

## NSEWL



# Rule Book 2

Access to Main Line and Depot  
Tracks during Traffic Hours

TRAINS.320.04.03.007

*Revision Status: 13; 31/08/2023*

For the most up-to-date copy of this Rule Book, please refer to the online version posted in the SMRT Intranet (Rail Operations).



### **General Requirements for the Use of This Rule Book**

Staff using this Rule Book must be competent and qualified by the SMRT Institute.

**Note:**

The procedures listed out in this book only include the critical steps. Staff must still carry out their tasks in accordance with the complete procedures, as detailed in the Work Instructions.

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## 1. General

### 1.1 Purpose

- a. This book outlines the responsibilities and critical procedures for staff whose duties require them to access the track during Traffic Hours, including staff who are providing assistance and protection.

### 1.2 People Involved

- a. You will need this book if:
  - i. You require access to the track during Traffic Hours, including depots and sidings;
  - ii. You are a person providing assistance or protection to staff accessing the track during Traffic Hours.
- b. This includes, but **is not limited to**, the following list of personnel:
  - i. Possession Master (PM)
  - ii. Person-In-Charge (PIC)
  - iii. Station Manager (SM)
  - iv. Train Captain (TC)
  - v. Chief Controller (CC)
  - vi. Train Service Controller (TSC)
  - vii. Crew Manager Depot (CMD)
  - viii. Rail Services Manager (RSM)
  - ix. Depot Controller (DC)

### 1.3 Risks

- a. This book provides guidelines to mitigate the following risks:
  - i. Struck by moving train during Traffic Hours.



### Definition of types of access:

- a. Access with No Clearance: This refers to a main line track where there is no space of safety for personnel to step aside for a train to pass through. Such areas are:
- All tunnelled areas (except crossovers at TAP, NEW, RFP, OTP, BGS, MRB, MSP and CGA stations);



- Areas where noise barriers have been installed; and
  - Most platform tracks, except those with walkways.
- b. Access with Limited Clearance: This refers to a main line track where there is just enough space for people to step aside for a train to pass through. Such areas are:
- Most viaduct areas (except areas where noise barriers have been installed);



- At grade sections; and
- Tunnelled crossovers at TAP, NEW, RFP, OTP, BGS, MRB, MSP and CGA stations.

## 2. Conditions of Using Authorised Procedures for Traffic Hours Track Access

- 2.1 During Traffic Hours, the Conditions of Using the Approved Protection Methods Can be Summarised as Follows:

Where to use?	When to use (i.e., type of access)	Types of Protection Method		
		Standing Train Protection	Protection Keyswitch (PKS)	Securing Point
Main line track (including Transfer Berth)	No Clearance	Permitted	Permitted	Not permitted
	Limited Clearance	Permitted	Permitted	Not permitted
Access to a siding on main line tracks	Not applicable	Permitted	Permitted	Not permitted
Depot track (excluding Transfer Berth)	Not applicable	Permitted	Not applicable	Permitted

## 2.2 Preferred Methods

- a. For main line track, Standing Train Protection is the preferred method. For depot track, Securing Point is the preferred method.
- b. Reasons for the preferred methods listed:
  - i. Main line track (including Transfer Berth)
    - a) Standing Train Protection is preferred because it protects staff from train moving into the work site (in the normal direction). It can also be used in all locations.
  - ii. Depot track (excluding Transfer Berth)
    - a) Securing Point at site is preferred because it diverts a moving train away from work site.
    - b) A Standing Train can only protect staff from train movement in one direction. Additional train will be required to protect staff from a moving train in another direction.

### 3. General Rules for Traffic Hours Track Access

#### 3.1 Work on Track(s) during Traffic Hours Requiring Special Arrangements:

- a. Condition: The types of work listed below may be undertaken only after special arrangements have been made. The arrangements shall be discussed and agreed upon in meeting(s) prior to the actual execution of the work. The meeting(s) shall be attended by the relevant Heads of Department (HODs)/ Branch of Rail Operations Division (ROD), Centres of Excellence, Land Transport Authority (LTA) and others as appropriately determined by the Heads of the working party performing the work. The agreed procedures governing the special arrangements shall then be published in an Operations Circular to be disseminated to all relevant parties. The types of work are:
  - i. Work that affects the integrity and control of the signalling equipment;
  - ii. Work that interferes with the normal operation of the communications equipment;
  - iii. Work that interferes with the running of the passenger trains;
  - iv. Work that requires a possession to be taken;
  - v. Work that is required to be carried out within a specific timeframe, for example, within a project timeline;
  - vi. Work that requires sharing of possession;
  - vii. Work that has more than one vehicle movement within a single possession.



**Exception:** The only exception to the conditions described above is when the work is deemed to be extremely urgent and that if the work is not carried out, there may be serious risks to the safety of the passengers or any other personnel or equipment. As such situations would mean that the relevant circulars might not be able to be published on time, the Division/ Centre Head of the PM/ PIC must seek approval for deviation from the authorities, as spelt out in Chapter 3 of Rule Book 1.

### 3.2 Role of CC for Approval for Access:

- a. Access to main line track during Traffic Hours is not normally permitted because passenger trains are operating. Exceptions are made when the access is absolutely urgent and necessary (e.g., when a fault adversely affects train operation or passenger safety).
- b. Duty CC of the affected line [i.e. North-South Line (NSL) or East-West Line (EWL)] shall only approve urgent access for the following activities/ scenarios:
  - i. Inspection of open gap of unwelded rail;
  - ii. Inspection of third rail abnormalities by PWAY Maintenance staff (with traction power ON);
  - iii. Inspection of tunnel sump pump and sump pit for faulty pump or high-level alarm, etc by EMF Maintenance staff;
  - iv. Access to a siding by Maintenance/ Rail Operational staff (RB Annex A3);
  - v. Responding to point failure (RB Annex J11);
  - vi. Assessment of condition of MRT viaduct when there is fire near the viaduct (RB Annex M13);
  - vii. Dousing of smouldering sleepers by Station Manager (RB Annex M14);
  - viii. Responding to suspected rail break on the main line (RB Annex M15);

- ix. Dealing with “Rear Cab Entry” or “DIR” Indications illuminated (RB Annex M16);
  - x. EMU Train stalled and Train Captain incapacitated (RB Annex M17);
  - xi. Responding to crane working near MRT viaduct (RB Annex M26);
  - xii. Responding to person spotted on track (RB Annex M36);
  - xiii. Identification of object suspected to be hit by train or spotted on track (RB Annex F3);
  - xiv. Fire on platform track (RB Annex F19);
  - xv. Fire on track between MRT stations (RB Annex F20);
  - xvi. Evacuation of casualty on trackside or in a stalled train during Traffic Hours (RB Annex F35).
- c. If a particular activity/ scenario which requires urgent access is not in the list above, duty CC or MOCC shall seek Line Head (NSEWL), or in his/ her absence, HOD (Control Ops) for approval.
  - d. The duty CC of the affected line shall not allow any request for access on to the main line track during Traffic Hours, which is requested by a PIC from an external agency.
  - e. As a general rule, the duty CC of the affected line shall approve only one urgent track access for each line during Traffic Hours (i.e., each Track Access talkgroup). However, if there is another urgent request which requires immediate attention and the appropriate radio talkgroup is in use, the CC may consider using the “Emergency” radio talkgroup.

### 3.3 Application Forms for Access to Tracks during Traffic Hours

- a. The following application forms must be used for access to tracks during Traffic Hours as appropriate:
  - i. application form for access to main line track during Traffic Hours;

- ii. application form for access to Transfer Berth during Traffic Hours.



**Exception:** The application form must be used for access to track during Traffic Hours, and shall not apply to the following scenarios:

- a. When Rail Incident Management Plan (RIMP) has been activated;
- b. A duty SM going down to track during the course of work such as attending to a point failure;
- c. Train Captain going to or leaving a siding to gain access to or leave a train in a siding.



For detailed procedures on using the application form to apply for access to main line track or transfer berth during Traffic Hours, refer to Annexes A1, A2 and A10 respectively.

### 3.4 Appointing a Safety Minder for High-Risk Work Activities

- a. The PM/PIC shall appoint a Safety Minder if the work is listed as high-risk work activities.

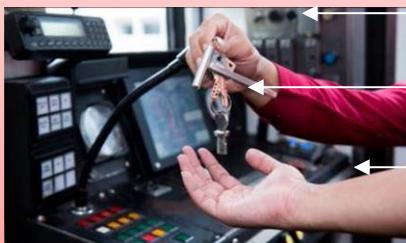


For details about the Role of Safety Minder and work listed as High-Risk Work Activities, refer to Chapter 3 of Rule Book 4

#### 4. Use of Standing Train Protection on Main Line Track Where There is No Clearance or Limited Clearance



When a standing train is used as a protection, before gaining access on to track, the PM/ PIC must personally ensure that the train is secured by taking over the Master Controller (MC) key from the TC. This is in accordance with the safety principle of "Lock-out and Tag-out".



TC

MC key

PIC or PM

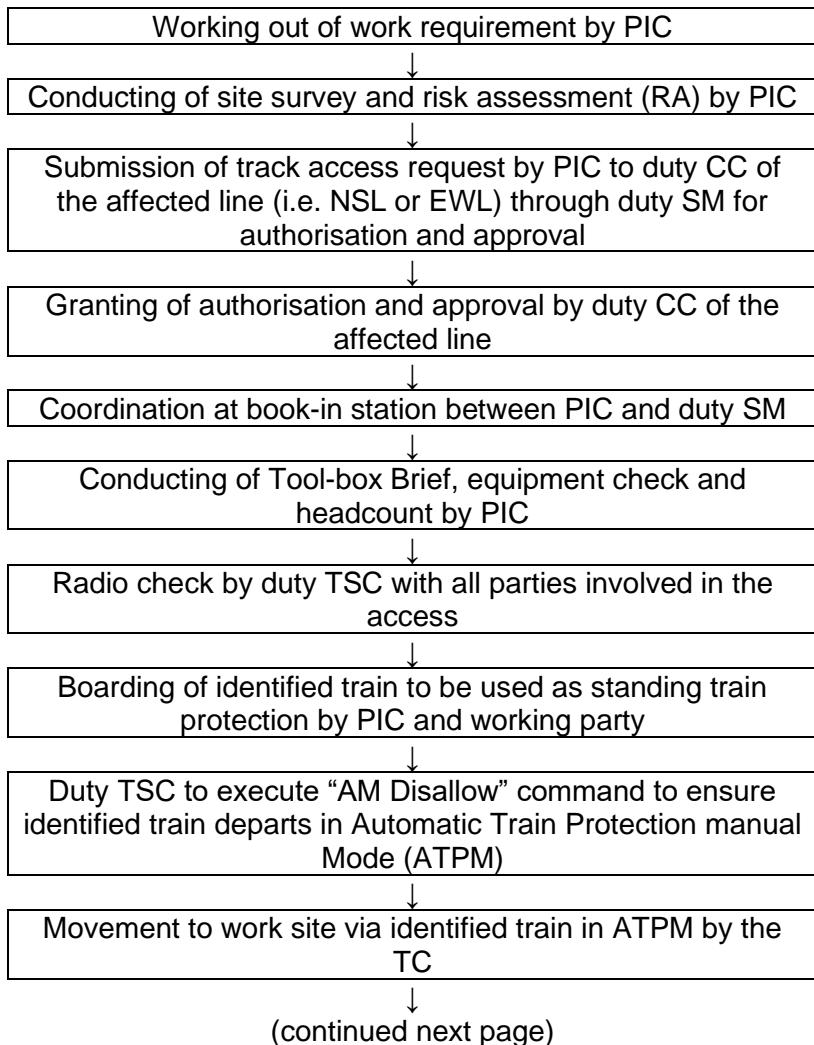


When using this protection method, maintenance staff are not allowed to open the cab door by themselves. Only the TC is allowed to open the cab door.



- a. There are locations at which staff will not be able to alight from the cab door to go onto the elevated walkway due to noise barriers which have been installed.
- b. Train used to bring a working party to attend to urgent inspection or repair during Traffic Hours at locations where noise barriers have been installed shall stop outside the location. The working party shall alight first and then walk all the way to the work site.

## 4.1 Overview of the Standing Train Protection Method



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When informed by TC that his/ her train has arrived at work site, duty TSC to execute “Close Track” command on at least two track circuits in front of the Standing Train for protection, and on the appropriate track circuit(s) on the opposite (counter) bound and siding where applicable



“Closed Track” shall be imposed on at least two track circuits in front of a standing train to protect the working party working on track, where a controlled train is not able to move through the “Closed Track” sector. A train in Restricted manual Mode (RM) shall not be allowed to move in reverse direction towards the “Closed Track” sector.



TC to shut down train cab



PIC to depress Emergency Stop Pushbutton (ESPB) at switch panel of “B” side cab door

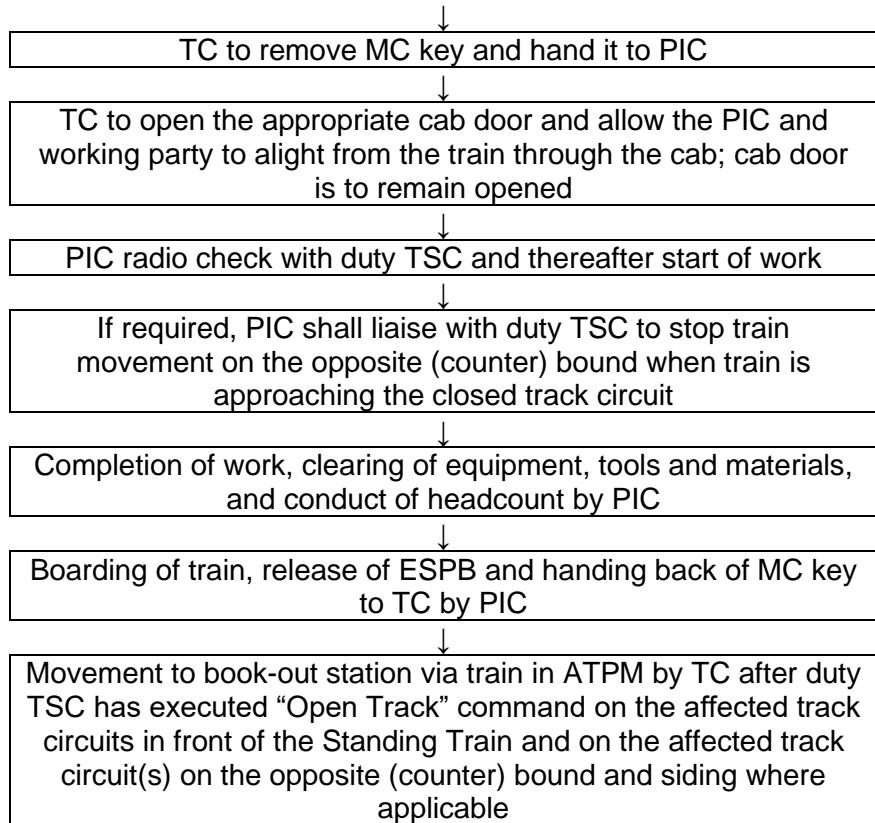


PIC and TC to confirm that “EB” (Emergency Brake) is “ON” at TOD



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For detailed procedures on using a standing train for protection, refer to **Annex A1**.

