**
S2B Possession Protection Office Day Shift Night Shift **(All Incidents)**	S2B-PPO	S2B PPO1: 0458 901 670 S2B PPO2: 0482 472 423
MTS Possession Protection Officer **(All Incidents within MTS LPA)**	MTS PPO	9854 4552
Joel Blackett **(Critical Incidents SWM)**	Manager Rail Safety Sydney Metro Authority (SMA)	0423 254 593
Alex Chang **(Critical Incidents)**	Head of HSEQ & Sustainability (MTR)	0423 825 028
MTS Manager Network Control / DTT Commander **(Incidents with MTS Network and SMLPA During High-Speed Testing)**	MTS MNC – DTT Commander	02 9854 4888
Andrew Barber **(All Electrical Incidents)**	MTS Electrical Network Manager	0437 574 675
Tim Markovic **(All Incidents)**	WHS/Rail Safety Advisor (MTR)	0429 166 570
Dave Paton **(Critical Incidents)**	Rail Safety Manager (S2B)	0438 905 293
Vishal Singh **(Critical Incidents)**	MTS Rail Safety & Systems Manager – Safety, Quality, Risk, Environment & People	0409 840 816
Emmanual Manolis **(All Testing & Commissioning Incidents)**	Rail Operations Manager (MTR)	0413 846 970
(Issues related to CJC-T Train Crew)	MTS Manager of Network Control	02 9854 4888
ONRSR (Notifiable Occurrence Reporting) 1800 430 888 (24hrs/7 days) **SafeWork NSW 131050**	SMA & MTS Safety Teams	SMA & MTS On Call Safety Representative (As per Safe Notice)

15.5 First Aid

Rail safety workers who are appointed to be a First Aider must hold a Certificate of Competence in HLTAID003 Provide First Aid (or higher) issued by a Registered Training Organisation. The Train Coordinator is to ensure that there is an appointed First Aid Officer on the Test Train. A First Aid Kit must be located on the train, known and easily accessible. If anyone falls ill and requires first aid the Train Coordinator and S2B-PPO must be informed immediately.

15.6 CJC-T and Pilot resources

It is expected that there will be 2 rostered CJC-Ts per train and only 1 Test Train Pilot.

To enable future training of CJC-T resources, a CJC-T in development will be allowed access to the test train to gain exposure for route knowledge / route familiarisation and the testing environment.

These trainee CJC-T's will have to have undergo the relevant inductions and not distract the CJC-T or Test Train Pilot whilst undertaking their duties.

Fatigue and hygiene breaks shall be scheduled during Train Testing for the CJC-T and Test Train Pilot as outlined below:

- Minute break every 2 hours testing.
- 30 Minute lunch break every 5 hours testing.

16 Roles and Responsibilities

The document outlines the specific roles that each individual is responsible for, as well as the tasks and activities that they are expected to complete. It also provides clarity on the reporting relationships and communication channels within the team.

All on-train testing personnel and persons required to attend site in the CSW network must have completed all required worksite inductions and hold the competencies required to complete Train Testing prior to commencing work applicable to their role. The required inductions and competencies are outlined in MTR Effective Safety Critical Communication - A-HS-PR-60079

16.1 Testing & Commissioning Roles & Responsibilities

Table 3 Testing & Commissioning Roles & Responsibilities

Organisation/ Title	Roles & Responsibilities	Location/ Responsible Organisation
MTR WHS/Rail Safety Operations Manager	WHS/Rail Safety Operations Manager is responsible for: • ensuring that all safety protocols and regulatory requirements are followed during the train testing and commissioning process. • providing investigation support and collecting evidence to support rail occurrences investigation. • arranging post incident Drug and Alcohol Testing and to provide result and outcome to SMA & MTS nominated representatives	MTR
MTR WHS/ Rail Safety Advisor	MTR WHS/Rail Safety Advisors play a crucial role in ensuring the safety of rail operations and is responsible for: • conducting safety audits and inspections. • providing input into the planning of work in the rail corridor. • investigating railway occurrences • conducting risk assessments to identify potential hazards and risks for Train Testing. They must also develop and implement controls to mitigate identified risks. • monitoring safety performance on the railway system and identifying opportunities for safety improvement and eliminate / mitigate safety risks. • coaching and mentoring supervisors and rail safety workers on safety conversations, critical risk reviews and workplace inspections • providing safety advice to management and employees on all matters related to this document. • delivering Toolbox talks on topical safety matters. • recording and submitting Testing Report via MTR Safe System. • monitoring fatigue risk management controls and ensuring that they are effectively deployed.	MTR
DTT Commander	• During Dynamic Train Testing (DTT) activities, the Dynamic Train Testing Commander (DTT Commander) is the appointed lead authority responsible for managing all major incidents and emergencies by: • Securing the site, confirming train movements have ceased Ensuring the safety of all workers • Contacting emergency services and coordinating their access to site	MTS

	• Site preservation • Notifying key stakeholders • Deploying relevant Qualified Workers to manage incident • Confirming the recertification of rail infrastructure and systems before handing site back to Train Coordinator • Activate and suspend level 3 incidents (MTS Crisis Event)	
MTR Rail Operations Manager	The Rail Operations Manager is responsible for: • determining the strategy for the Train Testing Zones (TTZ), • coordinating Train Testing Rail movements • Monitoring operational aspects handled by the Trains Coordinator • rostering and resource planning • scheduling for high-risk inspections & critical risk reviews • organising and requesting access requests for Train Testing • compiling Train Testing Commissioning checklist and recording outcomes in MTR Safe system • managing visitors • providing SME support for Safety Risk Management of TTZ • providing support to incident / Emergency Management • undertaking SWMS review	MTR
MTR Engineer	Responsible for: • planning, executing, and reporting dynamic train testing activities as part of the Testing and Commissioning phase. • Conducts and over-see's dynamic testing of trains for CBTC and UTO systems during the Testing and Commissioning phase. • Validates train-to-wayside and onboard system integration to ensure correct functionality. • Verifies system performance, safety, and reliability against design and operational requirements. • Executes test procedures including functional, performance, and safety-related tests. • Records and analyses test data to identify issues and support troubleshooting. • Works closely with engineering, operations, and safety teams to ensure successful testing outcomes. • Ensures compliance with contractual, regulatory, and technical standards. • Supports documentation for system certification and final handover. • Adheres to safety protocols and risk mitigation strategies during dynamic operations.	MTR
Alstom T&C Manager	Alstom T&C Manager for CBTC or RS is responsible for: • Responsible for scheduling and planning of works • Overall escalation for CBTC and/or RS Lead Testers • Responsible to report and escalate to Project Stakeholders	ALSTOM
ALSTOM Lead Tester	The Automatic Lead Tester is responsible for: • Responsible for Alstom T&C team • Responsible for delivering and executing Test activity to approved Test Procedure • Responsible for uplifting test activities to follow test procedure (e.g. Increase of speed)	ALSTOM

