



METRO

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METRO

Driver Development Stage 1

March 2016

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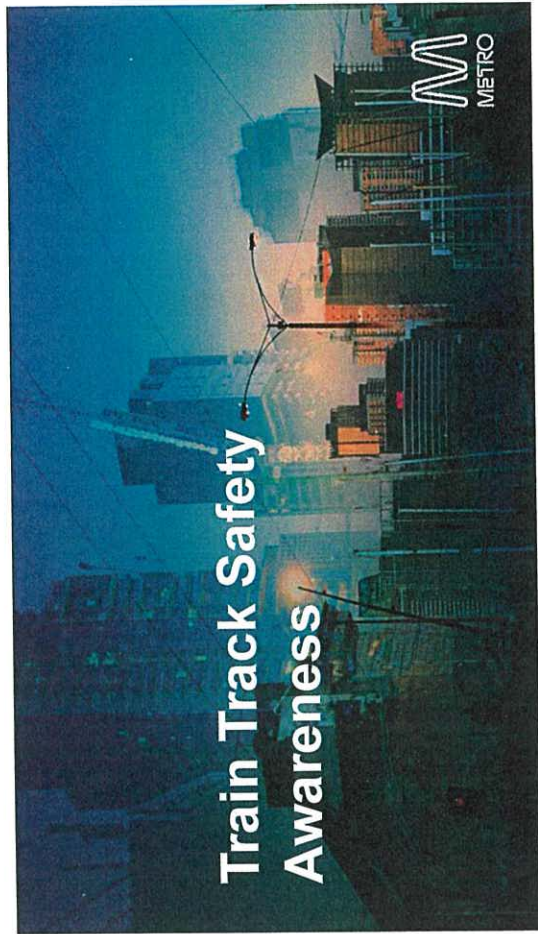
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Driver Development Stage 1

Session 1 Operational Issues





Train Track Safety Awareness

To provide you with the knowledge and skills to be safe when you are in the rail corridor.



Train Track Safety Awareness

The driver must:

- o Have '0.00' blood alcohol.
- o Not be under the influence of ANY drugs that may impair their safety performance.
- o Wear approved hi-viz clothing.
- o Wear other PPE as required.
- o Wear approved safety footwear.
- o Have undertaken and passed an approved railway industry medical examination.



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Train Track Safety Awareness

The Rail Reserve: 15m from the rail head out to a fence or open area



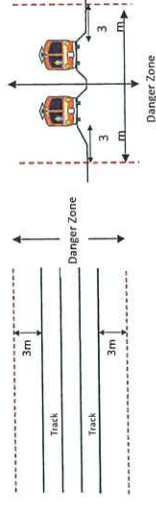
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Train Track Safety Awareness

THE DANGER ZONE

The Danger Zone is defined as all space within 3 metres of the nearest rail and any distance above or below this 3 metres.



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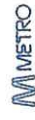


Train Track Safety Awareness

- Do not walk on sleepers and rails especially when they are wet
- Be careful when walking on ballast
- Be mindful of equipment moving without warning.



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Track Access for Train Drivers:

Train Drivers requiring access to the danger zone must first request permission from the Train Controller/Controlling Signaller.

[illegible]

Issued: 24 February 2015
Expiry: 24 February 2016
Number: ISEQ-BUL-03-2015

Track Access to the Metro Network

There are **three** methods of gaining formal access to the Metro Network, depending on the role to be performed. A brief overview of each method is outlined below:

(4) Track Access for Infrastructure Maintenance Activities

Employees and contract personnel requiring access to the defined **red corridor** for the purpose of completing infrastructure inspections and/or maintenance activities must obtain approval to do so from the Track Access Control Centre.

Control Centre:

Once the Track Access Control Centre Operator is satisfied that all necessary worksite protection requirements have been assessed, a Track Access Number will then be issued to the TTPC or Work Group Supervisor as authority to commence work.

Full details relating to the requirements are contained in L1-OPS-PRO-018 *Planning Worksite Protection in the Rail Corridor*.

(2) Track Access for Network Operations Staff

(2) **Track Access for Network Operations Staff.** Network Operations Staff requiring track access to the **danger zone** must first request permission from the Train Controller at Metro.

In this instance, a Track Access Number is not required as the protection arrangements will be managed and controlled at Metro.

The track access provided by Metrol is however strictly reserved for use by the person or persons to whom it was implemented by Metrol.

issued.
Full details relating to the requirements are contained in L1-OPS-PRO-014 Network Operations Staff – Track Access Procedure.

(a) Track Access for Train Drivers and Fleet Maintenance Staff

(3) **Track Access for Train Drivers and Traction Maintenance Personnel**

Train Drivers requiring access to the **danger zone** must first request permission from the Train Controller

Controlling Signaller.

Where fleet maintenance workers are also in attendance to assist the Train Driver, they must first obtain the permission from the Driver prior to accessing the adjacent running line. The Driver must prior to granting permission for the Driver to be the permission of the Train Controller/Controlling Signaller.

permission, first obtain the permission of the Train Controller/Controlling Signaller. In this instance also, a Track Access Number is not required as the protection arrangements will be managed and Signaller as applicable to the location.

implemented by the Train Controller or Controlling Signaller, as applicable to the location.

Full details relating to the requirements are contained in L1-SWS-PRO-012 *Train Drivers and/or Fleet*

Staff Entering the Track/Bit at any location with Adjacent Running Lines.

Authorised By

Dr. J. L. L. L.

David Ward
MANAGER NETWORK SAFETY

Date of Review: 15/03/2012
Next Review Date: 14/03/2015

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METRO	TRAIN DRIVERS AND/OR FLEET MAINTENANCE STAFF ENTERING THE TRACK/PIT AT ANY LOCATION WITH ADJACENT RUNNING LINES		
L1-SWS-PRO-012	Version: 1	Effective from: 03/03/2011	

Approval

Name	Position	Signature
Garry Crombie	Senior Rail Safety Officer	
Garry Crombie	Senior Rail Safety Officer	
Document Author (Endorser)		
Approving Manager	Manager Safeworking & Signalling	

Amendment Record

Approval Date	Version	Description
03/03/2011	1	Replacing L2-OPS-PRO-003 (1) amended to incorporate Fleet Maintenance staff into the procedure

METRO	TRAIN DRIVERS AND/OR FLEET MAINTENANCE STAFF ENTERING THE TRACK/PIT AT ANY LOCATION WITH ADJACENT RUNNING LINES		
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1. Purpose

The purpose of this document is to define the procedure for accessing the track/pit area beside an adjacent running line by Train Drivers during dividing, attaching or fault rectification on the Metro Trains Melbourne Network where the Train Driver deems to have the adjacent track closed.

NOTE: When a Fleet Maintenance Worker attends to a train defect on a main line, and access to an adjacent running line is required the permission will be managed under the direction of the Train Driver as outlined below.

2. Scope

This procedure applies to all Train Drivers, Train Controllers (Metrol), Signallers and Fleet Maintenance staff.

The protection of Train Drivers accessing the track/pit area beside an adjacent running line or other persons assisting the train driver must be provided as outlined below.

3. Definitions

Signaller

Is the person in charge of the working of points and signals from an interlocked frame or signal control panel.

Train Controller

Is the person directing the movements of trains under the "Train Control System".

Metrol

Is the Melbourne Metropolitan Train Control Centre

Lever Sleeve

a lever sleeve includes any appliance provided including any software sleeve or block command or any other means provided to maintain the signal controlling entrance to the section in advance at the 'stop' position or securing a set of points in the 'normal' or 'reverse' lay.

4. Process

This procedure requires that the Train Driver is protected by the Signaller sleeving the appropriate fixed signals applicable to the route and/or points giving access to the area before allowing the Train Driver to enter upon the track/pit area for the purpose of dividing and/or attaching trains or fault rectification on their train, beside an adjacent running line.

	TRAIN DRIVERS AND/OR FLEET MAINTENANCE STAFF ENTERING THE TRACK/PIT AT ANY LOCATION WITH ADJACENT RUNNING LINES
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Where a Fleet Maintenance Worker(s) is requested to attend to assist the Train Driver and prior to accessing the adjacent running line must obtain permission from the Train Driver. The Train Driver prior to granting the Fleet Maintenance Worker permission must first obtain permission as outlined below.

- 4.1** Train Drivers that require to access the track/pit area adjacent to a running line must, if at a location where a Signaller is on duty (Within Station Limits and at Metrol i.e. Sydenham, Flinders Street) first contact the Signaller at that location. At all other locations i.e. between Richmond and Caulfield, Train Drivers must first contact the Train Controller at Metrol.
- 4.2** The Train Driver must make a clear request to the Signaller/Train Controller (using the designated form - example as shown on page 6 of this procedure) of the intent to access the track/pit area, including the reason, time required and the exact location. The Driver must not attempt to access the track/pit until the Signaller/Train Controller has confirmed that trains on the adjacent line have been stopped and that the protection has been applied.
- 4.3** The Train Controller / Signaller and the Train Driver must exchange contact details.
- 4.4** In track circuited areas the Train Driver is permitted to apply the track circuit jumper cable after confirmation from the Signaller/Train Controller that the adjacent track(s) are protected.

At Locations Where a Signaller is on Duty (Within Station Limits and at Metrol)

- 4.5** At a location where a Signaller is on duty (within station limits and at Metrol) the Signaller must first confer with the Train Controller prior to granting permission for access.
- 4.6** On receiving the request the Signaller must sleeve the appropriate signal lever(s) protecting the area and/or point lever(s) giving entry to the area, advise the Train Driver (using the designated form - example as shown on page 6 of this procedure) when this is done and make a notation in the Signal Box Train Register or in the case of Metrol Signal Control Panel the Log Book.
- 4.7** The Signaller and Train Driver must exchange names and contact details.
- 4.8** When advised by the Train Driver (using the designated form - example as shown on page 6 of this procedure) that the track/pit area is clear the Signaller can only then remove the sleeve(s) from the applicable levers and record the particulars in the Train Register Book/Log Book and advise the Train Controller accordingly.
- NOTE:** The Metrol signal controlled area is defined as bounded by Richmond, East Richmond, Westgarth, Clifton Hill, Macaulay, North Melbourne, South Kensington and Maribymong River Junction.

	TRAIN DRIVERS AND/OR FLEET MAINTENANCE STAFF ENTERING THE TRACK/PIT AT ANY LOCATION WITH ADJACENT RUNNING LINES
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At All Other Locations

- 4.9** At locations, other than locations where a Signaller is on duty (within station limits and at Metrol), the Train Controller must first contact the Signaller and ensure protection is in place prior to granting permission to access the track.
- 4.10** The Train Controller/Signaller must ascertain whether train movements through the location where access is required can be protected.
- 4.11** The Train Controller must ascertain whether a Signaller is on duty at Signal boxes controlling entry to that section of line. If the Train Controller is unable to contact the Signaller, the Train Controller must refer to the Train Control graph (in cases of a location that switches in and out) and the System Description (Working Timetable Addenda).
- 4.12** The Train Controller must advise the Signaller of the intention for the Train Driver to access the track/pit area. The Train Controller must ascertain whether trains are in the area and their location to ensure that the last train has cleared the area where the Driver is to access the track/pit. When it has been established that the last train has cleared the area the Train Controller must instruct the Signaller to place and sleeve all applicable fixed signals at the 'Stop' position and, if possible, sleeve point(s) levers away from the area.
- 4.13** When advised by the Signaller that the requested track(s) have been protected, the Train Controller will transmit a reply (using the designated form - example as shown on page 6 of this procedure) granting the Driver permission to access the track.
- 4.14** The Train Controller must record the details on the Train Control Graph/Platform Docking Sheet.
- 4.15** When advised by the Train Driver that the track/pit area is now clear reply (using the designated form - example as shown on page 6 of this procedure), the Train Controller must instruct the Signaller to remove the sleeve/s from the applicable levers.
- 4.16** The Signaller must record the circumstances in the Train Register Book across the figure column or in the case of the Metrol Signaller the Log Book.
- 4.17** When advised by the Train Driver that the track/pit area is now clear, the Train Controller must instruct the Signaller to remove the sleeve/s from the applicable levers.
- 4.18** The Signaller must record the circumstances in the Train Register Book across the figure column or in the case of the Metrol Signaller the Log Book.

	TRAIN DRIVERS AND/OR FLEET MAINTENANCE STAFF ENTERING THE TRACK/PIT AT ANY LOCATION WITH ADJACENT RUNNING LINES
L1-SWS-PRO-012	Version: 1 Effective from: 03/03/2011

Note:

- A. Under no circumstances is the track/pit area to be accessed by the Train Driver unless reliable communication is provided, in that, clear and concise communication is effected concerning the location of the last train to run on the adjacent track and the Train Driver has been assured by the Train Controller that the area is protected.
- B. This procedure does not remove the responsibility of the Train Driver and/or Fleet Maintenance staff are to be vigilant when entering the Track/Pit area.
- C. Train Drivers and/or Fleet Maintenance staff must wear a Safety Vest and Safety footwear when accessing the Track/Pit area.

	TRAIN DRIVERS AND/OR FLEET MAINTENANCE STAFF ENTERING THE TRACK/PIT AT ANY LOCATION WITH ADJACENT RUNNING LINES
L1-SWS-PRO-012	Version: 1 Effective from: 03/03/2011

Train Driver – Track Access Request Form (Example)

(A) Train Driver (request permission to access track)

Driver of Train No. 4039 (12:08 down Pakenham),

Located: between Toorak and Armadale on the Down Caulfield Local Line near Automatic Signal D225

Hereby request permission to access the track affecting the following track(s);

Up Caulfield Local Line

Driver's Name: Peter Harris

Radio /Mobile No. (M) 0110 121 111

Time: 12:30

(B) Train Controller / Signaller (transmit permission granted to Train Driver)

To Driver of Train No. 4039 (12:08 down Pakenham)

All Trains on the Up Caulfield Local Line have been stopped and protection applied preventing access to the adjacent Track.

The last train to be routed via the Up Caulfield Local Line has cleared the area and is currently Between Hawksburn and South Yarra

Permission is hereby granted for you to access the tracks specified.

Train Controller's / Signaller's name: Bill Sepac Time: 12:38

(C) Train Driver (transmit clearance to Train Controller / Signaller)

Driver of Train No. 4039 (12:08 down Pakenham)

Track(s): Up Caulfield Local Line

Are now clear for the resumption of train services.

Driver's Name: Peter Harris Time: 12:52

METRO	TRAIN DRIVER – TRACK ACCESS REQUEST FORM	
L4-OPS-FOR-002	Version: 2	Effective from: 1 st July 2015

(A) Train Driver (request permission to access track)

Driver of Train No.

Located:

Hereby request permission to access the track affecting the following track(s);

.....

Driver's Name: Radio / Mobile No.
Time:

(B) Train Controller / Signaller (transmit permission granted to Train Driver)

To Driver of Train No.

All Trains on the

.....

have been stopped and protection applied preventing access to the adjacent Track.

The last train to be routed via the

.....

has cleared the area and is currently

Permission is hereby granted for you to access the tracks specified.

Train Controller's / Signaller's name: Time:

(C) Train Driver (transmit clearance to Train Controller / Signaller)

Driver of Train No.

Track(s):

Are now clear for the resumption of train services.

Driver's Name: Time:

METRO	Driver Announcements	Document No. TSD-083
Approved Manager Train Service Delivery	Version: 1	Page 1 of 1

Drivers Please Note:

Drivers are reminded of their obligations regarding announcements as part of our responsibility to keep customers fully informed.

Ensure automatic announcements are operating accurately by confirming correct TDN in the DDU and monitoring DDU station display. Automatic announcements must be supplemented by manual announcements in times of disruption.

When the destination indicator, PIDS, or automatic announcements are inoperative or incorrect, or the TDN cannot be entered in DDU, make frequent manual announcements of destination, junction connections and express running. Faults encountered with these systems must be promptly reported via the FMP.

When altered stopping conditions are introduced, service change special messages must be entered into the DDU, and additional frequent manual announcements of the changes made.

When late running of three minutes or more occurs, an announcement giving the cause of the delay and likely resumption must be made.

In conclusion, announcements are a vital tool to make sure all of our customers are fully informed, and a method of avoiding cause for customer complaint.

Best Regards

Perry Ramsey
Manager Train Service Delivery



Re-Issued: 16 December 2014
 Expiry: 31 January 2015
 Number: O/S-BUL-16-2014

Suspicious Packages and Behaviours

Following on from the Federal Government's decision to increase the National Terrorism Public Alert System to 'High', this bulletin outlines how to remain vigilant and report suspicious activity or behaviour.

Action Required

Whether you are working at stations, on the tracks, in train or maintenance yards, on trains or in an office, security is an important part of your daily duties. You must stay vigilant and aware at all times.

If you see something that is suspicious, please report it to Metro on 57204 or 57205 (if calling externally, use 9610 7204 or 9610 7205).

- Is there a bag or package left unattended that seems more than lost property?
- Is someone acting suspiciously?
- Is someone videotaping or taking photographs of our infrastructure?
- Is there a suspicious vehicle parked near one of our significant stations in busy/public places?
- Does something just not seem right?

Remember the HOT-UP principle relies on responses to the following:

- **Hidden?**
- **Obviously a bomb?**
- **Typical of its environment?**
- **Unauthorised Access?**
- **Perimeter Breach?**

If you see an unattended package or bag in a public place, with no apparent reason for being there:

- Ask if anyone in the vicinity owns it.
- If no one does, don't touch it.
- Alert others to keep away.
- Contact Metro immediately.

Is someone in your office building or restricted work area that you haven't seen before?