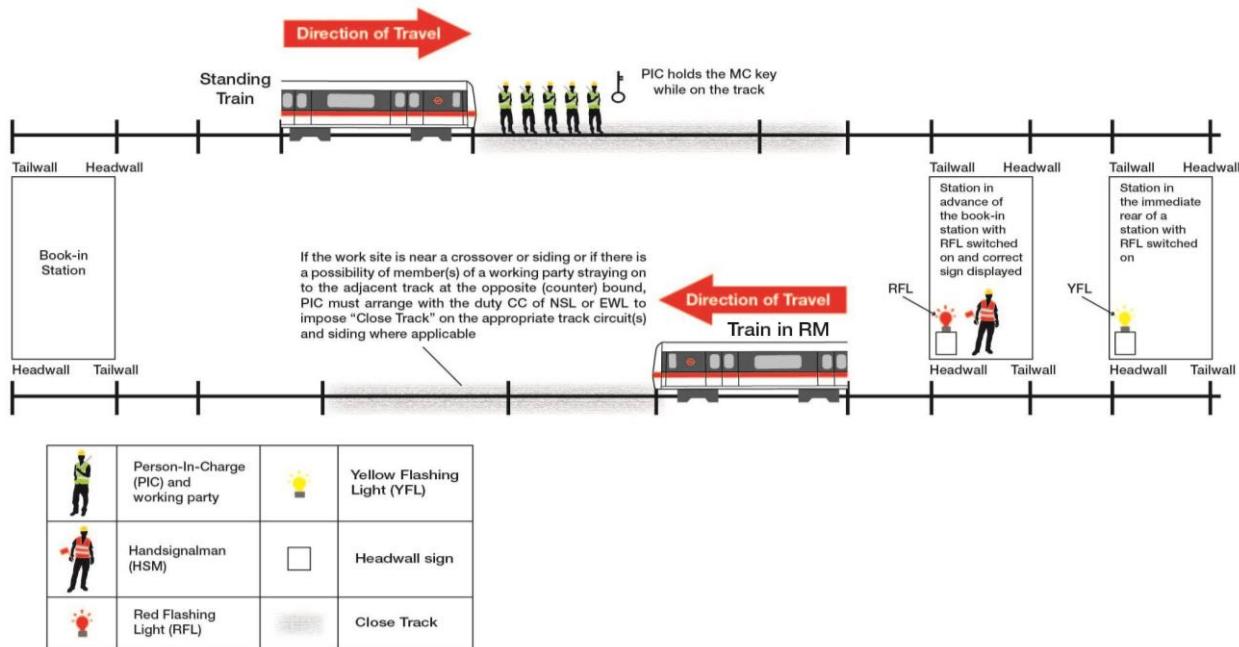


Figure 1: Using a Standing Train for Protection

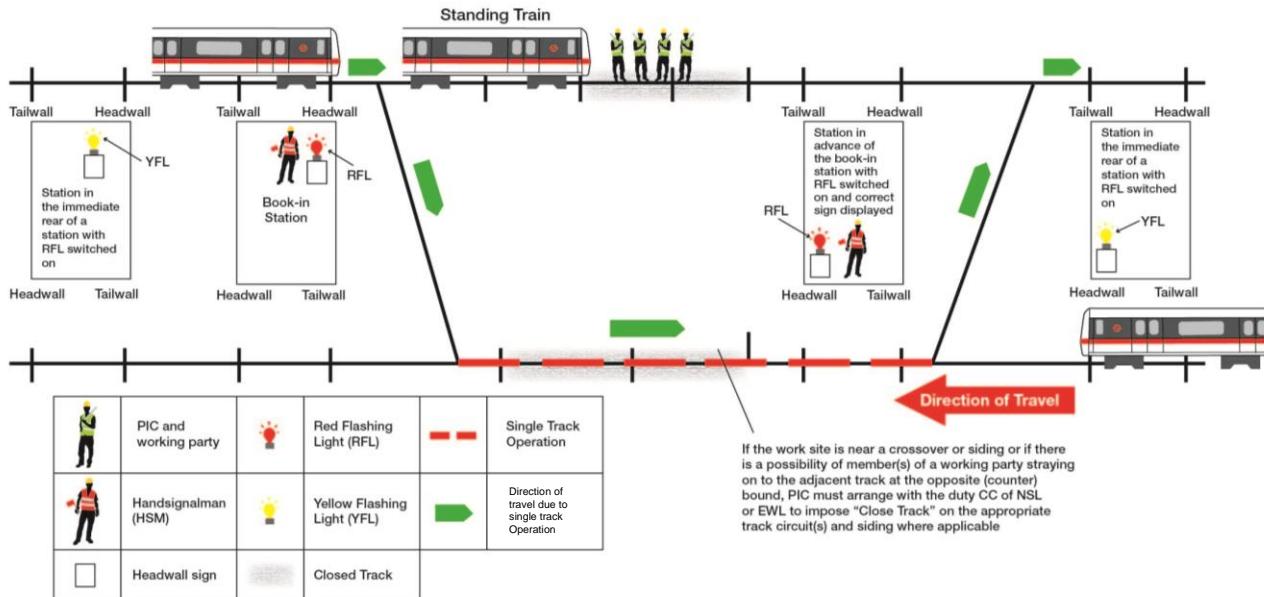


Figure 2: Using a Standing Train for Protection (Where There Is Single Track Operation)

## 5. Use of PKS for Protection on Main Line Track Where There is No Clearance or Limited Clearance



PKS is a device used to impose “Close Track” at the appropriate track circuit(s) and to maintain signal(s) at “Danger” at crossovers.

- a. PKS is to be used on main line track where there is no space of safety (No Clearance) for people to step aside for a train to pass through. Such areas are:
  - i. All tunnelled areas (except crossovers at Toa Payoh, Newton, Raffles Place, Outram Park, Bugis, Marina Bay, Marina South Pier and Changi Airport stations);
  - ii. Areas where noise barriers have been installed;
  - iii. When the work site is 140 metres or less from a station headwall or tailwall and there is no crossover within that distance\*;
  - iv. Most platform tracks except those with walkway.
- b. PKS can also be used when work on screen door(s) at a platform requires staff to be on the trackside of the screen door(s).
- c. PKS can also be used on main line track where there is just enough space (Limited Clearance) for personnel to step aside for a train to pass through. Such areas are:
  - i. Most viaduct areas (except areas where noise barriers have been installed);
  - ii. At-grade sections; and
  - iii. Tunnelled crossovers at Toa Payoh, Newton, Raffles Place, Outram Park, Bugis, Marina Bay, Marina South Pier and Changi Airport stations.



If a Special PKS is to be used during Traffic Hours, the duty Manager, Operations Control Centre (MOCC) must approve it.

**\*Note:**

“Limit of Protection Keyswitch” signs are installed at trackside for staff to confirm the 140 metres limit.



“Limit of Protection Keyswitch” sign at Headwall of an elevated MRT station



“Limit of Protection Keyswitch” sign at Headwall of an underground MRT station



**\*Note (Continuation):**

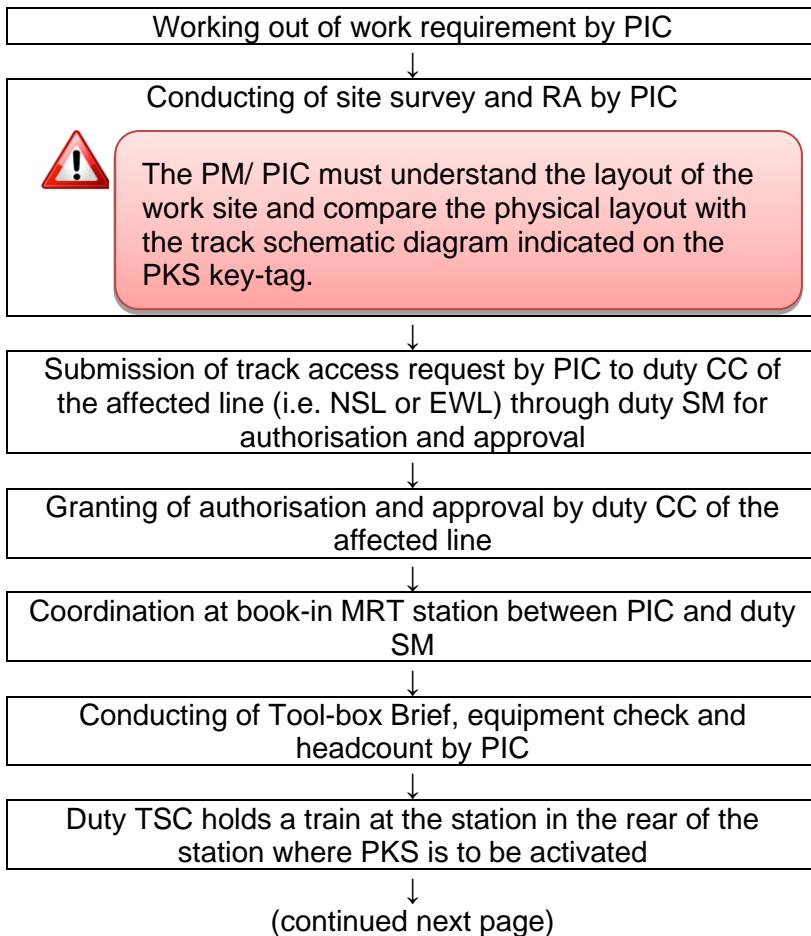


“Limit of Protection Keyswitch” sign at Tailwall of an elevated MRT station



Limit of Protection Keyswitch” sign at Tailwall of an underground MRT station

## 5.1 Overview of PKS Method



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Operation of PKS by duty SM and PIC must use a number lock to shorten the chain to the protection key so that the PKS can no longer reach the keyhole.

TSC to execute 'Close Track' command on the appropriate track circuit(s) on the opposite (counter) bound and siding where applicable



The PM/ PIC must witness the operation of the PKS by the SM and thereafter, the PM/ PIC is to use a number lock to shorten the chain of the protection key, such that the protection key can no longer reach the PKS keyhole. This is to ensure that there is no accidental restoration of the PKS by the SM or another person before the PM/ PIC and the working a party are back at the station platform after their work on the track.



Number lock



Radio check by duty TSC with all parties involved in the access



Placement of RFL/ flag by duty SM and thereafter, movement to work site by PIC and working party



Radio check by PIC with duty TSC upon arrival and thereafter, commencement of work



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If required, PIC shall liaise with duty TSC to stop train movement on the opposite (counter) bound when train is approaching the closed track circuit

Completion of work, clearing of equipment, tools and materials, and conducting of headcount by PIC

Movement back to book-in station by PIC and working party

Removal of RFL/ flag by duty SM

Removal of number lock by PIC and restoration of PKS by SM

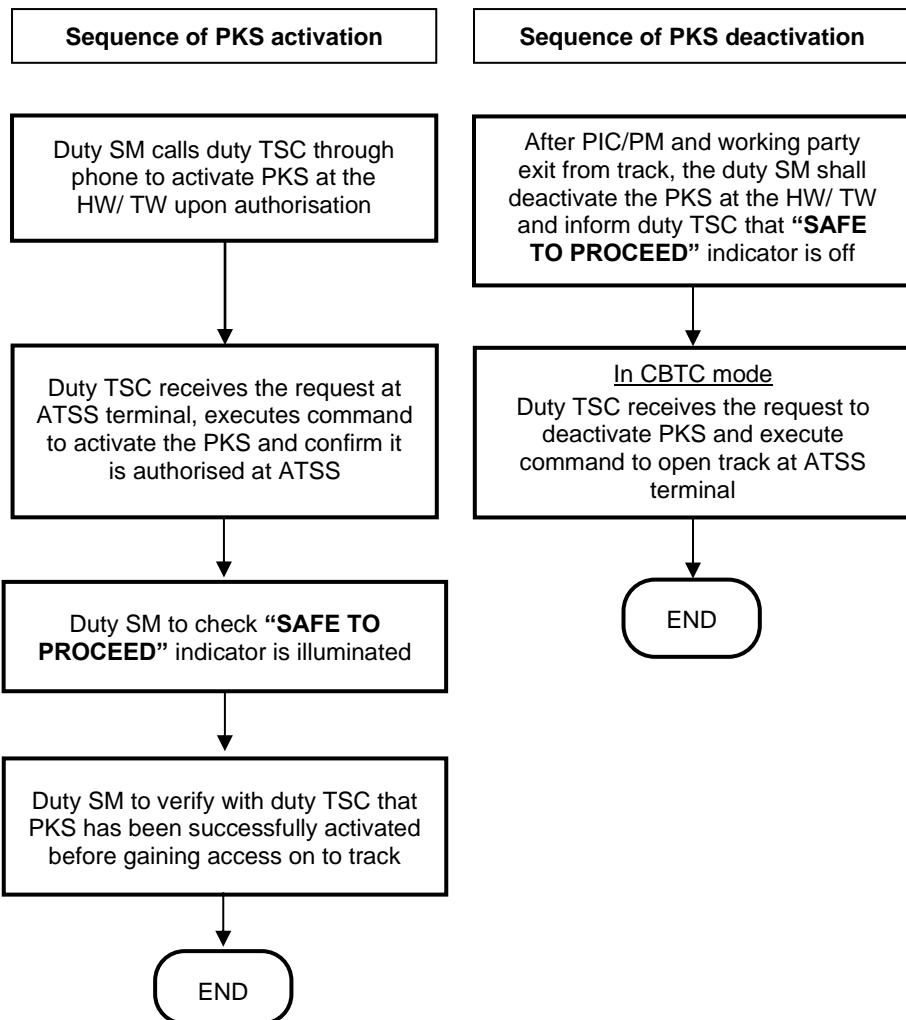
Removal of 'Close Track' on the affected track circuit(s) on the opposite (counter) bound and siding where applicable and release of train that was held at the rear of the station where PKS had been activated earlier on by duty TSC and book-out by PIC



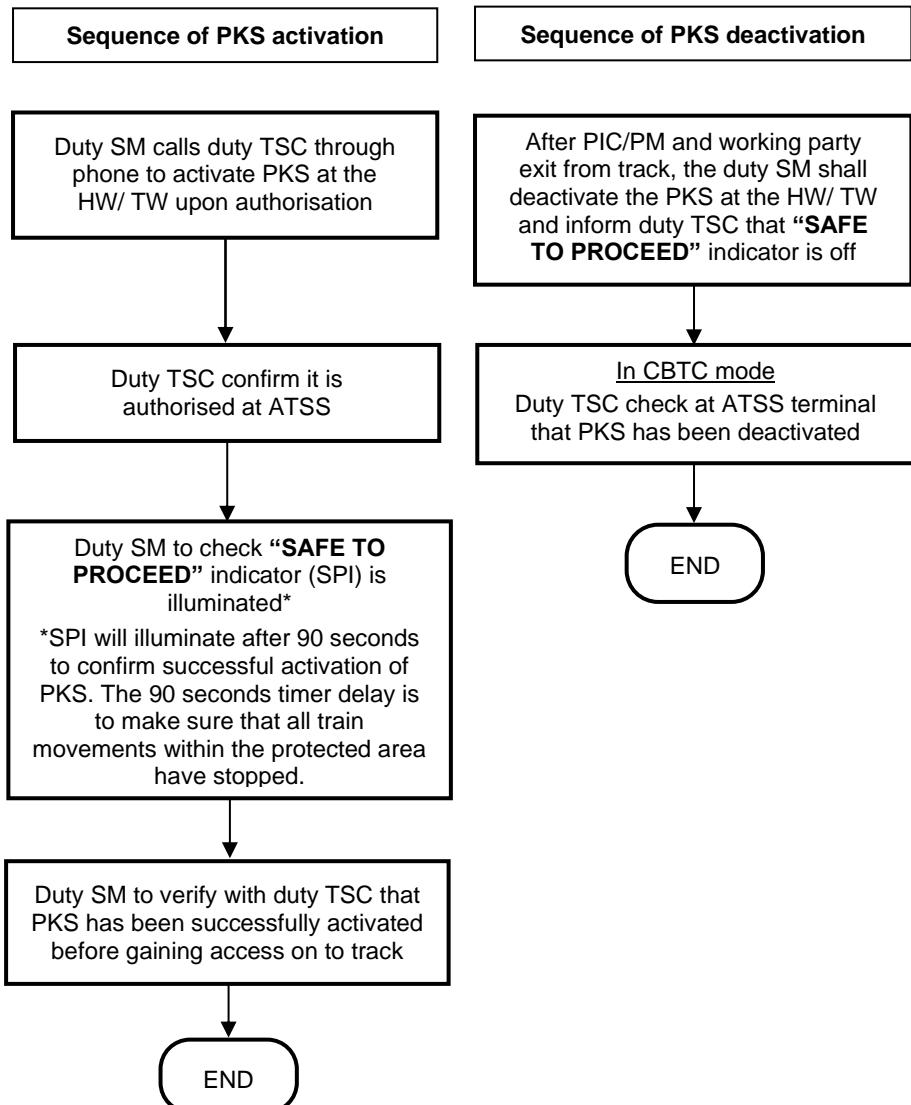
For detailed procedures on using Protection Keyswitch for protection, refer to **Annex A2**.

