ERL MAINTENANCE SUPPORT SDN BHD

Company No. 199901023674 (498574-T)

E-MAS

Effective Railway Operations; Reliable System Maintenance

OPERATIONS DEPARTMENT

PROCEDURE FOR OCC

Ref. No. G00.OMO.M15111.NA.1003.G

Release

Released:	Dr Hassan Alsalamat	Chief Executive Officer	18.12.2024	
Checked:	Sukhbir Singh	Safety & Security	17.12.2024	
Checked:	Jayarajah Savarimuthu	Maintenance	17.12.2024	
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Checked:	Norhandee	Operations	03.12.2024	
Checked	James Boudville	Operations	3.12.24	
Author:	Omar	Operations	29.Nov.24	
	Name	**Department**	**Date**	**Signature**

Amendments or additions to this procedure must be indicated with a vertical black line in the adjacent left margin.

Change Record and Configuration Control

G	22.Oct.2024	3 years document revision. All Operations Instruction up to Oct 2024 has been incorporated into this document. This procedure supersedes the earlier version Operations Procedure Manual for OCC ref no; G00.OMO.M15111.NA.1003.F.	OMAR
F	20,Dec. 2021	Revision of the entire document & changing on company registration number. All Operations Instruction up to Dec 2021 has been incorporated into this document. This procedure supersedes the earlier version Operations Procedure Manual for OCC ref no; G00.OMO.M15111.NA.1003.E,	OMAR
E	25.Apr.2017	Revision of entire document with the inclusion of train ET Series 2 procedure. All Operations Instruction up to Apr 2017 has been incorporated into this document. This procedure supersedes the earlier version Operations Procedure Manual for OCC ref no; G00.OMO.M15111.NA.1003.D,	OMAR
D	14.Feb.2014	Revision of entire document with inclusion of KLIA 2 station. All Operations Instruction up to Feb 2014 has been incorporated into this document. This procedure supersedes the earlier version Operations Procedure Manual for OCC ref no; G00.OMO.M15111.NA.1003.C,	OMAR
Revision	**Date**	**Modification**	**Name**

Planning Of Changes Reference For Revision: G00.OMO.M15111.NA.1003.G

Issues To Consider	**Checked** *(Please mark X)*				**Remarks**
1) Are there any negative impact?	YES		NO	X	
2) Will the integrity of QEMS be affected?	YES		NO	X	
3) Resources available?	YES	X	NO		
4) Allocation or relocation of responsibilities and authorities required?	YES		NO	X	

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1 Purpose

This Procedure details the manner in which the OCC carry out their duties under Normal, Degraded and Emergency Operations in the most effective and safe manner. Technical guidelines are provided to give a clear understanding of the system operations. Therefore, it is absolutely necessary to adhere to all instructions and procedures strictly.

2 Scope, Distribution & Access

This procedure shall be read together with the Operations Procedure for Communications & Signal Book ***Ref no**; **G00.OMO.M15114.NA.1002**.** any other related procedures stated in Company Procedure Manual ***Ref no**; **G00.OMQ.M11150.0004**.** and shall apply to all OCC personnel.

It will be distributed to all OCC personnel. Access to this procedure shall be given to all Head of Department [HOD] of OPS, Maintenance and Safety & Security via Electronic Document Management System (EDMS). Employee without EDMS user access can retrieve this procedure via E-MAS Operations Department portal.

3 Abbreviations and Definitions

Abbreviation	Description
ATP	Automatic Train Protection
ARS	Automatic Route Setting
CSM	Customer Service Manager
Driver	Train / Track Vehicle driver
OCL, OPS, TLE, RST, SIG, DWE, SAS	Refer to E-MAS Org chart (#44478) and its subset
HOD	Head of Department
KUL	Kuala Lumpur International Airport Station
KLIA T1	Kuala Lumpur International Airport Terminal 1
KLIA T2	Kuala Lumpur International Airport Terminal 2
KLS / KS/ XKL	Kuala Lumpur Sentral Station
MMI	Man Machine Interface
MWS	Main Workshop
ET-01	SIEMENS Desiro ET425M
ET-02	CRRC ET Series 2 (China)
OCL	Overhead Caternary Line
OMO	Operations Manager (HOD Operation)
OSS	Operations Station Supervisor
OTS	Operations Trains Supervisor
PIDS	Passenger Information Display System
PABX	Private Automatic Branch Exchange
PSD	Platform Screen Door
SAP	System Application Product
SPYTL	Syarikat Pembenaan Yeoh Tiong Lay Sdn Bhd
TPSS	Traction Power Sub Station
TWP	Train Washing Plant
TMS	Traffic Management System

For details refer to Abbreviations and Glossary (Operations) – G00.OMO.M15110.NA.1003. *.
An asterisk (*) used to refer to the latest version, applicable for all pages in this procedure

4 General

The OCC staff is responsible for the safe operation of the OCC and overall supervision of the network. All activities shall aim to guarantee a safe Operations both by the OPS staff and other personnel involved und.er the supervision of the OCC. Any OCC decision / instruction shall always under consideration '**Safety Precedent Others'**.

4.1 Operations Instructions

Operations Instructions (OI) are special instructions, which are released whenever there is an amendment or addition to support any unwritten instruction in this procedure. OI can act as base on permanent or temporary basis.

Operations Instructions:

1. Issued and signed by the OMO and the SAS Manager or their delegates. For technical related OI, the OI shall be concurred by the relevant Technical HOD
2. Recipient must read and understand before signing
3. It must be kept in the designated folder

OCC personnel have to update themselves with all valid OI from time to time.