	• Responsible for troubleshooting and fault finding of failed test • Responsible for liaising with responsible Alstom Discipline Head for relevant Engineering for pass or failed test • Responsible for implementation of testing restrictions or controls delegated from Alstom Engineering and/or Alstom Safety to T&C • Alstom point of contact for Train Supervisor and Train Pilot • Responsible for asset and system handback to Integrator and operator as required • Reports into Alstom T&C Manager	
ALSTOM ATS Engineer	The Automatic Train Supervision (ATS) Engineer is responsible for: • ensuring safe test environment of automatic train control system • removing GAMA to protect the ends of the TTZ test area. • providing assurances that the Signalling Control Systems are operational across the MTS M1 Network • conducting test scenarios for both ATS and ATC systems in coordination with the Test engineer/s • installing and integrating of ATS systems • conducting testing and commissioning activities to ensure the proper functioning of the system. • troubleshooting of ATS systems.	ALSTOM
MTR Rolling Stock Engineer	The MTR Rolling Stock Engineer is responsible for: • ensuring that the trains are effectively maintained after commissioning. • supporting the Testing & Commissioning Manager to develop a maintenance plan and schedule to ensure the trains are kept in good working condition. • acting as the Site Supervisor to ensure all Train Testing activities are undertaken as planned and scheduled.	MTR
MTR Train Testing Supervisor	The MTR Train Testing Supervisor is responsible for: • overseeing and managing the testing of trains • Conducting pre-work Briefing and Toolbox Box talks • managing testing schedules to ensure trains are tested regularly and in accordance with industry standards. • supervising testing teams either from on train or the • S2B PPO Office • ensuring testing equipment is maintained and calibrated properly to ensure accurate testing results. • analysing testing data to identify trends and areas for improvement in the testing process. • communicating testing results to management and other stakeholders to ensure that they are aware of the testing status and any issues that arise. • ensuring that all testing documentation, including reports and logs are accurate and up to date. • recording and submitting Train Testing Report via MTR Safe System • delivering Toolbox – Train Testing & record outcome in MTR Safe System	Located within the Test Train 3m behind CJC-T and Test Train Pilot
MTR Train Coordinator	The MTR Train Coordinator is a qualified safe worker and is responsible for: • implementing the Trains Testing Zone (TTZ) from the Southwest Possession Protection Officer (S2B-PPO) in conjunction with the Metro Trains Sydney (MTS PPO) when testing across Boundaries and across SM-LPA / MTS Work on Track Authority.	Located within Campsie TOCC.

	• receiving the safe implementation of a Trains Testing Zone (TTZ) from the S2B-PPO and confirms 'Line Clear' in the handover documentation (IBA permit form) before commencing testing and checking the correct status of the OHW. • controlling of all testing movements inside the TTZ, • ensuring that no movement authority given exceeds the limits of the testing area inside the TTZ. • liaising with S2B-PPO when the train is required to enter or leave the TTZ area and transition to the SW-LPA area. • communicating with other on-field trains testing and commissioning staff, project managers, and other stakeholders to ensure that all testing and commissioning activities are being conducted safely, effectively, and efficiently. • Before commencement of DTT notifying the MNC • In the event of an incident occurring, notify MNC to determine relevant incident response	
Traffic Controller in TOCC (TC-TOCC)	The TC-TOCC is responsible for: • conducting test scenarios for both ATS and ATC systems in coordination with Test Engineer/s • maintaining accurate records of Test Train operations and any alarms or incidents • responding promptly to any incidents or intrusions occurring within the TTZ • checking for the removal of GAMA control to protect the ends of the Test Area in the TTZ • controlling the movement of trains as instructed by the Train Coordinator • Use of ATS to stop all test trains in the event of an emergency • liaising with MTS TC for any Safety Critical alarms or Emergencies within the MTS M1 Network	Located within Campsie TOCC.
MTS Manager Network Control (MNC)	MNC is responsible for: • After receiving notification of incident from Train Coordinator, determine relevant Incident response including taking charge of the incident and emergency response as the DTT Commander • Managing any incidents in the CSW network during testing in collaboration with the MTS PPO, S2B-PPO and the Train Coordinator • Coordinating with both the MTS PPO and S2B-PPO regarding incidents within the TTZ.	Located within the Operations Control Centre (OCC), Tallawong.
MTS Rail Safety & Systems Manager	MTS Rail Safety & Systems Manager is responsible for: • Approving and issuing the Safe Notice for Dynamic Train Testing (DTT) • reporting railway occurrences to ONRSR and SafeWork NSW as the RIM & RSO • liaise with ONRSR for notifiable occurrence. • Lead Rail Safety Investigation in relation to DTT activities with support from MTR & SMA Safety Team • provide support to SMA for safety investigations for notifiable occurrences. • undertaking Ad-hoc audits and inspection on the Test Train activities. • providing Safety Support to MTR Train Testing Team	MTS
SMA Rail Safety Manager	SMA Rail Safety Manager is responsible for: • review and endorse the Safe Notice for Dynamic Train Testing (DTT) • reporting railway occurrences to ONRSR and SafeWork NSW	SMA

	• liaise with ONRSR for notifiable occurrence. • Support MTS in completing railway investigations for DTT activities. • undertaking Ad-hoc audits and inspection on the Test Train activities. • providing Safety Support to MTR Train Testing Team	
MTS Engineering Controller (EC)	The Engineering Controller is responsible for: • controlling and monitoring the Power Control and engineering sub-systems. • ensuring that the power system and the required sub-systems for train operations are available, stable, reliable, and functioning at all times within MTS Electrical Network. Any system issues that may impact train testing is reported to the MTS TC immediately.	Located within the Operations Control Centre (OCC), Tallawong.
S2B Possession Manager	Southwest (S2B) Possession Manager receives all requests for work, puts into Possession Scope and Resource Sheet and is responsible for: • ensuring that all possession work for TTZ is carried out safely and in compliance with relevant regulations and guidelines. • identifying potential hazards, implementing appropriate safety measures. • communicating TTZ possession plans and updates to stakeholders. • managing any issues, problems or conflicts that arise during TTZ possession work. • maintaining accurate TTZ documentation and reporting on possession work • identifying conflicts between requested work • reviewing Safeworking arrangements with S2B-PPO or suitably qualified Safeworking delegate and assigning Job Number.	S2B
Southwest Possession Protection Officer (S2B-PPO)	The S2B-PPO is responsible for: • implementing and managing the SMLPA • setting up all possession limits and marker boards in the SW area and issues the Train Testing Zone (TTZ) to the Train Coordinator • liaising with the Train Coordinator to ensure that the IBA has been issued for the TTZ area. • ensuring 'Line Clear' within SW before granting the TTZ to the Train Coordinator via the IBA. • ensuring the OHW isolation and energisation processes are followed and checked before all movements in and out of the TTZ area. • managing the POs to ensure that possession arrangements are set up correctly and do not disrupt adjacent Rail Operators. • implementing safe working procedures, including the use of worksite protection, warning signs etc. • monitoring the SMLPA and TTZ testing area to ensure that all workers are following safe working procedures and that no unauthorised personnel are present in the area. • obtaining the assurances from the Qualified Worker that the points have been clipped and locked and set for the train movement. • maintaining accurate records of all rail possessions, including the duration of the possession, the work carried out, and any safety incidents or near-misses. • Assist DTT Commander for management of major rail incidents and emergencies.	Located within the S2B PPO Office, Campsie.
Fixed Worksite Protection Officer	The Worksite Protection Officer role is to protect rail workers from being struck by test train and is responsible for:	Southwest