## 5.2 Workflow on the Sequence of Activation/ Deactivation of Protection Keyswitch

### a. For unmodified PKS



b. For modified PKS



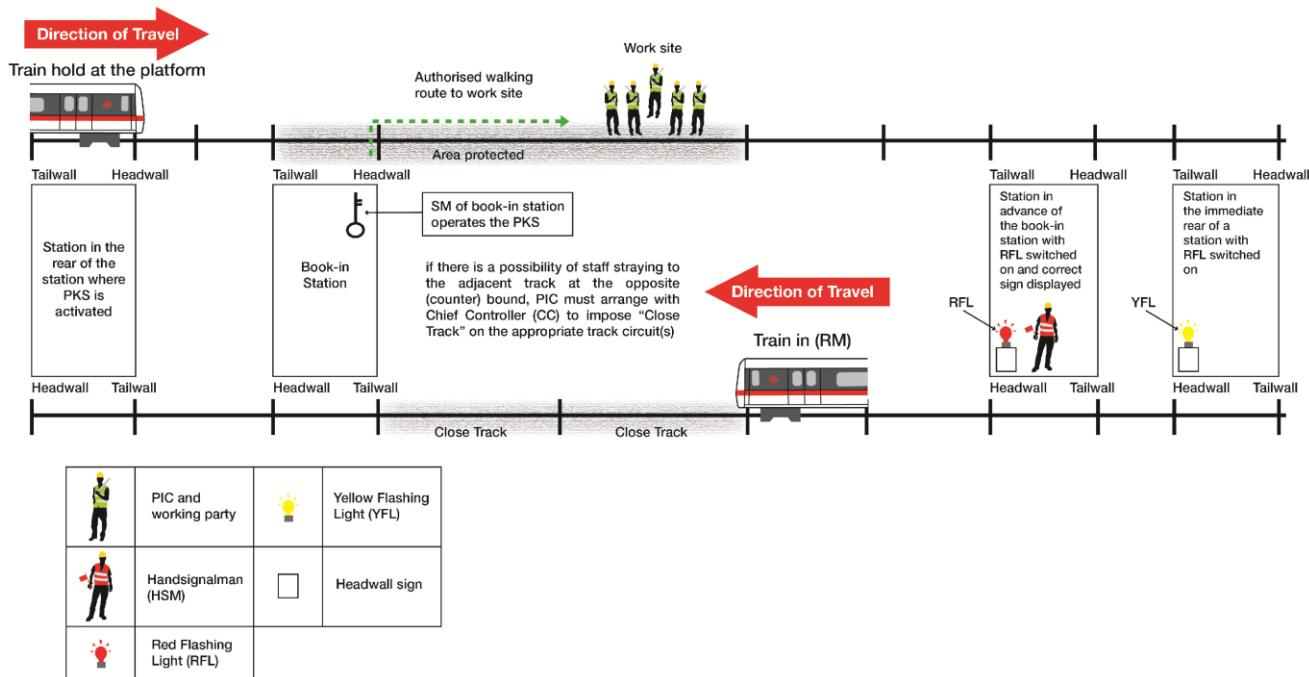
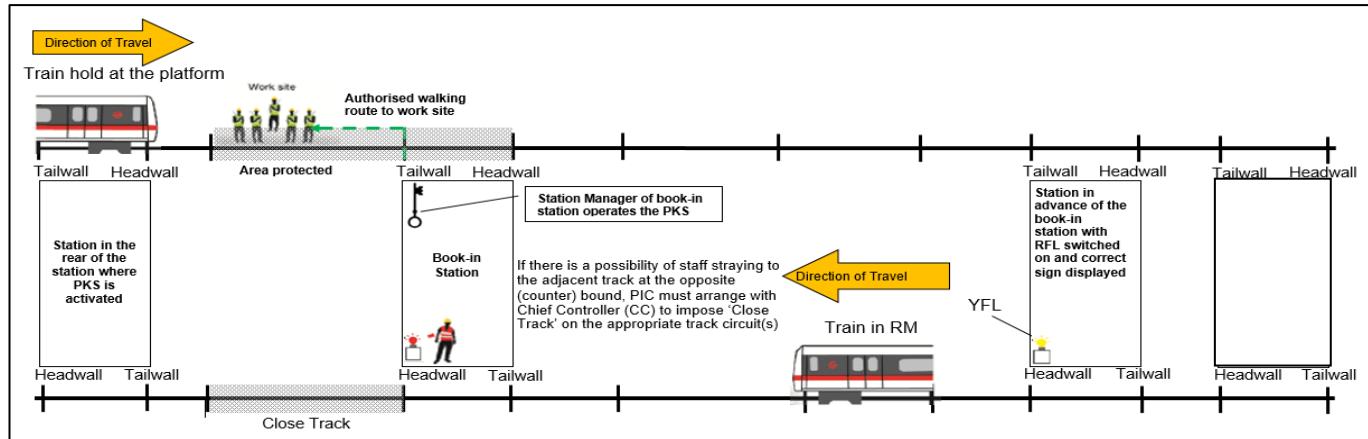


Figure 3a: Using a Headwall PKS for Protection



	PIC and working party		Yellow Flashing Light (YFL)
	Handsignaller (HSM)	<input type="checkbox"/>	Headwall sign
	Red Flashing Light (RFL)		

Figure 3b: Using a Tailwall PKS for Protection

## 6. Protection Methods for Adjacent Track

- If there is a possibility of the working party straying on to the adjacent track, ensure that the following critical procedures are carried out:

No.	PIC
1.	<p>When requesting for track access, through the duty SM of the book-in station, do the following:</p> <ol style="list-style-type: none"> <li>Inform the duty CC of the affected line (i.e. NSL or EWL) that protection for adjacent track at the opposite (counter) bound is required;</li> <li>If using Headwall PKS for protection, request the duty TSC to instruct the SM of the station in advance of the book-in station to:</li> </ol>  <ol style="list-style-type: none"> <li>Switch on the RFL at the headwall of the opposite (counter) bound; an</li> <li>Display the correct sign.</li> </ol> 

No.	PIC
1. Cont	<p>c. If using Tailwall PKS for protection, request the duty TSC to instruct the SM of the book-in station to:</p>  <ul style="list-style-type: none"> <li>i. Switch on the RFL at the headwall of the opposite (counter) bound; and</li> <li>ii. Display the correct sign.</li> </ul> 

No.	PIC
2.	<p>Request the duty TSC, through the duty SM of the book-in station, to instruct the SM of the station in the immediate rear of a station (with the RFL switched on) to:</p> <ul style="list-style-type: none"> <li>a. Switch on the YFL at the headwall of the opposite (counter) bound; and</li> <li>b. Display the correct sign.</li> </ul> 
3.	Confirm with the duty TSC, through the SM of the book-in station, whether the SMs have carried out all the above actions.

No.	PIC
4.	<p>Position a qualified HSM* as follows:</p> <p>a. If using Headwall PKS for protection, position the qualified HSM at the headwall of the opposite (counter) bound of the station in advance of the book-in station; OR</p> <p>b. If using Tailwall PKS for protection, position the qualified HSM at the headwall of the opposite (counter) bound of the book-in station.</p> <p><b>*Note:</b></p> <ul style="list-style-type: none"><li>a. If there is insufficient staff to be deployed as HSM, seek assistance from the Integrated Maintenance &amp; Diagnostic Centre (IMDC) to get additional staff.</li><li>b. As a last resort, a station staff who is qualified to give hand signals for train operations may be deployed as a HSM if required. (Passenger Service Centre (PSC) may be closed temporarily)</li></ul>

No.	PIC
5	<p>Instruct the qualified HSM to:</p> <ol style="list-style-type: none"><li>Stop each train at the headwall with a RED flag.</li><li>Inform the TC to look, read and comply with the message on the sign.</li><li>Hand signal the train to proceed only when the TC has acknowledged that he/ she understood the message on the sign.</li></ol>  

No.	<b>SM</b>
1.	<p>When instructed by the duty TSC,</p> <p>a. if Headwall PKS has been used for protection, the <b><u>SM of the station in advance of the book-in station</u></b> must:</p> <ul style="list-style-type: none"> <li>i. switch on the RFL at the headwall of the opposite (counter) bound.</li> <li>ii. display correct sign:</li> </ul>  <p>b. if Tailwall PKS has been used for protection, the <b><u>SM of the book-in station</u></b> must:</p> <ul style="list-style-type: none"> <li>i. switch on the RFL at the headwall of the opposite (counter) bound.</li> <li>ii. display correct sign as shown above.</li> </ul>

No.	<b>SM</b>
2.	The SM shall inform the TSC after completing the above actions.
3.	<p>When instructed by the duty TSC, the <b><u>SM of the station in the immediate rear of a station (with RFL switched on)</u></b> shall:</p> <ol style="list-style-type: none"> <li>Switch on the YFL at the headwall of the opposite (counter) bound.</li> <li>Display correct sign:</li> </ol>  <ol style="list-style-type: none"> <li>Inform the TSC after completing the above actions.</li> </ol>
4.	After confirming that all protections are in place, the SM of the book-in station shall inform the duty TSC about it.

No.	TSC
1.	<p>When instructed by the duty CC of the affected line (i.e. NSL or EWL), execute “Close Track” command on the appropriate track circuit(s) on the opposite (counter) bound and siding where applicable.</p>
2.	<p>When requested by the PIC, through the duty CC of the affected line (i.e. NSL or EWL),</p> <ul style="list-style-type: none"> <li>a. if Headwall PKS has been used for protection, instruct the SM of the station in advance of the book-in station to:           <ul style="list-style-type: none"> <li>i. switch on the RFL at the headwall of the opposite (counter) bound;</li> <li>ii. display correct sign:</li> </ul>  </li> <li>b. if Tailwall PKS has been used for protection, instruct the SM of the book-in station to:           <ul style="list-style-type: none"> <li>i. switch on the RFL at the headwall of the opposite (counter) bound;</li> <li>ii. display correct sign as shown above.</li> </ul> </li> </ul>

No.	TSC
3.	<p>Inform the PIC, through the duty SM of the book-in station, after completing the above actions.</p>
4.	<p>When requested by the PIC, through the duty CC of the affected line (i.e. NSL or EWL), instruct the SM of the station in the immediate rear of a station (with RFL switched on) to:</p> <ul style="list-style-type: none"> <li>a. Switch on the YFL at the headwall of the opposite (counter) bound.</li> <li>b. Display correct sign:</li> </ul> 
5.	<p>c. Inform him/ her after completing the above actions.</p> <p>Inform the PIC, through the duty SM of the book-in station, after confirming that the above actions have been completed.</p>

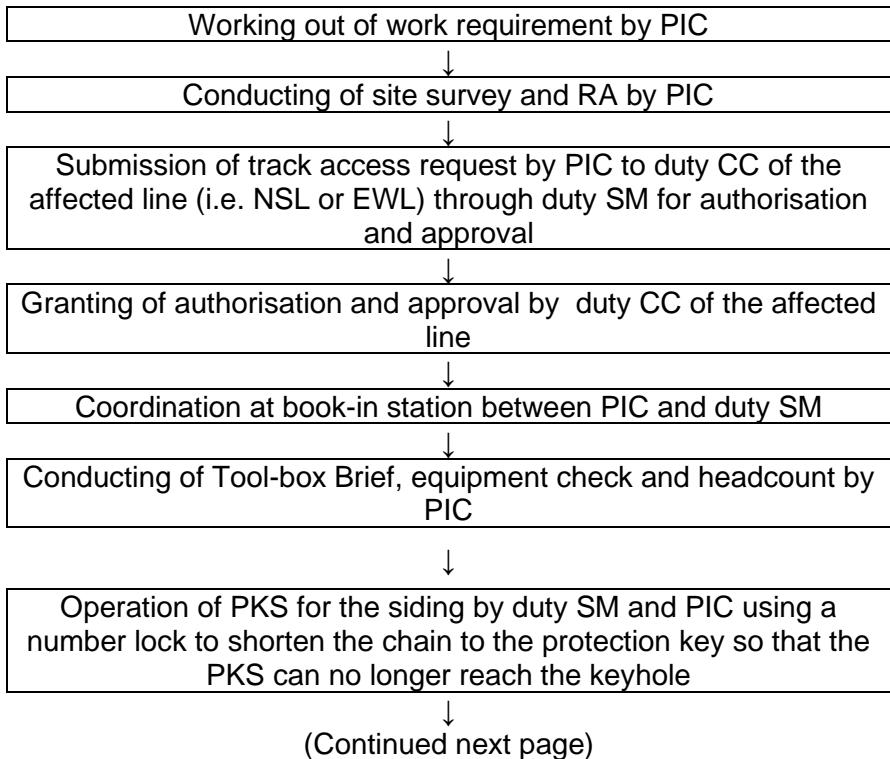
No.	TC
1.	<p>All TCs proceeding towards the track circuit(s) with "Close Track" at the adjacent track shall:</p> <ul style="list-style-type: none"><li>a. if Headwall PKS has been used for protection,<ul style="list-style-type: none"><li>i. drive in ATPM and slow down the speed when approaching the affected track circuit(s);</li><li>ii. sound the horn upon sighting of the working party;</li><li>iii. get authorisation from the duty TSC to go in RM over the affected track circuit(s);</li></ul></li><li>b. if Tailwall PKS has been used for protection, get authorisation from the duty TSC to go in RM over the affected track circuit(s).</li></ul>
2.	When authorised by the duty TSC, travel in RM over the affected track circuit(s). Thereafter, resume normal speed after passing the affected track circuit(s) to the station in advance.