4.2 Overview of Vehicle permissible speed

Locations / Situations	Max. Permissible Speed
Pre Service Train (Inspection Train)	80 km/h
Passing Signal in Danger (***refer clause 8.1***)	40 km/h
Control Train (as advise by LC/DC)	40 km/h
Entering and Departing at/from Reversing Track / Shunting Mode	25km/h
Entering and leaving MWS	05 km/h
Entering TWP	03 km/h

4.3 Overview of speeds allowed with coupled trains / vehicles

	Items	Pulling (km/h)	Pushing (km/h)	Configuration
1	Train couple with 1 active train in Main Line (electrical coupling)	No restriction	N.A	L136 B65 V160
2	Train couple with 1 inactive train in Main Line (electrical coupling)	80	N.A	L68 B65 V160
3	Train couple with 1 inactive train in Main Line (mechanical coupling)	80	25	L68 B65 V160
4	Train couple with inactive Shunting Loco in Main Line	25	25	L68 B65 V160
5	Shunting Loco couple with 1 inactive Train in Main Line	50	25	Train at main line

5 Main duties and responsibilities

The main duties and responsibilities for the various positions of the OCC Department are described and listed below.

5.1 OCC HOD (CoCC)

The CoCC reports to the OMO and is responsible for:

1. Coordinating the assignment of the OCC staff
2. Controlling and organizing the duties of the OCC staff
3. Supervision of the OCC
4. Taking responsibility regarding all recorded data in OCC
5. Supervision of safety
6. Supervision of adherence to the rules and regulations
7. Managing and monitoring the track possession planning, documentation and implementation
8. OCC administration
9. Carry out network inspection whenever required

5.2 Operation Control Executive (OCS)

The OCS reports to the CoCC and is mainly responsible for:

1. Overall Supervision of Operations
2. Supervising and allocating the controllers (LC, DC, EC)
3. Managing safe operations, particularly in operating conditions, which deviate from normal operations
4. Checking the operational status of the system
5. Assume roles as an Incident Commander during incident as per Incident Management. ***Ref no; G00.OMO.15880.NG.0001****.** and Actions During Incidents. ***Ref no. G00.OMO.M11150.CB.0001.**
6. Mobilizes internal and external emergency services
7. Liasing with Operation Chief (OC) in the event of incident/accident
8. Strive to minimize operational impact during service disruption
9. Processing the request for track possession
10. Key in and prepare all necessary operational report in SAP
11. Managing the daily assignment of OCC staff as per Shift Procedure. ***Ref no; G00.OMH.M11750.ZP.0006.****
12. Act as relief LC/DC and EC as and when required
13. Carry out network familiarization whenever required/requested by CoCC

5.3 Line Controller (LC)

The LC report to the OCS on duty and mainly responsible for:

1. Supervising and controlling respective line operations according to the daily schedules and ensure safety
2. Informing OCS on any deviations from normal operation.
3. Cooperating with OCS and other controllers (DC and EC) in providing accurate report
4. Execute OCS instruction
5. Record all activities / events or incidents in the relevant form
6. Cooperating with OSS and Driver
7. Liaising with OTS
8. Monitoring CCTV at his area
9. Organize Permit to Work activities
10. Carry out network familiarization whenever required/requested by CoCC

5.4 Depot Controller (DC)

The DC reports to the OCS on duty and are mainly responsible for:

1. Supervising and controlling movements of trains and vehicles to, from and within depot area in order to support scheduled services and to ensure safety
2. Function as Communication Controller (CC) during incident or emergency
3. Informing OCS on any deviations from normal operations
4. Cooperating with OCS and other controllers (LC and EC) in providing accurate report
5. Execute OCS instruction
6. Record all activities / events or incidents in the relevant form
7. Liaising with OTS
8. Cooperate with MNT Supervisors/Leaders (RST/SIG/TLE/OCL/DWE)
9. Planning of Trains and Track Vehicle stabling within depot area
10. Liaising with Shunter
11. Support line operations during night break or track possession or discharge of traction power
12. Carry out network familiarization whenever required/requested by CoCC

5.5 Engineering Controller (EC)

The EC reports to the OCS on duty and is mainly responsible for:

1. Supervising and controlling Supervisory Control And Data Acquisition (SCADA) particularly in power distribution
2. Responsible for safe switching operations and maintaining continuity of power supply
3. Monitor other system component status through SCADA and report any alarm detected to OCS and respective department

4. Liaising with TPSS Charge man
5. Key in all technical service failure report in SAP
6. Cooperating with OCS, LC and DC in providing accurate report
7. Execute OCS and LD/DC instruction
8. Informing OCS on any deviations from normal operations
9. Makes announcement through PA system as and when required
10. Ensure The Five Electrical Safety Rule (***Clause 5.5.1***) are observed and applied
11. Carry out network familiarization whenever required/requested by CoCC

REMINDER

EC SHALL HAS FULLY UNDERSTOOD AND VERIFY THE ALARM MESSAGE BEFORE ACKNOWLEDGE THE ALARM & A FULL SYSTEM AND ALARM STATUS CHECK SHOULD BE PERFORM REGULARLY THROUGHOUT THE ENTIRE SHIFT PERIOD