- Don't assume they should be there, politely ask them who they are, and to see their I.D.
- If they are a visitor, ask them who they are visiting, and make sure they have signed in and have a visitors pass.
- If they cannot tell you why they are there, report it to Metro immediately.



Date of Review: 15/09/2012
 Next Review Date: 14/02/2015



Remember to always lock gates and doors

- Are there gates where you work that should not be accessible by the public?
- Are you the last person to leave your office and it needs to be physically locked at night?
- Don't assume someone else will take care of it, lock up.

Remember:

- **Be aware** of security measures you need to take in the course of your normal duties.
- **Be aware** of the people around you, and whether you know them or not.
- **Be aware** when something, or someone, seems out of place.
- **Be aware** of restricted areas and ensuring they stay restricted.
- If you are unsure of what you need to do, immediately ask your Supervisor for advice.

And most importantly - if you see something, say something.

- Further information can be obtained regarding the National Alert Level change by visiting: <http://www.vicpolice.vic.gov.au/emergency-portal.html>

- Metro's HOT Video is available for download by following the link below:

<http://intranet.metrotrains.com.au/AboutUs/OrgStructure/HR/Academy/Pages/Metro-Academy-Videos.aspx>

Authorised By

MH

Michael Houghton
 Chief Operating Officer

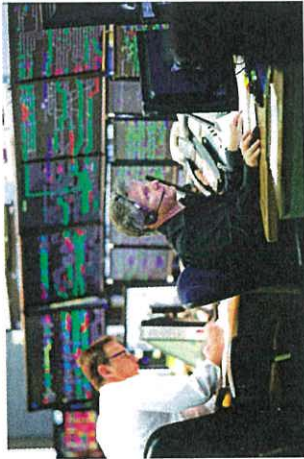




Safety Critical Communications

This alert highlights the importance of ensuring safety critical communications are conducted effectively on the MTM network.

LT-50E-FR-06912)



Background

As part of the findings from investigations conducted into recent incidents, it has been identified that correct safety critical communication protocol had not been followed.

Action Required

Safety critical communication is any communication that, if not delivered correctly, promptly or accurately, could likely result in death, serious injury or incur significant damage to property, infrastructure or the environment.

Safety critical communications on the MTM Network must be:

- Clear, brief and unambiguous,
- Relevant to the task at hand, and
- Agreed as to meaning before being acted upon.

Safety critical communications may be spoken, written or electronic transmissions.

- Planning what you intend to say is important to ensure it is understood.
- Do not use words with alternative meanings.
- Give messages in a short complete phrase that makes sense, not word by word.
- Speak slightly slower than in normal conversation. Avoid rushing or slurring words.
- Speak slightly louder than in normal conversation, but avoid shouting.
- Use a normal or slightly higher pitched voice.
- Use the 24-hour clock to give times.

For further information, please consult procedure **LO-50E-PRO-032** Safety Critical Communications.

Authorised By

David Ward

David Ward
MANAGER NETWORK SAFETY

Alert Number HSEQ-AIRT-06-2015 Issue Date 11/12/2015 Expiry Date 11/02/2016



Safety Critical Communication Learner's Notes

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MODULE AIM

The aim of this lesson is to ensure the Learner understands the importance, processes and procedures with regard to sending and receiving safety critical communications.

It is also to ensure that the Learner has been given the information to gain competence to undertake the duties of a Driver with regard to the sending and receiving of safety critical communication.

SESSION OBJECTIVES

At the end of this session the Learner should be able to:

- State the importance of safety critical communications
- Demonstrate that they understand the procedures with regard to delivering a safety critical message
- Demonstrate that they understand the procedures with regard to receiving a safety critical message
- Demonstrate that they understand the process for identifying the person they are communicating with
- Demonstrate that they understand the process for identifying themselves
- Demonstrate the requirement to repeat back all safety critical information to the sender
- Demonstrate the process of making an emergency call



METRO RISK

Historically many railway accidents have poor communications protocols as a direct cause or as a contributing factor. Still today poor communication protocols between Metro staff carrying out safety critical tasks places our staff and customers at risk.

Improving safety critical communication across our operation is a high priority. You must be aware that when you send or receive a message that the person you are speaking to may not follow the correct procedure. This can very easily lead to a break down in protocol. You must insist that the protocol is maintained even if this leads to some friction between you and the other person.

Upholding communication discipline and protocol is not only professional it is vital to maintain a safe railway.

Some safety critical communications between Drivers, Controllers and Signallers are recorded. These recordings are kept for the purpose of:

- Accidents or incidents investigation
- Quality review
- Training and assessment.

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INTRODUCTION

This lesson is designed to give you the knowledge and confidence to make and receive safety critical messages between Metro operational staff or other persons directly involved with the safe operation of the railway.

This lesson will cover:

- Explaining what safety communication is
- Voice communication
- The ABC of Safety Critical communication
- Planning your message
- Identifying yourself, call signs, numbers and train ID
- Identifying who you are speaking to
- Stating your location
- Clear speech
- Active listening
- The phonetic alphabet and numbers
- Repeating your message back

WHAT IS SAFETY CRITICAL COMMUNICATION

Metro consider safety critical communication any spoken communication between the parties' involving:

- The movement of a train or rail vehicle,
- The operation of a piece of railway infrastructure such as a signal, points or level crossings,
- The reporting of the state of anything or anyone (train, infrastructure or neighbouring structure) that might affect the safe or punctual operation of the railway
- The sending or receiving of an emergency message.

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SPOKEN COMMUNICATIONS

Spoken communications include but are not limited to communications by:

- Telephone
- Mobile phone
- Signal-post telephone
- In-cab radios (fixed train radio)
- Portable train radio
- Face to face (example - a change-over between Drivers).

THE ABC OF SAFETY CRITICAL COMMUNICATION

All communications must be:

- Accurate
- Brief
- Clear

ACCURATE

- Before you make your call, plan what you want to say. If it helps, jot down the points on a piece of paper.
- If the information is to be accurate, make sure you have established the facts as far as possible before you send the message.
- Use positive phrasing such as the "the up or down running line is obstructed" rather than negative phrases such as "the line is not clear". The line not being clear could be interpreted as the phone line is not clear.
- Avoid jargon. In the railway industry jargon has and is still widely used but it has lead to many misunderstandings.
- And name called party first i.e. "Train Controller at Metrol this is the Driver of TD1279 Flinders Street to Hurstbridge at Ivanhoe platform 2

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BRIEF

- Again, planning your message helps keep it brief. Send only the information you need to.
- If the message is long, break it up and have the other person repeat it back to you in sections.
- If you have to send a lot of information, ask the other person to take notes as you go.
- Consider sending part of the message and perform part of the resulting action before re-establishing the call to talk about the next step.

CLEAR

- Make sure the person you are speaking to can hear you properly and make sure you can hear them. If the radio, phone or other device is not providing clear communication, find an alternative!
- Be aware of background noise that may interfere with communication e.g. other people talking near you, windy weather, vehicle movements, bells and alarms etc.
- Think about how you speak! Is it too fast, do you have a strong accent; do you slur your words? Speak slower than usual, concentrate on what you are saying and speak clearly.
- Use recognised phrases
- Use the phonetic alphabet

ACTIVE LISTENING

Even when we are conducting safety critical communications, it is possible to switch off to what is being said. You must listen properly to the message that is conveyed.

You can become a better listener by "active listening." This is where you make a conscious effort to hear not only the words that another person is saying but, more importantly, try to understand the complete message being sent. In order to do this you must pay attention to the other person very carefully.

You cannot allow yourself to become distracted by something else that may be going on around you, or by forming counter arguments that you'll make when the other person stops speaking. Nor can you allow yourself to get bored, and lose focus on what the other person is saying. All of these contribute to a lack of listening and understanding.

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If you're finding it particularly difficult to concentrate on what someone is saying, try repeating their words mentally as they say them – this will reinforce their message and help you stay focused.

To enhance your listening skills, you need to let the other person know that you are listening to what he or she is saying. In safety critical communications, we do this by repeating back the message.

PLAN YOUR MESSAGE

There are many times in life when we don't think about what we are going to say before we say it.

How many times have you wished you had thought before you spoke!

- Plan your conversation whenever possible
- Planning helps to include relevant information and to exclude irrelevant information = Accurate and Brief
- Planning Prevents Poor Performance (PPPP)
- Planning need only take a few seconds, but it can make all the difference.

IDENTIFYING YOURSELF AND THE PERSON YOU ARE TALKING TO

When you are giving a message by phone or radio you must say:

- Who you are,
- Driver of XXXX train; stating your train number and origin and destination of the train
- Where necessary, your name
- Your location, where you are speaking from –
- Standing at platform 3 Flinders Street or station name
- Signal number XXX on the down line at XXXXX
- How you can be contacted
- Call sign
- Radio call code
- Phone number

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Always use the phonetic alphabet when giving signal, stanchion or train numbers.

Make sure the person you are speaking to is the correct person. Make sure they identify themselves. Eg.

- Train Controller or
- Signaller at XXXX signal box

SENDING YOUR MESSAGE

It is important to speak clearly using the following recognised phrases. Using recognised phrase is common in many industries and services such as the airlines, the emergency service and the military.

In aviation a pilot flying from Melbourne to Dubai will cross other countries. To avoid confusion, Pilots and controllers communicate in the same way.

REPEATING THE MESSAGE BACK

Perhaps the most important part of the communication is ensuring understanding. You must ensure that the message is repeated back to you and you must ensure the other person has got the instruction correct.

If the message is not repeated back then there is a risk that a mistake will be made!

When the message is being repeated back to you remember your active listening skills. Listen and make sure the other person has got the message right! If the instructions are complicated or long, split the message up and get the other person to repeat back parts of the message as you go.

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STANDARD PHRASES

TERM	MEANING
Emergency Emergency	This is an emergency call
Correct	Yes. You are right
State your message	I am ready to receive your message
I read back	I am going to repeat all, or part, of your statement exactly as I received it
I say again	I am going to repeat all, or part of my last statement
I spell	I am going to use the phonetic alphabet
Loud and clear	Your signal is strong, and every word is understood
Message received	I clearly received and understand your message
Negative	No. Not correct
Out	My transmission is complete
Over	I have finished speaking, I am waiting for a reply
Read back	Repeat all, or a specified part, of my message back to me exactly as you received it
Receiving	I acknowledge your call. Proceed with the message
Roger	All your last statement is received and understood
Say again	Please repeat your last statement
Speak slower	Repeat what you said, speaking more slowly. It is hard to understand you
Stand by	Wait. I will be back soon

Remember your ABC!



PHONETIC ALPHABET

WHAT IS THE PHONETIC ALPHABET?

It is a method of spelling out words devised for NATO so that each of the NATO countries could talk to each other and be understood. So, the call sign VS23 is "Victor - Sierra - Two - Three" in the US, UK, Australia, etc.

Each phonetic word (e.g. Alpha, Romeo, Oscar etc) has been specifically selected so that it sounds distinct from all the others. No two words sound alike and only two words have one syllable.

If you start to substitute the approved phonetic words for your own, then YOU are introducing risk. You are responsible for doing it right.

Use the phonetic alphabet when:

- Reporting your position, signal number or train number
- Spelling out words that are difficult to understand

For	Letter Name	Say	For	Letter Name	Say
A	ALPHA	AL-fah	N	NOVEMBER	No-VEM-bah
B	BRAVO	BRAH-voh	O	OSCAR	OSS-cah
C	CHARLIE	CHAR-lee	P	PAPA	Pah-PAH
D	DELTA	DELL-tah	Q	QUEBEC	Keh-BECK
E	ECHO	ECK-oh	R	ROMEO	ROW-me-oh
F	FOXTROT	FOKS-trot	S	SIERRA	See-AIR-rah
G	GOLF	GOLF	T	TANGO	TAN-go
H	HOTEL	Hoh-TEL	U	UNIFORM	YOU-nee-form
I	INDIA	IN-dee-ah	V	VICTOR	VIC-tah
J	JULIET	JEW-lee-ETT	W	WHISKEY	WISS-key
K	KILO	KEY-loh	X	X-RAY	ECKS-ray
L	LIMA	LEE-mah	Y	YANKEE	YANG-key
M	MIKE	MIKE	Z	ZULU	ZOO-loo



NUMBERS AND DIGITS

It is also important to clearly state numbers and digits. To avoid misunderstanding you must state numbers as follows:

- Numbers must be spoken singularly
- 123 is not one hundred and twenty three, say one, two three
- For Decimal Point say, Decimal Point.

To make sure that numbers are understood and not confused with other words the following terms and pronunciations should be applied:

Number	Say
0	Zeero
1	Wun
2	Too
3	Tree
4	Fow-er
5	Fife
6	Siks
7	Seven
8	Ait
9	Niner
Decimal Point	Decimal Point

Again ensure any numbers are repeated back.

RADIOS AND TELEPHONES

You should observe the following procedure when using a phone or radio:

- If your phone or radio has a transmit or speak button, you must press this button fully wait and momentarily before you start speaking.
- Do not release the transmit button until you have finished speaking
- Consider your own accent – try to speak slower than normal and pronounce your words clearly
- Speak at the same volume as you do in normal conversation
- Consider background noise – this can be caused by machinery, windy weather, vehicles, other people etc. Cup your hand around the mouth piece or move to a quieter and more sheltered location
- Take time to ensure that messages are understood

USING THE SIMPLEX RADIO SYSTEM

Simplex is a method of communicating when information can only flow in one direction at a time for example, when you use radios.

It involves using protocols such as the use of "state your message" and "over". These help to distinguish where a person has finished speaking and whether they require a response or not. It prevents 'over talking'.

EMERGENCY CALLS

When making an emergency call it is important to stay calm. You must follow the procedures above and make sure that you give clearly the location of the emergency.

Emergency messages must only be sent when:

- There has been an accident involving injury;
- The passage of a train is endangered;
- Persons are at risk;
- A condition exists that is hazardous.



To transmit an emergency message by radio or on an "open system":

- Say "Emergency, Emergency, Emergency"
- State identification and location
- State nature of the emergency, then State clearly what needs to be done
- **Clearly state if any lines are blocked**
- State if the overhead power needs to be isolated
- State the type of assistance required, including the attendance of the emergency services.

Get the recipient to repeat back. Ensure understanding

- Call emergency services directly after advising the Train Controller.

Emergency messages must:

- Be given priority over other transmissions; and
- Be answered immediately.

REMEMBER

- Make a call to the emergency services direct after advising Metrol
- Be proud to be professional.
- Be confident to challenge unprofessional behaviour.
- Ask your line manager and colleagues for practice scenarios to help you plan your messages.
- Learn the phonetic alphabet and standard phrases. They are there to help YOU.
- Practice sending well structured, professional sounding messages until it becomes second nature.
- Attend Safety Critical Communications Forums, briefings and training sessions.
- Don't settle for second best.
- If you're not sure, don't make assumptions, ASK!

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ASK YOURSELF

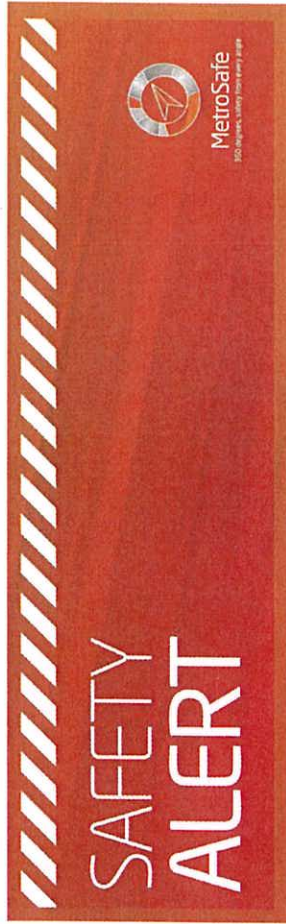
- What is the ABC of safety critical communications?
- Why is it important to identify who you are speaking too?
- Why should you give your call sign or state the number you are calling from?
- Why should you use the phonetic alphabet?
- Why should plan your message?
- What is active listening?
- Why must you repeat or have a message repeated back to you?

END OF SESSION

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Issued: 11 June 2015
 Expiry: 11 January 2016
 Number: HSEC-ALRT-02-2015

TRIP VALVE IRREGULARLY OPERATED IN RUNNING

Safety Alert TSD-ALRT-03-2015 is Withdrawn

Recent SPAD investigations have drawn the need to remind Train Drivers of the requirement when a trip valve has been irregularly operated.

The relevant parts of Section 5 of the 1994 Book of Rules and Operating Procedures (pages 5-8 & 5-9) are repeated hereunder:

9(d) Trip Valve Irregularly Operated

If the train has been brought to a stand, following a trip valve being irregularly operated, the Driver must:

- (1) reset the trip valve,
- (2) advise the Train Controller, and
- (3) proceed with extreme caution, with the train under control.

The intent of the clause above is to enable the Train Controller to manage the incident and to report the tripping hazard to the infrastructure departments concerned. The Train Driver may use the Train Radio TEC priority call to communicate with Metrol. The train must proceed with extreme caution, as far as the next fixed signal.

9(e) Trip Valve Operated Close to a Home Signal

The Driver must bring the train to a stand immediately a trip valve is operated close to a Home signal and inform the Train Controller. The Driver must not proceed until instructed by the Stationmaster, Signaller or by a competent employee if single line working is in operation.

The intent of clause (e) is to ensure that the train does not move until authority for the movement has been given by the controlling Signaller. The section is written in the above manner to prevent a train movement continuing towards a section of track that may already be, or will be occupied at a signalled location.