## 7. Access to Siding

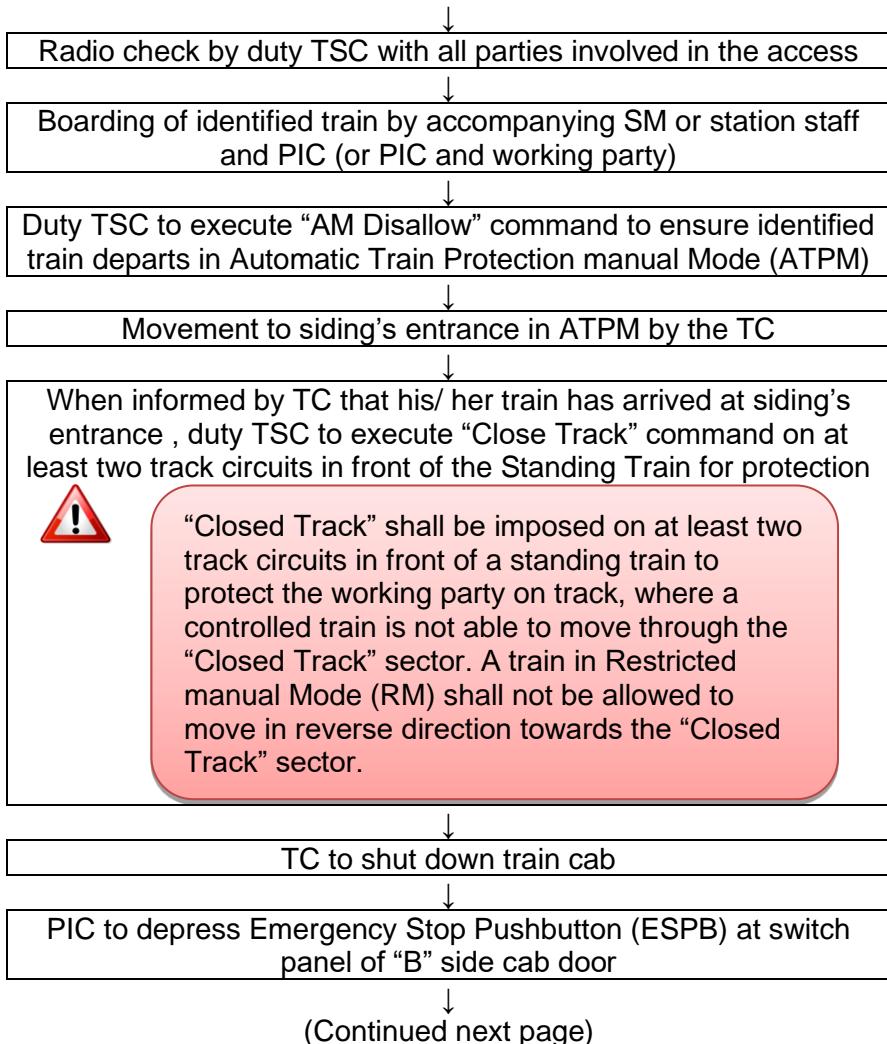


- There are two modes of access to a siding, namely:
- Taking a train to get to a siding.
  - Walking to a siding.

### 7.1 Overview of Taking a Train to get to a Siding



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PIC and TC to confirm that “EB” (Emergency Brake) is “ON” at TOD



TC to remove MC key and hand it over to accompanying SM or station staff



TC to open the appropriate cab door and allow the PIC (or PIC and working party) to alight from the train through the cab



PIC (or PIC and working party) to alight from train and move to the siding (keep clear of track)



Releasing of ESPB and handing over of MC key by accompanying SM or station staff to TC to allow train to depart after duty TSC has executed “Open Track” command on the affected track circuits in front of the Standing Train



Conducting of radio check by the PIC with duty TSC



Commencement of work by the working party



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Completion of work, clearing of equipment, tools and materials, and conducting of headcount by PIC

Duty TSC to arrange for a train to pick up the PIC (or PIC and working party) from the same siding's entrance that was used to access the siding

Duty TSC to execute "AM Disallow" command to ensure identified train departs in ATPM

Movement to siding's entrance in ATPM by the TC

When informed by TC that his/ her train has arrived at siding's entrance , duty TSC to execute "Close Track" command on at least two track circuits in front of the Standing Train for protection



"Closed Track" shall be imposed on at least two track circuits in front of a standing train to protect the working party on track, where a controlled train is not able to move through the "Closed Track" sector. A train in Restricted manual Mode (RM) shall not be allowed to move in reverse direction towards the "Closed Track" sector.

TC to shut down train cab

Accompanying SM or station staff to depress ESPB at switch panel of "B" side cab door

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Accompanying SM or station staff and TC to confirm that "EB" is "ON" at TOD

MODE	OFF	BERTHED	---	DWELL	DEPART	---		
				STOPPING POINT 1000 500 200 100 50 20 10 5 2 1 0	DOORS			
					NEXT AMK B>> HOLD NO	FINAL MSP B SKIP NO		
				STATION		DEVIATION 0.00		
				SVC IN	ATPM OK	ATO OK	POS OK	EB ON
				LIST		MENU		
				CONFIRM		CONFIRM		
				CONFIRM		LIST		
				CONFIRM		LIST		
2018-06-01 TIME 13:27:19 TRAIN 250 CREW --- DIR S EMU 3250 VOBGs 2								

↓

TC to remove MC key and hand it over to accompanying SM or station staff

↓

TC to open the appropriate cab door and allow the PIC (or PIC and working party) to re-board the train through the cab

↓

After PIC (or PIC and working party) has boarded the train, accompanying SM or station staff to release ESPB and hand back MC key to TC

↓

Movement to book-out station via identified train in ATPM by the TC after duty TSC has executed "Open Track" command on the affected track circuits in front of the Standing Train

↓

Removal of number lock by the PIC, restoration of PKS by the duty SM and book-out by the PIC



For detailed procedures on taking a train to get to a siding, refer to **Annex A3a**.

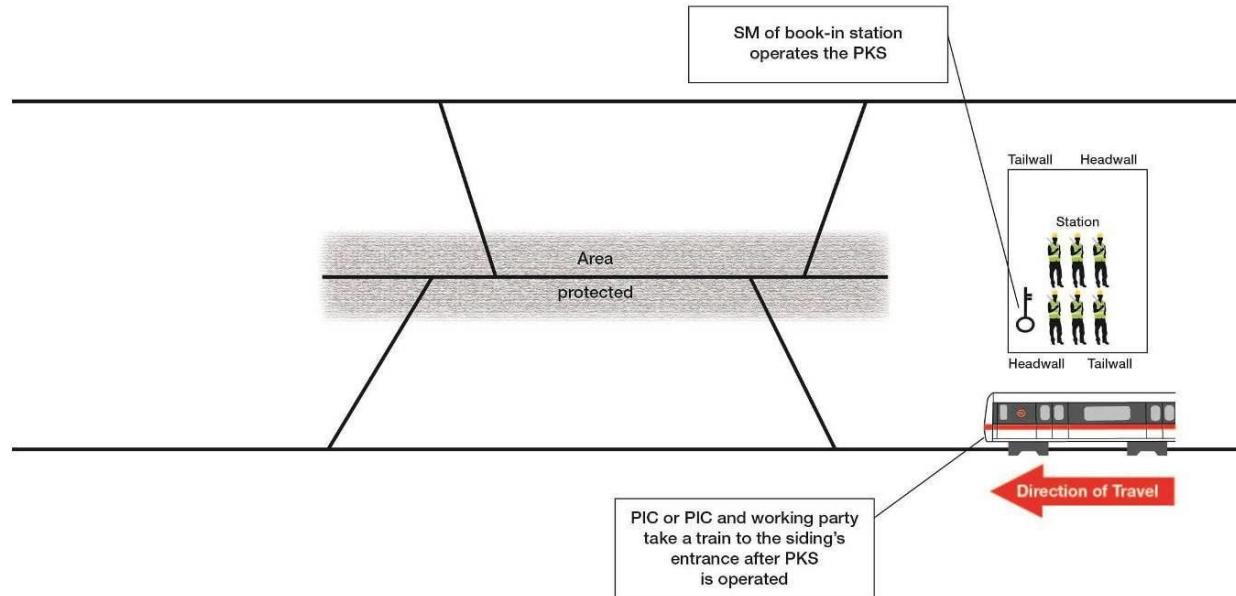
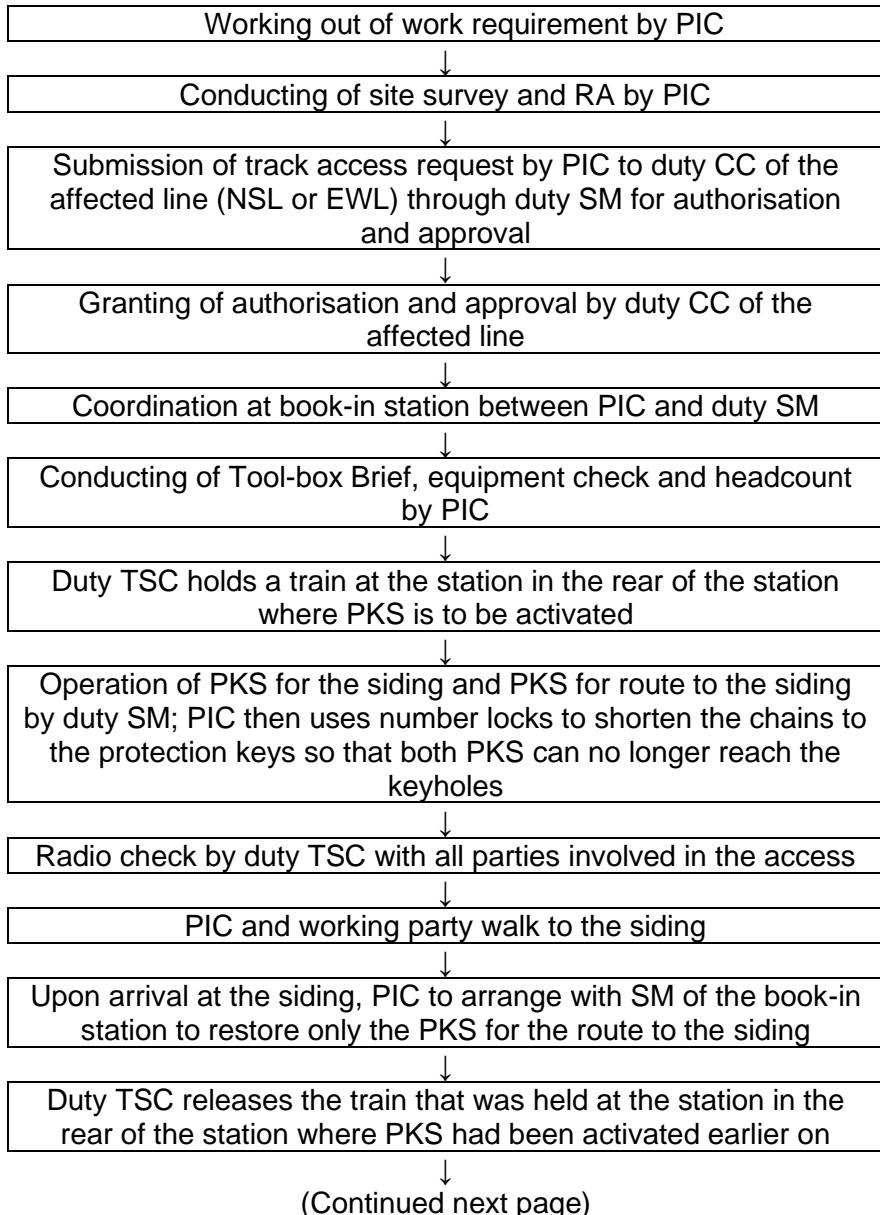
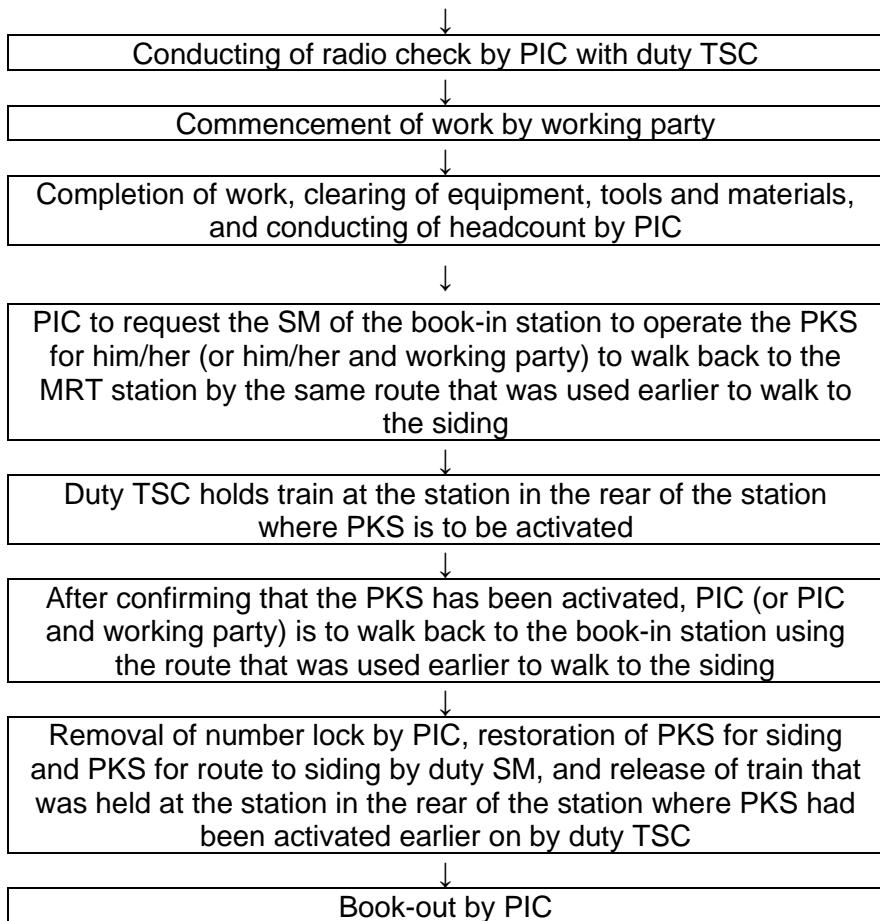


Figure 4: Access to a Siding: PIC or PIC and Working Party Taking a Train to the Siding's Entrance

## 7.2 Overview of Walking to a Siding



(Continued from previous page)



For detailed procedures on walking to a siding, refer to **Annex A3b**.

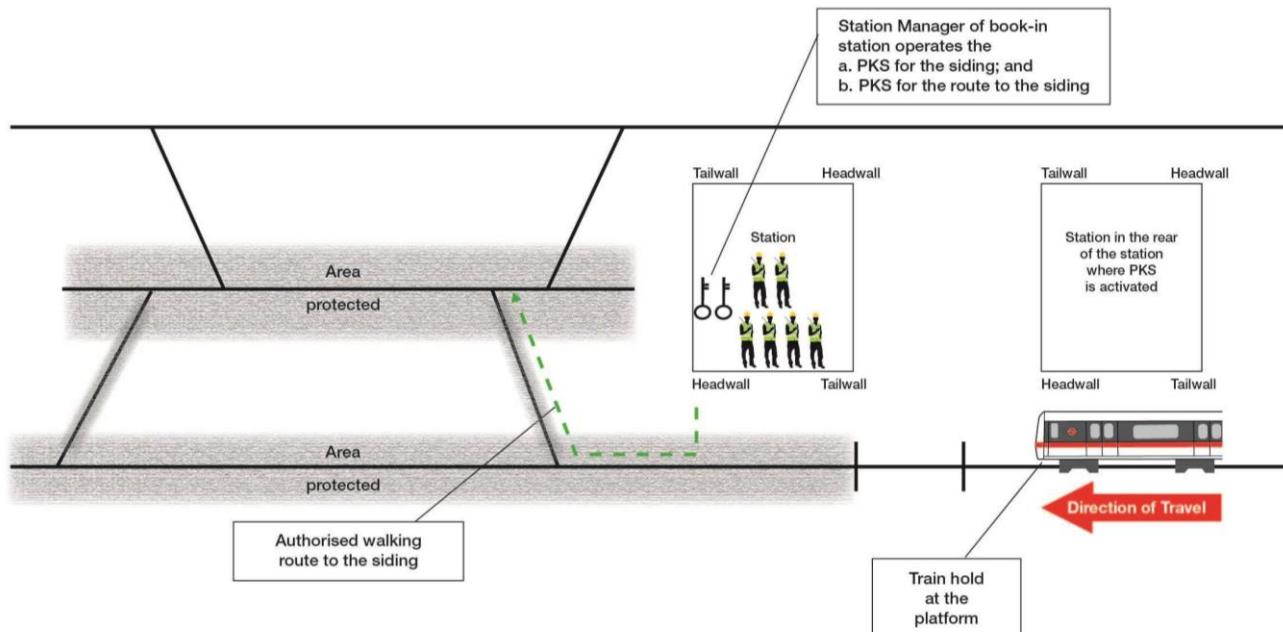


Figure 5: Access to a Siding: Walking to a Siding

## 8. Access to Transfer Berth during Traffic Hours

- 8.1 Access to Transfer Berth (TB) during Traffic Hours shall generally not be allowed because passenger trains are in operation. If there is an urgent need to gain access on to a TB, then the Head of the appropriate Centre of Excellence (CoE) needs to get prior approval from the Line Head of North-South East-West Line (NSEWL), or in his absence, Head of Control Operations (CO).
- 8.2 After approval has been granted, PM or PIC shall book-in at depot to apply for access, through the depot, on to the TB. Affected traction power section(s) on both main line and depot track leading to TB must be switched off before gaining access on to TB.