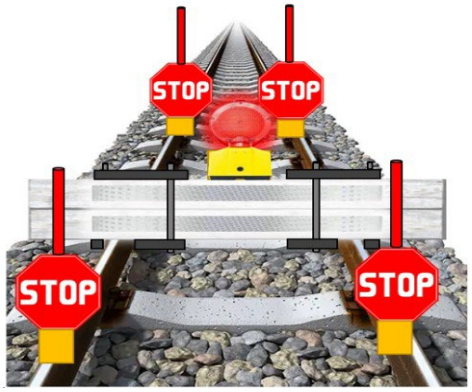
	• managing any unauthorised person from entering the Rail Corridor while TTZ is authorised. • communicating with the S2B-PPO and manage workers working outside the rail corridor. • ensuring that all workers in the worksite are wearing appropriate personal protective equipment (PPE) such as hard hats, safety vests, and hearing protection. • reporting any safety hazards or concerns regarding Rail Safety to the S2B-PPO. • Confirm workers have the required RSW competencies before accessing the rail corridor • understand the rail safety regulations and relevant Rules & Procedures	
MTS Protection Officer (MTS PO)	The MTS PO is responsible for: • understanding and executing the worksite arrangement of the work on track protection arrangements. • communicating with the MTS PPO / TC • placing worksite protection for the MTS LPA or MTS TOA • Support DTT Commander during Major Incident and Emergency	MTS M1 Network
Trains Testing Protection Officer	The Trains Testing Protection Officer (TT-PO) is responsible for: • reporting to the S2B-PPO, MTS PPO, MTS TC, and the Trains Coordinator. • conducting safety assessments in compliance with Sydney Metro Rail Operating Procedures as well as MTS Rules and Procedures. • adhering to the instructions outlined in this procedure, and the Safe Notice issued for the TTZ. • following instructions from the S2B-PPO and MTS PPO regarding the placement of SM-LPA, TTZ protection arrangements and marker boards (may be placed by Delegate) • ensuring the deployment of TTZ worksite protection in SW (UP/DN Southwest Lines), as well as Overrun Marker Lights on the MSW Up and Down Main Lines. • Safeguarding workers from Rail Traffic (or delegate to Station PO), ensuring their ability to carry out work activities safely and effectively within the worksite. • briefing workers on various aspects of the worksites, including: o locations of safe places. o protection arrangements in place. o safety measures being employed. o extent of the area under protection. o any changes to protection arrangements. o setup, clipping, and securing of points for intended rail traffic movement. o ensuring the safe passage of train movements.	Roaming across the TTZ area
Test Train Pilot	The Test Train Pilot is responsible for: • following all safety critical instructions given to them regarding the safe control of train movements for the purpose of DTT Activities by the S2B-PPO, or the Train Coordinator • relaying all safety critical instructions regarding the movement of the test train to the CJC-T. • following all safety procedures and notices regarding the safe movement of test trains.	Located within the Test Train adjacent to the CJC- T at the operator'

	• maintaining effective communications with all testing personnel to ensure that all tasks are completed safely and efficiently. • ensuring the safety of all workers on the test train • having and maintaining the required route knowledge for the safe operation of the test train within SW and M1 Network • ensuring that the radio system is operative and functioning as intended. • communicating the location of the train on arrival at stations or terminating points to all outside of the train on the MTR Tetra Radio. • ensure that the CJC-T follows through on all safety critical directions and commands and if this is not undertaken, to immediately • Support DTT Commander during Major Incident and Emergency	s console.
MTS Customer Journey Coordinator – Trains (CJC- T)	The CJC-T is responsible for: • following the instructions provided from the Test Train Pilot • operating test trains to ensure that they comply with safety procedures during train testing operations. • having and maintaining the required route knowledge for the safe operation of the test train within the limits of the SMLPA and MTS LPA for the TTZ limits • reporting any train defects, incidents, or emergencies to the pilot	Located within the Test Train at the operator's console.
MTS Traffic Controller (MTS TC)	The MTS Traffic Controller (MTS TC) is responsible for: • notifying the Testing TC in the TOCC of any Safety Critical Alarms or emergencies in the Northwest/ City, Southwest network via the MTR Tetra Radio immediately • supporting the Manager Network Control in managing any incidents in the NW network during testing in collaboration with the MTS PPO, S2B-PPO and the testing TC in the TOCC • endorsing parts of the MTS IBA for removing and reinstating the CBTC Signalling Control Systems • implementing the MTS LPA with the MTS PPO • monitoring TOCC MIMIC screen (if available) or monitor MTR Train testing TETRA radio. • executing System Checks After Completing the Baseline Rollback Process	Located within the Operations Control Centre (OCC), Tallawong.
Electrical Controller - SCLW	The Electrical Controller - SW is responsible for: • acting as the interim delegated electrical or supervisor operator during testing and commissioning phase, including switching operator/controller and permit officer for HV, 400V AC interface and 1500V DC. This includes. • controlling the power supply to ensure safety and integrity of the SW network. • switching the traction supply when required for operational reasons. • monitoring, regulating, and checking the power supply across the SW network. • switching the power supply off when required • managing maintenance work on interface systems connecting the power supply systems • reporting faults and conduct tests. • authorising proposed maintenance work • handling alarms and power system failures • handling power supply equipment failures • providing technical advice to CC/TC if power system operation would affect plant or human safety.	SCLW Located within Operations Control Centre (OCC), Tallawong.