NOTE: Where a trip valve is operated in compliance with Rule 1 – Section 3 (as indicated in 'SW' 163/2015), the instructions contained in this notice do not apply.

Authorised By

David Ward

David Ward
 Manager Network Safety

Principal Driver Helpdesk

Contact the PD Helpdesk – 9610 7594

Drivers should not be hesitant to contact the PD Helpdesk for any issues the driver may be having regarding the running of trains or any related issue.

It is important to note that if the driver is driving a train they must contact the helpdesk via the train radio as per electronic devices in cab policy.

Below are some dot points of the various calls received:

- Any time a driver is unsure of the categorisation or wording of a fault.
- When a driver requests a current fault to be upgraded, contact must be made with the PD Helpdesk to consult and determine if required.
- Any time a driver is unsure of the route knowledge of a particular run and needs to be refreshed.
- Drivers may also contact with any Safeworking queries.

When a Safeworking incident is reported the PD on the Helpdesk will make contact with the driver involved when it is appropriate to do so and gain details and inform the driver of their requirements.

It must be noted that not every call received on the helpdesk is documented and drivers should not hesitate to call on the assumption that every call will be marked on the drivers file. Only serious incidents are recorded under the drivers' name.

At the end of the day the driver's welfare is of utmost importance and the PD Helpdesk is in operation to help drivers with any question, query or complaint.

OTDR Assessment

Classroom Discussion.

Driver Development Stage 1

Session 2 Policy and Procedures Update

M METRO

Professional Driving Handbook



What is Professional Driving?



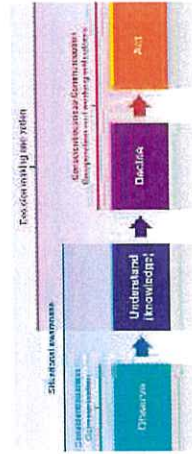
Professional Driving

- An established modern day concept that is designed to improve safety
- Used by Railways all over the world – seen as industry best practice
- Combines personal attitude, behaviors and train driving techniques
- Uses Non-Technical Skills to underpin and enhances the technical tasks of driving



What are Non-Technical Skills (NTS)?

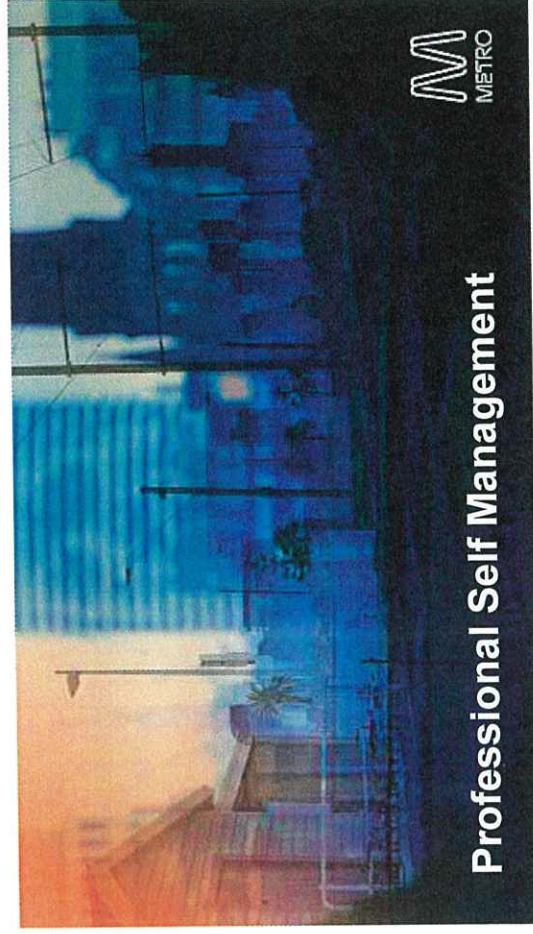
- NTS' are generic skills that enhance your technical skills
- A technical task – like driving a train – requires practical understanding as well a range of non-technical skills to successfully complete the task
- NTS plays a vital role in safety by helping people anticipate and identify risks, as well as help mitigate errors



The Non-Technical Skills (NTS)

- **Situational Awareness**
e.g. Attention to Detail, Overall Awareness, Maintaining Concentration & Anticipation of Risk
- **Conscientiousness**
e.g. Checking, Systematic Approach & Positive Attitude towards Rules
- **Communication**
e.g. Listening, Clarity, Assertiveness & Sharing Information
- **Decision Making and Action**
e.g. Effective Decisions, Timely Decisions & Diagnosing and Problem Solving
- **Cooperation and Working with Others**
e.g. Considering Others' Needs, Treating Others with Respect & Dealing with Conflict
- **Workload Management**
e.g. Multi-tasking and Selective Attention, Prioritising & Calm Under Pressure
- **Self-Management**
e.g. Motivation & Confidence and Initiative

Professional Self Management



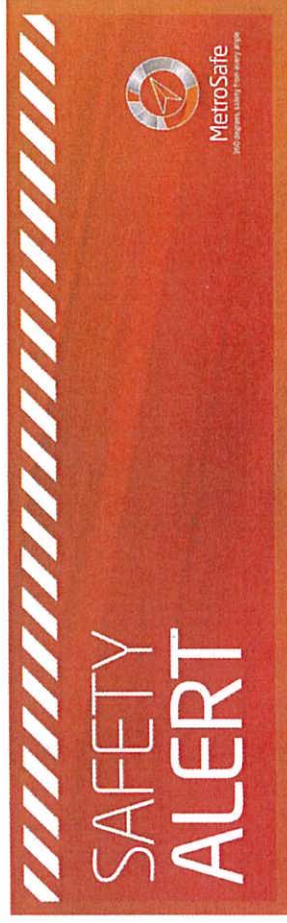
Lifestyle – Preparing for Work

- A Professional Driver takes responsibility for managing their lifestyle that may lead to poor work performance
- Failure to effectively manage your lifestyle could effect fatigue and encourage lapses in concentration
- When you sign on for duty you are stating that you're both physically and mentally fit for work
- It is vital to comply to the 'Drugs and Alcohol Policy' remembering that all prescribed medication must be declared to your Depot Manager



Driving with Attitude

PLAY 'Driving with Attitude' DVD



DISTRACTION CAUSED BY COMMUNICATIONS DEVICES

This alert is to raise awareness of the potential for safety related issues involved in the use of communications devices by Drivers whilst in charge of trains.



Background

In recent times there have been several safety related incidents where a major contributing factor has been the involvement of Drivers communicating with various internal bodies.

Contributing Factors

Some of the contributing factors include calls to and from Metrol to log faults or regarding late running, calls to and from DAO office in regards to shifts and alterations.

Action Required

Drivers **MUST NOT** use company issued mobile phones whilst a train is in running. Drivers are also reminded that ALL personal mobile devices are banned from being used in an active train cab.

If a radio call to Metrol is responded to by Metrol or a Driver receives a radio call from Metrol at an inappropriate time, request they wait until the call can be safely taken or given. If in doubt, take the safe option and wait until the train is safely brought to a stand at an appropriate location.

Drivers must not use ANY headphones or ear buds while in charge of a train.

Please refer to policy **L1-TSD-PRO-009 Mobile Device Use in Active Driving Cab Policy**

Authorised By

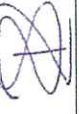
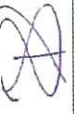
James Campbell
Operational Safety Risk Manager

LA SOE FOR-059(1)

Date of Review: 15/03/2012
Next Review Date: 14/09/2015

METRO	MOBILE DEVICE USE IN ACTIVE DRIVING CAB POLICY	
L1-TSD-PRO-009	Version: 1	Effective from: 2 nd July 2015

Approval

Document Author	Name	Position	Signature
	James Campbell	Operational Safety Risk Manager	
	Paul Owen	Manager of Safety, Training & Compliance	
	Russ Evans	General Manager Train Services	
Document Endorsers	David Ward	Manager of Network Safety	
	Ron Bria	General Manager Network Control & Security	
Approving Manager	Ron Bria	Director of Operations	

Amendment Record

Approval Date	Version	Description
02/07/2015	1	First issue

Approving Manager: Director of Operations	Approval Date: 02/07/2015	Next Review Date: 02/07/2017
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METRO	MOBILE DEVICE USE IN ACTIVE DRIVING CAB POLICY	
L1-TSD-PRO-009	Version: 1	Effective from: 2 nd July 2015

Introduction

Mobile devices of all types have become essential tools for everyday life. The Rail industry is increasingly investigating how it can safely incorporate this technology into its operational and office environments. However these devices also introduce significant risk to the safe operation of the train. As a result, MTM has chosen to introduce the mobile device policy.

Purpose

The purpose of this policy is to provide clear direction regarding the use of mobile devices whilst in an active driving cab of MTM trains.

This policy applies to all MTM Drivers and other personnel present in an active driving cab of a MTM train.

Definitions**Mobile devices**

A portable or wearable electronic equipment/devices capable of receiving or initiating speech calls, text messages, video or audio voice recording, emails or other notifications, or able to access the internet. Some examples are:

- Mobile phones ('smart' & 'dumb')
- Tablets & eReaders
- Laptops
- MP3 players & portable radios
- Portable DVD players
- Portable game devices
- Smart watches & smart glasses
- Recording devices (ie. Cameras & Camcorders)

Active Cab

A cab of an MTM train that has been energised and set up to be driven from. This may be done via inserting a key or 'cutting in'. This cab may be but not limited to the leading cab.

Approving Manager: Director of Operations	Approval Date: 02/07/2015	Next Review Date: 02/07/2017
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	MOBILE DEVICE USE IN ACTIVE DRIVING CAB POLICY
L1-TSD-PRO-009	Version: 1
	Effective from: 2 nd July 2015

**CAUTION**

Mobile devices can present a distraction to the user. Mobile device related distraction has been identified as a contributing factor to accidents that have caused injuries and death

Personal Devices

The use of all personal mobile devices while in an active driving cab of an MTM train is strictly prohibited.

- All personal mobile devices must be switched off and stored away before entering an active driving cab.
- Devices left on silent or in vibrate mode is strictly prohibited.
- Personal head phones, ear buds and other wired or wireless devices are not permitted to be worn while in an active cab or while working on or near a running line, siding or yard.

It is also the Driver's responsibility to ensure that any individual(s) in their active cab also switch off all personal mobile devices as this also introduces a significant risk to the operation of the train.

Company Issued Mobile Phone

While in an active driving cab, the use of a company issued mobile phones is to be restricted to emergency use only. The use of the phone should be restricted to the following:

- Company issued mobile phones are to be left on.
- Unless in an emergency, all MTM staff are prohibited to contact a MTM Driver via mobile phone while that driver is in an active cab of an MTM train.
- While operating a train, the driver should only expect to receive phone calls from Metrol in the event of DTRS failure.
- All company issued mobile phones should have all Metrol numbers saved in their contact list. (*Metrol contact list on the back of this document*) This will ensure the driver will only answers calls from Metrol.
- (Notifications to Drivers such as rostered shift information and reminders to lodge reports can be made via SMS. These SMS can be read and replied to once the Driver is outside the active cab (ie. changing ends))

Drivers are reminded that they are not permitted to use any mobile devices (personal or company issued) while in the vicinity of the Danger Zone and only in a position of safety.

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	MOBILE DEVICE USE IN ACTIVE DRIVING CAB POLICY
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Metrol Contact Numbers

9610 7204 – Senior Network Controller 1
 9610 7205 – Senior Network Controller 2
 9610 7207 - CFD Train Controller (FSS CFD & CCY groups)
 9610 7208 - BLY Train Controller (FSS BLY & CHL Groups)
 9610 7209 - CHL Outer Controller (Outer BLY & CHL Groups)
 9610 7210 - Western Outer Train Controller (NTH & CCY WERWIL lines)
 9610 7211 - CFD Outer Train Controller (CCY Groups Outer)
 9610 7240 - Radio CCY, NTH, DNG groups
 9610 7240 - Radio BLY - CHL groups
 9610 7266 - CHL Signaller Metrol
 9610 7267 - BLY Signaller Metrol
 9610 7268 - NTH Signaller Metrol
 9610 7272 - Western Signaller Metrol (South Kensington, NMS & MSS)
 9610 7273 - CFD Signaller Metrol

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Are you fit to work?

No matter your job title or location, all people working at Metro have a duty of care to themselves and others. You have a responsibility to consider the effect your health has on the ability to do your job safely. This applies to your general health, such as physical well-being, level of fatigue or mental state, as well as your use of drugs and alcohol.

Metro requires all persons entering and/or carrying out work at Metro controlled premises to have a zero blood alcohol level and be free from the influence of drugs whilst at work.

LO-HMR-PRO-044 Alcohol & Other Drugs Procedure

Work, and in particular rail safety work, can involve complex tasks requiring perception, good judgment, responsiveness and sound physical capability. Your health status may impair your fitness to work safely.

Before commencing work, check in and ask yourself these questions:

Are you free from the influence of drugs and alcohol?

Are you well-rested and alert?

Are any personal or medical issues likely to affect your working safety?

If you are concerned after asking yourself the questions above, or if you have a medical condition or are taking medication that may impact on your ability to do your job safely, you should:

- Tell your Supervisor. It is important they are aware of anything which may impact on your ability to work safely.
- This confidential chat can help your Supervisor evaluate your fitness for duty. A health assessment may be organised to confirm that you are fit to work safely.
- Tell your pharmacist or treating doctor about the type of work you do so they understand the demands of the rail environment and prescribe a medication accordingly. Always follow their advice.

For further assistance to help you deal with life or work issues, contact Metro's Employee Assistance Program on 1300 360 364.

Authorised By

T. Bentley

Todd Bentley – GM Safety, Environment & Risk

LA-SOE-FOR-009(1)

Date of Review: 16/09/2012
Next Review Date: 14/09/2015



Rail Safety Workers - Cold and Flu Medication

Background

Cold and flu season is well upon us. As a Rail Safety Worker, you have an obligation to ensure that any medication (prescribed and non-prescribed) does not impair your ability to work safely.



Examples of medication that could impair and show up in a preliminary drug test include:

- Anything containing pseudoephedrine or phenylephrine
- Benzo-class sleeping tablets (valium, serenax, normison)

In addition, codeine is contained in many cough mixtures and over the counter pain killers.

Action Required

When being prescribed medication or purchasing over the counter medication, inform your Doctor or Pharmacist of the nature of your rail safety work using Metro's Drug Information Card for Rail Safety Work. If you have not received your card yet, please ask your Supervisor.

If you have taken medication that is on the banned list, notify your Manager or Supervisor prior to commencing your shift.

For further information, please contact your Supervisor or refer to:

- LO-HMR-PRO-044 Alcohol and Other Drugs Procedure
- LO CEO-POL-010 Drug and Alcohol Policy

Authorised By

David Hutton

**David Hutton
SER Coordinator – Train Services**

LA-SOE-FOR-009(1)

Date of Review: 15/08/2012
Next Review Date: 14/08/2015





Issued: 9 September 2015
Expires: 9 November 2015
Number: TSD-BUL-11-2015

Rail Safety Workers - Fitness for Work

Rail Safety Workers have a duty of care to themselves and others to notify their Supervisor of any temporary or ongoing health conditions likely to affect their ability to perform work safely.

To that effect, please advise your Supervisor:

1. Of your condition if you are unwell and can't attend work as early as is reasonably practicable;
2. Your intention to resume duty as soon as you become aware of your ability to do so;
3. If you suspect an illness or treatment may impair your ability to work safely please discuss with you Supervisor.

If you are taking any medication that may cause some impairment you must notify your Supervisor in writing.

Further information:

- Alcohol and Other Drugs Procedure L0-HMR-PRO-044
- Alcohol and Drug Policy L0-CEO-POL-010
- Drug Information Card for Rail Safety Work (available from your Supervisor).
- Metro Trains Melbourne Rail Operations Agreement 2012-2015 Page 18 11.13 Sick Leave
- Contact your Supervisor.

Authorised By

[Signature]
David Hutton
Train Services SER



METRO	TRAINS STOPPING AT PLATFORMS – (OVERSHOOT / FAIL TO STOP)	
L2-TSD-PRO-024	Version: 3	Effective from: 13 th March 2015

Approval

Document Author	Name	Position	Signature
	Peter Boyle	Train Driver Manager Fleet Standards	<i>[Signature]</i>
Document Endorsers	Tim Young	Head of Network Performance & Control	<i>[Signature]</i>
	Paul Owen	Safety & Compliance Manager	<i>[Signature]</i>
Approving Manager	Russ Evans	Head of Train Services	<i>[Signature]</i>

Amendment Record

Approval Date	Version	Description
25/10/2013	1	First issue Metro. This version supersedes: • cml-8.13-tsg-062 Stopping Short or Overrunning Platform Please dispose of all copies This version modifies: • Title from Platform Stop Short or Overshoot • Definition of an overshoot This version introduces: • Definition of the person responsible for the train • Investigation procedures • Fail to stop This version introduces: • Do not stop if having an overshoot and wait for Metrol to proceed. • Do not use emergency during an overshoot (unless safety related)
04/03/2014	2	
13/03/2015	3	

	TRAINS STOPPING AT PLATFORMS – (OVERSHOOT / FAIL TO STOP)
L2-TSD-PRO-024	Version: 3 Effective from: 13 th March 2015

1. Purpose

This document describes the process to be followed in the event that a train overshoots, stops short of, or fails to stop at a platform where scheduled to stop.

2. Scope

This procedure applies to all Metro trains.