**Traction Power to be Switched OFF to Transfer Berths (TB) for the respective depots**

Depot	TB	Track Circuit Numbers for Transfer Berth (TB)	Mainline Power Sector	Depot Power Circuit
BSD	1	N646, N644, B302T, B304T	<b>PS N 24 / PS CT 01</b>	DFX 01
	2	N645, N643	<b>PS N 24 / PS CT 01</b>	DFX 02
	3	N640, N642	<b>PS N 22</b>	DFX 02
UPD	1	U201T	<b>PS W 21</b>	<i>DFX 01</i>
	2	W700, U202T	<b>PS W 22</b>	<i>DFX 04</i>
	3	W675, W677, U203T	<b>PS W 19</b>	<i>DFX 04</i>
CHD	1	E707, C201T	<b>PS E 29</b>	DFX 02
	2	C202T	<b>PS E 30</b>	DFX 01
TWD	1	W932T	<b>PS W 42</b>	DFX 07
	2	W941T	<b>PS W 41</b>	DFX 01

- 8.3 PM or PIC from an external agency shall not be allowed to gain access on to TB during Traffic Hours.
- 8.4 Before gaining access on to the TB, the PM/PIC must:
- Carry out a survey of the work site (e.g., through cab rides) and develop a track access plan;
  - Appoint a Safety Minder if the work is listed as High-Risk Work Activities;



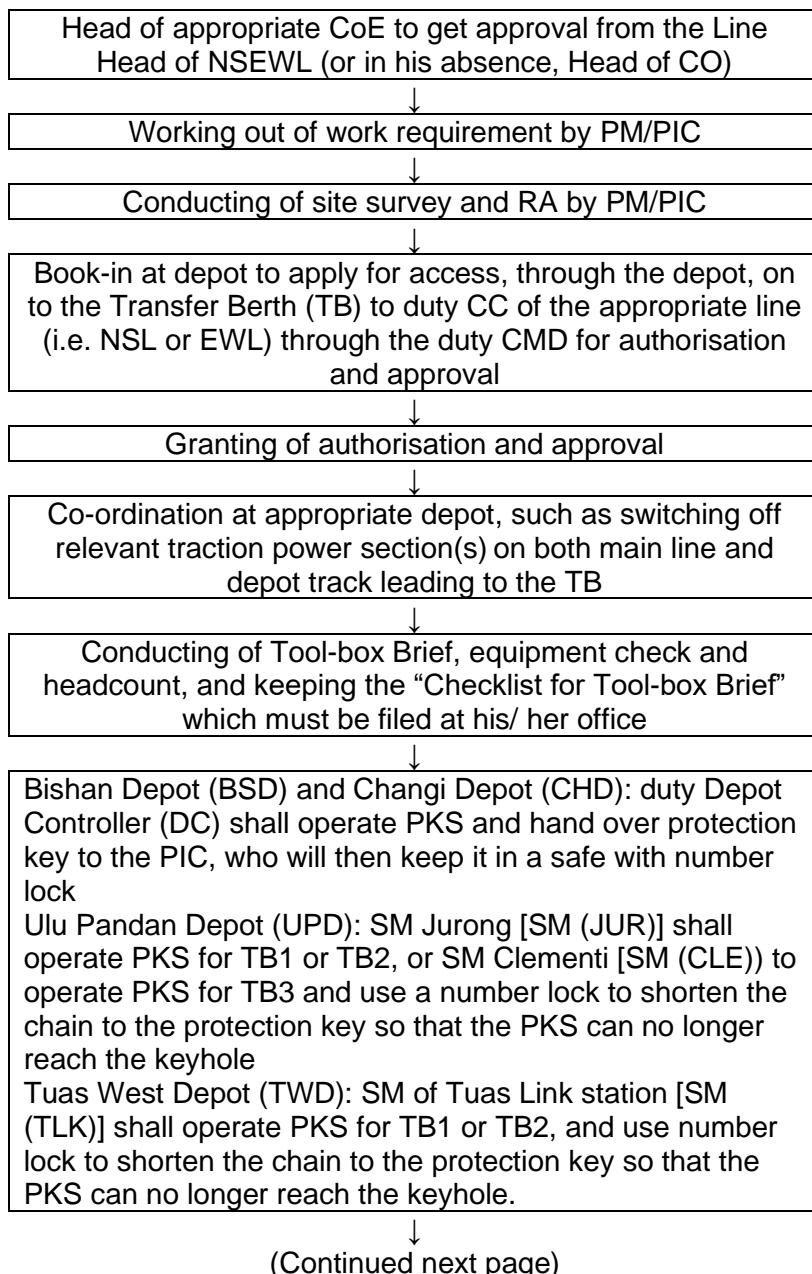
For details about the Role of Safety Minder and work listed as High-Risk Work Activities, refer to Chapter 3 of Rule Book 4

- Conduct a Tool-box Brief to all members of the working party under his/ her charge. The Tool-box Brief must include the following:
  - Safety briefing;
  - Briefing on the work to be done using the printed\* Work Instruction (WI), Method Statement (MS) and RA;
- Record the title and document number of WI and MS in a “Checklist for Tool-box Brief”;
- Keep the printed set of WI, MS and RA for subsequent briefing(s);
- Complete the “Checklist for Tool-box Brief”;
- Keep the “Checklist for Tool-box Brief” which must be filed at his/ her office.

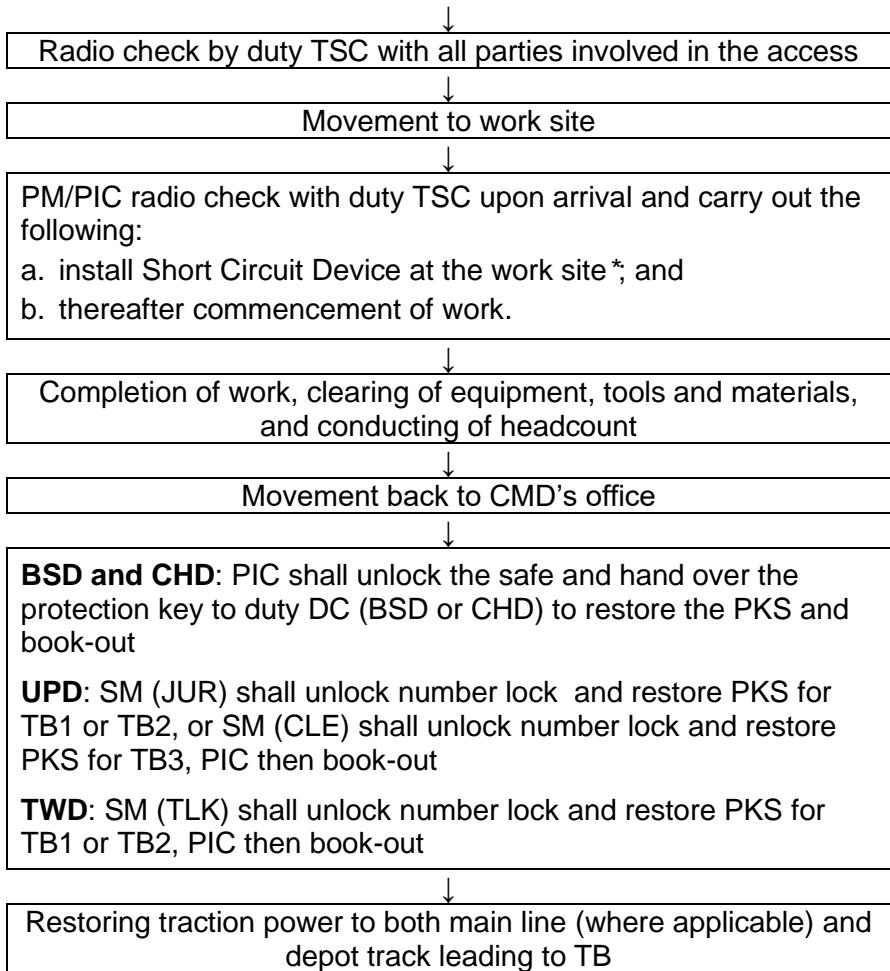


\* Assigned staff of appropriate Centre of Excellence (CoE) or Building and Facilities Division or LTA Project Team shall print a set of WI, MS and RA for the PM/ PIC.

## 8.5 Overview of Access to TB during Traffic Hours



(Continued from previous page)



For detailed procedures on access to Transfer Berth during Traffic Hours, refer to **Annex A10**.



\*Installation of Short Circuit Device(s) at TB has been waived for the following maintenance works:

1. Third rail meggering & Direct Current (DC) cable preventive maintenance;
2. Sectionalising switch preventive maintenance (Load Break Switch and Isolator Switch).

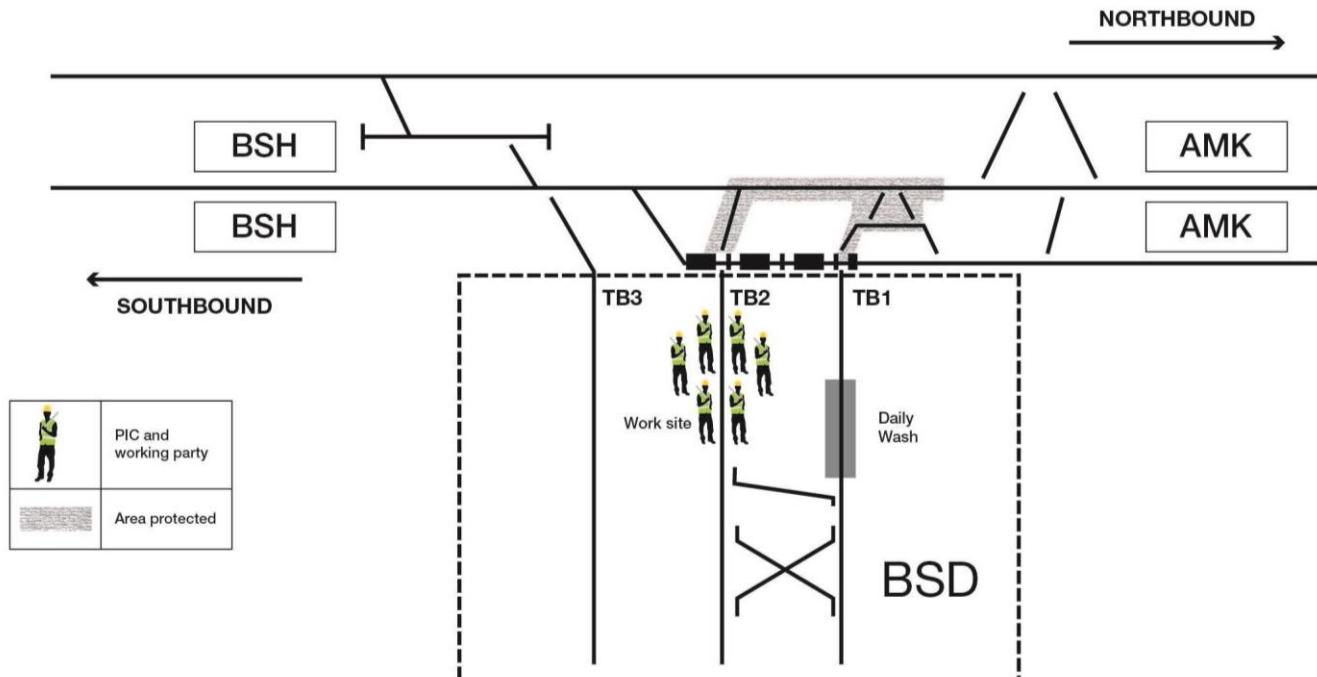


Figure 6: Using a PKS for Access to Transfer Berth No. 2 at BSD

## 9. Completion of Work on Main Line Track



The following procedures are common to all protection methods and must be strictly adhered to upon completion of work during Traffic Hours on main line track.

No.	PIC
1.	After work is done or time is up, whichever is earlier, do a headcount and clear all persons, tools, equipment and materials from the track.
2.	Upon reaching the station of book-out, do the following: <ol style="list-style-type: none"><li>Check that the RFL(s)/ flag(s) has/ have been removed (if applicable).</li><li>Inform the duty SM:<ol style="list-style-type: none"><li>Whether the track is clear of all persons, tools, equipment and materials and whether it is safe for train movement;</li><li>The number of persons in the working party who have returned to the station;</li><li>That track access is withdrawn.</li></ol></li></ol>

No.	SM
1.	<p>When informed by the PIC about the number of persons in the working party who have returned to the station and that track access is withdrawn:</p> <ul style="list-style-type: none"> <li>a. Do a headcount to ensure the number of persons in the working party who returned to the station tallies with the working party who has gained access on to the track.</li> <li>b. Switch off tunnel lights, if applicable.</li> </ul>
2.	Inform the duty TSC that track access is withdrawn and the track is clear of all persons, tools, equipment and materials, and is safe for train movement.
3.	When instructed by the duty TSC, the duty SMs of other stations involved in the access shall switch off RFL(s)/ YFL(s) and remove signs, and then inform the TSC when done.
4.	All duty SMs involved are to log events in the Station Occurrence Log Book.

No.	CC	TSC
1.	—	When informed by the SM of the book-in station that track access is withdrawn and the track is clear of all persons, tools, equipment and materials, and it is safe for train movement, inform the duty CC of the affected line (i.e. NSL or EWL) accordingly.
2.	—	Instruct the duty SMs of other stations involved in the access to switch off RFL(s)/ YFL(s) and remove signs, and inform him/ her when done.
3.	—	Resume normal train service.
4.	CC and TSC shall log events in the Station Occurrence Log Book.	



Depending on the protection method used, there are additional procedures to be carried out upon completion of work. These additional procedures are not listed herein. Refer to **Annex A** for these procedures.

## 10. Access to Depot Track



Depot track refers to track controlled by CMD except non-signalled tracks such as workshop track and Permanent Way siding.



Staff using authorised walkway in a depot must always look out and listen for trains at all times and move to the destination as quickly as possible.



- a. "Able to Give-way Possession" indicates that, if necessary, it would be possible to stop work immediately, restore the track and associated equipment to a safe manner to allow the safe passage of a train, and to switch ON traction power.
- b. "Unable to Give-way Possession" indicates that the nature of the work being carried out will not allow the traction power to be restored or to allow any train movement to take place, other than within the possession.



The actions of PM/ PIC shall also apply to PM(L)/ PIC(L)\*.

\*Note:

**PM(L)** - The authorised LTA representative, on site, whom SMRT Institute has qualified, authorised by the ROD to take charge of the possession of the line for the purpose of carrying out engineering and similar work.