5.5.1 The Five Electrical Safety Rule

1. It has to be ensured that the section concerned and all attached equipment is switched off
    - EC could check the activity from SCADA layout, Overview and Logbook
2. The section concerned must be secured against unintended and automatic restoration of power
    - EC set a ‘Command Lock SET’ at the particular switch
    - Put a note i.e ‘earthing device applied’ and select set control confirmation box
3. The section concerned must be checked to be certain that the power is switched off
    - EC confirmed the switching status from SCADA layout indication
4. The section concerned must be connected to earth. Only the section between two earthing poles considered being safe
    - PICOP to apply minimum of 2 earthing devices to protect working area
    - LD/DC to get Location of earthing device and stop signal board applied by PICOP
5. Adjacent parts and equipment, which are still energized, must be covered against touch voltage

5.5.2 EC switching Procedure

Whenever SCADA switching for TPR is required, below process must be followed: -

EC has to;

1. To be briefed by the PICOP on the work location and isolation section required
2. PICOP to fill up PICOP section in the EC switching procedure form
3. EC to fill up the switching plan sequence in the EC switching procedure form, ***Ref no; G00.OMO.M15111.DQ.1023.****
4. Handover to OCS for verification and acknowledgement

5. Received the acknowledge form from the OCS
6. Execute the switching according to the switching plan

OCS has to;

1. Received the EC switching procedure form
2. OCS to verify that the EC switching sequence plan is correct from the SCADA simulator
3. Acknowledge on the EC switching procedure form
4. Hand over back the form to EC for execution

NOTE

EXCEPT FOR EMERGENCY REASONS THE EC IS NOT ALLOWED TO SWITCH OFF THE OCL WITHOUT PERMISSION OF THE OCS OR THE LC OR THE DC

5.5.2.1 KLIA 2 Manual Switch Switching Procedure

In the event the manual OCL switch at KLIA2 needs to be operated, OCL personnel has to be notified to operate the manual switch at site.

If there are trains within the isolation section area, ***the LC has to****:*

1. Instruct all trains within affected section to lower down the pantograph
2. Confirm that all train within the isolation section has lowered down the pantograph
3. Instruct EC to do the switching

The EC has to;

1. Receive confirmation from the LC that trains within the isolation section have lowered down the pantograph (if any)
2. Switch ‘OFF’ the remote switch (switch KA no 1 or 2) via SCADA
3. Advise OCL personnel at site to operate the manual switch at KLIA 2
4. Obtained confirmation from OCL personnel at site the final position of the manual switch (on/off) and the manual switch is secured with a pad lock
5. Switch ‘ON’ the remote switch via SCADA
6. Put command lock with text message (KLIA 2 manual switch status) and set control confirmation box at the related switches

The switches pre-conditions are as per table below:

To operate Manual Switch	Precondition		
	Remote switch	Manual switch	Track affected
Switch 1 KLIA2	Switch 1 KLIA OFF	Switch 505 KLIA OFF	Platform 1 KLIA
Switch 2 KLIA2	Switch 2 KLIA OFF	Switch 505 KLIA OFF	Platform 4 KLIA
Switch 505 KLIA	Switch 1 & 2 KLIA OFF		Platform 1 & 4 KLIA

5.6 Reporting for Duty

In general, all OCC personnel are required to sign on and off at the designated work place. They should report any unplanned leave (i.e. medical leave, emergency leave, special leave, etc) to their superior at least ***4 hours*** before starting their duties.

5.7 Taking Over of Duty

When the incoming staff takes over duty, the relieved staff will brief the new signing in controller the following:

1. Information about the present operational situation
2. Additional written or verbal instructions, e.g., by the OCS or CoCC or other operational Instructions taking effect on that particular day
3. Irregularities of Operations, equipment and system of work
4. Any sleeves applied on TMS or SCADA and their reasons
5. Other changes to Normal Operations
6. Other interim measures to be taken

All these information shall be logged in the OCC Leaving Workstation form ***Ref no****; **G00.OMO.M15111.DQ.1015.****

5.8 System Log In

The OCC personnel will log into various sub system in the OCC according to their position and responsibility below.

5.8.1 OCS

The OCS will login the OCS workstation for the following Sub-system:

1. TMS
2. SCADA
3. Radio Console and SAP
    - The OCS who takes over duty will login the SAP by listing in the personnel who work in his shift

5.8.2 Line Controller

The LC will login the Line Controller Workstation for the following Sub-System

1. TMS and Radio Console System

5.8.3 Depot Controller

The DC will login the Depot Controller Workstation for the following Sub-System

1. TMS and Radio Console System

5.8.4 Engineering Controller

The EC will login in the EC Workstation for the following Sub-System

1. SCADA
2. SAP

3. ERL Twitter

5.9 Stand in Regulation

The OCC positions are substituted as follows:

Position	**Standby / Delegates**
Chief of OCC	OCS, Operations HOD or other OPS Mgmt team members
OCS	LC to be assigned as acting OCS
LC	OCS or DC to cover the duty
DC	OCS or LC to cover the duty
EC	On call or OCS or any qualified personnel

5.10 SAP Reporting System

SAP system is application system to support Railway Operations and Maintenance reporting. This System is supervised and controlled by IT support and does the following activities:

The IT Department supports the system. OCC must report any fault or irregularities to IT Department for immediate action.