3. Definitions

- Stop Short: Stopping the train with any portion of a saloon door not reaching the platform
- Overshoot: Stopping the train with any portion of a saloon door past the end of the platform (or fenced off area of a platform where customers cannot board or disembark)
- Aborted stop: Attempting to stop the train at a platform but having to release the brakes and continue due to the likely event of the train if stopped having a portion of a saloon door past the end of the platform
- Fail to Stop: Failing to stop the train at a scheduled stopping location (due to misread roster or forgetting to stop altogether)

4. Responsibilities

- Train Drivers
- Train Services Officer – Principal Driver Specialists (TSO-PDS)
- Train Services Officer – Driver Training Specialists (TSO-DTS)
- On Job Trainers (OJT)
- Train Driver Managers Qualified to Drive
- Train Controllers, Metrol

5. Stopping Location

Trains making scheduled stops at platforms must be brought to a stand at the appropriate stopping mark. This is required to ensure all train doors are adjacent to a platform and therefore the safety of passengers is maximised.

NOTE: In the event that a train passes the stopping mark it does not constitute a platform overshoot unless the definition of an overshoot is met.

6. Stopping Short of a Platform

If during a scheduled platform stop, a train for any reason stops short of the appropriate car platform stopping mark, the Driver must:

	TRAINS STOPPING AT PLATFORMS – (OVERSHOOT / FAIL TO STOP)
L2-TSD-PRO-024	Version: 3 Effective from: 13 th March 2015

6.1 Not release saloon doors until all doors are positioned at the platform

Inform passengers, via the PA system, that the train is not fully at the platform and will be moved forward and stopped a second time and apologise for any inconvenience

Ensure passengers on the platform are clear prior to moving the train (and authority to use Spot 9 protocols in ensuring this)

Sound a long whistle prior to moving

Move the train to the appropriate platform stopping mark

Follow the reporting requirements as detailed in section 10.

7. Driver believes that an overshoot may occur

If a Driver becomes aware that in braking for a platform stop that they may overshoot, they must:

7.1 Not use EMERGENCY brake in an attempt to stop the train (unless covered by the NOTE below)

7.2 Place the brake handle into full service until the stopping end of the platform is near or unless the train is back under full control

7.3 At approximately the end of the platform make a determination as to whether the first saloon door or more will not be positioned on the platform

7.4 If a platform overshoot is imminent, release the brake at a speed that will not bring the train to a stand

7.5 Make a PA announcement to passengers similar to: "Your attention please customers, this train was unable to stop at the previous station, Metro apologise for any inconvenience".

7.6 Proceed to the next station and stop (regardless of Working Timetable stopping conditions).

7.7 Inform Metrol of the aborted stop and record the details (as per the Reporting requirements in section 10).

NOTE: As per existing rail safety protocols; if there is a signal at danger or unprotected level crossing at the departure end of the platform, the Driver MUST make all attempts to stop (including the use of the EMERGENCY brake as applicable)

Approving Manager: Head of Train Services	Approval Date: 13/03/2015	Next Review Date: 13/03/2018
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Approving Manager: Head of Train Services	Approval Date: 13/03/2015	Next Review Date: 13/03/2018
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8. Overshooting a Platform

In the event a Driver has braked to a stop at a platform and the train has stopped and overshoot, the Driver must:-

- 8.1 Not release the doors
- 8.2 Make a PA announcement requesting that passengers please stand clear of the doors
- 8.3 Observe no passengers are attempting to board or hold on to the door handles
- 8.4 Sound a long whistle
- 8.5 Proceed to the next station and stop (regardless of Working Timetable stopping conditions).
- 8.6 Also, whilst proceeding to the next station after the overshoot, make a PA announcement to passengers similar to: "Your attention please customers, this train was unable to stop at the previous station, Metro apologises for any inconvenience".
- 8.7 Inform Metro of the overshoot and record the details (as per the Reporting requirements in section 10).

NOTE: If the Driver has passed a signal at DANGER, the existing SPAD protocols apply.

9. Fail to Stop

If a Driver fails to stop their train at a platform where scheduled to do so they must:

- 9.1 Report the event as detailed in section 10.1
- 9.2 Continue to the next station where they are scheduled to stop
- 9.3 Make a PA announcement to passengers similar to: "Your attention please customers, this train was unable to stop at the previous station, Metro apologises for any inconvenience".

Approving Manager: Head of Train Services	Approval Date: 13/03/2015	Next Review Date: 13/03/2018
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	TRAINS STOPPING AT PLATFORMS – (OVERSHOOT / FAIL TO STOP)
L2-TSD-PRO-024	Version: 3 Effective from: 13 th March 2015

10. Reporting

10.1 Drivers must when safe to do so, immediately report any of the following occurrences to the Train Controller, Metro:

- o Stopping short of a platform
- o Overshooting a platform
- o Aborted stop
- o Failing to stop at a platform.

10.2 The Driver must communicate the cause of the platform overshoot/fail to stop to the Train Controller Metro e.g. Train equipment fault, excessive wheel slide conditions or Driver error.

(Metro must inform the TSO-PDS if informed of any occurrences listed in 10.1)

10.3 Drivers must submit a Train Driver Incident Report (L4-TSD-FOR-014) for any occurrences listed in 10.1 prior to ceasing duty.

10.4 The TSO-PDS must fill out the applicable reports when information regarding occurrences listed in 10.1 is received.

11. Investigation

11.1 In the event of any occurrence as listed in section 10.1, there may be a requirement to investigate the incident as per existing Metro procedures.

12. Related Documents

- L2-TSD-PRO-014 Platform Departure
- L3-TSD-PRO-030 3 Car Trains to Stop at the 6 Car Platform Stopping Mark
- L4-TSD-FOR-048 Report of Overshoot (Aborted Stop) and Fail to Stop
- L4-TSD-FOR-014 Train Driver Incident Report

13. References and Legislation

- Book of Rules

Approving Manager: Head of Train Services	Approval Date: 13/03/2015	Next Review Date: 13/03/2018
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Analysis of data collected over the last year has revealed hotspots in the suburban area where there have been repeated incidents of Overshoots, Aborted Stops, and Fail to Stops. This bulletin is to remind Drivers of the stations where these incidents have occurred.

Listed below are the top 12 locations since January 2015:

<u>Stations</u>	<u>Instances</u>
Diggers Rest	8
South Yarra	6
Hallam	6
Sunshine	5
St Albans	5
Sandown Park	5

<u>Stations</u>	<u>Instances</u>
Coolaroo	5
Roxburgh Park	4
Richmond	4
Montmorency	4
Malvern	4
Keilor Plains	4

- Misjudged braking effort (including Air Braking on Comeng Train).
- Braking with the Master controller in the Powering Notch (Comeng Train).
- Misread stopping locations.
- Lack of situational awareness.
- Momentary lapse in concentration.

[Signature]

Acting General Manager – Train Services

14-SOF-FOR-08911

Date of Review: 15/03/2012
Next Review Date: 14/09/2015

1. AUTOMATIC SIGNAL AT 'STOP'

For the purposes of this Rule, the reference to 'Train' also includes Track Machines and Track Vehicles.

(a) Automatic Signal at 'Stop'

The Driver must bring the train to a stand if an Automatic Signal displays 'Stop'.

The Driver must then contact 53599 (9610 3599) and listen to the automated message.

Upon completion of the message, the Driver will then be prompted to provide the following information:

1. The Driver's name,
2. The lead number of the rail vehicle the Driver is operating, and
3. The number of the Automatic Signal at 'Stop'.

The automated voice mail message will state:

'After satisfying yourself that it is safe to pass the Automatic Signal at the 'Stop' position, you may pass the Automatic Signal in question, but in doing so, only at a speed of Extreme Caution.'

You must be prepared to stop within half the distance which can be seen ahead, always being prepared to find the section ahead occupied or obstructed, or the track damaged.

A maximum speed of 25 km/h must not be exceeded'.

(b) Automatic Signal still at 'Stop'

If the Automatic Signal is still at 'Stop' after completing the transmission, the Driver may then proceed, but must control the speed of the train at *Extreme Caution*.

Extreme Caution is defined as being able to stop the train in half the distance that can be seen ahead, not exceeding 25 km/h or the posted track speed if that is the lesser, and always being prepared to find the section ahead occupied or obstructed, or the track damaged.

For example, if the Driver can only see 50 metres ahead, the speed travelled must be suitable for the Driver to stop the train within 25 metres.

(c) Automatic Signal Clears

If the Automatic Signal clears during the transmission of the information detailed in Clause 'a' 1, 2 & 3 above, the Driver must state '*Signal Cleared*' upon receiving the prompt and complete the call.

The Driver may then proceed in accordance with the signal indication displayed.

(d) Driver Unable to Make Contact

Should the Driver be unable to make contact with No.53599 due to a technical fault, the Driver may proceed in accordance with Clause 'B' above once a period of thirty seconds has elapsed.

The Driver must advise the relevant Train Control Centre of the inability to make contact at the first available opportunity.

Except where special instructions are issued to the contrary or where a disabled train requires assistance, a Driver must not pass any Automatic signal when it is known there is a train in the track section ahead.

2. The Driver must not:

- (i) Pass the Signal if the line ahead is known or seen to be occupied, until the train ahead moves out of sight or out of the track section.
- (ii) Assume that the Signal being passed is defective, but must always consider the track ahead is occupied, obstructed or damaged.
- (iii) Be distracted whilst the train is in motion. The Driver must bring the train to a stand before performing any other function.
- (iv) Pass the Signal unless the Driver can exercise full control of the train.

3. If the Driver considers it is unsafe, because of:

- The braking ability of the train in consideration of the gradient to be travelled
- Defective or isolated equipment
- Extremely bad weather conditions
- Poor visibility
- Restricted visibility
- Fog.

the Driver does not have to pass the Signal at the 'Stop' position until the Signal alters to a 'Proceed' indication, **or until it is safe to do so.**

The Driver must advise the relevant Train Control Centre of the circumstances for not proceeding.

The Driver must advise the relevant Train Control Centre of the reasons for not proceeding.

- 4(a) At no time is a Signaller, Train Controller or any other person permitted to indicate to a Driver that an Automatic Signal is defective when it is at the 'Stop' position.

(b) Driver Being Prepared to Stop

Should the next Signal in advance be at the 'Proceed' position, the Driver must be prepared to stop short of any obstruction.

The speed of the train must not be increased until the whole of the train has cleared that Signal.



(c) Parallel Lines

If the Driver sees a train in advance where there are parallel lines, the Driver must stop until it is ascertained that the train is on a parallel line.

(d) Two Trains in the Same Section

After entering a section, if a Driver sees the preceding train there, the train must be brought to a stand and must wait until the first train has proceeded on its journey unless authorised by the Train Crew of the first train to move cautiously forward.

After the front train has proceeded, the Driver of the second train may follow at a distance in order to avoid colliding with the front train in the event of its stopping.

The Driver must bring the train to a stand at the next Signal, if at 'Stop'.

Radios should be used for communication between Drivers and if available, hand signals must be used.

(e) Next Automatic Signal

If the next Signal is an Automatic Signal and is at the 'Stop' position, the procedures laid down in this rule apply.

CAUTION:

It must be clearly understood that the passing of a 'Stop' signal as permitted under this rule applies to an Automatic Signal only, and not to any other Signal.

(f) Active Level Crossings

Where a level crossing equipped with boom barriers or flashing lights is in the track section and the equipment is not working, the Driver must move cautiously forward until the boom barriers and/or flashing lights are operated by the passage of the train. The train must not proceed over the level crossing until the level crossing equipment is operating and it is safe to do so. The Driver must use the whistle frequently.

(g) Train Stopped at Two Position Automatic Signal protecting a Level Crossing

Where the Signal protects a level crossing equipped with boom barriers or flashing lights in a:

- (i) Train Order, or
- (ii) Staff Section or

and the Two Position Automatic Signal is still at the 'Stop' position, the Driver must bring the train to a stand for 30 seconds. The Driver may then move cautiously forward until the boom barriers and/or flashing lights are operated by the passage of the train. The train must not proceed over the level crossing until the level crossing equipment is operating and it is safe to do so. The Driver must use the whistle frequently.

The Driver may then resume normal speed after passing over the level crossing.

Driver Development

Stage 1

Session 3

SPAD Update



SPAD Update



Common SPAD Trends



Common SPAD Trends

Drivers returning or about to commence leave:

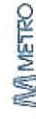
- Drivers need to be aware that they may not be focusing their complete attention when driving when about to commence leave or having just returned from leave. Drivers need to be mindful of these times and take responsibility for focusing completely on the task of driving safely. Combines personal attitude, behaviors and train driving techniques



Common SPAD Trends

SPADs at signals before platforms:

- Drivers need to be aware of signals at Stop before platforms – when receiving a Warning aspect, be aware that the next signal may be before the next platform. Examples of these signals where SPADs have occurred are LAV705 (Laverton), F1088 (Bonbeach), S488 (Rosanna) and Flinders Street (signals on East & West ends of all platforms).



Common SPAD Trends

SPADs at signals positioned on the 'Right-hand' side of the track:

- Drivers need to be vigilant of signals that are placed opposite side of the track ('right-hand' side of the track). These signals have been placed to improve signal sighting but do not allow for Drivers natural behaviour to look for a signal on the 'left-hand' side of the track. Examples of these signals are 585 (Flinders Street – entry to platform 6) and MLK305 (Mooolbark).



Common SPAD Trends

Distraction from other tasks in the cab:

- Task prioritisation is vital to ensure the safe running of a train. Tasks such as entering TD numbers into the radio/DDU or making a call to Metrol/Signaller, as important as they are, must never be undertaken when approaching a signal at Stop or departing a platform. If a Driver arrives at a platform with the signal at Stop, place the reverser into the OFF position until the signal clears – and always remember to check the signal twice before moving.



Common SPAD Trends

Drivers being fit for duty (mentally):

- Drivers need to take responsibility that when they sign on for duty, they are fit physically and mentally for work. Many SPADs occur when a Driver has a lot playing on their mind, such as family issues or health concerns. These factors play on our minds and remove our attention away from carrying out our safety critical tasks. If a Driver believes they cannot concentrate 100% on the task of driving safely, they should speak to their manager immediately.



Case Study, Reset and Go

Classroom Discussion.

Driver Development Stage 1

Session 4 Lessons to Refresh

METRO

Module 19 Session 02 Exceptions to Pass Fixed Signals Learner's Notes



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MODULE AIM

The aim of this lesson is to ensure the learner understands the risks associated with passing fixed signals at STOP.

The aim is also to ensure the learner has been given the information to gain competence to undertake the duties of a Driver with regard to passing fixed signals at STOP found on the Metro Network.

SESSION OBJECTIVES

At the completion of this lesson, the learner will be able to state the exceptions for passing:

- Home signals at the STOP position
- Automatic signals at the STOP position
- Disc and Dwarf signals at the STOP position

METRO RISK

You must understand that this is an increased risk task and you must carefully carry out these instructions.

You must not pass any signals at STOP unless you have been given the proper authority and have come to a clear understanding with the Signaller or Train Controller with regard to the instructions you have been given.

You must understand that when giving or receiving any verbal communication that the instruction for safety critical communication must be carefully followed.

If you are unsure about the instructions you have received or are unsure if you should proceed, WAIT at the signal until you get clarification from the Signaller or Train Controller.



INTRODUCTION

As you have learnt from previous lessons, fixed signals are used to control the safe movements of trains. Signals are used to communicate the state of the line ahead.

Ordinarily no fixed signal can be passed at the STOP position. From time to time however there will be exceptions for doing so. When you are required to pass a signal at the STOP position, you must remember the following:

You may only pass the signal at STOP if the reason for doing so is authorised by the rules.

You must receive the proper instruction from the authorised person only, before passing any signal at STOP, unless you are passing a signal at STOP under your own authority.

NOTE: For High Risk Issues

You must only pass a signal at STOP under your own authority where specified in the Book of Rules and never at a HOME SIGNAL. When doing so you must proceed at extreme caution and carry out the instructions presented below.

When passing a signal at STOP; this means that the usual protection that is provided by the signalling system is not available. The Driver must proceed with extreme caution and be prepared to stop short before any obstruction or danger.

You are operating in a degraded mode and must take extra care. Passing a signal at danger means that the line ahead may NOT be CLEAR!

Drivers must be fully conversant with these exceptions to pass all fixed signals at the STOP position.



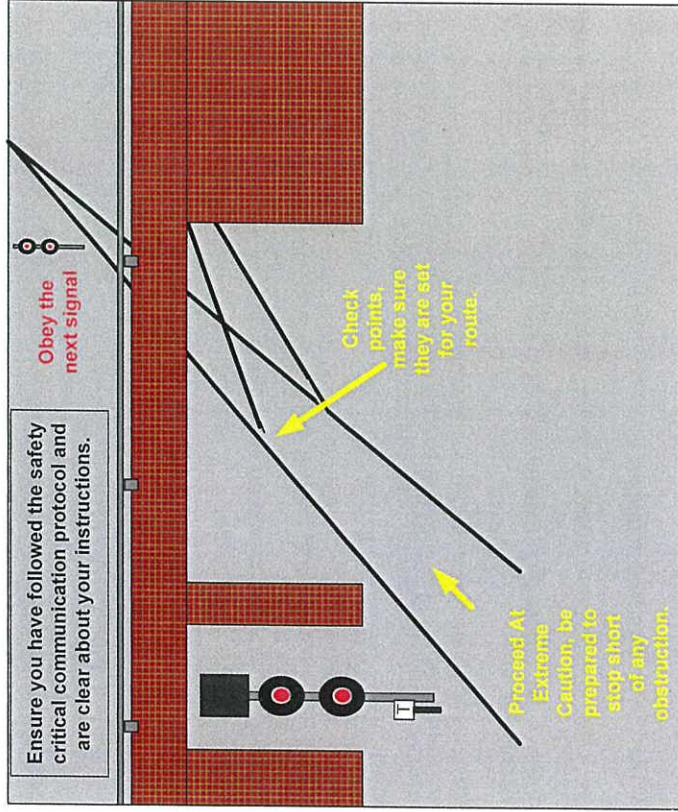
GENERAL INSTRUCTIONS

You must carry out these general instructions when passing a signal at STOP.