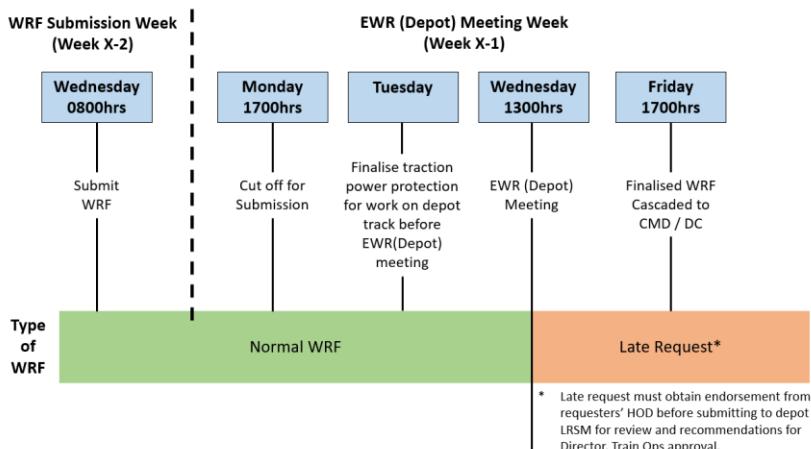
**PIC(L)** - The authorised LTA representative, on site, whom SMRT Institute has qualified, responsible for the work at hand and the safety and conduct of the working party.



In addition to the four PICs working under the PM, up to three additional PWAY LMT sub-teams will be allowed to work under the same PM for a PWAY Line Maintenance (LMT) possession without consist.

For detailed procedures, refer to the relevant chapters in Rule Book 4 “Duties and Responsibilities of PM, PIC, LOM and HSM”

## 10.1 Application for Access to Depot Track

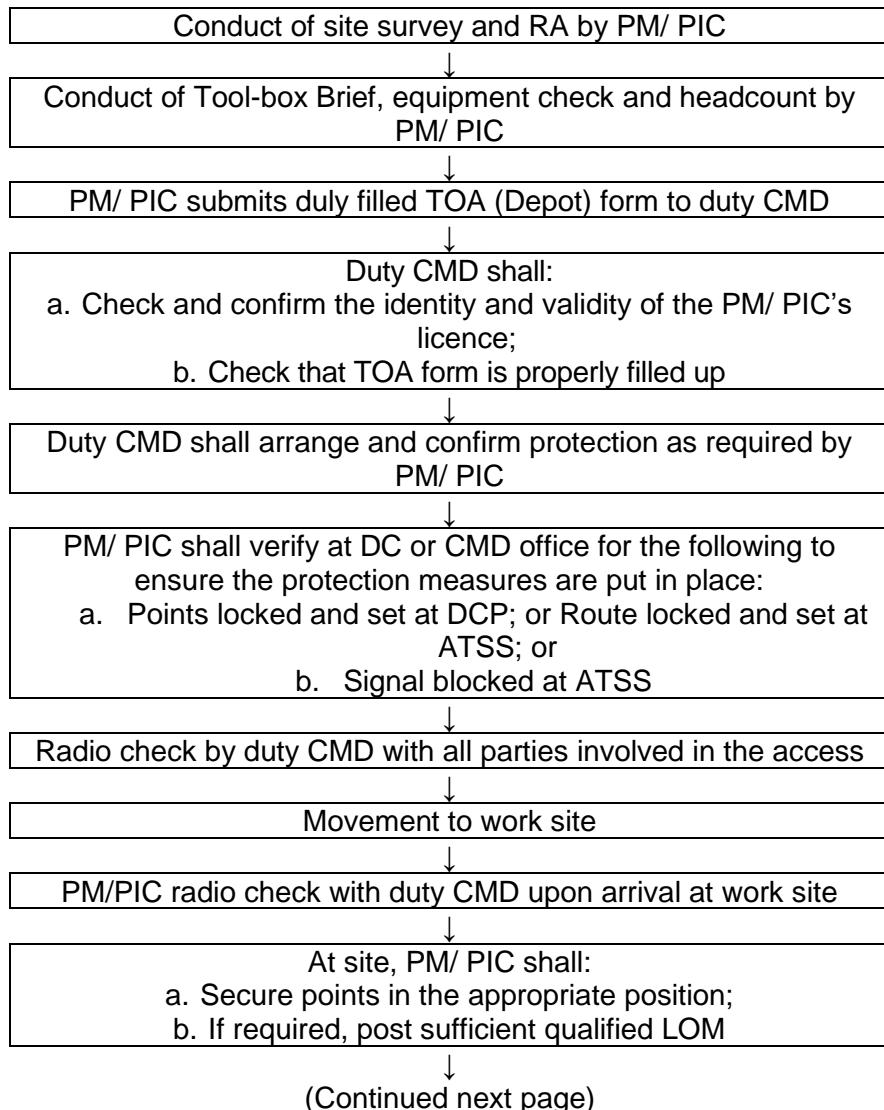


### a. Arrangement for scheduling of work request

- The Engineering Works Request (Depot) or EWR (Depot) Meeting will be held on every Wednesday at 1400 hours. It will be chaired by the Senior Manager, Train Operations (North-South Line or East-West Line).
- Prior to the EWR (Depot) Meeting, the Work Requestor shall submit a Work Request Form or WRF (see **Annex C12**) to the Lead Rail Services Manager (RSM), who is in-charge of the depot where work is to be carried out, before 1700 hours on Monday.
- The Lead RSM shall do the following:
  - de-conflict the work requests;
  - consolidate the requests; and
  - submit the consolidated requests to the Manager (Power) by Tuesday, 1700hrs.

- iv. Before the EWR (Depot) weekly meeting, the Manager Train Services (MTS) in-charge and Manager (Power) of the appropriate zone, shall discuss and approve the traction power switching arrangements for all the works which are stated in the WRF to ensure that adequate protection(s) is planned for.
  - v. At the EWR (Depot) meeting, work requests in all the four depots will be discussed.
  - vi. All the Lead RSMs will disseminate the approved list of WRF, to the Work Requestor, Crew Manager Depot (CMD) and Depot Controller (DC) by each Friday.
  - vii. The respective duty CMD shall follow the approved list of WRF to process the TOA (Depot) form.
- b. Managing Late Request and Cancellation of Work
- i. After the EWR (Depot) meeting, submission of WRF for work in the following week will be considered as Late Request.
  - ii. For Late Request, the Work Requestor must get consent from a Possession Master (PM) or Person-In-Charge (PIC) to work in the sector before getting endorsement from his/her Head of Department (HOD). After the HOD has endorsed it, the Work Requestor must then submit the Late Request to the Head of Department (Train Operations) for approval.
  - iii. For cancellation of work, the Work Requestor is required to obtain endorsement from his/her HOD before submitting it to the Head of Department (Train Operations).

## 10.2 Overview of Booking-In and Booking-Out for Access to Depot Track



(Continued from previous page)



PM/ PIC shall:

- a. If access to track is with traction power ON and a ramp cover or third rail safety cover is needed, place ramp cover or third rail safety cover over the ramp of the third rail or third rail adjacent to the area where work is to be carried out; OR
- b. If access to track is with traction power OFF, install Running Rail Bridging Clamp (RRBC) at the appropriate positions. Use a voltage tester to confirm traction power has been discharged and then install the Short Circuit Device(s) or SCD at the appropriate positions



Start of work when necessary arrangement has been made



In an “Able to Give-way Possession”, when a train is to pass through the work site, PM/ PIC, duty CMD and duty DC, control and conduct passage of train through the work site



Completion of work, clearing of equipment, tools and materials, and conducting of headcount by PM/ PIC



Movement back to CMD's office, PM/ PIC liaises with duty CMD for withdrawal of access to depot track



For detailed procedures of access to depot track at all times, refer to **Annex A9**. For detailed procedures of depot traction power switching arrangements, refer to **Annex A12**.

### 10.3 Requesting Access

- a. Before gaining access on to a depot track, Possession Master (PM)/ Person-In-Charge (PIC) must:
  - i. Carry out a survey of the work site (for example, through cab rides) and develop a plan for access to track.
  - ii. Appoint a Safety Minder if the work is listed as high-risk work activity.



For details about the Role of Safety Minder and work listed as High-Risk Work Activities, refer to Chapter 3 of Rule Book 4

- iii. Conduct a Tool-box Brief to all members of the working party under his/ her charge. The Tool-box Brief must include the following:
  - a) Safety briefing;
  - b) Briefing on the work to be done using printed\* Work Instruction (WI), Method Statement (MS) and Risk Assessment (RA);
- iv. Record the title and document number of WI and MS in a “Checklist for Tool-box Brief”;
- v. Keep the printed set of WI, MS and RA for subsequent briefing(s);
- vi. Complete the “Checklist for Tool-box Brief”;
- vii. Keep the “Checklist for Tool-box Brief” which must be filed at his/ her office.



\* Assigned staff of appropriate Centre of Excellence (CoE) or Building and Facilities Division or LTA Project Team shall print a set of WI, MS and RA for the PM/ PIC.

- b. Staff gaining access on to depot track (including for training purposes), except non-signalled tracks such as workshop track and Permanent Way siding, shall make an application using the Track Occupation Authorisation (Depot) form (hereafter known as "TOA (Depot) form"). The only exception where the use of TOA (Depot) form is not required is when a staff is using the authorised walkway in a depot to get into a train. Some examples are: TC is going to pick up a train for duty; training is to be conducted on-board a train; maintenance staff going to do work on-board a train.
- c. If a pre-signed TOA (Depot) form is received, the duty CMD shall do the following:
  - i. Reject the TOA application;
  - ii. Retain the TOA (Depot) form;
  - iii. Ask the PM/ PIC to resubmit a new TOA (Depot) form;
  - iv. Process applications submitted by other working parties so that other works can start first;
  - v. Raise an occurrence report with attached photo of the pre-signed TOA through the Risk Incident Management System.
- d. Duty CMD shall:
  - i. Check and confirm the identity and validity of the PM/ PIC's licence;
  - ii. Reject a TOA (Depot) request if he/ she has assessed and concluded that the PM/ PIC is unclear about procedures on to track, such as completion of Toolbox Brief before carrying out the work, protection requirement etc.
- e. All parties gaining access on to depot track shall communicate through portable radio. All radio communications must be in English. If radio communications failed, other available means of communications, such as mobile phone, can be used.



## Track Access within a Possession

- a. PIC taking track access within a possession shall contact the PM at the depot to confirm the following:
  - i. Whether the track access is allowed;
  - ii. Track access arrangements and protection(s);
  - iii. Details of Engineer's Train movements, if any;
  - iv. Any last minute changes, information or instructions.
- b. When contacted by a PIC taking track access within the possession, the PM shall inform the PIC about the following.
  - i. Whether the PIC can proceed with the track access;
  - ii. Track access arrangements and protection(s);
  - iii. Details of Engineer's Train movements, if any;
  - iv. Any last minute changes, information or instructions.
- c. If the PM does not allow the PIC to take track access within the possession, the PIC shall not book in.



- d. If the PM allows the PIC to take track access within his/ her possession, the PIC shall:
  - i. Attend (in person) the Tool-box Brief given by the PM before gaining access on to track;
  - ii. Conduct a Tool-box Brief using the checklist for Tool-box Brief for all the members of the working party before gaining access on to the track (keep the duly completed checklist which must be filed at his/ her office);
  - iii. Go to the CMD's office,
    - (a) submit a "Track Occupation Authorisation (Depot)" [hereafter known as TOA (Depot)] form with Part 1 duly filled up;
    - (b) show a valid PIC licence to the duty CMD;
    - (c) fill up the depot book-in and book-out form/ logbook (see **Annex C29**).
- e. When a PIC books in at CMD's office to take track access within a possession, the duty CMD shall:
  - i. if Part 1 of TOA (Depot) form submitted by the PM is not properly filled up by the PM, do not allow the PIC to book-in;
  - ii. if Part 1 of the TOA (Depot) form has been properly filled up by the PM,
    - (a) check that Part 1 of TOA (Depot) form has been properly filled up by the PIC;
    - (b) confirm the identity and validity of the PIC's licence;
    - (c) if the PIC's identity is confirmed and his/ her licence is valid, allow him/ her to book-in and fill up the depot book-in and book-out form/ logbook (see **Annex C29**);
    - (d) if the PIC's licence is invalid, do not allow him/her to book-in.

## 10.4 Switching Off Traction Power

- a. If traction power needs to be switched OFF, the PM/ PIC is to borrow from CMD, where necessary, the following item(s):
  - i. Voltage tester;



- ii. RRBC;



- iii. SCD;



- iv. High voltage gloves.



- b. The CMD is to arrange with duty Power Maintenance staff to switch off traction power\*.



\*For switching of traction power,

- a) Power Maintenance staff who is carrying out the switching of traction power shall report the status to the duty CMD through portable radio using the Depot Talkgroup. If radio communications failed, other available means of communications, such as mobile phone, must be used.
- b) The CMD shall record the traction power switching status in the TOA (Depot) form.

- c. Once the duty Power Maintenance staff reports that traction power has been switched off, the CMD is to:
  - i. Inform PM/ PIC that traction power has been switched off;
  - ii. Inform DC that the TOA (Depot) form has been issued. Tell him/ her:
    - a) About limits of the work site;
    - b) Where traction power is switched OFF;
    - c) Duration of the access.

- iii. Fill up Part 2 of the TOA (Depot) form and hand it over to PM/ PIC.
- d. When informed by duty CMD about an access that has been granted to a depot track, the duty DC shall ensure that no route is set into the work site by carrying out the following:
  - i. Lock the appropriate points through the depot Automatic Train Supervision System (ATSS); OR
  - ii. Set and collar the selector switches on the Depot Control Panel in “Panel Mode” to position(s) that correspond with what PM/PIC secure at site.

## 10.5 Protection at Site

- a. At site, the PM/ PIC is to:
  - i. Work only in the sector that he/ she has requested, approved and authorised for;
  - ii. If access to track is with traction power ON and a ramp cover or third rail safety cover is needed, place ramp cover or third rail safety cover over the ramp of the third rail or third rail adjacent to the area where work is to be carried out; OR
  - iii. If access to track is with traction power OFF:
    - a) Install RRBC;
    - b) Use a voltage tester to confirm traction power has been discharged;
    - c) Then install SCD(s) at the appropriate position\*.



\*Installation of SCD(s) has been waived for the following maintenance works:

- iv. Secure each point at both ends of the working sector in the appropriate position to divert trains away from work site or if no such points are available, erect temporary barriers and place RFL(s) to mark the limits of the working sector;
  - v. If the working party is exposed to danger from mechanised vehicles or trains, ensure that sufficient qualified LOM are posted to warn the working party of train movements.
- b. Only when the necessary arrangements listed above have been arranged can the working party start work.

## 10.6 Completion of Work on Depot Track

- a. When work is completed or time is up, whichever is earlier, the PM/ PIC shall:
  - i. If access to track is with traction power ON and ramp cover or third rail safety cover is used, remove ramp cover or third rail safety cover from third rail ramp or third rail;
  - ii. If access to track is with traction power OFF, remove SCD(s) and RRBC at site;
  - iii. Free each point that was previously secured at site or remove the RFLs and barriers erected earlier;
  - iv. Clear track of all persons, tools, equipment and materials (including track trolley, if any);
  - v. Ensure that no item is stored at trackside.
- b. The PM/ PIC shall hand over the TOA (Depot) form with Part 3 filled up and declare to the CMD the following:
  - i. If access to track is with traction power OFF, whether SCD(s) and RRBC are removed from site;
  - ii. If access to track is with traction power ON and a ramp cover or third rail safety cover is used, whether ramp cover or third rail safety cover is removed from site;
  - iii. Whether the track is cleared of all persons, tools, equipment, materials and is safe for train movement.