	• logging the sequence of events in the daily logbook • completing the shift summary in case of equipment faults • issuing safety documents, i.e., Switching Programs.	
MTS Possession Protection Officer (MTS PPO)	The MTS PPO is responsible for: • organising and the execution of the MTS LPA possession • coordinating protection of worksites under an MTS Local Possession Authority. • maintaining accurate records of MTS possessions, including the duration of the possession, the work carried out, and any safety incidents or near-misses. • ensuring compliance with the MTS IBA process and coordinating with S2B PPO before implementing the TTZ. • placing worksite protection for the MTS LPA • authorising test train movements within the MTS LPA to and from the S2B-PPO • preventing unauthorised personnel from accessing the TTZ area. • sharing crucial information safeworking protocols with the S2B-PPO • monitoring the MTS LPA and testing area to ensure that all workers are following safe working procedures and that no unauthorised personnel are present in the area. • preparing and respond to emergencies in the MTS LPA area. • Support DTT Commander during Major Incident and Emergency	MTS
Customer Operations Lead (COL)	MTS COL responsible for: • attending major incidents and emergencies within the M1 network as directed by the DTT Commander. • Support DTT Commander during Major Incident and Emergency	MTS Network
Rail Labourer	Rail Labourers are responsible for: Removing and replacing the stop block located between the MTS Network and the SMLPA as directed by the Train Testing Protection Officer.	MTS/SW Network
Visitors on Test Train	The following requirements for visitors on the Test Train: • complete all required inductions unless a waiver is issued • Hold a MTR Rail Safeworking Card unless a waiver is issued • Must follow the instruction of the Train Testing supervisor • Must remain behind the designated area and not interfere with Train Testing activities • Must wear the required PPE required for DTT activities • Must complete the MTR TTZ Visitors form • Note: SMA is responsible for approving any requests for visitors on the Test Train. This includes reviewing the number of visitors permitted to be on the Test Train and the waivers required.	SMA

17 Appendix

17.1 On Track Protection

Temporary Stop Block		Stop Block consists of 2 x Timber Sleepers – Painted White With white. Laid horizontally across the railheads and fixed by 2 x threaded M20 rodding bolted through rail fishplates. Battery operated Steady Red Light placed on Stop Block with STOP sign situated on the approach side of the Stop Block
Possession Limit Board		In addition to being utilised at the Portals and Temporary Stop Blocks: Used to indicate the end of the TTZ boundary. Placed over the Railhead and secured by wingnut to Rail web includes Led, flashing light day and night
End of Test Area Signage		The Flashing Red Light is positioned trackside at the end of the Test Area 20m off the stopping point at the specified platform.

17.2 Use of Mobile Phones during Trains Testing and Commissioning

Limited use of Mobile Phones during Trains Testing and Commissioning

This notice provides detailed guidelines for mobile phone usage by various personnel during test train operations. Here's a brief summary of the key points:

General Rule

- **Mobile phone usage is limited** during test train movements, except in emergencies.

Test Train Pilots and CJCTs

- Restricted from using mobile phones during safety-critical tasks (e.g., piloting, operating).
- Allowed to use mobile phones only when the train is stationary and after completing necessary safety communications.

Testing Engineers / Technicians

- May use mobile phones to support test activities but must not interfere with critical communication between the Train Test Pilot and CJCT.
- Limited to work-related communication (calls, texts, emails, WhatsApp).
- Must get approval for photography, ensuring the flash is disabled.

Test Crew

- Must not have mobile phones to avoid distractions.

Test Train Witnesses and Visitors

- Can use mobile phones but must stay at least one carriage away from Train Test Pilots and CJCTs when the train is in motion or at a stand.
- Photography requires approval, and the flash must be off.

Sign Off	Name	Position	Date
Developed by	Emmanual Manolis	Rail Operations Manager	25/01/2025
Approved by	Alex Chang	Head of HSEQ & Sustainability	25/01/2025

A-HS-GU-60042

17.3 Trains Testing and Commissioning Checklist

Table 4 Trains Testing and Commissioning Checklist

	ITEM
1.	(For SW Trains prior to handover) Is the Rolling Stock movement waiver available and is the key RSW aware of the applicable controls?
2.	Are all workers wearing their PPE in accordance with SWMS requirements?
3.	Has everyone signed on and understood the SWMS?
4.	Is the emergency evacuation plan understood?
5.	Has the P.O conducted a clear and un-ambiguous pre-work briefing and have all Train Testing and Commissioning tasks been understood?
6.	Has the P.O given the team the opportunity to ask questions?
7.	Do all workers have their RIW card & have the required competencies and job roles assigned to their RIW qualifications profile? (P.O to check during sign on brief)
8.	Have the roles & responsibilities, including supervision, been clearly stated, and agreed during the pre-start brief?
9.	Have workers been briefed on the applicable Safe Notice? Does the P.O, Train Pilot & CJC-T have a copy of it, if available?
10.	Has the Track been inspected if required? *i.e.: Rd Test Track at SMTF-N Yard*
11.	Did the CJC-T receive a brief to only take instructions from the Train Pilot
12.	Has the Train Pilot & CJC-T's Mobile Phone been confirmed switched off or switched to silent mode?
13.	Has it been briefed that only the CJC-T & Train Pilot on-board the required Train Set is to be in the vicinity of the Train Attendant Console while the train is moving?
14.	Are there any defects of the train to report during inspection by the Alstom Engineer / Technician? Has the Train Pilot walked the train to confirm chocks are removed?
15.	Was it observed that the CJC-T only took instructions from the Train Pilot during testing?
16.	Is the CJC-T and Train Pilot using aspect calling effectively through the communication assigned and used with each other during testing?
17.	Has the CJC-T Followed instructions from the Train Pilot about: Train movement requirements Instructed Speed and Train Operation from the TO / Pilot

18.	Has the CJC-T and Train Pilot proceeded through the following? PPI set at STOP without authority. Stop Board Dock Marker Board Worksite limits (Worksite Marker Boards) Exclusion zone
19.	If required, the only communications regarding Train Pilot & Testing Engineer are to be conducted either. While the train is stationary (preferred), or Over the 2-way Radio, or Prior to the Test been conducted a face-to-face comms brief discussion to be done for clear comms.

17.4 Southwest Testing & Commissioning Matrix

Refer to Southwest Testing & Commissioning Matrix - SMCSW-RS-RG-60148

	Handsignaller Level 2	TTZ Worksite Protection Officer Level 2	Protection Officer Level 2	Protection Officer Level 2 (Stations)	MTS PPO - Tallawong	S2B PPO - TOCC	Protection Officer Level 4	Train Test Pilot	MTS - Customer Journey Coordinator - Trains	MTS - Network Controller (TBA)**	MTS Signalling Mainenance (TBA) **	Alstom/UGL - Testing & Commissioning Engineers (ATS/IXL/ATC/DCS/CCTV/IVVQ)	MTR Trains Coordinator	MTR - Rail Operations Manager	MTR - Rail Safety Manager	Possessions Management	MTR - Rail/WHS Safety Advisors	MTR - Testing & Commissioning Engineers	MTR - TSOM Lead Engineers	MTR - Managers (Testing & Commissioning Managers/System Integration Manager)	MTR - Train Testing Supervisors	Sydney Metro/TfNSW Panel	Certifier - Construction Surviellance Officer	TSA Management - SME
Rail Safety Worker Determination	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
MTR RIW Association	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Health Risk Medical Requirements for Rail Safety Workers																								
Category 1	M	M	M	M	M	M	M	M	M				M	M										
Category 2										M	M													
Category 3												M			M	M		M	M	M	M	M	M	M
Induction into Project, Construction and Rail Corridor																								
Work Safely in the Construction Industry (White Card)	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
TLIF0020 Safely Access the Rail Corridor (TfNSW endorsed)/equivilant	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
MTR HSEQ Induction	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Metro Introduction to Rail Safety (MIRS)	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Metro Electrical Safety Awareness (MESA)	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M