- When given authority by a Signaller or Controller:
- Follow the safety critical communication protocol
 - Use the phonetic alphabet
 - State your train ID
- Your Location and the Signal Number that you are standing at
- Confirm who you are speaking to, make sure the Signaller or Train Controller identifies themselves
- Listen carefully and actively to the message
- Repeat the message back to ensure proper understanding
- Follow the instructions you have been given
- Check which route has been set

When passing the signal:

- Sound the whistle
- Proceed at extreme caution and be prepared to stop
- Proceed at a speed that you are able to stop before reaching any obstruction.
- Check any points and make sure they are set for your route
- Do not pass over any level crossing unless you are sure that the protective devices are working properly and it is safe to continue



EXCEPTIONS TO PASS HOME SIGNALS AT STOP

No train may pass a Home signal displaying a STOP aspect or obstruct the crossings or points applicable to the signal.

There are three exceptions to pass a Home signal at the STOP position, they are:

- The Signal is Defective
- Track circuted (Track Section is Occupied) and no Calling-on or Low Speed signal is provided
- Single Line Working has been introduced

DEFECTIVE - WHEN THE SIGNAL IS DEFECTIVE AND THE SIGNALLER GIVES THE AUTHORITY

If the defective signal can **not** be kept at the STOP position, a Hand Signaller must be instructed to signal in place of the defective signal until it has been repaired.

If the signal can be secured at the STOP position, a Hand Signaller is not required where traffic can be worked by a Calling-on or Low Speed signal.

When it is required to allow a train to pass a defective Home signal at the STOP position and such signal:

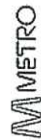
- Ordinarily governs facing or trailing points
- Protects the fouling point of a cross over
- Protects a tramway crossing

NOTE: The Signaller must issue a Signaller's Caution Order to the Driver.

The Driver receiving the Caution Order must see that the following details are provided:

Signaller's Caution Order

- Name of Signal Box
- Date
- Time
- Train Number
- Destination to and from
- Signal Post Number
- Signaller's signature



**SIGNALLER'S CAUTION ORDER FOR DRIVER TO PASS A
HOME SIGNAL AT THE STOP POSITION**

HOME SIGNAL AT THE STOP POSITION

No. _____

Date _____

Time _____

Signal Box _____

To Driver of No. _____

Train from _____

To _____

Train _____

No. of Signal _____

Reason for order being issued _____

You are authorized to pass Signal Post No. _____ and to proceed cautiously as far as the next fixed signal.

Signed _____

Signature _____

NOTE: This order must be attached by its Driver and attached to his Running Sheet. Chapter Orders received attached to Driver's Running Sheet is to properly forwarded to the Manager of System Safety.

Drivers issued with Caution Orders are to retain them until they complete their shift when they must submit them with an Incident Report.

After passing the Home signal at the STOP position the Driver must proceed with **EXTREME CAUTION** until the next fixed signal.

If the Home signal does not protect:

- Facing or trailing points
- The fouling point of a cross over
- A tramway crossing

Only verbal permission from the controlling signaller is required.

Home Signal Protecting a Tramway Level Crossing

If a train is required to pass a Home signal at the STOP position that is protecting a tramway level crossing, the Signaller must ensure the boom barriers are lowered.

The Signaller will then complete a Signaller's Caution Order and hand it to the Driver as the authority to pass the Home signal at the STOP position.

TRACK CIRCUITED AND NO CALLING-ON OR LOW SPEED FITTED

If the Home signal is controlled by track circuit and a Calling-on or Low Speed signal is not provided and a train needs to enter a part of line that is occupied by another train, the controlling signaller may authorise a Driver to pass the home signal at STOP.

When a Home signal at a station is at the STOP position due to a train or vehicle ahead of the signal, and a Calling-on or Low Speed signal is not provided, the train which has to be brought into the occupied line must be brought to a stand at the signal.

The Driver must be piloted by a Competent Employee to where the train is required to stop, after receiving verbal permission from the controlling signaller.

SINGLE LINE WORKING

When authorised by the Pilot to enter the section where the traffic of a double line is being worked over a single line during repairs or obstruction.

When it is necessary to work the traffic in both directions over a single line, a Competent Employee must be appointed as Pilot.

Before entering the single line each Driver must be advised by the Pilot as to the exact location where the Single Line Working is operational and be authorised by the Pilot to pass the signal controlling entry to the line under single line working.

NOTE: This does not apply to trains leaving a single line section. The Pilot cannot authorise the Driver to pass the signal governing the exit from the single line section at the STOP position. This signal will be operated by the Signaller at the location and Drivers must obey the aspect shown.



EXCEPTIONS TO PASS DISC AND DWARF SIGNALS AT STOP

Disc and Dwarf signals are used to regulate the passage of trains between sidings, running lines and shunting operations.

They must not be passed at the STOP position.

There are two exceptions to pass Disc and Dwarf signals at the STOP position, they are:

- Defective
- Single Line Working

DEFECTIVE

The Driver must receive verbal authority from the controlling Signaller.

SINGLE LINE WORKING

When authorised by the Pilot to enter the section where the traffic of a double line is being worked over a single line during repairs or obstruction.

Before entering the single line each Driver must be advised by the Pilot as to the exact location where the Single Line Working is operational.

This does not apply to trains leaving a single line section.

The Pilot cannot authorise the Driver to pass the signal governing the exit from the single line section at the STOP position.



ASK YOURSELF

What are the exceptions for passing Home signals at the STOP position?

What are the exceptions for passing Automatic signals at the STOP position?

What are the exceptions for passing Disc signals at the STOP position?

What are the exceptions for passing Dwarf signals at the STOP position?

END OF SESSION



Module 38 Session 05 Operation of Dual Control Point Machines Learner's Notes



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MODULE AIM

The aim of this lesson is to ensure the learner has been given the information to gain competence to undertake the duties of a train driver with regard to the manual operation of a Dual Control Point Machine.

It is also to ensure that the learner understands the risks associated with operation of Dual Control Point Machines.

SESSION OBJECTIVES

At the completion of this lesson, the learner will be able to state the:

- a. Purpose of the Dual Control Point Machines.
- b. Purpose of both positions of the Selector Lever.
- c. Purpose of both positions of the Hand Throw Lever.
- d. Normal positions of the:
 - I. Selector Lever;
 - II. Hand Throw Lever.
- e. How the Selector and Hand Throw Levers are secured.
- f. The procedure for a Driver to operate the points of a Dual Control Point Machine by hand.
- g. Who directs the Driver to operate the Dual Control Point Machine.

METRO RISK

The operation of Dual Control Point Machines (DCPM) must be conducted under the authority of a Signaller or Train Controller. You must ensure that you properly understand the instructions you have been given. You must ensure that the proper safety critical communication protocol is maintained when speaking to the Train Controller or Signaller.

You must remain alert when attending the DCPM as other trains may pass your location.

You must ensure that after the use of the DCPM it is properly secured as unauthorised access could result in a train accident.

DUAL CONTROL POINT MACHINES

The main line points at some Attended and all Unattended Crossing Stations on the A.T.C. system are operated by a DCPM.

The purpose of DCPM is to enable points to be operated by remote control, or in case of failure, by hand.

On the ATC system they are operated remotely by a Signaller at a control station.

The DCPM is located next to the track and adjacent to the point blades that it operates.

The machine has two levers known as the:

- Selector Lever
- Hand Throw Lever.

The **SELECTOR LEVER** determines whether points are set for hand or motor operation and is the smaller of the two levers.

When in the motor operating position the word **MOTOR** appears on the upper side of the lever.

The purpose of the **MOTOR** position is:

- To provide the electrical connection for the remote control of the points and signals.
- To prevent manual operation of the points.

Except when it is required to operate the points by hand, the selector lever is secured by a 5P or V5PSW padlock in the **MOTOR** operation position (Normal Position).

When in the hand operating position, the word "**HAND**" appears on the upper side of the lever.

The purpose of the **HAND** position is to:

- Render remote control of the points by the control station ineffective
- Hold the signals governing movement of the points at the **STOP** position.

The **HAND THROW LEVER** is used to operate the points by hand and before a train movement over the points is made the lever must be secured in the required position by a 5P or V5PSW padlock.

The **HAND THROW LEVER** can only be operated if the selector lever is in the HAND operating position.

In the **NORMAL** Position the words **HAND THROW LEVER N** appears on the upper side of the lever.

In the **Reverse** Position the words **HAND THROW LEVER R** appears on the upper side of the lever.

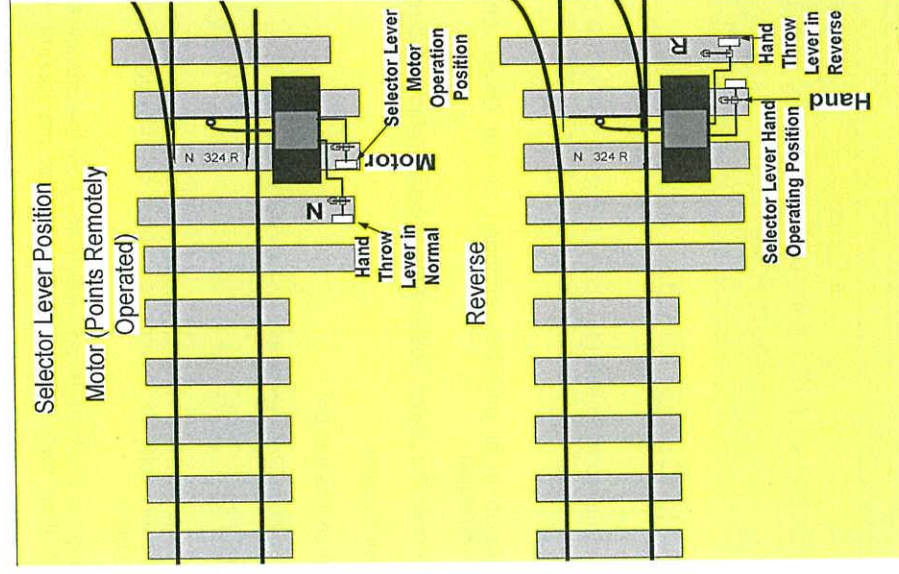
The purpose of the two positions of the Hand Throw Lever is to manually move the points to the:

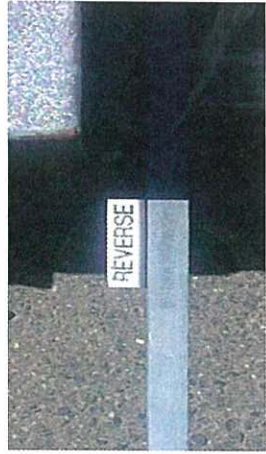
- Normal Position (N) – points set for the normal or main track.
- Reverse Position (R) - points set for diverging track.

When not in use this lever must always be secured in the Normal Position (hand throw lever at **N**) by the 5P or V5PSW padlock.

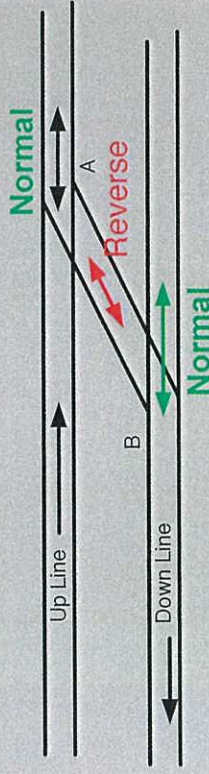
The normal position of the Selector Lever is **MOTOR** position.

The normal position of the Hand Throw Lever is **NORMAL (N)** position.





You should know that a crossover has two sets of points known as A end and B end



Ensure both ends of the crossover are correctly set!

MANUAL OPERATION

Under certain circumstances (e.g. point failure) a Driver will be required to hand operate the Dual Control Point Machine at an Unattended Crossing Station/loop.

Hand operation must only be performed by the Driver under the Train Controller's direction.

Before operating the points, observe their position which will be one of three:

- Normal Position
- Reverse Position or
- Intermediate Position (between Normal & Reverse).

PROCEDURE

If the points are in the correct position the hand throw lever must be fully operated to the opposite position and back to the position the points are required to be in.

The operation of the hand throw lever (away from the position that the points are in and then back again) will ensure that the locking mechanism is engaged.



If the points are in the Normal position, move the Hand Throw Lever to the Reverse position where the points will engage. To ensure re-engagement, return to the normal position. This action has secured the points in the Normal Position.

If the points are in the Reverse position, move the hand throw lever to the Reverse and then back to the Normal position to ensure re-engagement. The points can then be operated as required.

- If the points are required for a movement in the NORMAL direction, leave the hand throw lever in NORMAL.
- If the points are required for a movement in the reversed position, place the hand throw lever in the REVERSE position.

If the points are in the intermediate position, operate the Hand Throw Lever until the points are re engaged, after which the points can be operated as required.

Sequence for Hand Throw Lever Operation

Required position of points	When points are lying in the Normal position	When points are lying in the Reverse position
NORMAL	N>R>N	N>R>N
REVERSE	N>R>N>R	N>R>N>R

The Hand Throw Lever must be secured in the required position by the 5P or V5PSW padlock for the passage of the train.

If the points have moved to the required position but the Hand Throw Lever cannot be fully moved to and secured to the stop, the points must be secured with a point clip provided in the telephone cabin, and the Train Controller notified.

After the train has cleared the points, the Driver may be required to return the Hand Throw Lever to the **Normal** position and the Selector Lever to **Motor** position, and secure both levers with the 5P or V5PSW padlock.

This will be carried out under the direction of the Train Controller.

EXCEPTION

If it has been necessary to use a point clip, the Selector lever is left secured in the Hand position and the Train Controller notified.



ASK YOURSELF

What is the purpose of dual control point machines?

What is the purpose of both positions of the selector lever?

What is the purpose of both positions of the hand throw lever?

What is the normal position of the Selector lever?

What is the normal position of the Hand throw lever?

How are the selector and hand throw levers secured?

What is the procedure for a Driver to operate the points of a dual control point machine by hand at an unattended crossing station / loop?

Who directs the Driver to operate the dual control point machine?

END OF SESSION



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Module 88 Session 03
Train Fails to Power – ROBBPS Test
Learner's Notes

MODULE AIM

This module has been designed to provide the learner with instruction on EMU General Defects. (Train fails to power – ROBBPS test)

SESSION OBJECTIVES

At the end of this session the learner will be able to:

- Determine if control voltage is available
- Describe the fault finding procedure if the train fails with control voltage available

METRO RISK

Drivers must be aware of the correct process to follow to ascertain if DC power is present and if other factors have attributed to the train not powering. The Driver must know the procedure to be followed to either localise and/or isolate the fault or if possible rectify the problem in a timely manner to alleviate delays and provide a safer system.

INTRODUCTION

At times a train may fail to power even though DC power is present. The Driver must know the procedure to be followed to either localise the fault or if possible rectify the problem. The fault finding process has been defined in a step by step process.

It is recommended that the Driver follow the procedure to quickly identify the fault and take the necessary action.

INITIAL CHECKS

(In cab checks performed first)

Trip

Check the trip is cut in (lowered).

Switches

Check that all required switches and circuit breakers are in their normal position. This includes ensuring that the doors closed button is activated (blue doors closed light steady).

The circuit breaker most likely to cause a train to fail would be the Control circuit breaker on a Comeng train

Gauges

Check for correct air pressure:

- Main reservoir 600 - 700 kPa
- Brake pipe approximately 550 kPa +/-5kPa
- Control reservoir 485 kPa +/- 15kPa

Cocks

Check that the brake valve isolating cock and isolating switch is open if the brake pipe pressure is low, leave the cab cut in, ensure you have the correct authority to enter the pit, exit the cab and check that the red Emergency Circuit cock and yellow TECH cock are in the NORMAL position.

If everything appears normal and the train fails, then the Driver must carry out another series of checks to get the train to power. These checks vary slightly according to the type of train.

After checking the trip, switches, gauges and cocks are okay, the first check would be to ensure that 110 volts DC supply is available. This can be achieved by observing whether the supply light is on. It is located on the right hand side of the Driver's console just below the fault light panel.

The Driver must also check for the illumination of the doors open or close light, which is situated on the Driver's console; this will indicate if there is DC power available to the PLC unit.

NOTE: The doors must be in the CLOSED position for the train to power.

Another means of checking for 110 volt DC, would be the Low Pressure flag is lowered and the electro pneumatic brake is operational, or the operation of the bell. All these being operational, would indicate to the Driver that 1500 volt overhead current is available and that at least one motor alternator is running, providing 110 volt DC power.

When it has been established that power is available, the Driver would, initiate a process of elimination to locate the cause of the train failing to power.

There are six steps that the Driver must at this stage undertake for the fault finding process

ROBBPS TEST

R - REVERSE

O - OVERLOAD reset button

B - BRAKE PIPE reduction

B - BYPASS button

P – P.L.C.

S - SECOND Controller

STEP ONE - REVERSE

- Place the reverser into the reverse position and try for power

If the train powers in the reverse direction but not in the forward direction, it would indicate that the reverser is defective in the forward direction.