- c. If access to track is with traction power OFF and when work has been completed and PM/ PIC has handed over the TOA (Depot) form with Part 3 filled up, the CMD shall:
  - i. arrange with the duty Power Maintenance staff to switch on traction power when PM/ PIC confirms that SCD(s) and RRBC have been removed from site;
  - ii. when traction power has been restored as informed by the duty Power Maintenance staff,
    - a) inform the duty CC of the affected line (i.e. NSL or EWL) that access to track has been withdrawn if it affects passenger service operation;
    - b) inform duty DC that access to track has been withdrawn;
    - c) fill up Part 4 of TOA (Depot) form and return the duplicate copy to PM/ PIC;
    - d) file the original TOA (Depot) form.
- d. If access is with traction power ON and when work has been completed, and PM/ PIC has handed over the TOA (Depot) form with Part 3 filled up, the CMD shall:
  - i. Inform the duty CC of the affected line (i.e. NSL or EWL) that access to track has been withdrawn if it affects passenger service operation;
  - ii. Inform duty DC that access to track has been withdrawn;
  - iii. Fill up Part 4 of TOA (Depot) form and return the duplicate copy to PM/ PIC;
  - iv. File the original TOA (Depot) form.
- e. When informed by duty CMD that access to track has been withdrawn, the DC shall remove the point locking through the depot ATSS or collars from the selector switches on the Depot Control Panel.

**AMENDMENT LEAFLET #01/2023**

**RULE BOOK 2: ACCESS TO MAIN LINE AND DEPOT TRACKS DURING TRAFFIC HOURS**

1. Due to power configuration at Ulu Pandan Depot (UPD), the following amendments have been made to the table: Traction Power to be Switched OFF to Transfer Berth (TB) for the respective depots under Chapter 8 “Access to Transfer Berth during Non-Traffic Hours”:
  - a. the depot power circuit for UPD TB1 has been amended from “DFX02” to “DFX01”;
  - b. the depot power circuit for UPD TB2 and TB3 have been amended from “DFX01” to “DFX04”.
2. Amendments made are in ‘italic’.

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**Note**

Name of staff who has commented on Item 1 above	Designation
Mohamad Faeliq Bin Ramley	RSM

S/N	Old Document(s) <u>removed</u> from SMRT Intranet (NSEW)	New Document(s) <u>inserted</u> to SMRT Intranet (NSEW)
1	RULE BOOK 2 (Revision Status: 12)	RULE BOOK 2 (Revision Status: 13)

	Designation	Signature	Date
PREPARED BY	Rail Operations Group Rules & Procedures Section	 limkimchye (Aug 28, 2023 13:15 GMT+8)	28/08/23
REVIEWED BY	HOD (OS)	 lim phuay eng (Aug 28, 2023 19:59 GMT+8)	28/08/23
APPROVED BY	Line Head (NSEWL)	 Teo Wee Kiat (Aug 29, 2023 09:08 GMT+8)	29/08/23
	SVP (Rail Ops)	 Alvin Nek (Aug 29, 2023 09:25 GMT+8)	29/08/23
	SVP (Rail Maintenance)	 Ang Hang Guan (Aug 31, 2023 07:15 GMT+2)	31/08/23
	President, Rail	 Lam Sheau Kai (Aug 31, 2023 16:07 GMT+8)	31/08/23

## AMENDMENT LEAFLET #01/2022

### **RULE BOOK 2: ACCESS TO MAIN LINE AND DEPOT TRACKS DURING TRAFFIC HOURS**

Amendments made are as follows:

1. As approved at the PRM held on 10 Mar 2022 to provide more clarity to the authority of CC to approve urgent access to track during Traffic Hours,

- a. the following contents (former Para 3.2b) has been removed:

“All access to main line track during Traffic Hours must be approved at least by the duty CC of the affected line [i.e. North-South Line (NSL) or East-West Line (EWL)], who may refuse to grant it in the interests of safety, major disruption to train service (especially during peak hours) or when the request to access lacks details”

- b. and the following contents has been added:

“i. Duty CC of the affected line [i.e. North-South Line (NSL) or East-West Line (EWL)] shall only approve urgent access for the following activities/ scenarios:

- a) Inspection of open gap of unwelded rail;
    - b) Inspection of third rail abnormalities by PWAY Maintenance staff (with traction power ON);
    - c) Inspection of tunnel sump pump and sump pit for faulty pump or high-level alarm, etc by EMF Maintenance staff;
    - d) Access to a siding by Maintenance/ Rail Operational staff (RB Annex A3);
    - e) Responding to point failure (RB Annex J11);
    - f) Assessment of condition of MRT viaduct when there is fire near the viaduct (RB Annex M13);
    - g) Dousing of smouldering sleepers by Station Manager (RB Annex M14);
    - h) Responding to suspected rail break on the main line (RB Annex M15);
    - i) Dealing with “Rear Cab Entry” or “DIR” Indications illuminated (RB Annex M16);
    - j) EMU Train stalled and Train Captain incapacitated (RB Annex M17);
    - k) Responding to crane working near MRT viaduct (RB Annex M26);
    - l) Responding to person spotted on track (RB Annex M36);
    - m) Identification of object suspected to be hit by train or spotted on track (RB Annex F3);
    - n) Fire on platform track (RB Annex F19);
    - o) Fire on track between MRT stations (RB Annex F20);
    - p) Evacuation of casualty on trackside or in a stalled train during Traffic Hours (RB Annex F35);

ii. If a particular activity/ scenario which requires urgent access is not in the list above, duty CC or MOCC shall seek Line Head (NSEWL), or in his/ her absence, HOD (Control Ops) for approval”

2. Chapter 8 “Access to Transfer Berth during Non-Traffic Hours” has been amended as follows:
  - a. For the table: Traction Power to be Switched OFF to Transfer Berth (TB) for the respective depots, the depot power circuit for BSD TB2 has been amended to “DFX02”, instead of “DFX01” due to power configuration at BSD.
3. Amendments made are in ‘italic’.

S/N	Old Document(s) <u>removed</u> from SMRT Intranet (NSEW)	New Document(s) <u>inserted</u> to SMRT Intranet (NSEW)
1	RULE BOOK 2 (Revision Status: 11)	RULE BOOK 2 (Revision Status: 12)

	Designation	Signature	Date
<b>PREPARED BY</b>	Rail Operations Group Rules & Procedures Section	 limkimchye (Apr 20, 2022 13:24 GMT+8)	20/04/22
	Line Head (NSEWL)	 Teo Wee Kiat (Apr 20, 2022 13:30 GMT+8)	20/04/22
	SVP (Rail Ops)	 Alvin Kek (Apr 20, 2022 13:38 GMT+8)	20/04/22
<b>APPROVED BY</b>	SVP (Rail Maintenance)	 Ng Chan Cheok (Apr 20, 2022 15:43 GMT+8)	20/04/22
	President Trains	 Lam Sheau Kai (Apr 21, 2022 15:48 GMT+8)	21/04/22

## AMENDMENT LEAFLET #03/2021

### RULE BOOK 2: ACCESS TO MAIN LINE AND DEPOT TRACKS DURING TRAFFIC HOURS

Amendments made are as follows:

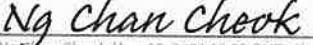
1. As endorsed at the Procedure Review Meeting on 9 Jun 21 and approved at WSSQ on 22 Jun 21, the following contents have been incorporated in Chapter 10 “Access to Depot Track”:
  - a. In addition to the four PICs working under the PM, up to three additional PWAY LMT sub-teams will be allowed to work under the same PM for a PWAY Line Maintenance (LMT) possession without consist;
  - b. For detailed procedures, refer to the relevant chapters in Rule Book 4 “Duties and Responsibilities of PM, PIC, LOM and HSM”.
2. Amendments made are in ‘italic’.

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#### Note

Name of staff who has contributed to the review of the procedure	Designation
Goh Kai Xiang	M (PWAY Maint)

S/N	Old Document(s) <u>removed</u> from SMRT Intranet (NSEW)	New Document(s) <u>inserted</u> to SMRT Intranet (NSEW)
1	RULE BOOK 2 (Revision Status: 10)	RULE BOOK 2 (Revision Status: 11)

	Designation	Signature	Date
<b>PREPARED BY</b>	Rail Operations Group Rules & Procedures Section	 limkimchye (Aug 17, 2021 11:05 GMT+8)	17/08/21
<b>APPROVED BY</b>	Line Head (NSEWL)	 Teo Wee Kiat (Aug 17, 2021 17:36 GMT+8)	17/08/21
	SVP (Rail Ops)	 Alvin Kek (Aug 17, 2021 20:17 GMT+8)	17/08/21
	SVP (Rail Maintenance)	 Ng Chan Cheok (Aug 19, 2021 10:33 GMT+8)	19/08/21
	President Trains	 Lam Sheau Kai (Aug 21, 2021 10:51 GMT+8)	21/08/21

## AMENDMENT LEAFLET #02/2021

### **RULE BOOK 2: ACCESS TO MAIN LINE AND DEPOT TRACKS DURING TRAFFIC HOURS**

A review was carried out and the following amendments have been made:

1. As approved at the Procedures Review Meeting (PRM) held on 9 Jun 2021,
  - a. under Chapter 8 "Access to Transfer Berth during Traffic Hours", the table depicting "Traction Power to be Switched OFF to Access Transfer Berth (TB) for the respective depots" has been updated so as to provide better clarity to the PM or PIC;
  - b. Para 10.1a has been amended as follows:
    - i. the Engineering Works Request (Depot) or EWR (Depot) Meeting will be held on every Wednesday at 1400 hours, instead of at 1300 hours;
    - ii. the Lead RSM shall submit the consolidated requests to the Manager (Power) by Tuesday, 1700hrs, instead of before 1300 hours on Tuesday;
  - c. under Chapter 10.2 "Overview of Booking-In and Booking-Out for Access to Depot Track", after the duty CMD has arranged and confirmed the protection as required by the PM/ PIC, the following action to be carried out by the PM/ PIC has been added:

"PM/ PIC shall verify at DC or CMD office for the following to ensure the protection measures are put in place: Points locked and set at DCP; or Route locked and set at ATSS; or Signal blocked at ATSS"
2. With the removal of Rule Book 6 "Access to Track by LTA Working Party" as approved at the PRM held on 9 Jun 2021, contents involving Possession Master (X) or PM(X) and Person-In-Charge (X) or PIC(X) have been removed as they are no longer valid.
3. As approved at the PRM held on 5 Apr 2021 to improve clarity on the flow of procedure (i.e. rearrangement to the sequence of actions), the following chapters have been amended accordingly:
  - a. Chapter 4.1 "Overview of the Standing Train Protection Method";
  - b. Chapter 5.1 "Overview of PKS Method".
  - c. Chapter 6 "Protection Methods for Adjacent Track".
4. As approved at the PRM held on 19 Nov 2020, Chapter 4.1 "Overview of the Standing Train Protection Method" and Chapter 5.1 "Overview of PKS Method" have been amended to include the following action by PIC:

"if required, the PIC shall liaise with duty TSC to stop train movement on the opposite (counter) bound when train is approaching the closed track circuit"

5. Under Chapter 10 “Access to Depot Track”,
  - a. to be in line with Chapter 5.4 of Rule Book 1 “General Safety Requirements for Access to Track and Protection Methods”,, the following action by the duty DC to ensure that no route is set into the work site under Para 10.4d item ii has been amended from:

“collar the appropriate points at the Depot Control Panel”

to:

“set and collar the selector switches on the Depot Control Panel in “Panel Mode” to position(s) that correspond with what PM/PIC secure at site”
  - b. to improve clarity, Para 10.6e has been amended to state that:

“The DC shall remove the point locking through the depot ATSS or collars from the selector switches on the Depot Control Panel”

instead of:

“The DC shall remove the point locking through the depot ATSS or collars from the appropriate points at the Depot Control Panel”
6. Amendments made are in ‘italic’.

S/N	Old Document(s) <u>removed</u> from SMRT Intranet (NSEW)	New Document(s) <u>inserted</u> to SMRT Intranet (NSEW)
1	RULE BOOK 2 (Revision Status: 9)	RULE BOOK 2 (Revision Status: 10)

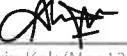
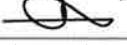
	Designation	Signature	Date
<b>PREPARED BY</b>	Rail Operations Group Rules & Procedures Section	<u>limkimchye</u> limkimchye (Jul 4, 2021 12:59 GMT+8)	04/07/21
<b>APPROVED BY</b>	Head (NSEWL)	 Teo Wee Kiat (Jul 5, 2021 21:18 GMT+8)	05/07/21
	SVP (Rail Ops)	 Alvin Kek (Jul 5, 2021 22:15 GMT+8)	05/07/21
	SVP (Rail Maintenance)	<u>Ng Chan Cheok</u> Ng Chan Cheok (Jul 7, 2021 11:03 GMT+8)	07/07/21
	President Trains	<u>Lam Sheau Kai</u> Lam Sheau Kai (Jul 7, 2021 23:40 GMT+8)	07/07/21

**AMENDMENT LEAFLET #01/2021**

**RULE BOOK 2: ACCESS TO MAIN LINE AND DEPOT TRACKS DURING TRAFFIC HOURS**

1. As approved at Procedures Review Meeting held on 3 Feb 2021, the requirements of Safety Minder from Safety & Security Circular have been incorporated.
2. Para 5.2 'Workflow on the Sequence of Activation/ Deactivation of Protection Keyswitch' has been amended with reference to Traffic Circular No. 07/2021 "Modification of Protection Keyswitch (PKS) on North-South and East-West Lines (NSEWL)"
3. Amendments made are in '*italic*'.

S/N	Old Document(s) <u>removed</u> from SMRT Intranet (NSEW)	New Document(s) <u>inserted</u> to SMRT Intranet (NSEW)
1	RULE BOOK 2 (Revision Status: 8)	RULE BOOK 2 (Revision Status: 9)

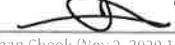
	Designation	Signature	Date
<b>PREPARED BY</b>	Rail Operations Group Rules & Procedures Section	 limkimchye (Mar 10, 2021 10:40 GMT+8)	10/03/21
	Head (NSEWL)	 Teo Wee Kiat (Mar 12, 2021 20:30 GMT+8)	12/03/21
	SVP (Rail Ops)	 Alvin Kek (Mar 13, 2021 07:10 GMT+8)	13/03/21
	SVP (Rail Maintenance)	 Ng Chan Cheok (Mar 14, 2021 09:07 GMT+8)	14/03/21
<b>APPROVED BY</b>	President Trains	 Lam Sheau Kai (Mar 14, 2021 12:42 GMT+8)	14/03/21

**AMENDMENT LEAFLET #02/2020**

**RULE BOOK 2: ACCESS TO MAIN LINE AND DEPOT TRACKS DURING TRAFFIC HOURS**

1. With reference to the Procedures Review Meeting held on 2 Sept 2020, Chapter 6 “Protection Methods for Adjacent Track” has been amended to include protection measures for the adjacent bound when using Tailwall Protection Keyswitch during Traffic Hours.
2. The term “Maintenance Operations Centre or MOC” has been amended to “Integrated Maintenance & Diagnostic Centre or IMDC”
3. Amendments made are in *italic*.

S/N	Old Document(s) <u>removed</u> from SMRT Intranet (NSEW)	New Document(s) <u>inserted</u> to SMRT Intranet (NSEW)
1	RULE BOOK 2 (Revision Status: 7)	RULE BOOK 2 (Revision Status: 8)

	Designation	Signature	Date
<b>PREPARED BY</b>	Rail Operations Group Rules & Procedures Section	 limkimchye [Oct 31, 2020 13:32 GMT+8]	31/10/20
	Head (NSEWL)	 Teo Wee Kiat [Nov 2, 2020 16:38 GMT+8]	02/11/20
	SVP (Rail Ops)	 Alvin Kek [Nov 2, 2020 16:56 GMT+8]	02/11/20
<b>APPROVED BY</b>	SVP (Rail Maintenance)	 Ng Chan Cheok [Nov 2, 2020 17:08 GMT+8]	02/11/20
	President Trains	 Lam Shiong Kai [Nov 8, 2020 12:10 GMT+8]	08/11/20

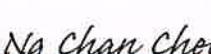
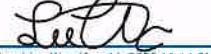
## **AMENDMENT LEAFLET #01/2020**

### **RULE BOOK 2: ACCESS TO MAIN LINE AND DEPOT TRACKS DURING TRAFFIC HOURS**

The key amendments made are as follows:

1. Relevant contents of Operations Circular No. 138/2020 “Waiver to Install Short Circuit Device (SCD) at Work Site for Maintenance Works in Depot and Transfer Berth” have been incorporated in the following chapters:
  - a. Chapter 8 “Access to Transfer Berth during Traffic Hours”;
  - b. Chapter 10 “Access to Depot Track”.
2. Under Chapter 10 “Access to Depot Track”, Para 10.3 “Requesting Access”, the actions by a Possession Master, Person-In-Charge and Crew Manager Depot involving a possession with track access have been added (approved at Procedures Review Meeting).
3. Amendments made are in “italic”.