MTS Network Induction	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Sydney Metro Orientation Training (SMOT)	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Downer Induction	M	M	M	M		M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
National Contractor Induction	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Electrical Safety Induction	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Port Botany to Campsie induction	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
S2B Induction	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
Manual Handling	M	M	M	M	M										M									
First Aid/CPR Current		M	M	M	M	M	M		M				M		M	M	M							
RIW/Pegasus Job Roles																								
TfNSW - Operator Role	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
ARTC - Operator	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
ARTC - Electrical Compliance	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
MTS Qualified Worker Role	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
MTS Protection Officer Role	M	M	M	M	M	M	M	M					M		M	M	M							
TfNSW - SM - SSJ (S2B to confirm)	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
TfNSW - SM - SSJ (Pegasus)	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
TFNSW - SM - Role Specific	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
TfNSW - Role Specific (Worksite Protection Officer, Safeworking etc)	M	M	M	M	M	M	M	M					M		M	M	M							
Years of Experience in the Rail Operations / Rail Infrastructure																								
1 Year															M									
2 Years	M	M	M	M	M	M										M	M							
3 Years																								
4 Years																								
5 Years							M	M					M											
7 Years																								
10 Years																								
Essential Education & Training																								
Bachelor's Degree (or higher); Safety Management / Risk Management / Business Management with risk / safety modules)																		M						
Bachelor's Degree (or higher) - Engineering or Similar												M						M	M	M				
Diploma / Advanced Diploma in Safety Management / Risk Management / Business Management with Risk / Safety modules)																								

Certificate IV in Work Health & Safety with Risk / Safety modules) (Quality and Environment Advisory staff to have relevant Qualifications for their roles being performed)																M							
Curriculum Vitae Outlining Rail Experience	M	M	M	M	M	M	M	M					M	M	M		M	M	M	M	M			
ICAM Training - Lead Investigator Training														M	M		M							
Testing & Commissioning Competencies (see additional competency breakdown)																								
Demonstrate understanding and application of Rail Safeworking Procedure Introducing a Train Testing Zone (TTZ) Southwest Corridor for Train Testing and Commissioning Activities	M	M	M	M	M	M	M	M	M	M		M	M	M	M	M	M	M	M	M	M	M	M	M
Demonstrate an understanding of the Southwest Emergency Response Procedures S2B to provide	M	M	M	M	M	M	M	M	M	M		M	M	M	M	M	M	M	M	M	M	M	M	M
Demonstrated competency in technical operating skills by CJCT (RM, PM, RM ATC Bypass++)									M															
Demonstrated experience in Testing & Commissioning activities (Logbook)									M															
Demonstrate the application of Safety Critical Communications	M	M	M	M	M	M	M	M	M	M		M	M	M	M	M	M	M	M	M	M			
Demonstrate an understanding of Situational Awareness	M	M	M	M	M	M	M	M	M				M	M	M	M	M							
Demonstrate understanding of Southwest section related Route Familiarisation	M	M	M	M	M	M	M	M	M	M		M	M	M	M	M	M				M			
Demonstrate an understanding of Authority to Act/Stop work Authority	M	M	M	M	M	M	M	M	M				M	M	M	M	M	M	M	M	M	M	M	M
Demonstrated understanding of Track signs and signals (Route Familiarisation)	M	M	M	M	M	M	M	M	M	M		M	M	M	M	M	M				M			
Certificate of Competency - Role Specific									M	M	M	M						M	M	M			M	M
Certificate of Competency - Rail Safety Worker	M	M	M	M	M	M	M	M					M	M	M	M	M	M	M	M	M	M		
Certificate of Competency Requirement for Rail Safety (Sydney Trains/TfNSW)																								
C102 - Operate under Track Protection Rules Level 1	M	M						M																
C103 - Operate Under Track Protection Rules Level 2	M	M						M																
C104 Perform customer service in the Rail Corridor																								
C105 Control rail traffic movements Level 1																								
C106 Control rail traffic movements Level 2																								
C107 Perform rail operations Level 1								M																
C108 Perform rail operations Level 2								M																
C109 Perform rail operations Level 3								M																
C110 Perform rail operations Level 4																								
C111 Conduct shunting and marshalling operations																								
C112 Coordinate and manage track protection		M	M	M	M	M	M	M					M		M	M	M							
C112A - Implement LW (Lookout Working)		M	M	M	M	M	M	M					M		M	M	M							

C112B - Implement ASB (Absolute Signal Blocking)		M	M	M	M	M	M	M		M		M	M	M			
C112C - Implement TOA (Track Occupancy Authority)		M	M	M	M	M	M	M		M		M	M	M			
C112D - Implement TWA (Track Work Authority)					M	M	M	M		M		M	M				
C112E - Implement LPA (Local Possession Authority)					M	M	M	M		M		M	M				
C112F - Implement Operate Track Warning System (OTWS)		M	M	M	M	M	M	M		M		M	M	M			
C112G Signal key switches	M	M	M	M	M	M	M	M		M		M	M	M			
Sydney Metro SMIC Requirements																	
BSBRSK401 Identify risk and apply risk management processes		M	M	M		M	M	M		M		M	M	M		M	
BSBDIV301 Work effectively with diversity		M	M	M		M	M	M		M		M	M	M		M	
BSBMGT401 Show leadership in the workplace		M	M	M		M	M	M		M		M	M	M		M	
Cultural Awareness		M	M	M		M	M	M		M		M	M	M		M	
TLIE2007 Use of communication systems		M	M	M		M	M	M		M		M	M	M			
TLIE1003 Participate in workplace communication		M	M	M		M	M	M		M		M	M	M			
TLIE1003 Participate in basic workplace communication		M	M	M		M	M	M		M		M	M	M			
TLIF2010 Apply fatigue management strategies		M	M	M		M	M	M		M		M	M	M			

M Mandatory Requirements

17.5 MTR Test Job Role (MTR - Southwest Dynamic Train Testing)

The MTR Test Train Pass is an official form of identification issued to workers involved in Train Testing activities. Possession of this pass is a mandatory requirement for anyone conducting work related to Train Testing. Issued by the MTR Training Team and recognised by the project, the pass ensures that all personnel engaged in Train Testing possess the necessary competencies, skills, knowledge, experience, and required inductions to perform testing activities safely and effectively.