A suitably qualified Competent Employee (if available) could power the train from another master controller, to the nearest siding.

IF NO COMPETENT EMPLOYEE IS AVAILABLE

NOTE: The Driver would declare the train disabled and the relief train would assist to clear the section.

If the train fails to power in reverse, the next step would be:

STEP TWO - OVERLOAD RESET BUTTON

- Press the traction overload reset button.

This will reset any overload or other resettable equipment. Then try again for power. Proceed and submit the relevant Train Malfunction Message (TMM).

If the train still fails, the next step would be:

STEP THREE - BRAKE PIPE REDUCTION

- Make a brake pipe reduction below 325 kPa and the control governor will open.
- Restore the brake pipe pressure above 400 kPa and the control governor will close.

Then try again for power.

If the train powers, the fault was in the control governor. Proceed and submit the relevant TMM.

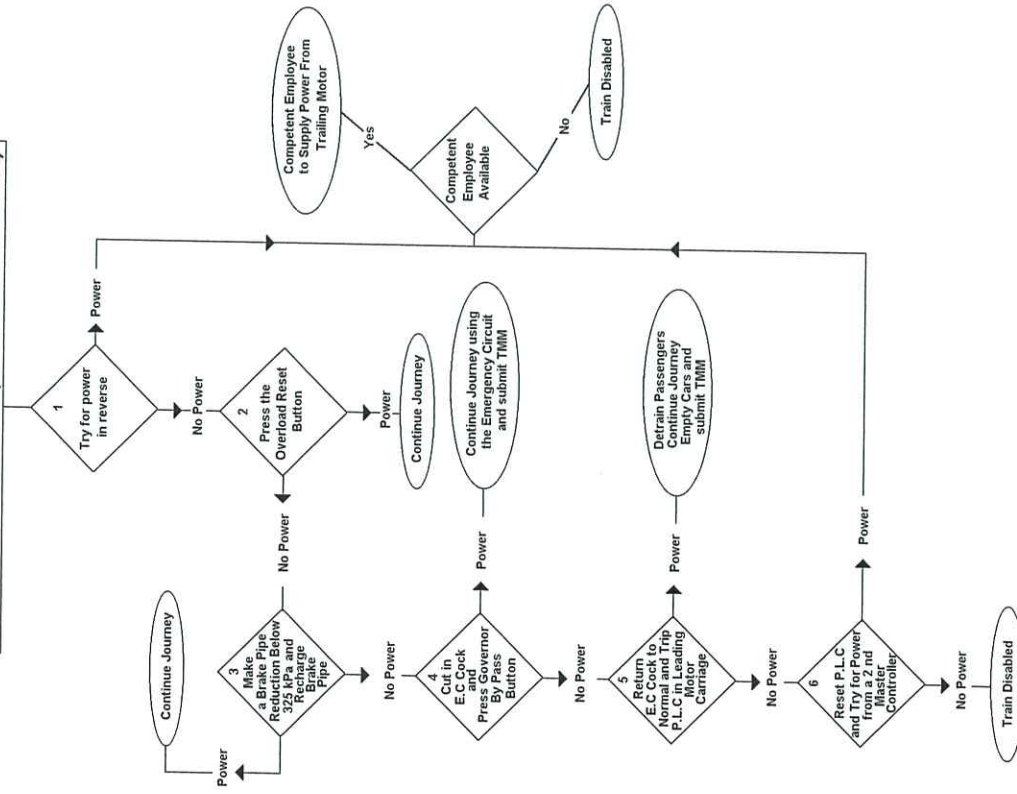
The fault may have been dirt caught in between the control governor contacts and the act of opening and closing the contacts may have cleared the fault. If the train still fails to power, the next step is:

STEP FOUR - CONTROL GOVERNOR BYPASS BUTTON

- Apply and isolate the brake and apply the park brake.
- Turn the emergency circuit cock and return to the Driver's compartment.
- Cut the brake back in, place the foot pilot valve to the SET position.

Press the control governor by pass-button - to reset the emergency pilot valve, allowing the brake pipe to recharge to 550 kPa +/- 5kPa.

NOTE: When the emergency circuit cock has been operated, the trip and hand pilot valve are isolated and the foot pilot valve must be used. The anti-neutralisation device also becomes inoperative.

Train Fails to Power (R.O.B.B.P.S. Test)

If the train still fails to power with the emergency circuit operated and the control governor by pass button pressed, then return the emergency circuit cock to the NORMAL position and go onto the next step. (This indicates that the Control Governor is faulty)

STEP FIVE - PROGRAMMABLE LOGIC CONTROL

- Apply and isolate the brake and apply the park brake (full cab unattended procedure)
- Enter the saloon area and isolate the PLC circuit breaker

Try for power again.

If power is obtained, the fault is in the traction power delay in the PLC. Continue and submit the relevant TMM (detrain passengers)

If power is not obtained, return the PLC circuit breaker to the ON position and go on to the next step.

STEP SIX - SECOND MASTER CONTROLLER

- The Driver must apply and isolate the brake, apply the park brake
- Make a PA announcement, take the controller key and proceed to another motor (full cab unattended procedure)
- On arrival cut-in the brake, lower the trip and try for power from the Master Controller.

If the train powers, then the Driver can arrange for the services of a suitable qualified Competent Employee to supply power to clear the section. The Driver would be in control of the brake from the leading motor.

If the Competent Employee is to supply power from a trailing motor, the Driver and the Competent Employee must confer as to the working of the train.

NOTE: If power is not achieved from a second master controller or a suitably qualified Competent Employee is not available then the Driver must declare the train disabled.

A Competent Employee to supply power would have had some instruction in driving a train, either through the Electric Running School or the Driver Training Centre.

ASK YOURSELF

How does the Driver determine if control voltage is available?

What is the fault finding procedure if the train fails with control voltage available?

END OF SESSION

METRO	DEALING WITH SALOON DOOR FAULTS	
L3-TSD-WOI-044	Version: 1	Effective from: 9 th February 2015

Approval

Document Author	Name	Position	Signature
Document Endorser	Peter Boyle	Technical Support Train Services	P. Boyle
Approving Manager	Peter Boyle	Technical Support Train Services	P. Boyle
	Russ Evans	Head of Train Services	

Amendment Record

Approval Date	Version	Description
09/02/2015	1	First issue. (This document superseded: L3-TSD-PRO-021 Siemens Door Faults which has been withdrawn)

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- 1 **Purpose**
This work instruction describes procedures to identify the cause of, and deal with, saloon door faults.
- 2 **Scope**
The instruction deals with saloon door faults occurring between stations or at platforms, for all train types, running both with and without customers.
- 3 **Abbreviations and Acronyms**
 - BVICS Brake Valve Isolating Cock and Switch
 - DER Door Emergency Release
 - FDCL Flashing Door Closed Light
 - MA Motor Alternator
 - MCB Miniature Circuit Breaker
 - PA Public Address
- 4 **Responsibilities**
 - Train Drivers and Trainee Train Drivers
- 5 **Door Faults Occurring Between Stations**
 - 5.1 **All Train Types**
When a continuous FDCL (all train types) or a blue door close light extinguishes (Siemens) is observed between stations, the Driver must immediately make a PA announcement to the following effect:
"Would all customers please stand clear of the doors? Please remove any object preventing the doors from closing."
 - 5.3 On empty cars it must be assumed that there is somebody on the train.
 - 5.4 If required to leave the cab during this procedure, carry out the cab unattended procedure as required in procedure *Cab Unattended Procedure*.
 - 5.5 If required to access the track with an adjacent running line, carry out the procedures as required in procedure *Train Drivers and/or Fleet Maintenance Staff Entering the Track/Pit at any Location with Adjacent Running Lines*.
 - 5.6 **X'Trapolis FDCL and Siemens Trains No Door Close Light**
 - 5.6.1 Check if the DER indicator light is illuminated, and if so:
5.6.1.1 Switch on the cab speaker (Siemens) and when safe to do so, acknowledge the PEI call generated by DER operation.
 - 5.6.1.2 Request customers to stand well clear of any open door, then inform them of the next stopping location.
 - 5.6.1.3 If there is no response to the PEI acknowledgement:

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- Log a call to Train Controller, Metrol
- Reduce train speed
- Stop at the next platform to investigate
- Carry out DER procedure at 9.7 or 10.11

5.6.2 If FDCL or no door close light is not caused by the operation of the DER, continue running the train to the next timetabled stopping location.

5.6.3 Whilst in running, be particularly vigilant in regard to doors open or objects or persons protruding from the train.

5.6.4 Open saloon doors may be identified at night by observing light coming from the doorway.

5.6.5 At the next timetabled stopping location, release the doors as normal. When platform work is complete, close the doors as normal.

5.6.6 If the door close light steadies or re illuminates, the train may continue as normal.

5.6.7 If a FDCL is still occurring, the following procedure for FDCL at a platform must be followed.

Note: Siemens door close lights will extinguish if a rear or centre motor cab door is open or if a DER is activated.

6 FDCL at a Platform

6.1 All Train Types

When a FDCL is observed at a platform, the Driver must:

6.2 Release the doors.

6.3 Make an announcement to the effect of:

"Would all customers please stand clear of the doors? Please remove any object preventing the doors from closing."

6.4 If on X'Trapolis or Siemens and the DER indicator light is illuminated, carry out DER procedure at 9.7 or 10.11.

6.5 If not caused by DER, close the doors and check if the FDCL is still occurring. If so:

6.6 Log a call to the Train Controller, Metrol.

6.7 Make another announcement to the effect of:

"If any customer can see a door which is not closed, or the door tones are sounding in your carriage, please press the emergency intercom button. The train cannot depart this station until the door fault is rectified."

This can be useful in expediting the process of locating the defective door.

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6.8 Commencing Fault Finding

6.8.1 Before leaving the cab, make a PA announcement to the effect of:

"Due to a door fault, this train may be delayed for several minutes. The fault will be rectified as soon as possible. This is a safety issue, and safety is paramount for Metro."

6.8.2 Close the saloon doors.

6.8.3 Take the portable train radio, Door Not in Use stickers and, if a Comeng train, cable ties.

7 Comeng FDCL at a Platform

7.1 At the end of the cab unattended procedure, release then quickly close the saloon doors to restart the door tones.

7.2 Walk along the train briskly so as to reach the centre motor within the door tone time out of 60 seconds.

7.3 Check for open doors and listen for the door tones sounding continuously in the carriage with the defective door.

7.4 If an open door is found, close and tie it.

7.5 On arrival at the centre motors release then quickly close the saloon doors to restart the door tones.

7.6 Continue walking along the train briskly so as to reach the rear motor within the door tones time out of 60 seconds.

7.7 Check for open doors and listen for the door tones sounding continuously in the carriage with the defective door.

7.8 If an open door is found, close and tie it.

7.9 On reaching the rear cab check that both marker lights are switched on and the Control Circuit MCB is set.

7.10 If a FDCL is detected after changing ends at a terminal, check the self-centring feature of the trailing coupler by pushing the coupler to the side. If it returns to the centre then the coupler is not causing the fault and you will not need to perform step 7.11.

7.11 If it doesn't return to the centre, pull the rip cord to fully close the coupler (as required in procedure, Multi-function Coupler Incorrectly Uncoupling). This will rectify the fault.

NOTE: This fault will only appear after that motor was last uncoupled. The saloon doors will not present as faulty until the coupler is on a trailing motor.

7.12 Open the BVICS to check the status of the door close light. If the door fault has been rectified, apply and isolate the brake, close the BVICS and return to the front of the train advising the Train Controller, Metrol that the FDCL fault has been rectified and reporting any faulty doors according to the FMP.

7.13 If the FDCL has not been rectified, customers must be detrained. The train must be run empty to a location where it can be taken out of service. Leave pantographs raised on the train to assist maintenance staff in finding the fault.

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To detain customers, release the doors and make an announcement to the effect of:

"Attention customers, due to a safety critical fault on this train, this service will be terminating here. Would all customers please leave the train and board the next service? Safety is paramount for Metro, and we thank you for your understanding."

If this train is the last service for the day and the fault can't be rectified contact the TSO for further fault finding assistance.

Reclose saloon doors and then walk through the cars towards the front of the train ensuring all customers have left it.

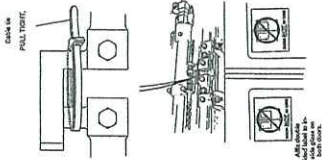
The Train Controller, Metrol must be kept informed of the status throughout the fault finding and detaining process.

8 Comeng Door Isolation Process

- If a door fails to close, the Driver will have the following indications:
- Flashing door close light
 - Door tones sound in the saloon for 60 seconds
- Once the defective door is located, the Driver must:
- Open the door pelmet and place the cable tie around locations as shown below.

NOTE: To ease fitting on both types of door systems, ensure that the serrated side is on the inside of the loop so that once fitted, the smooth side is facing outwards.

- Pull the cable tie tight.
- Attempt to open the door using firm force to assure that it is secured, adjust cable tie if necessary.
- Close and lock the door pelmet.
- Affix a Door Not in Use sticker to the inside of the glass on each door window
- Report fault under the FMP.



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9 Siemens FDCL at a Platform

- If a door fails to close, the following indications will be present:
- Flashing Door Close light
 - A tone sounds for 60 seconds in the saloon of the affected car
- Trip and reset Door Train lines MCB.
- Walk back along the train, checking for open saloon doors.
- Once the defective door is located, carry out the procedure at 9.10.
- If no open door is found, continue along the train.
- On reaching the rear cab, activate the cab to check the status of the FDCL.
- If the FDCL has not been rectified, customers must be detained, the train must be run empty to a location where it can be taken out of service. Leave pantographs raised on the train to assist maintenance staff in finding the fault.
- To detain customers, release the doors and make an announcement to the effect of:
- "Attention customers, due to a safety critical fault on this train, this service will be terminating here. Would all customers please leave the train and board the next service? Safety is paramount for Metro, and we thank you for your understanding."*
- If this train is the last service for the day and the fault can't be rectified contact the TSO for further fault finding assistance.
- Reclose saloon doors and then walk through the cars towards the front of the train ensuring all customers have left it.
- On arrival at the leading cab operate the Door Loop Bypass key switch.
- The Train Controller, Metrol must be kept informed of the status throughout the fault finding and detaining process.
- Siemens No Door Close Light – Both Sides**
- Check if the DER status light has illuminated
- If not, ensure all trailing cab doors on both sides are closed and locked.
- Siemens DER Reset Procedure**
- When a DER is operated, the DER status light will illuminate:
- Check the CCTV, which will display the location of the door.
- The affected DER must be reset by:
- If the door fails to close, both door leaves must be pulled smartly together then inwards to close them.
- Ensuring the tab is not stuck behind the affected DER handle. If it is, use the tri-key to bend it out of the way or twist it to the side then push the handle closed.

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9.8.2.3 The seal is to be reported as broken under the FMP.

9.8.3 If the DER was activated because of a door fault then the door once closed must be isolated and reported under the FMP.

9.9 Siemens Door System Faults

9.9.1 When one or more door control units are defective or a door control unit detects a fault on a door, The Door System fault light will appear.

9.9.2 The Driver must:

9.9.2.1 Complete station work and close the doors. If the Door Close light is steady it indicates that the defective door is still in the closed position. The train must be driven as normal to the destination

9.9.2.2 While changing ends check for a Door Out of Order light, either illuminated or flashing in an individual door. The defective door must be locked closed and reported according to the FMP.

9.9.2.3 If after closing the doors the door closed light is flashing then the Driver must carry out the procedures in 8.

9.10 Siemens Isolation Process

9.10.1 The Door Control circuit breakers are located as follows:

- Motor In the cab circuit breaker panel
 - Trailer Adjacent to the fault panel in the ceiling of saloon area (Number 2 end)
- 9.10.2 If an open saloon door is found, the Driver must open the overhead cabinet to the left of the door and push the white button on the door control unit.

9.10.3 If the door will still not close, the Driver must open the cabinet containing the circuit breakers and switch the corresponding circuit breaker OFF.

9.10.4 Both door leaves must be pulled smartly together then inwards to close the door.

9.10.5 The door may then be isolated using the tri-key in the port above the door. The circuit breaker must then be switched to ON again.

9.10.6 Apply Door Not in Use stickers.

9.10.7 Check that the Door Out of Order light is illuminated

9.10.8 Report the defective door under the FMP

Note: A Siemens door must be closed where possible before the train is moved.

10 X'Trapolis Flashing Door Close Light at Platform

10.1 If a door fails to close, the following indications will be present:

- Flashing Door Close light
- A tone sounds for 60 seconds in the saloon of the affected car

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10.2 At the end of the cab unattended procedure release then quickly close the saloon doors. The door close and release lights will remain extinguished but this will restart the door tone timeout.

10.3 Walk along the train briskly so as to reach the centre motor within the door tone time out of 60 seconds, checking for open doors and listening for the door tone activating continuously in the carriage with the defective door. If an open door is found, close and lock it.

10.4 On arrival at the centre motors activate the cab and release and close the saloon doors briefly to restart the door tones, then deactivate the cab.

10.5 Continue walking along the train briskly so as to reach the rear motor within the door tone time out of 60 seconds. Check for open doors and listen for the door tone activating continuously in the carriage with the defective door. If an open door is found, close and lock it.

10.6 On reaching the rear cab, activate it to check the status of the FDCL.

10.7 If the FDCL has not been rectified, customers must be detrained, the train must be run empty to a location where it can be taken out of service. Leave pantographs raised on the train to assist maintenance staff in finding the fault.