S/N	Old Document(s) <u>removed</u> from SMRT Intranet (NSEW)	New Document(s) <u>inserted</u> to SMRT Intranet (NSEW)
1	RULE BOOK 2 (Revision Status: 6)	RULE BOOK 2 (Revision Status: 7)

	Designation	Signature	Date
<b>PREPARED BY</b>	Rail Operations Group Rules & Procedures Section	 Lim Kim Chye (Aug 9, 2020 22:22 GMT+8)	09/08/20
<b>APPROVED BY</b>	Head (NSEWL)	 Teo Wee Kiat (Aug 11, 2020 09:04 GMT+8)	11/08/20
	SVP (Rail Ops)	 Alvin Kek (Aug 11, 2020 09:06 GMT+8)	11/08/20
	SVP (Rail Maintenance)	 Ng Chan Cheok (Aug 11, 2020 10:13 GMT+8)	11/08/20
	CET	 Lee Ling Wew (Aug 11, 2020 10:14 GMT+8)	11/08/20

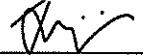
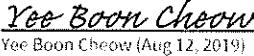
**AMENDMENT LEAFLET #05/2019**

**RULE BOOK 2 (CBTC OPERATIONS): ACCESS TO MAIN LINE AND DEPOT TRACKS  
DURING TRAFFIC HOURS**

The key amendments made are as follows:

1. The contents involving SCD waiver for the following chapters have been made obsolete following the issuance of Operations Circular No.159/2019 “Waiver to install Short Circuit Device (SCD) at work sector for maintenance works on the Main Line” and have been amended accordingly:
  - a. Chapter 8 “Access to Transfer Berth during Traffic Hours”;
  - b. Chapter 10 “Access to Depot Track”.

S/N	Old Document(s) <u>removed</u> from SMRT Intranet (NSEW)	New Document(s) <u>inserted</u> to SMRT Intranet (NSEW)
1	RULE BOOK 2 (CBTC OPERATIONS) (Revision Status: 5)	RULE BOOK 2 (CBTC OPERATIONS) (Revision Status: 6)

	Designation	Signature	Date
PREPARED BY	Rail Operations Group Operations Support Department Rules & Procedures Section	 lim kim chye (Aug 7, 2019)	07/08/19
APPROVED BY	Head (NSEWL)	 Teo Wee Kiat (Aug 8, 2019)	08/08/19
	SVP (Rail Ops)	 Alan Kee (Aug 8, 2019)	08/08/19
	SVP (Rail Maintenance)	 Yee Boon Cheow (Aug 12, 2019)	12/08/19
	CET	 Lee Ling Wee (Aug 13, 2019)	13/08/19

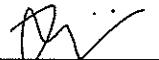
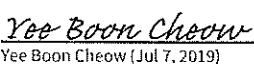
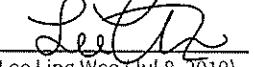
**AMENDMENT LEAFLET #04/2019**

**RULE BOOK 2 (CBTC OPERATIONS): ACCESS TO MAIN LINE AND DEPOT TRACKS  
DURING TRAFFIC HOURS**

The key amendments made are as follows:

1. Under Chapter 5 “Use of PKS for Protection on Main Line Track Where There is No Clearance or Limited Clearance”, the photos of “Limit of Protection Keyswitch” sign at Tailwall of elevated and underground MRT stations have been added.
2. Operations Circular No. 131/2019 “Procedures for Request to Work on Track in Depot” has been incorporated under Chapter 10 “Access to Depot Track”.
3. Under Chapter 10 “Access to Depot Track”, the relevant content has been amended to state that only “power meggering” is exempted from SCD installation at a work site.
4. Amendments made are in ‘italic’.

S/N	Old Document(s) <u>removed</u> from SMRT Intranet (NSEW)	New Document(s) <u>inserted</u> to SMRT Intranet (NSEW)
1	RULE BOOK 2 (CBTC OPERATIONS) (Revision Status: 4)	RULE BOOK 2 (CBTC OPERATIONS) (Revision Status: 5)

	Designation	Signature	Date
PREPARED BY	Rail Operations (NSEWL) Division Projects & Train Support Branch Documentation Section	 Cheng Heng Ying (Jul 1, 2019)	01/07/19
APPROVED BY	Head (NSEWL)	 Teo Wee Kiat (Jul 7, 2019)	07/07/19
	SVP (Rail Ops)	 Avril Kek (Jul 7, 2019)	07/07/19
	SVP (Rail Maintenance)	 Yee Boon Cheow (Jul 7, 2019)	07/07/19
	CET	 Lee Ling Wee (Jul 8, 2019)	08/07/19

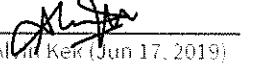
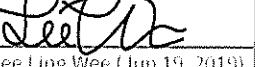
**AMENDMENT LEAFLET #03/2019**

**RULE BOOK 2 (CBTC OPERATIONS): ACCESS TO MAIN LINE AND DEPOT TRACKS  
DURING TRAFFIC HOURS**

The key amendments made are as follows:

1. It was approved by SSQA committee (SSQA meeting #07-18) that the installation of Short Circuit Device (SCD) at a work site has been waived for the following activities:
  - a. Permanent Way (PWY) patrolling; and
  - b. power meggering.
2. As such, relevant contents have been updated accordingly.
3. Amendments made are in '*italic*'.

S/N	Old Document(s) <u>removed</u> from SMRT Intranet (NSEW)	New Document(s) <u>inserted</u> to SMRT Intranet (NSEW)
1	RULE BOOK 2 (CBTC OPERATIONS) (Revision Status: 3)	RULE BOOK 2 (CBTC OPERATIONS) (Revision Status: 4)

	Designation	Signature	Date
PREPARED BY	Rail Operations (NSEWL) Division Projects & Train Support Branch Documentation Section	 Cheng Heng Ying (Jun 11, 2019)	11/06/19
APPROVED BY	Head (NSEWL)	 Teo Wee Kiat (Jun 17, 2019)	17/06/19
	SVP (Rail Ops)	 Alvin Kek (Jun 17, 2019)	17/06/19
	SVP (Rail Maintenance)	 Tee Boon Cheow (Jun 18, 2019)	18/06/19
	CET	 Lee Ling Wee (Jun 19, 2019)	19/06/19

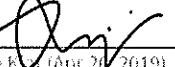
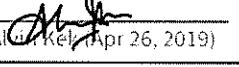
**AMENDMENT LEAFLET #02/2019**

**RULE BOOK 2 (CBTC OPERATIONS): ACCESS TO MAIN LINE AND DEPOT TRACKS  
DURING TRAFFIC HOURS**

The key amendments made are as follows:

1. Relevant contents of Operations Circular No. 100/2019 “Access on to Transfer Berth (TB)” have been incorporated.
2. Amendments made are in ‘italic’.

S/N	Old Document(s) <u>removed</u> from SMRT Intranet (NSEW)	New Document(s) <u>inserted</u> to SMRT Intranet (NSEW)
1	RULE BOOK 2 (CBTC OPERATIONS) (Revision Status: 2)	RULE BOOK 2 (CBTC OPERATIONS) (Revision Status: 3)

	Designation	Signature	Date
PREPARED BY	Rail Operations (NSEWL) Division Projects & Train Support Branch Documentation Section	<u>Cheng Heng Ying</u> <small>Cheng Heng Ying (Apr 25, 2019)</small>	25/04/19
APPROVED BY	Head (NSEWL)	 <small>Teo Wee Kiat (Apr 26, 2019)</small>	26/04/19
	SVP (Rail Ops)	 <small>Alvin Koh (Apr 26, 2019)</small>	26/04/19
	CMO	<u>Yeo Boon Cheow</u> <small>Yeo Boon Cheow (Apr 29, 2019)</small>	29/04/19
	CET	 <small>Lee Ling Wee (Apr 29, 2019)</small>	29/04/19

## AMENDMENT LEAFLET #01/2019

### RULE BOOK 2 (CBTC OPERATIONS): ACCESS TO MAIN LINE AND DEPOT TRACKS DURING TRAFFIC HOURS

The key amendments made are as follows:

1. Under Para 1.2b, the list of personnel has been amended to include the following:
  - a. Rail Services Manager (RSM);
  - b. Depot Controller (DC).
2. Under Chapter 3 “General Rules for Traffic Hours Track Access”, with reference to Ops Circular 25/2019 “Application forms for access to main line track and reception track during Traffic Hours”, new Para titled “Application Forms for Access to Tracks during Traffic Hours” has been added with the following contents:

“The following application forms must be used for access to tracks during Traffic Hours as appropriate:

  - i. application form for access to main line track during Traffic Hours;
  - ii. application form for access to reception track (transfer berth) during Traffic Hours.”
3. Under Chapter 5 “Use of PKS for Protection on Main Line Track Where There is No Clearance or Limited Clearance”,
  - a. use of PKS at station tailwall has been added;
  - b. under Para 5.2 “Workflow on the Sequence of Activation/ Deactivation of Protection Keyswitch”, the PKS deactivation in “Fall back mode” has been removed as it is no longer valid.
4. To improve clarity, the following actions to be carried out when using a Standing Train for Protection have been added to Para 7.1 “Overview of Taking a Train to Get to a Siding”:
  - a. Duty TSC to execute “AM Disallow” command to ensure identified train departs in Automatic Train Protection manual Mode (ATPM);
  - b. When informed by TC that his/ her train has arrived at siding’s entrance, duty TSC to execute “Close Track” command on at least two track circuits in front of the Standing Train for protection;
  - c. PIC to depress Emergency Stop Pushbutton (ESPB) at switch panel of “B” side cab door;
  - d. PIC and TC to confirm that “EB” (Emergency Brake) is “ON” at TOD;
  - e. TC to remove MC key and hand it over to accompanying SM or station staff;
  - f. TC to open the appropriate cab door and allow the PIC (or PIC and working party) to alight from the train through the cab;
  - g. Releasing of ESPB and handing over of MC key by accompanying SM or station staff to TC to allow train to depart after duty TSC has executed “Open Track” command on the affected track circuits in front of the Standing Train;

- h. Duty TSC to execute “AM Disallow” command to ensure identified train departs in ATPM;
  - i. Movement to siding’s entrance in ATPM by the TC;
  - j. When informed by TC that his/ her train has arrived at siding’s entrance, duty TSC to execute “Close Track” command on at least two track circuits in front of the Standing Train for protection;
  - k. TC to shut down train cab;
  - l. Accompanying SM or station staff to depress ESPB at switch panel of “B” side cab door;
  - m. Accompanying SM or station staff and TC to confirm that “EB” is “ON” at TOD;
  - n. TC to remove MC key and hand it over to accompanying SM or station staff;
  - o. TC to open the appropriate cab door and allow the PIC (or PIC and working party) to re-board the train through the cab;
  - p. After PIC (or PIC and working party) has boarded the train, accompanying SM or station staff to release ESPB and hand back MC key to TC;
  - q. Movement to book-out station via pick-up train in ATPM by the TC after duty TSC has executed “Open Track” command on the affected track circuits in front of the Standing Train.
- 5. It was decided at the Procedure Review Meeting held on 23 Oct 2018 that for pre-signed TOA form, Station Manager or Crew Manager Depot shall raise an occurrence report with attached photo of pre-signed TOA, through Risk Incident Management System. As such, item c of Para 10.1 “Requesting Access” has been amended accordingly.
- 6. Para 10.2 “Application for Access to Depot Track”,
  - a. under item b “If access to depot track requires switching at Load Break Switch (LBS) or Isolator (ISO) level”, to be specific, “duty Rail Services Manager (RSM)” has been amended to “Lead Rail Services Manager (RSM)”;
  - b. item c “Workflow of Application for Access to Depot Track” has been amended to state that for last minute work request that is not submitted before 3pm, the traction power can only be isolated at the DFX level.
- 7. Para 10.4 “Switching Off Traction Power”
  - a. under item a, “High voltage gloves” have been added;
  - b. under item c, the following action to be carried out by the CMD has been added:  
“Fill up Part 2 of the TOA (Depot) and hand it over to PM/ PIC.”

8. Under item a of Para 10.5 "Protection at Site", the actions by PM/ PIC when access to track is with traction power OFF has been amended from:
- "a. Use a voltage tester to confirm traction power has been discharged;
  - b. Install RRBC and then the SCD(s) in the appropriate positions."
- to
- "a. Install RRBC;
  - b. Use a voltage tester to confirm traction power has been discharged;
  - c. Then install SCD(s) in the appropriate positions."
9. Para 10.6 "Completion of Work on Depot Tracks"
- a. Item b has been amended from:

"The PM/ PIC shall declare to the CMD the following"

to

"The PM/ PIC shall hand over the TOA (Depot) form with Part 3 filled up and declare to the CMD the following"
  - b. To improve clarity, item c has been amended from:

"If access is with traction power OFF and when work is completed and PM/ PIC has submitted the relevant documents, the CMD shall arrange with the duty Power Maintenance staff to restore traction power when PM/ PIC confirms that SCD(s) and RRBC are removed from site"

to

"If access to track is with traction power OFF and when work has been completed and PM/ PIC has handed over the TOA (Depot) form with Part 3 filled up, the CMD shall:

    - i. arrange with the duty Power Maintenance staff to restore traction power when PM/ PIC confirms that SCD(s) and RRBC are removed from site;
    - ii. when traction power has been restored as informed by duty Power Maintenance staff,
      - a) inform the appropriate duty CC that access to track has been withdrawn if it affects passenger service operation;
      - b) inform duty DC that access to track has been withdrawn;
      - c) fill up Part 4 of TOA (Depot) form and return the duplicate copy to PM/ PIC;
      - d) File the original TOA (Depot) form."

c. under item d,

i. to improve clarity, the following statement has been amended from:

*"If access is with traction power ON or when traction power is restored as informed by duty Power Maintenance staff"*

to

*"If access to track is with traction power ON and when work has been completed and PM/ PIC has handed over the TOA (Depot) form with Part 3 filled up"*

ii. the following actions to be carried out by the CMD have been added:

(a) Fill up Part 4 of TOA (Depot) form and return the duplicate copy to PM/ PIC;

(b) File the original TOA (Depot) form.

10. Amendments made are in 'italic'.

S/N	Old Document(s) <u>removed</u> from SMRT Intranet (NSEW)	New Document(s) <u>inserted</u> to SMRT Intranet (NSEW)
1	RULE BOOK 2 (CBTC OPERATIONS) (Revision Status: 1)	RULE BOOK 2 (CBTC OPERATIONS) (Revision Status: 2)

	Designation	Signature	Date
PREPARED BY	Rail Operations (NSEWL) Division Projects & Train Support Branch Documentation Section	<u>Cheng Heng Ying</u> <small>Cheng Heng Ying (Feb 1, 2019)</small>	01/02/19
	SVP (Rail Ops)	<u>Avin Kek</u> <small>Avin Kek (Feb 1, 2019)</small>	01/02/19
APPROVED BY	CMO	<u>Yee Boon Cheow</u> <small>Yee Boon Cheow (Feb 2, 2019)</small>	02/02/19
	CET	<u>Lee Ling Wee</u> <small>Lee Ling Wee (Feb 3, 2019)</small>	03/02/19