Application and Validation Process

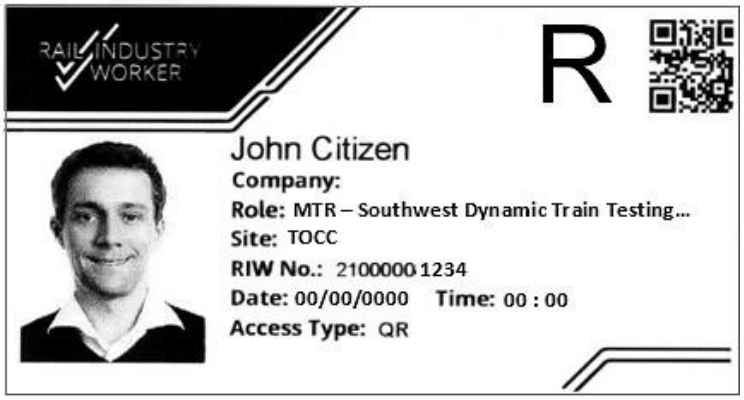
The MTR Platinum Test Train Pass can be obtained through an application link provided by the MTR Training Team. Before the pass is uploaded to an individual's Rail Industry Worker (RIW) profile, the applicant must undergo a validation check to confirm completion of all required inductions and competencies relevant to the Southwest project. Additionally, applicants must hold a valid medical assessment and an MTA RIW Card. Please allow up to seventy-two (72) hours for the MTR Training Team to verify all inductions and competencies.

Pass Validity and Compliance

The MTR Platinum Test Train Pass has an expiry date and must be renewed before it expires. It is the responsibility of the Rail Safety Worker to ensure their pass remains valid and up to date.

Scanning at the RIW Kiosk within TOCC is mandatory. Upon successful validation of competencies, the individual will be issued an RIW sticker, which must be worn visibly at all times during Dynamic Train Testing.

The Train Coordinator and MTR Train Supervisor reserve the right to deny participation in Train Testing activities to any Rail Safety Worker who does not meet the required standards.



17.6 Dynamic Train Testing (DTT) Initial Hazard Recording App

The **Dynamic Train Testing (DTT) Initial Hazard Recording App** was developed to improve real-time hazard awareness and safety during Dynamic Train Testing across the Southwest open corridor.

The application enables users to report hazards immediately. Once submitted, alerts are sent via mobile push notifications and email to relevant testing teams, including **RSO and RIM disciplines**, ensuring safety information is received quickly and appropriate controls can be put in place.

The app uses a **clear hazard classification and escalation process**. Users assess each hazard using the following severity levels:

- **Insignificant** – Information only
- **Minor** – Managed locally by frontline teams
- **Moderate** – Minor injury or operational impact requiring corrective action
- Major – Injury or operational impact requiring management intervention and corrective action
- **Severe** – High risk of serious injury, system damage, or testing disruption
- **Catastrophic** – Extreme risk with potential for fatality or major system failure disruption

Based on the identified hazard, the user categorises the event to the correct level of response according to the Incident Notification / Management Matrix.

The App includes a risk level in accordance with the MTR Risk Matrix (per DTT Safety Assurance).

Insignificant, Minor, and Moderate hazards are managed by frontline teams. Major, Severe and Catastrophic hazards are escalated immediately to DTT Commanders, Senior Project Management, and the RSO/RIM disciplines for urgent action. All Hazard Reports are distributed to RSO/RIM for the purposes of reportable classification and/or escalation.

The app also includes **GPS location tagging**, allowing hazards to be accurately identified along the Southwest Corridor. This improves situational awareness, response times, and targeted risk controls.

All hazard reports are stored in a **secure central register**, supporting audits, compliance, incident review, and ongoing improvement.

In summary, the DTT Initial Hazard Recording App strengthens safety by enabling real-time reporting, clear risk classification, automatic escalation, and effective oversight, supporting a proactive safety culture across the Southwest Corridor.

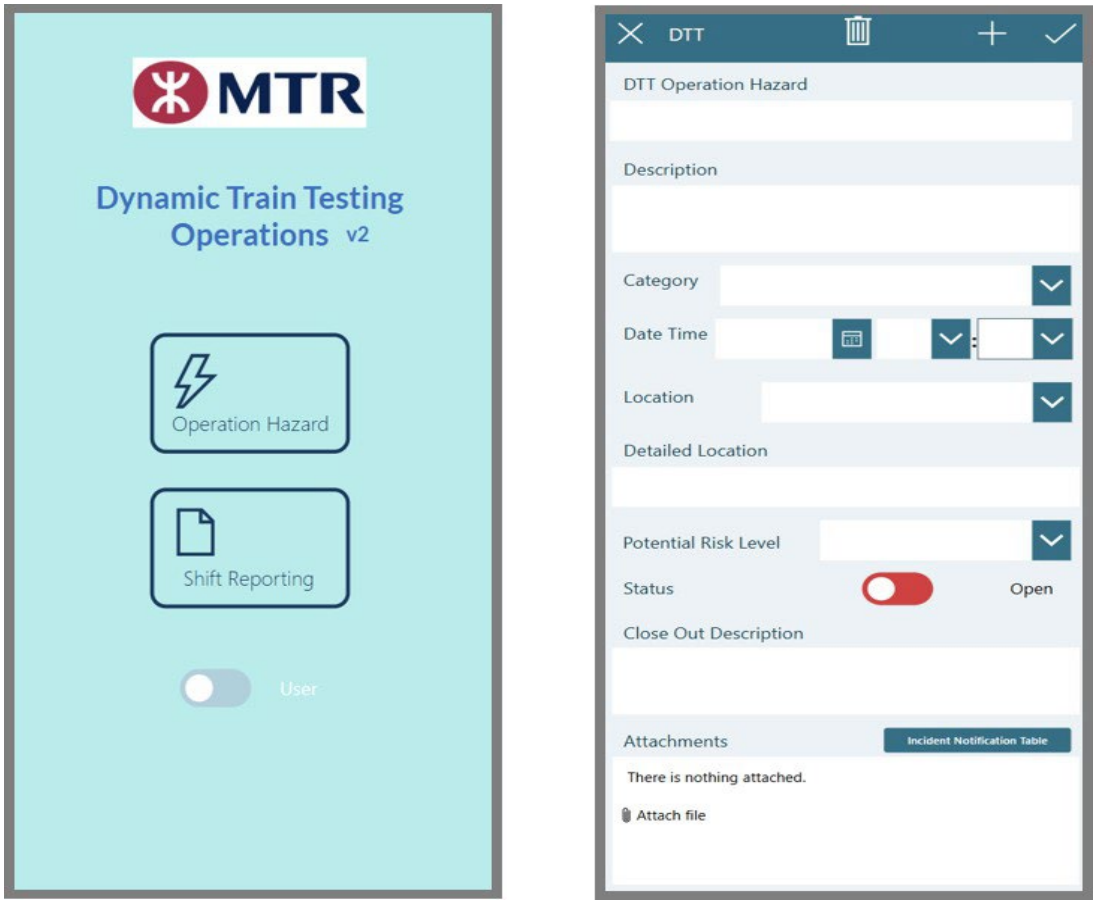


Figure 12 Dynamic Train Testing (DTT) Initial Hazard Recording App

17.6.1 Clarification re; DTT Hazard App Process

In the event of a new hazard (including suspected hazard) being identified during the course of DTT the response process as documented for Emergencies and Incidents in the TTZ and Incident Response Plan - DTT should be followed, as applicable to the hazard. In many instances this will be Minor and managed between the Train Coordinator and the S2B PPO re; stop the train, make safe the site and review the system / infrastructure assurance/ certifications with qualified personnel (Rail Infrastructure SMEs). It is important in the Dual-RIM system that the RIM for the Rail Infrastructure assigns a SME (qualified person) to investigate and determine whether a Condition Affecting the Network (CAN) applies.