To detrain customers, release the doors and make an announcement to the effect of:

"Attention customers, due to a safety critical fault on this train, this service will be terminating here. Would all customers please leave the train and board the next service? Safety is paramount for Metro, and we thank you for your understanding."

10.8 If this train is the last service for the day and the fault can't be rectified contact the TSO for further fault finding assistance.

10.9 Reclose saloon doors and then walk through the cars towards the front of the train ensuring all customers have left it.

10.10 On arrival at the leading cab, activate it, press the door close button and wait 60 seconds for traction power. Do not operate the master controller during this time, as the 60 second traction time delay will restart.

10.10.1 The Train Controller, Metrol must be kept informed of the status throughout the fault finding and detraining process.

10.11 X'Trapolis DER Reset Procedure

When a DER is operated, the DER status light will illuminate.

10.11.1 Check the CCTV, which will display the location of the door.

10.11.2 Reset the affected DER by positioning the tri-key over the lug below it and turn it until the groove is horizontal.

10.11.3 If the DER was activated because of a door fault then the door, once closed, must be isolated and reported according to the FMP.

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10.12 X'Trapolis Door Isolation Process

- 10.12.1 Once the defective door is located, the Driver must:
- 10.12.1.1 Open the compartment to the left of the door.
- 10.12.1.2 Place the Motor Isolation switch to Position 1 (fully raised).
- 10.12.1.3 Manually close the saloon door.
- 10.12.1.4 Place the Motor Isolation switch to Position 4 (fully lowered).
- 10.12.1.5 Apply the Doors Not in Use stickers.
- 10.12.1.6 Report under the FMP.

11 Related Documents

- L3-TSD-PRO-017 Cab Unattended Procedure
- L1-SWS-PRO-012 Train Drivers and/or Fleet Maintenance Staff Entering the Track/Pt at any Location with Adjacent Running Lines
- L3-TSD-PRO-007 Multi-function Coupler Incorrectly Uncoupling

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METRO	Digital Train Radio System Fault Displayed on Control Head		Document No. TSD-238
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Drivers Please Note:

The DTRS has the ability to display a fault message onto the fixed control head should a fault occur. The following steps must be followed to attempt to reset the system. If the system can't be reset then the Fixed DTRS must be isolated or bypassed as described below.

DTRS fault messages are built into the FMP menu with appropriate deferment periods.

Comeng

To Reset

- Apply and isolate automatic brake
- Trip the DTRS MCB located on the MCB panel
- Reset the DTRS MCB
- Open the BVICS and ensure train secured
- DTRS prompts for a TDN once the system has been reset (this will take an extended time)
- If rectified, report the fault as RIR in the FMP

Comeng Bypass if Fault Not Rectified

Isolation is not possible on a Comeng as this will cause the PA to fail, resulting in a Critical fault.

If the fault is still indicated on the DTRS control head after following the steps in the Reset section, the fault is not recoverable and must be bypassed and booked via the FMP and the DTRS portable used.

Bypass the Comeng DTRS fixed train radio by the following steps:

- Test the PA system by switching on the cab speaker, keeping in mind this will be transmitted throughout the train
- If PA tests as inoperative, book the PA and DTRS faults in the FMP
- If PA tests as operative, the DTRS fixed train radio can then be bypassed by removing the DTRS portable from the powered holder and placing it into the passive holder
- The portable can then be used independently of the fixed train radio

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Siemens & X'Trapolis

To Reset

- Remove the controller/master key
- Trip the DTRS MCB located in the MCB cabinet
- Reset the DTRS MCB
- Insert the controller/master key and activate the cab
- DTRS prompts for a TDN once the system has been reset (this will take an extended time)
- If rectified, report the fault as RIR in the FMP

Siemens & X'Trapolis Isolation if Fault Not Rectified

If the fault is still indicated on the DTRS control head after following the steps in the Reset section, the fault is not recoverable and must be isolated and booked via the FMP and the DTRS portable used. The PA may still be used as normal.

Isolation of the Siemens & X'Trapolis DTRS fixed train radio is by the following steps:

- Remove the controller/master key
- Trip the DTRS MCB
- Insert the controller/master key and activate the cab
- The DTRS fixed train radio will not restart and the powered portable holder will now become unpowered
- The portable radio can be left in the now unpowered portable bracket
- The portable radio will not synchronise with the fixed train radio and can be used independently

Best Regards

P. Boyle

Peter Boyle

Train Driver Manager, Fleet Standards

TSD-238 DTRS Fault Displayed on Control Head.doc

Issued: 15/08/2014

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Drivers Please Note:

The DTRS is now fully accepted and the analogue system is in the process of being decommissioned. Please return your old analogue radio and charger to Flinders Street Driver Stores.

To answer some concerns that have been raised:

- A flashing TDN indicates that the portable and network TDNs are out of synchronisation. Resynchronise by selecting Menu→, Identity→, TDN→, scroll to Synchronise→, select
- **ALL CALLS INITIATED** from the portable radio will be made in private mode. Press the yellow button 3 times to switch to amplify mode
- Calls that auto answer will be in amplify mode. If you accept the call before ringing ends, the call will switch to private mode and the portable must be removed from the holder
- You can switch between private and amplify mode at any time during a call
- After logging a call, you do not need to stay on hold waiting for Metrol to respond. Hang up once connected and your call will be queued for Metrol to return the call. The return call will ring, then auto answer and be in amplify mode
- When communicating on the DTRS fixed cab radio the PTT/footswitch is required to transmit for all calls
- When communicating on the DTRS portable except for REC or Group calls, the PTT is not required to transmit – the DTRS portable works **JUST LIKE A MOBILE PHONE** that is in private or hands free mode

Be aware that as soon as a DTRS connection is made with Metrol, all cab conversation is heard and recorded.

Best Regards

P. Boyle

Peter Boyle

Train Driver Manager, Fleet Standards

TSD-244 DTRS Update #1

Issued: 02/09/2014

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Drivers Please Note:

There have been minor teething issues with the introduction of the DTRS that we are committed to working through.

RIU Link Error

Is always displayed when the BVICS is **closed** or the Siemens/X'Tropolis cab is **inactive** and must not be reported as a fault under these conditions.

If displayed once the BVICS is **open** or the cab is **active**, then it is a **fault** and must then be reported per FMP.

PR Link Error

Is displayed when the portable radio is not synchronised with the control head. When this error appears, remove and replace the portable in the powered cradle. If this rectifies the issue, it must then be reported as RIR per the FMP.

Analogue Radio

The green LED constantly flashing on the analogue radio is deliberately blanked off with stickers to limit Driver distraction. Please do not remove this sticker. The analogue radio will be removed when the DTRS is operational in the cab.

Cab Notice

Will be in place advising when the cab has been fitted with a fully operational DTRS.

Best Regards

P. Boyle

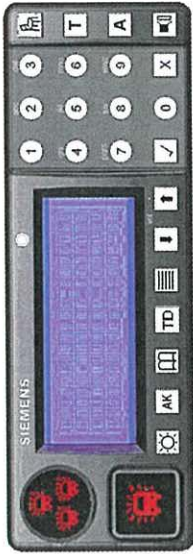
Peter Boyle

Train Driver Manager, Fleet Standards

MetroSafe SAFETY ALERT

DTRS - WHAT TO PRESS IN AN EMERGENCY?

Recent investigations have identified that Drivers are unsure which buttons on the DTRS to press in an Emergency Situation.



REC - Railway Emergency Call

To be used for Emergency Situations that may affect other trains (fouling other lines, public safety etc.) - this is a priority call between all trains in vicinity and Metrol.



TEC - Train Emergency Call

To be used for Emergency Situations that only affect your train and your line - this is a priority call between Driver and Metrol.



All other means to STOP trains must still be taken
FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN A SERIOUS SAFE WORKING INCIDENT OR TRAIN COLLISION.

Authorised By

Paul Owen

Paul Owen
Manager of Safety & Compliance



METRO	COMENG VICERS OPERATION & EQUIPMENT	
L3-TSD-WOI-020	Version: 1	Effective from: 27 th July 2012

Approval

Name	Position	Signature
Peter Boyle	Train Driver Manager, Fleet Standards	<i>P. Boyle</i>
Peter Boyle	Train Driver Manager, Fleet Standards	<i>P. Boyle</i>
Perry Ramsey	Manager Train Service Delivery	<i>Perry Ramsey</i>

Amendment Record

Approval Date	Version	Description
27/07/2012	1	First issue.

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1. Purpose

This work instruction details functions of the Vigilance Control and Event Recording System.

2. Scope

It deals with operation, defects that may occur and how to isolate these defects on Comeng trains.

3. Abbreviations and Acronyms

- VICERS Vigilance Control and Event Recording System
- BVICS Drivers Brake Valve Isolating Cock & Switch
- VM40 The VICERS Event Recorder
- VAV Vigilance Activation Valve

4. Responsibilities

- Train Drivers and Trainee Train Drivers

5. General Description

5.1 Primary components:

5.1.1 Vigilance Control System:

- Task linking of driver controls
- Vigilance Acknowledge Button
- Vigilance Audible Buzzer
- Vigilance Fault Indicator
- Vigilance Activation Valve

5.1.2 Event Recording System

- VM40 Event Recorder
- Roof mounted GPS antenna

5.2 VM40 Event Recorder

5.2.1 The VM40 is located in a locked compartment in the A side bulkhead wall (where the periscope was formerly located).

5.2.2 The VM40 is powered by 110v DC. In the event of power failure a battery backup will power the VM40 for 5 minutes.

5.2.3 If all power is lost to the VM40 the VAV will activate causing Brake Pipe air to be released to atmosphere.

5.2.4 The VM40 records up to 140 hours of active train operation (power available), after which the oldest data is overwritten.

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5.2.5 DATA on the VM40 is recorded automatically and is downloaded by qualified personnel either by USB stick or wireless transfer.

5.2.6 Data downloaded from the VM40 is:

- Used for Incident investigation
- Used for maintenance purposes
- Used for unobtrusive monitoring
- Managed in accordance with strict guidelines to ensure confidentiality, integrity and security

5.2.7 The VM40 data recorder records:

- Operation of the Vigilance Control System
- Master controller position
- Brake controller position
- Whistle operation
- Traction power (amps)
- Main Reservoir Pressure
- Brake Cylinder pressure
- Brake Pipe pressure
- Door operation
- GPS location/time/date
- Speed
- Anti neutralisation device
- Pilot Valve operation
- Headlights (high & low beam)
- Control circuit breaker position
- BVIC position
- Park brake operation
- Secondary circuit activation

6. VICERS Operation

6.1 Vigilance System

6.1.1 Each motor car fitted with VICERS is fitted with the following controls and indicators:

- Vigilance Acknowledgement Button with Flashing Light
- Audible buzzer
- Fault indicator light
- Dimmer control – controls the intensity of flashing light, inoperative when the Day/Night switch is turned to DAY
- Day/Night switch – controls intensity of flashing light

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- Vigilance key switch
- 6.1.2 The VAV is a 1" solenoid operated dump valve located on the brake pipe, B side, number 1 end of motor cars.
- 6.1.3 The VAV is energised in a closed condition using a power supply from the VM-40.
- 6.1.4 When the vigilance timing cycle is not acknowledged the VAV will de-energise causing a penalty brake application.

6.2 Key Switch

- 6.2.1 Each motor car fitted with VICERS is fitted with a key switch. The key switch has 3 positions:

- OPERATE – used for normal operation
- ISOLATE – used for isolation during a defect
- TEST – To initiate driver test

- 6.2.2 There are 2 types of VICERS key:

6.2.2.1 Driver's Key (blue):

- Able to ISOLATE the system
- Initiates driver test mode

6.2.2.2 Maintainer's key (pink):

- Able to ISOLATE the system
- Re-activates the VICERS system if it has been isolated
- Initiates driver test mode
- Allows access to the VM40 compartment

6.3 Testing

- 6.3.1 The Vigilance System test can only be run if the following conditions are met:

- Vigilance key switch is in OPERATE position
- Reverser is in OFF position
- Trip is lowered and set
- Brake pipe is fully charged
- BVICS is open

- 6.3.2 Test the system by turning the key switch momentarily to TEST and releasing to initiate an automatic self test sequence.

- 6.3.3 During the test the vigilance system will:

- Operate the VAV relays twice in quick succession and monitor brake pipe pressure change

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- Release the VAV until brake pipe pressure drops to the point when the Control Governor opens. The VAV will then re-energise allowing the pressure to rise and Control Governor to close
- Check task-linking between driver controls and VM40

- 6.3.4 During the test the vigilance acknowledgement button will flash and the audible buzzer will sound with a steady tone. If desired the audible buzzer can be silenced by pressing the vigilance acknowledgement button.

- 6.3.5 The vigilance fault indicator will be illuminated throughout the test and then extinguish once completed. If the test fails, the vigilance fault indicator will remain illuminated.

NOTE: If fault indicator does not illuminate during the test, report to Metrol and act in accordance with the FMP.

- 6.3.6 VICERS will also conduct a boot-up test each time the system is powered up. If a fault is identified during this test the fault indicator will illuminate.

6.4 Task linking

- 6.4.1 The VICERS system incorporates task based vigilance.

- 6.4.2 When any of the following tasks are performed, the vigilance control timing is reset:

- Master Controller operation
- Brake Controller operation
- Whistle operation

6.5 Vigilance Timing Cycle

- 6.5.1 VICERS has 5 stages in the timing cycle.

- T1 – System acknowledged. Timing is speed dependant (see 6.5.4)
- T2 – Vigilance Acknowledgment Button flashing (5 seconds)
- T3 – Vigilance Acknowledgment Button steady and Audible Buzzer operating (5 seconds)
- T4– Vigilance Acknowledgment Button steady. VAV open, emergency brakes applied (indefinite until isolated or reset)
- T5 – Reset (timing cycle returns to T1, 0 seconds)

- 6.5.2 During stages T1, T2 or T3 the vigilance timer will be reset if any of the tasks mentioned in section 6.4.2 are conducted or the vigilance activation button is pressed.

NOTE: If the Vigilance Acknowledgement button is pressed and held for 5 seconds or more; the timing cycle will advance to T4, the VAV will open and the emergency brakes apply.

- 6.5.3 If the timing cycle progresses to T4 the system must be reset once the train comes to a stop. To reset the system the Acknowledgment Button must be pressed after the following conditions have been met for 10 seconds:

- Speed is 0 km/h
- Master Controller in Notch '0'

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- Brake pipe pressure is below 25 KPa
- 6.5.4 Stage T1 has variable timing based on train speed:
 - Stopped: inactive (suppression, see section 6.5.5)
 - 1 km/h to 60 km/h: 45 seconds
 - 61 km/h to 95 km/h: 35 seconds
 - 96 km/h to 110 km/h: 30 seconds
 - Above 110 km/h: 25 seconds
 - Standing start to first activation: 25 seconds
- 6.5.5 The system will enter suppression (momentary deactivation) mode when the following conditions are met for at least 5 seconds:
 - Timing cycle is T1
 - Speedometer is 0 km/h
 - Master controller is in notch 0
 - Brake cylinder pressure is above 85 kPa
- OR
- Park Brake engaged
- Timing cycle is T1
- Speedometer is 0 km/h

6.5.6 The system will enter suspension mode (inactive cab) when the following conditions are met:

- Reverser in 'OFF' position
- BVIC is in the isolated position.

NOTE: The cab may only be deactivated (i.e. BVIC closed) if the timing cycle is at T1, T2 or T3.

7. VICERS Faults and Isolation

7.1 When to Isolate

7.1.1 VICERS must only be isolated under certain circumstances:

- Fault indicator illuminates and remains illuminated
- Secondary safety circuit (red EC cock) required
- Abnormal operation of VAV or VICERS

7.1.2 Placing the system in ISOLATE mode disables the Vigilance System only. The Event Recorder cannot be isolated. The VM40 data recorder will record when the system is isolated.

NOTE: Once the system is isolated it can only be unlocked using the pink maintenance key.

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7.2 How to Isolate

7.2.1 To isolate VICERS the Driver must:

- Lift the spring loaded flap covering the key switch
- Insert the VICERS key into the cab key switch
- Turn the key switch to ISOLATE
- Report the isolation to Metrol and act in accordance with FMP

7.2.2 After isolation, the fault indicator will illuminate and remain illuminated.

7.2.3 If the VAV is exhausting brake pipe air after the VICERS Key switch is set to isolate, then the VAV must also be isolated. This is performed by turning either the Red EC cock (this will introduce the secondary safety circuit on leading motor) or Yellow TECH cock (trailing motor). The defect must be reported as per FMP.

7.2.4 The Driver will not be able to re-instate VICERS. A pink Maintainer's key must be used for this purpose.

8. Degraded Mode Operation

8.1 Loss of 1500v power to train

8.1.1 If overhead power is lost VICERS will revert to battery backup. Battery power will last for 5 minutes after which the VICERS will shut down and the VAV will activate.

8.1.2 If it is required to move the train with no power to VICERS, the (yellow) TECH cocks must be isolated.

9. Records and Enquiry

Item	Retained by	Period of Retention
Development Folder	Train Driver Standards Officer	3 years
Obsolete master copies	Train Driver Standards Officer	6 years
Distribution lists	Train Driver Standards Officer	3 years

Enquiries about this document are to be directed to Train Driver Standards Officer TSD.

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	X'TRAPOLIS VICERS OPERATION & EQUIPMENT	Version: 1	Effective from: 27 th July 2012
L3-TSD-WOI-021			

Approval

Name	Position	Signature
Peter Boyle	Train Driver Manager, Fleet Standards	<i>P. Boyle</i>
Peter Boyle	Train Driver Manager, Fleet Standards	<i>P. Boyle</i>
Perry Ramsey	Manager Train Service Delivery	<i>Perry Ramsey</i>

Amendment Record

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27/07/2012	1	First Issue.