5.11 SAP Activities for OCC

The OCS and the EC are the responsible persons to ensure that all incident / events and failure are captured in the SAP System. Their responsibilities are as detail below:

5.11.1 OCS Notification

1. Key in failure notification under type SAS and OPE
2. Key in all operational events such as; replacement of train, washing activity, Permit To Work activity, power isolations etc
3. To key in safety and security related incident
4. To ensure that all report and relevant data is logged in the SAP

5.11.2 EC Notification

1. Key in failure notification under types Service Failure (SF)

Further information is available in the SAP Maintenance; Notification, Work Order, Work Type & Breakdown Handling Procedure ***Ref. no; G00.OMC.M11070.BT.0002.****

6 Depot Operations

DC is responsible for movement in the depot area except movement in the MWS. The depot is divided into the following distinct area:

1. Track 08 (Spray cabin, UFWL, Storage area, Auxiliary Workshop)
2. Head Shunt (Track 01 and 31)
3. Washing Plant (Track 04)
4. MWS Track 09 & 10 Light Maintenance area
5. MWS Track 11 & 12 Heavy Maintenance area
6. Stabling Area (Track 21, 22, 23 & 24)

The border between depot and Main line is defined at signals:

1. SY D02 / ST N46 for Northern Exit
2. ST T26 / SY D03 for Northern Entrance
3. SY D72 / ST T36 for Southern Exit
4. ST N36 / SY D73 for Southern Entrance

Speed in the depot is limited to 25 km/h and on sight and under caution. Movements are usually executed by manual route setting. Signaling system at depot allows multiple movements at any one time.

REMINDER

THE MAXIMUM ALLOWABLE SPEED FOR A SINGLE SHUNTING LOCO ON THE MAIN LINE IS **70 KM/H**

6.1 Orange Flag

The Orange Flag is used to indicate that there are works being carried out inside, above, underneath or around the train, which indicate that the Driver is not allowed to operate the train.

The Orange Flag are placed at all four corners of the driver's cab bogies. The Orange Flag cannot be removed without the permission from the duty RST Supervisors.

WARNING

TRAIN OR VEHICLE APPROACHING A TRAIN WITH AN ORANGE FLAG MUST BE DRIVEN WTH EXTREME CAUTION AND ENSURE NO UNINTENTIONAL COUPLING OR CONTACT WITH THE SAID TRAIN

6.2 Workshop Lookout Man

The Workshop Lookout Man is to guide the Driver during entry, exit and/or movement into workshop. The Workshop Lookout Man can be identified by his high Visibility Vest, using green/red luminous flags, round bat and/or shunting torchlight

6.3 Shunting Movement

Movement in the Depot and KLS reversing tracks are called shunting movement. When executing shunting movement, all Drivers shall drive on sight and to adjust the train/vehicle speed within the speed limit in a way that they can stop the train/vehicle half of the sighting distance of any obstruction or danger.

The Driver has to observe:

1. Track ahead clear from obstruction, train or vehicles while driving to the stopping point
2. Signal indications
3. Correct position of the turnouts

DANGER

THE DRIVER TO BE AWARE THE POSSIBILITIES OF ONOTHER TRAIN OR VEHICLE OCCUPYING THE SAME TRACK SECTION

6.3.1 Shunting Movement in Depot

Any shunting movement shall start with a 'Shunting Agreement' between the LC/DC and the Driver. The Shunting Agreement must contain the following:

1. Vehicle number and location
2. Purpose of the shunting movement
3. Destination and additional information, if required

The DC has to ensure the following before executing a shunting movement:

1. Established shunting agreement
2. Obtain confirmation from the Driver is ready to depart
3. Request RST supervisor to press Acceptance Button and arrange for a Look Out Man (workshop area)
4. Give "Approval To Proceed" by signal – (A verbal instruction only can be issued when communication by signal is not possible)

NOTE

DRIVER HAVE TO SHUNT THE TRAIN OR SHUNTING LOCO UP TO THE LOOK OUT MAN BOARD ONLY IF NO LOOK OUT MAN PRESENCE A MAIN WORKSHOP (MWS) ENTRANCE

NO MOVEMENT IN OR OUT OF MWS CAN TAKE PLACE WITHOUT PRESENCE OF THE MWS LOOKOUT MAN AT ENTRANCE OF THE MWS

6.4 Washing of Trains

Trains are washed in the Washing Plant (TWP) according to defined schedules as stated in Train Availability Report / Daily Train Washing program form. ***Ref. no**; **G00.OMO.M15111.DQ.1013**.**

6.4.1 Karcher / Manual Cab Washing

When a train is schedule for Karcher washing, ***the DC has to;***

1. Check status of washing plant and OCL power supply
    - Ensure OCL is energized before sending train into TWP
2. Select 'START' button to activate the TWP
3. Route the train into the TWP
4. Instruct EC to de-energized power supply for TWP (switch 316) after received confirmation from Driver that the train has been shutdown
5. Start washing after receiving confirmation from EC that OCL power supply for TWP has been de-energized
6. After receiving confirmation from Driver that train washing is completed, instruct EC to re energize OCL power supply for TWP
7. Advise Driver to start up train and set route to the designated stabling location

NOTE

FOR 'MANUAL CAB WASH', DC MUST CONFIRM WITH THE DRIVER THAT WASHING IS COMPLETED AND ALL PERSONNEL/CLEANER ALREADY CLEAR FROM TWP WASHING AREA BEFORE ADVISING EC TO RE-ENERGIZED THE OCL POWER

6.4.2 Britannia Washing

When a train is schedule for Britannia washing, ***the DC has to;***

1. Route the train into the TWP via north entrance
2. Press green button for 'Acid Wash'

The washing command will be in standby mode for 15 minutes before being auto-generated when the sensor triggered any train movement or auto-off if not activated after 15 minutes.