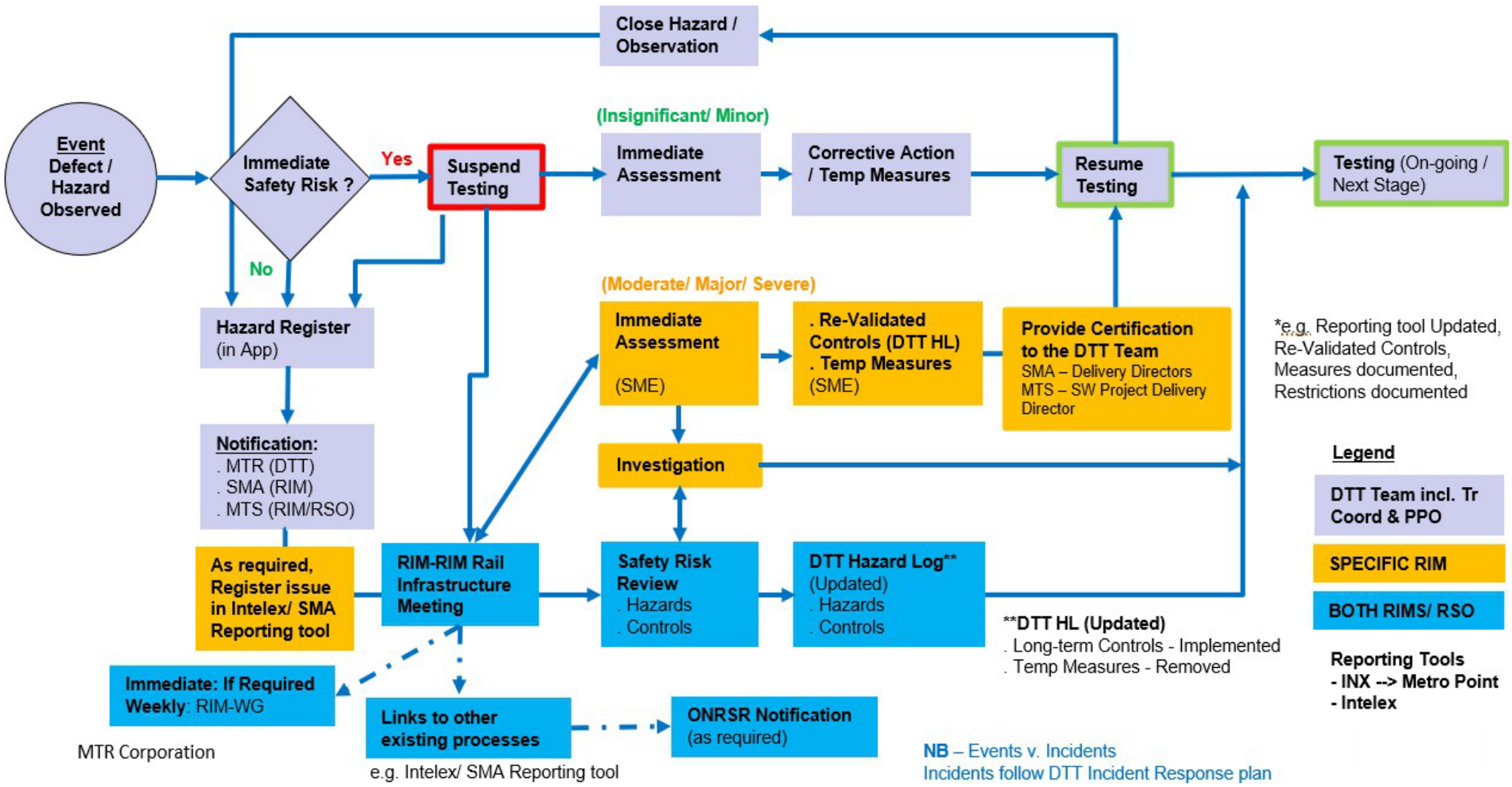
Please see below for an example where a hazard in physical Rail Infrastructure creates a CAN:

- Onboard personnel identify a potential new Hazard in the Rail Infrastructure;
- Train is stopped in safe location and Hazard reported to Train Coordinator
- Train Coordinator reports Hazard to S2B PPO
- If Minor and not requiring SME Investigation (e.g. loose hoarding/ loose item fouling the line) the situation can be assessed and managed by Train Coordinator and S2B PPO alone, enabling Testing to resume.
- If SME Investigation is required, the S2B PPO shall dispatch a Rail Infrastructure SME to investigate Hazard
- Hazards that pose safety and DTT delivery risks (Moderate/ Major/ Severe) must be promptly escalated to the RIM-RIM Rail Infrastructure Working Group.

- Rail Infrastructure SME either;
    I. Confirms no Hazard; Rail Infrastructure within maintenance limits
        1. Rail Infrastructure SME advised S2B PPO
        2. S2B PPO advises Train Coordinator
        3. DTT recommences

    II. Confirms Hazard and recommends 1) DTT to cease, 2) TSR be applied, or 3) Any other control/s as required
        1. If a TSR is recommended the Rail Infrastructure SME, supported by the Train Coordinator should complete TSR Form A-HS-FM-60161 TSR Form - SW Implementation and the TSR be applied by the Traffic Controller.
        2. Note – Any controls not already contemplated within the DTT Hazard Log (e.g. TSRs, PEB/ MGF Isolation) needs to be reviewed and approved by both RIMs.
- Once the Rail Infrastructure is rectified, investigation and INX/ Reporting tool updated (as applicable), the TSR can be removed on authority of the Rail Infrastructure SME by providing an associated Rail Infrastructure Certification showing no CAN.
- In all outcomes a DTT Operation Hazard Event should be issued to document the event and process undertaken confirming whether the Hazard remains Open or has been Closed.
- Instances of DTT Hazards creating a CAN should also be documented in INX/ Reporting tool by the party with the Rail Infrastructure SME assessing and implementing the CAN.
- If the immediate investigation concludes hazards remain/ controls required, it should be documented in the DTT Hazard Log with associated Controls and Control Transfers. (See Flowchart for info)

(New) Hazard Observation Event (During DTT)



17.7 Southwest Dynamic Train Testing RIW Job Role Inductions and Qualifications

The following Inductions and Qualifications are required to hold a valid RIW Job Role for Southwest Dynamic Train Testing.