	X'TRAPOLIS VICERS OPERATION & EQUIPMENT	Version: 1	Effective from: 27 th July 2012
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	X'TRAPOLIS VICERS OPERATION & EQUIPMENT
L3-TSD-WOI-021	Version: 1 Effective from: 27 th July 2012

1. Purpose

This work instruction details functions of the Vigilance Control and Event Recording System.

2. Scope

It deals with operation, defects that may occur and how to isolate these defects on X'Trapolis trains.

3. Abbreviations and Acronyms

- VICERS Vigilance Control and Event Recording System
- VM40 The VICERS Event Recorder
- VAR Vigilance Activation Relay

4. Responsibilities

- Train Drivers and Trainee Train Drivers

5. General Description

5.1 Primary components:

5.1.1 Vigilance Control System:

- Task linking of driver controls
- Vigilance Acknowledge Button
- Vigilance Audible Buzzer
- Vigilance Fault Indicator
- Vigilance Activation Relay

5.1.2 Event Recording System

- VM40 Event Recorder
- Roof mounted GPS antenna

5.2 VM40 Event Recorder

5.2.1 The VM40 is located in a locked compartment under a double seat on the saloon floor of each Motor Car.

5.2.2 The VM40 is powered by 110v DC. In the event overhead power is lost the VM40 will continue to run from the train emergency battery.

5.2.3 If train battery power is lost, or the train is stalled, the VM40 will continue to run of an internal battery for two minutes before commencing it's shut down cycle.

5.2.4 The VM40 records up to 140 hours of active train operation (power available), after which the oldest data is overwritten.

5.2.5 DATA on the VM40 is recorded automatically and is downloaded by qualified personnel either by USB stick or wireless transfer.

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5.2.6 Data downloaded from the VM40 is:

- Used for Incident investigation
- Used for maintenance purposes
- Used for unobtrusive monitoring
- Managed in accordance with strict guidelines to ensure confidentiality, integrity and security

5.2.7 The VM40 data recorder records:

- Operation of the Vigilance Control System
- Master controller position
- Whistle operation
- Traction power
- Braking
- Main Reservoir Pressure
- Trip Cock status
- Door operation
- GPS location/time/date
- Emergency Brake operation
- Active Cab status
- Speed
- Pilot Valve operation
- Headlights (high & low beam)
- Wheel Slip/Slide
- Safety Loop status
- Brake Dump Valve activity
- Park Brake operation

6. VICERS Operation

6.1 Vigilance System

6.1.1 Each motor car fitted with VICERS is fitted with the following controls and indicators:

- Vigilance Acknowledgement Button with Flashing Light
- Audible buzzer
- Fault indicator light
- Dimmer control – controls the intensity of flashing light, inoperative when the Day/Night switch is turned to DAY
- Day/Night switch – controls intensity of flashing light
- Vigilance key switch

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6.1.2 The VAR (VICERS Activation Relay) is a relay positioned on the train-lined safety loop which is energised in the closed condition.

6.1.3 When the vigilance timing cycle is not acknowledged the VAR will de-energise causing the emergency brakes to apply.

6.2 Key Switch

6.2.1 Each motor car fitted with VICERS is fitted with a key switch. The key switch has 3 positions:

- OPERATE – used for normal operation
- ISOLATE – used for isolation during a defect
- TEST – To initiate driver test

6.2.2 There are 2 types of VICERS key:

6.2.2.1 Driver's Key (blue):

- Able to ISOLATE the system
- Initiate driver test mode

6.2.2.2 Maintainer's key (pink):

- Able to ISOLATE the system
- Re-activates the VICERS system if it has been isolated
- Initiate driver test mode
- Allows access to the VM40 compartment

6.3 Testing

6.3.1 Test the system by turning the key switch momentarily to TEST and releasing to initiate an automatic self test sequence.

6.3.2 The Vigilance System test can only be run if the following conditions are met:

- Vigilance in Operate
- Cab is Active
- Trip is lowered and set
- Speed is 0 km/h
- Hand Pilot Valve depressed
- Emergency Brake released

6.3.3 During the test the vigilance system will:

- Operate the VAR twice in quick succession and monitor brake cylinder pressure change
- Check task-linking between driver controls and VM40

6.3.4 During the test the flashing light in the acknowledgement button will pulse and the audible buzzer will sound with a steady tone. If desired the audible buzzer can be silenced by pressing the acknowledgement button.

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6.3.5 The Vigilance fault light will be illuminated throughout the test then extinguish. If the test fails the fault indicator will remain illuminated.

Note: If fault indicator does not illuminate during the test report to Metrol and act in accordance with the FMP.

6.3.6 VICERS will also conduct a boot-up test each time the system is powered up. If a fault is identified during this test the fault indicator will illuminate.

6.4 Task linking

6.4.1 The VICERS system incorporates task based vigilance.

6.4.2 When any of the following tasks are performed, the vigilance control timing is reset:

- Master Controller operation
- Whistle operation

6.5 Vigilance Timing Cycle

6.5.1 VICERS has 5 stages in the timing cycle.

- T1 – System acknowledged. Timing is speed dependant (see 6.5.4)
- T2 – Acknowledgment button flashing (5 seconds)
- T3 – Acknowledgment button steady and Audible Buzzer operating (5 seconds)
- T4 – Acknowledgment button steady, VAR open, emergency brakes applied (indefinite until isolated or reset)
- T5 – Reset (timing cycle returns to T1, 0 seconds)

6.5.2 During stages T1, T2 or T3 the vigilance timer will be reset if any of the tasks mentioned in section 6.4.2 are conducted or the vigilance activation button is pressed.

NOTE: If the Vigilance Acknowledgement button is pressed and held for 5 seconds or more; the timing cycle will advance to T4, the VAR will open and the emergency brakes apply.

6.5.3 If the timing cycle progresses to T4 the system must be reset once the train comes to a stop. To reset the system the Acknowledgment Button must be pressed after the following conditions have been met for 10 seconds:

- Speed is 0 km/h
- Mater Controller in Coast
- Emergency Brake applied

6.5.4 Stage T1 has variable timing based on train speed:

- Stopped: inactive (suppression, see section 6.5.5)
- 1 km/h to 60 km/h: 45 seconds
- 61 km/h to 95 km/h: 35 seconds
- 96 km/h to 110 km/h: 30 seconds
- Above 110 km/h: 25 seconds

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- Standing start to first activation: 25 seconds
- 6.5.5 The system will enter suppression (momentary deactivation) mode when the following conditions are met for at least 5 seconds:
- Timing cycle is T1
 - Speed is 0 km/h
 - Master Controller is in 'Coast'
 - Brake Cylinder pressure is above 90 kPa
- 6.5.6 The system will enter suspension mode (inactive cab) when the following conditions are met:
- Cab Inactive – Driver key removed

NOTE: The cab may only be deactivated if the timing cycle is at T1, T2 or T3.

7. VICERS Faults and Isolation

7.1 When to Isolate

7.1.1 VICERS must only be isolated under certain circumstances:

- Fault indicator illuminates and remains illuminated
- Safety Loop Bypass or Auto Vigilance Bypass are set
- Abnormal operation of VICERS

7.1.2 Placing the system in ISOLATE mode disables the Vigilance System only. The Event Recorder cannot be isolated. The VM40 data recorder will record when the system is isolated.

NOTE: Once the system is isolated it can only be unlocked using the pink maintenance key.

7.2 How to Isolate

7.2.1 To isolate VICERS the Driver must:

- Lift the spring loaded flap covering the key switch
- Insert the VICERS key into the cab key switch
- Turn the key switch to ISOLATE
- Report the isolation to Metrol and act in accordance with FMP

7.2.2 After isolation, the fault indicator will illuminate and remain illuminated.

7.2.3 The Driver will not be able to re-instate VICERS. A pink Maintainer's key must be used for this purpose.

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8. Degraded Mode Operation

8.1 Loss of 1500v power to train

8.1.1 If overhead power is lost VICERS will continue to run off the train battery. When the train is stalled VICERS will continue to run off the internal battery for two minutes prior to commencing its shutdown cycle.

9. Records and Enquiry

Item	Retained by	Period of Retention
Development Folder	Train Driver Standards Officer	3 years
Obsolete master copies	Train Driver Standards Officer	6 years
Distribution lists	Train Driver Standards Officer	3 years

Enquiries about this document are to be directed to Train Driver Standards Officer TSD.

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SIEMENS VICERS OPERATION & EQUIPMENT		
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Approval

Name	Position	Signature
Document Author Peter Boyle	Train Driver Manager, Fleet Standards	<i>P. Boyle</i>
Document Endorser Peter Boyle	Train Driver Manager, Fleet Standards	<i>P. Boyle</i>
Approving Manager Tim Young	Head of Train Services	<i>T. Young</i>

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SIEMENS VICERS OPERATION & EQUIPMENT		
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1. Purpose

This work instruction details functions of the Vigilance Control and Event Recording System.

2. Scope

It deals with operation, defects that may occur and how to isolate these defects on Siemens trains.

3. Abbreviations and Acronyms

- FMP Fault Management Procedure
- VICERS Vigilance Control and Event Recording System
- VM40 The VICERS Event Recorder
- VAR Vigilance Activation Relay

4. Responsibilities

- Train Drivers and Trainee Train Drivers

5. General Description

5.1 Primary Components:

5.1.1 Vigilance Control System:

- Task linking of Driver controls
- Vigilance acknowledgement button
- Vigilance audible buzzer
- Vigilance fault indicator
- Vigilance activation relay

5.1.2 Event Recording System

- VM40 event recorder
- Roof mounted GPS antenna

5.2 VM40 Event Recorder

5.2.1 The VM40 is located in a locked compartment under a double seat on the saloon floor of each motor.

5.2.2 The VM40 runs on 110v DC power. If overhead power is lost, or the train is stalled, the VM40 will continue to run from the train battery for two minutes before commencing the VICERS shut down cycle.

5.2.3 The VM40 records up to 140 hours of active train operation (power available), after which the oldest data is overwritten.

5.2.4 Data on the VM40 is recorded automatically and is downloaded by qualified personnel either by USB stick or wireless transfer.

5.2.5 Data downloaded from the VM40 is used for incident investigation, maintenance purposes and unobtrusive monitoring. This is managed in accordance with strict guidelines to ensure confidentiality, integrity and security.

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5.2.6 The VM40 data recorder records:

- Operation of the vigilance control system
- Master controller position
- Whistle operation
- Traction power
- Brake cylinder pressure
- Low main reservoir pressure
- Trip cock bypass
- Door loop bypass
- Safety loop bypass
- GPS location/time/date
- Emergency brake operation
- Active cab status
- Speed
- Pilot valve operation
- Headlights (high & low beam)
- Wiper/washer
- Wheel slip/slide
- Brake dump valve activity
- Sanding
- Park brake operation

6. VICERS Operation

6.1 Vigilance System

6.1.1 Each motor fitted with VICERS is fitted with the following controls and indicators:

- Vigilance acknowledgement button with flashing light
- Vigilance repeater light – repeats the indication of the VICERS acknowledgement button
- Audible buzzer
- Fault indicator light
- Dimmer control – vigilance acknowledgement button and vigilance repeater light operate from the existing dimmer switch and will dim in conjunction with other dash lights
- Vigilance isolate/operate key switch
- Vigilance test push button

6.1.2 The VAR is a relay positioned on the safety loop which when energised is in the closed position.

6.1.3 When the vigilance timing cycle is not acknowledged the VAR will de-energise causing the safety loop to open and emergency brakes to apply.

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6.2 Key Switch

6.2.1 Each motor fitted with VICERS is fitted with a key switch. The key switch has 2 positions:

- OPERATE – used for normal operation
- ISOLATE – used for isolation during a defect

6.2.2 There are 2 types of VICERS key:

- Driver's key (blue):
 - Able to ISOLATE the system
- Maintainer's key (pink):
 - Able to ISOLATE the system
 - Reactivates the VICERS system if it has been isolated
 - Allows access to the VM40 compartment

6.3 Testing

6.3.1 Test the system by **pressing and releasing the vigilance test button** to initiate an automatic self test sequence.

6.3.2 For the vigilance system test to run the following conditions must be met:

- Confirm vigilance key switch is in OPERATE
- Cab is active
- Speed 0 km/h
- Master controller **must be in ZERO**
- Park brake ON

6.3.3 The vigilance system will operate the VAR twice in quick succession and will monitor brake cylinder pressure changes between emergency and holding.

6.3.4 The safety loop fault light will flash twice - ON in conjunction emergency pressure and OFF in conjunction with holding pressure.

6.3.5 The vigilance system will check task linking between Driver controls and VM40.

6.3.6 During the test the flashing light in both the acknowledgement button and repeater light will pulse and the audible buzzer will sound with a steady tone. If desired the audible buzzer can be silenced by pressing the acknowledgement button.

6.3.7 The vigilance fault indicator will be illuminated throughout the test, then extinguish.

6.3.8 If the test fails, the fault indicator will remain illuminated. If the light has not extinguished after 10 seconds from the start of the test, report as a fault.

Note: Failure to maintain the conditions of clause 6.3.2 until the vigilance fault indicator extinguishes will cause a fault state and require maintenance to reset the system.

Note: If vigilance fault indicator does not illuminate during the test, report to Metrol and act in accordance with the FMP.

6.3.9 VICERS will also conduct a boot up test each time the system is powered up. If a fault is identified during this test the fault indicator will illuminate.

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6.4 Task Linking

- 6.4.1 The VICERS system incorporates task based vigilance.
- 6.4.2 When any of the following tasks are performed, the vigilance control timing is reset:
- Whistle is operated
 - Master controller is moved within powering or braking positions

NOTE: Setting of the hand pilot valve alone does not reset the vigilance control timing.

6.5 Vigilance Timing Cycle

- 6.5.1 VICERS has 5 stages in the timing cycle.
- T1 System acknowledged. Timing is speed dependant (see 6.6.4)
 - T2 Acknowledgment button and repeater light flashing (5 seconds)
 - T3 Acknowledgment button steady and audible buzzer operating (5 seconds)
 - T4 Acknowledgment button steady, VAR de-energised, safety loop open and emergency brakes applied (indefinite until reset or isolated if defective)
 - T5 Reset (timing cycle returns to T1, 0 seconds)
- 6.5.2 During stages T1, T2 or T3 the vigilance timer will be reset if any of the tasks mentioned in clause 6.4.2 are conducted or the vigilance activation button is pressed.

NOTE: If the vigilance acknowledgement button is pressed and held for 5 seconds or more (or not acknowledged) the timing cycle will advance to T4, the VAR will open and the emergency brakes apply.

6.6 Resetting VICERS

- 6.6.1 If the timing cycle progresses to T4 and the VAR de-energises, opening the safety loop and applying the emergency brake, the system must be reset once the train comes to a stop.
- 6.6.2 To reset the system the acknowledgment button must be pressed **after** the following conditions have been met for 10 seconds:
- Speed is 0 km/h
 - Master controller in ZERO
- 6.6.3 If a penalty brake has occurred and then the cab is made inactive, the acknowledgement button can be pressed to cancel the VICERS whilst the cab is inactive in preference to reactivating the cab.
- Cancelling VICERS whilst the cab is inactive will also be possible after changing ends.
- 6.6.4 Stage T1 has variable timing based on train speed:
- Stopped: Inactive (suppression, see section 6.6.5)
 - 1 km/h to 60 km/h: 45 seconds
 - 61 km/h to 95 km/h: 35 seconds
 - 96 km/h to 110 km/h: 30 seconds
 - Above 110 km/h: 25 seconds
 - Standing start to first activation: 25 seconds

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- 6.6.5 The system will enter momentary suppression mode when the following conditions are met for **at least 5 seconds**:

- Speed is 0 km/h
 - Master controller is in ZERO or brake cylinder pressure is above 76 kPa
- 6.6.6 The system will enter permanent suppression mode when the cab is made inactive (Siemens master key removed).

NOTE: If the timing cycle is about to expire as the train comes to a stand, the timing cycle continues while stationary until the 5 seconds of zero speed elapses. The vigilance acknowledgment button will flash, and must be acknowledged as normal to prevent an emergency brake application.

NOTE: If the master controller is left in B1 or B2 (less than 76 kPa) whilst stationary the timing cycle is 35 seconds.

7. VICERS Faults and Isolation

- 7.1 VICERS will be automatically isolated when the:
- Safety loop is bypassed
 - Trip is bypassed

NOTE: VICERS need not be isolated when the safety loop or trip is bypassed.

7.2 Manual Isolation Using VICERS Key Switch

- 7.3 VICERS must only be isolated with the VICERS key switch when:

- The fault indicator remains permanently illuminated
- A VICERS fault that cannot be reset causes the train to be disabled
- Required by the FMP

- 7.4 When the system is in ISOLATE, the vigilance system only is disabled. The event recorder cannot be isolated. The VM40 data recorder will record even when the vigilance system is isolated.

7.5 How to Isolate

- 7.5.1 To isolate VICERS the Driver must:
- Insert the VICERS key into the key switch located in the MCB panel above the other isolation key switches
 - Turn the key switch to ISOLATE
 - Report the isolation to Metrol and act in accordance with FMP
- 7.5.2 After isolation, the fault indicator will illuminate and remain illuminated.

NOTE: Once VICERS is isolated, it can only be reinstated with the pink maintenance key.

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