1. Inform the Driver that the washing plant is ready and to proceed as per signal
2. DC to cancel the washing activity/program if the 1st or 2nd brush does not work and to re-arrange for another washing process/round
3. DC to cancel the washing activity/program and inform DWE personnel if the failure re-occurred or remained after 2nd washing process/round
4. Get confirmation from the Driver that washing is completed and advise the next destination or stabling area

6.4.3 Trains Manual Washing

In the event of trains is required to be wash manually, RST/DWE will assigned one PICOP to supervise this manual washing activity. PICOP shall open TPR prior implementation of manual washing.

The DC has to;

1. Check status of power supply for TWP with EC before sending a train for washing
    - Ensure OCL is energized before sending train into TWP
2. Route the train into the TWP
3. Instruct EC to de-energized power supply for TWP (switch 316) after received confirmation from PICOP that train has shutdown
4. Gave an approval to the PICOP to apply earthing devices after the OCL has been switched off
5. Put sleeve and sleeve text in TMS indicating that earthing devices applied at TWP
6. Receives confirmation from PICOP that washing is completed and earthing devices have been removed
7. Remove the sleeve text applied at TWP
8. Request EC to re-energized OCL at TWP
9. Inform PICOP that power at TWP has been energized

EC has to*;*

1. Switch off and put command lock on switch 316 with note ‘earthing device applied’ and select set control confirmation box
2. Confirm with DC that earthing device have been removed before switching on power supply at TWP

NOTE

ALL COMMUNICATION BETWEEN DC AND EC SHALL BE MADE VIA PABX PHONE

6.4.4 Trains Washing Management

OCC shall ensure that each serviceable trains to be send for wash after a maximum of 3 days train run at main line

In order to achieve this, ***The LC/DC has to;***

1. Swap the train that due for wash during revenue service
2. Direct train back to Depot for washing before stabling in Depot

6.5 Stabling of Trains

The DC has to;

1. The correct position of stabling (Track 22 & 24 for Ekspres Train and Track 23 for Transit Train) – each track can be stable with a maximum of 4 trains

2. Operational requirement, one track to be kept free (track 21) to provide options for Depot Movement

6.5.1 TrainToilet Servicing at Stabling Yard

The DC has to;

1. Receive information from the cleaner that train will perform toilet servicing (Honey sucker)
2. OCC acknowledge and ensure that no route or "**Approval to Proceed**" given to the Driver to move the train until the cleaner verbally confirmed toilet servicing activity is completed

6.6 Depot Interfaces

6.6.1 Entering Depot from Main Line

The DC has to;

1. Check status stabling of train i.e. if requested by RST, SIG, and etc
2. Advise Driver of the stabling location
3. Set the route as per stabling location

6.6.2 Direct entry to Main Workshop (MWS) track 9 & 10

In case a train is required to enter MWS, ***the DC has to;***

1. Confirm with EC and RST on MWS OCL power is energized
2. Request RST supervisor to push the "Acceptance Button" and arrange for a Look Out Man
3. Set the route as per stabling location
4. DC shall advise the Driver to stop in front of signal **SY D21** or **SY D23** (from northern entry) and **SY D51** (from southern entry) and to observe signal indication before proceed entering MWS

6.6.3 Leaving Depot to Main Line

Before releasing train to main line, ***the DC has to***;

1. Ensure the train is released and confirmed fit for service by RST Supervisor
2. Receive confirmation from OCS that "E- Train Released Form" is updated and released by RST supervisor
3. Receive confirmation from the Driver that train is ready to depart
4. Lookout-man is available (if train depart from MWS)

6.6.4 Maintenance Test Run on Test Track

In the event of a train is routed to the test track for a brake test run, ***the DC has to;***

1. Ensure that the relevant department technician is onboard
2. Disabled ARS for both signal ST N45 and ST T35
3. Get confirmation from the Driver that the ATP brake code has been changed to code 3 (39%)
4. Route the test train manually from,

- Buffer end 143 up to signal ST T35 , From ST T35 to ST 1
- ST 1 up to signal ST N45, From ST N45 to Buffer end 143

5. Advise the Driver of the test train that speed is limited to 90km/h
6. Remind the Driver to normalise the ATP brake code after completion of test

6.7 Pre-service Train Availability

Before revenue service's start, the RST has to provide the status of train availability to the OCS. The OCS has to make the necessary arrangement if the number of trains does not meet the requirement

To ensure a proper documentation of train records, the ***DC*** has to make an entry in the following forms:

1. Train Availability Report and Daily Train Washing Programme – ***Ref. no; G00.OMO.M15111.DQ.1013.****

2. Daily Train Dispatch – Ref. no; G00.OMO.M15111.DQ.1010.*
3. Train Mapping Sheet – Ref. no; G00.OMO.M15111.DQ.1008.*

6.8 Coupling Procedure

Coupling of trains in Depot can be executed either with a Train, Shunting Loco or Unimog.

Before a route for a coupled train is set, the LC/DC shall establish the shunting agreement with the Driver.