MTR

Southwest Inductions - Dynamic Train Testing – MTR RSW Card

RIW Requirements		
1. Valid Category 1, 2 or 3 Medical signed by an Authorised Health Professional (AHP). A list of AHP's can be found on the Rail Industry Worker site https://www.riw.net.au/authorised-health-professionals/#find-an-ahp 2. Construction Induction (White Card) (34845), or (24099), or (24624), or (24100), or (24101), or (30092), or (24102), or (24103) or Certificate Work safely in the Construction Industry GROUP (69915 or 69916). 3. Statement of Attainment – TLIF2080, or TLIF0020, or TFLIP208A, or TLIF2080B, or TLIF2080C Safely Access Rail Corridor or Qualified Statement of Attainment TLIF2080 – Safely Access Rail Corridor		
RIW Job Roles	**RIW E- Learning**	**Additional Requirements**
1. Around the Track Personnel 2. MTS – Qualified Worker 3. TfNSW – Operator 4. ARTC – Operator 5. ARTC – Electrical Compliance 6. TfNSW – SM – (Role Specific or SSJ) **TBA by S2B)	1. MTR HSEQ Induction EL142 2. MTS – Metro Introduction to Rail Safety (MIRS) EL151 and MTS – Electrical Safety Awareness (MESA) EL152 3. MTS Network Induction (EL175) 4. MTR – SW Dynamic Train Testing Induction (EL199) or SW TTZ F2F Training 5. Sydney Metro Orientation Training (SMOT) 82009a All e-learnings can be accessed on the workers RIW e – learning Portal	Certificate of Competency (COC) or Statement of Competency (SOC) to be emailed to Sonal Arekar - riw.admin@mtraustralia.com.au
Station	**Requirements**	**Inductions**	**Site Contact**
Port Botany to Campsie (ARTC)	1. RIW Job Role - ARTC Operator And Electrical Safety Compliance 2. RISI - Statement of Attainment 3. Medical (CAT 3/ 2/ 1) and Drug and Alcohol Test	1. ARTC National Contractor Induction ** 2. ARTC Electrical Safety Induction * 3. ARTC Corridor Access Induction - Port Botany to Campsie ** 4. https://artc.csod.com/Login/render.aspx?id=defaultclp – Induction link (Click on Sign up now) and complete the above 3 inductions. 5. Upload the copy of the certificates on RIW under the *National Competencies and **Network-Based Competencies. (competencies as mentioned above with Asterisk) 6. No Face-to-Face Induction Required.	In case you are not able to login or sign-up contact Phone 07 3185 3940
SSJ induction Transition by S2B - Current requirement			
(S2B) – Sydenham to Bankstown	1. RIW job role - S2B – Sydenham to Bankstown	1. LOR - S2B Project Site Induction (EL195)	Site enquiries - dafydd.evans@jhlorjv.com.au
Previous Requirement – Still in use till complete transition happens			
SSJ (Pegasus)	2. Completion of Workforce Development Survey (WDIP) on this https://form.jotform.co/71760564774869 3. Create Pegasus Profile. Complete the ID check (Depends on Australian or Overseas Documents. If it is Australian, then Driver License and Medicare Card required. If Overseas Document, then 100 points **(Refer attached Document RSW-Manual-ID-Check-Process)** documents must be attested by JP (Justice of Peace) mandatory requirement). 4. Pay Pegasus Subscription. 5. Upload White Card, SMOT, Driver license, Pegasus Consent Form **(Refer attached Document Pegasus_CAAF_20190628)**, Medical (CAT 3/ 2/ 1), RISI or Safely Access Rail Corridor, Workforce	2. Add site on Pegasus Profile - Laing O'Rourke – SSJ, Sydney Metro – Project, Transport for NSW Site 3. Then add Roles under **Manage Roles** - TFNSW - Sydney Metro - Sydenham Station and Junction (SSJ) Project, TFNSW - Sydney Metro – job specific role (e.g. Project Engineer), TfNSW – Operator, Around the Track Personnel - RSW National. 4. Upload all the competencies as required under roles. 5. Select the **Course Selector and Submit.** 6. **No Face-to-Face Induction Required.**	Site enquiries - ssj_inductions@jhlorjv.com.au

ir

18 Reference Documents

#	Document Reference Number	Title
1.	SMCSW-RS-PR-60022 version 3	Introducing a Train Testing Zone (TTZ) Southwest Corridor for Train Testing and Commissioning Activities for DTT Stage 1 (Limited)
2.	SMCSW-HS-PR-60060 revision B.	Transfer of Test Trains MTS Network to SWM Corridor – Marrickville for DTT Stage 1 (Limited) - SMCSW-HS-PR-60060 revision B.
3.	SMCSWTS2-MTR-CSW-TC-MAN-026626. Rev 05	Temporary Control Centre (TOCC) Testing and Commissioning Ops & Coms Procedure – Rev 05
4.	SMCSW-RS-RG-60148	Southwest Testing & Commissioning Matrix
5.	SMCSWTS2-MTR-RFT-SM-PLN-010180 - Rev G	Incident Response Plan-DTT
6.	A-HS-PR-60079	MTR Effective Safety Critical Communication
7.	A-HS-FM-00678	MTR Incident Management Responsibility Matrix
8.	SMCSW-RS-FM-60149	MTR DTT Southwest - Incident management flow chart
9.	A-HS-GU-60042	Limited use of Mobile Phones during Trains Testing and Commissioning
10.	Alstom BLIM000020176_EN1_Coupling	Operation Manual Rescue Operation
11.	Alstom EHS-WMS-005	Rail Vehicle Movement Procedure
12.	Alstom 0000168033 _Rev 7	Train movement checklist
13.	MTS SWD-OP-MAN-720121-C-ROM	Rail Operations Manual
14.	SMCSWSW8-JHL-WBK-HS-PLN-000006	S2B Bankstown Incident Emergency and Crisis Management Plan
15.	SMCSWSW8-JHL-WBK-HS-PLN-000004	S2B Sydenham to Bankstown – SWM3 Security Management Plan
16.	SMCSWSSJ-JHL-WSS-PC-PLN-000125	S2B – JHLORJV Possession Management Plan
17.	SMCSW-RS-RG-60148	Testing & Commissioning Competency Matrix
18.	SM-24-00066434	Project Site Card Access Requirements procedure
19.	Infrastructure Booking Authority (City) MTR-ARS-PR-71207	Sydney Metro Infrastructure Booking Authority (City IBA)
20.	NWRLOTS-NRT-SWD-SF-FRW-726001	MTS Electrical Safety Rules

21.	SM-18-00058353	Sydney Metro Rail Operating Conditions Procedure
22.	SM-18-00058177	Sydney Metro Rail Operating Conditions Standard
23.	SM-24-00230239	Sydney Metro Minimum Rolling Stock Requirements Standard for Infrastructure / Construction Vehicles (Southwest Section)
24.	SM-20-00046300	Sydney Metro Rolling Stock Acceptance Procedure
25.	MTS MPR 721	Spoken and written communication
26.	MTS MRF 003	Infrastructure Booking Authority Form
27.	MTS MWT 312	Infrastructure Booking Authority
28.	MTS MWT 302	Local Possession Authority
29.	MTS MPR 700	Using a Local Possession Authority

Train Testing Zone (TTZ) Procedure v5.1

Final Audit Report 2026-03-12

Created:	2026-03-09
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