The LC/DC has to;

1. Receive instruction from the OCS
2. Sets the route for the rescue train/Shunting loco up to the last entry signal entering into the block section
3. Issues a verbal 'Approval To Proceed' at the last entry signal
4. Receive confirmation on the status of coupling
5. Issues a new 'Approval To Proceed' to the required destination once the trains are coupled / ready

6.9 Uncoupling of Train / Vehicle

The LC/DC has to;

1. Sets the route to the designated track for uncoupling
2. Receives information that the trains have reached the stopping point
3. Obtained confirmation with the Driver that the brake shoes have been applied at the first and the last wheel of the stalled train/vehicle
4. Once confirmed that the completed, issue a new 'Approval To Proceed' for the next movement

6.10 Pushing/Pulling of Trains at Non-Electrified Area

6.10.1 Entering Track 08 (Open yard area / Non-electrified area)

The DC has to;

1. Make a shunting agreement with the Driver
2. Ensure no other movement is carried out at non-electrified area (track 08, 11 and 12)
3. Confirm with the Driver that his vehicle is ready to depart
4. Set the route as per shunting agreement

6.10.2 Leaving Track 08 (Open yard area / Non-electrified area)

The DC has to;

1. Make shunting agreement with the Driver
2. Ensure no other movement is carried out at non-electrified area (track 08, 11 and 12)
3. Confirms with the Driver that his vehicle is ready to depart
4. Set the route according to the shunting agreement

6.11 Workshop Movement

The MWS is a separate area of the Depot. It is a facility for Scheduled and Unscheduled maintenance. Movements within the Workshop are not shunting movements. The MWS staff is fully responsible for these movements, which are defined as minor movements.

Movements within the MWS can either be executed by:

1. Trains under their own power in the light maintenance area, or
2. Pushing or pulling with another train or the shunting locomotive, or
3. Other facilities such as the Rail and Road Mover, or
4. Manually by hand

REMINDER

TRAINS POWERED BY OCL MAY MOVE UP TO THE ‘END OF OCL LINE’ SIGNBOARD, SHUTDOWN THE TRAINS AND PREPARE TO BE PULLED OR PUSHED BY SHUNTING LOCO OR RAIL AND ROAD MOVERS TO THEIR DESIGNATED STABLING LOCATION. THIS TYPE OF MOVEMENT MUST BE ASSISTED BY THE RST TEAM

7 Normal Operations

7.1 Definition

Normal Operations considers the Operation of the KLIA Ekspres and KLIA Transit when scheduled services are possible without impairment and without unreasonable risk to staff or passengers. The Ekspres and Transit Services can be operated almost without intervention of the controllers. The Operators monitor the adherence of the train operation according to the scheduled timetable.

7.2 TMS Train / Vehicle Identification

Before any train or vehicles are allowed to operate in the system a trip number must be registered into the System. The LC/DC is responsible for maintaining the train data.

The LC/DC must assign a number to any vehicles that are not running the timetable. This number is required for identification on TMS system.

These vehicles will be assigned with Generic Number “9”. This is to differentiate them from the Ekspres and Transit services.

Table below explains the numbering of vehicle running on TMS.

	1st Digit	2nd Digit	3rd Digit	4th Digit
List of Vehicle	Generic Number	Representing Vehicle group Identification	Representing the number of the vehicle	“0” represent single vehicle “X” represent coupled with other vehicle or wagons
Tamping Machine 09 (YTL)	9	1	1	0/X
Tamping Machine CSM (YTL)	9	1	2	0/X
Ballast Regulator (YTL)	9	2	1	0/X
Loco 6 (YTL)	9	3	1	0/X
Shunting Loco (E-MAS)	9	3	3	0/X
Track Lorry (YTL)	9	4	1	0/X
Excavator 2 (YTL)	9	4	2	0/X
Service Vehicle (E-MAS)	9	5	1	0/X
Shunting Vehicle (E-MAS)	9	5	2	0/X
Unimog (E-MAS)	9	6	1	0/X
Wagon/Train	9	7	NA	NA

Table below display the numbering the movement of Trains running in TMS

Trip Number						
1st Number	**Description**	**2nd & 3rd Number**	**Description**	**4th & 5th Number**	**Description**	
1	Direction from KLS to Depot	00-23	Trips Departure Time	41-50	ERL Trips	Non Revenue
				51-60	CRS Trips	
2	Direction from KLIA 2 to KLS	00-23	Trips Departure Time	11-20	ERL Trips	
				21-40	CRS Trips	
3	Direction from KLS to KLIA 2	00-23	Trips Departure Time	11-20	ERL Trips	
				21-40	CRS Trips	
4	Direction from Depot to KLS	00-23	Trips Departure Time	41-50	ERL Trips	Non Revenue
				51-60	CRS Trips	
5	Direction from Depot to KLIA 2	00-23	Trips Departure Time	41-50	ERL Trips	Non Revenue
				51-60	CRS Trips	
6	Direction from KLIA 2 to Depot	00-23	Trips Departure Time	41-50	ERL Trips	Non Revenue
				51-60	CRS Trips	
7	Direction from KLIA 2 to KLS to KLIA 2	00-23	Trips Departure Time	61-80	Training or Test trains	

7.3 Timetable

The Ekspres and Transit Services run based on the respective timetable as required by ERLSB. To ensure the efficiency of the system, the OPS have to manage the following:

1. When necessary or by the instruction of the ERLSB, the OPS Planner will provide draft timetables to be discussed with the OPS Management
2. When the new versions are finalised and approved by the ERLSB, the OPS Planner will provide draft timetables
3. The new timetable must be uploaded by OCS / OPS Planner minimum 24 hours prior the effective date for the new timetable implementation
4. The LC/DC to report to OCS for any fault or errors that require changes in the uploaded timetable

7.3.1 Reporting TMS Data Error

In the event, the LC discovers TMS data error,

The LC has to;

1. Print the relevant train data
2. Highlight specifically the error data
3. Immediately edit and correct the data accordingly
4. Inform OCS for further action

The OCS has to;

1. Fill up OCC train data error report form doc ***Ref no; G00.OMO.M15111.DQ.1020.****
2. Compile all the evidence in the designated folder
3. Notify OPS Planner for immediate correction
4. Do the correction on TMS basic timetable

7.4 Adherence to the Timetable

TMS system is the tool for the OCC personnel to monitor the daily trains run and to make appropriate manual intervention when necessary. Any delay to a train will be recorded in the Time Way Diagram. The Time Way Diagram will display a “red box” when a train is ***delayed more than three (3) minutes***.

The LC has to alert themselves via TMS and CCTV that trains are departing from terminal on time.

In order to restore the adherence to the timetable, ***The LC has to allow***;

1. Train overtaking at intermediate station
2. Swapping of train at terminal
3. Swapping of the Driver at terminal
4. Direct routing to Departure platform
5. Double ending operation
6. Driver to ignore ESP
7. Terminate train service up to KLIA only

Care must be taken to ensure such action is executed in a safe and effective manner.

NOTE

IN CASE OF MAJOR DELAYS, THE KLIA EKSPRES TRAIN HAS THE PRIORITY OVER TAKE THE TRANSIT TRAINS

THE KLIA 2 BOUND TRAINS HAVE THE PRIORITY OVER TAKE THE KLS BOUND TRAINS

7.5 Communication

The principles of communications are laid down in the Operations Procedure for Communication and Signal Book. ***Ref no; G00.OMO.M15114.NA.1002.****

NOTE

VERBAL COMMUNICATION HAS TO BE KEPT CLEAR, SHORT AND BRIEF

7.5.1 Communication Procedures

The Operations Procedure for Communication and Signal Book ***Ref no; G00.OMO.M15114.NA.1002.**** governs the operational conversation of the OCC staff.

The following shall be observed:

1. Operations staff must communicate via facilities such as Radio Console and PABX Telephone, which are connected to the voice recorder
2. All instruction from the OCC to the line-side staff have to be repeated by the recipient and confirmed by the OCC as understood correctly
3. Important safety relevant communication between Drivers, e.g., during pushing of trains, shall normally be done via separate facilities such as the intercom link of trains. During failures the OCC provides a separate communication facility either by hand-portables or a channel, which cannot be disturbed by others

During an incident, the information must be clear and concise. The OCC staffs who received the report shall check that the information given is complete as follows:

1. Name of the reporting person
2. Location and Time of the incident or accident
3. Short description of the accident
4. Number of persons injured or fatalities, if any
5. Additional information such as affects on neighbouring or adjacent building, tracks, danger of fire, explosion, toxic materials etc
6. Assistance required. i.e., Ambulance, Police, Bomba

7.6 Maintenance Activities

During Revenue Service, Maintenance activities that might affect the train Operations shall not be allowed.

Impact to Operations such as delay or diversion should be kept to a minimum. The LC/DC shall advise the relevant Maintenance Department to resolve the critical component first and do the follow up rectification after operational hours.

7.6.1 Maintenance Vehicle

Based on the vehicles designed speed; LC should allow vehicles to run in between trains during revenue service subject that the vehicles run does not have an effect to train operations.

In case the Maintenance Vehicle is to be used for an Emergency work the OCS can change this priority and order the LC to give the priority to the Maintenance Vehicle.

7.7 On sight and Under Caution

Instruction to drive “On sight and under caution” shall be issued for the following reason;

1. Passing a failed signal/s or turnout/s,
2. Approaching a Train or vehicle (rescue)
3. Track inspection for uncertain occupied track section
4. Track irregularities (obstacle, flooding, bouncing)

5. Intruder in the structural gauge
6. For Track possession (TPR) activity as request in the TPR form
7. Coupling of train at mainline

The LC will instruct the Driver to drive the train/vehicle **"ON SIGHT AND UNDER CAUTION"**. with the **maximum permissible speed of 40km/h**. *The Driver has to move the train/vehicle in a way that they can stop the train or vehicle in front of any obstruction or danger.*

REMINDER

LC/DC SHOULD NOTIFY THE DRIVER IF OTHER LOWER SPEED LIMIT IS REQUIRED

7.8 Pre-service Train (Inspection train)

After the nightly maintenance and before passenger service starts, the line must be checked by an inspection train.

Pre-service Train (Inspection Train) is defined as the first train or vehicle routed out to the main line to KLS and KLIA 2 before revenue service commences each day. The **maximum permissible speed is *80km/h***. The Drivers are to observe both tracks and report immediately for any obstructions or irregularities along the route to their respective destination.

Both Drivers are to report the clearance of both tracks and signal sighting once arrived at the final destination.

REMINDER

OCC SHALL NOT RUN REVENUE SERVICE TRAINS UNTIL THE INSPECTION TRAIN CONFIRMED THAT TRACK IS CLEAR FROM OBSTRUCTION AND SAFE FOR TRAIN OPERATIONS

7.9 Control Train

When LC is unable to justify if the TMS track occupation is correctly indicated, they have to send a train or vehicle through a track section to physically verify the clearance of the track section. Any vehicle detected by the Signaling system can be used as an Inspection / control train.

The LC has to;

1. Inform the Driver of the train entering this track section
2. Instruct the Driver to check if the track is free from other trains, vehicles or obstructions
3. Instruct the Driver to move the train 'On sight and under caution'
4. Advise in which section the Driver has to move the train as a control Train
5. Instruct the Driver to report immediately for any irregularities

The LC decides the suitable action according to the result of the control train according to procedures

7.10 Stable of Train or Track vehicle in the Loop Track

In case of train or track vehicle is required to be stabled at the loop track, the LC/DC has to make sure the Train or Track vehicle stop at the designated stopping point.

1. Instruct the Driver to stop at the designated stopping point
2. Instruct the OSS to secure the vehicle from un intentional movement by applying the brake shoes
3. Confirmed with OSS that the brake shoes have been applied
4. The movement of the Train or Track vehicle must be approved by LC/DC
5. The turnouts, tracks and signals for both exits at the loop tracks have to be sleeved

7.11 Stabling of Train or Track vehicle at KLS Reversing Track

In case of train or track vehicle is required to be stable at the reversing track at Terminal Station, ***the LC has to;***

1. Instruct the Driver to stable their vehicle as close as possible to the buffer stop and to erect the stop signal board – minimum one meter from the vehicle
2. Receive confirmation from the Driver that vehicle has been secured and stop signal board is in place
3. Instruct OSS to apply brake shoe
4. Receive confirmation with OSS that brake shoes have been applied
5. Informed all Driver about the stabled vehicle and application of speed restriction
6. Instruct Driver to drive with maximum speed of 10km/h from stopping point (arrival platform) to 8 cars stopping point position (reversing track)

Set speed restriction in KLS ATP MMI:

1. Position – 100050
2. Track – 2
3. Length – 30m
4. Speed – 0 km/h

7.12 Total Shutdown of Trains at Stations

In the event of train to perform a total shutdown at Station, ***the LC has to;***

1. Instruct Driver to stable the train at the designated stopping point and to perform a total shutdown
2. Instruct Driver to check and confirm that tail light is not illuminated before leaving the train (to confirm train has been total shutdown)
3. Receive info from OTD that train have been shutdown
4. Instruct OSS to inspect and confirm that train tail light is not illuminated
5. Receive the status of train from OSS

7.12.1 Total Shutdown of Trains ET 02 at Stations

In the event of train ET Series 2 is required to perform a total shutdown at Station to recover from specific technical failure, ***the LC has to;***

1. Activate the spare train to cover the next trip for the failed train
2. Evacuate passengers and prepare to cancelled the trip if no spare train available

REMINDER

TRAIN ET SERIES 02 WILL REQUIRE TO PERFORM A MAIN BRAKE CHECK, EVERYTIME AFTER TRAIN PERFORMING A TOTAL SHUTDOWN. IT'S WILL TOOK APPROXIMATELY 30 MINS TO COMPLETE THE PROCESS WHICH COULD LEAD TO THE TRIP CANCELLATION IF NO SPARE TRAIN AVAILABLE

NOTE

TRAIN IN TOTAL SHUTDOWN MODE CAN BE IDENTIFIED WHEN THE TAIL LIGHT (RED LIGHT) IS NOT ILLUMINATED

7.13 Works within Structural Gauge and Clearance Gauge

Structural Gauge (**SG**) describes the perimeter line for the passing of rail vehicles which comprises the static car gauge, dynamic reflection, Construction and Maintenance tolerances and additional safety margins, which must be kept clear of personnel, tools and obstructions.

In general, the minimum distance to be kept clear is ***2.5m outwards from the center of the track*** which applicable for both single and double tracks.

No person shall enter the SG unless required by his duties and with an approved Permit to work. The approve Permit to Work by OPS management is only treated as a reservation for scheduling of works, and it is not an approval to actually enter and work within structural and clearance gauge. PICOP must obtain permission from OCC to enter structural gauge shortly before implementing any Permit to Work at site.

There were 2 categories of Permit to Work as below,

1. TPR
2. Notice call to OCC (NC)

For details, refer to Procedure for Works Within Structural Gauge & Clearance Gauge ***Ref no; G00.OMO.M15631.NP.1001.****

7.13.1 Track Possession (TPR)

The TPR can be defined as a closure of a portion of one or both tracks between stations or Depot or one or more turnouts.

TPR has to be applied for activities that are within the **SG** as indicated in diagram 1.

The TPR can be defined as a closure of a portion of one or both tracks between stations or Depot or one or more turnouts.

A TPR is required for activities that are within the SG (**2.5m from the center of track up to the ballast toe**).

During operational hours, only 2 TPR are allowed to be opened at any one time to limit the constrain on managing the train movement and communication with the trains and PICOP.

The following TPR are possible;

1. Planned; which is agreed in the TPR meeting and approved by the OPS Management
2. Unplanned; for immediate failure investigation and rectification, approved by the OCS under the direction of the OPS Management

TPR has to be applied for all works;

1. Within the structural gauge (2.5m from the centre of the track outward) that require track to be closed from train operations
2. Which requires the isolation of OCL power

7.13.2 Person in Charge of Work (PICOP)

In general, the PICOP responsible for:

1. Opening and taking over the TPR from OCC
2. Exclusive right within his possession area
3. Approval for any movement for entering, leaving or within the possessed area

4. Safety of work at site (track, equipments, workers etc)
5. To ensure the turnout position is set correctly before issuing approval to proceed passing signal in danger
6. Ensuring the clearance of the track, equipments, workers etc before closing and handing over TPR to OCC

7.13.3 Opening of a TPR

A TPR shall be opened by the PICOP once he has reached the possession area as per Track Possession Request Form ***Ref no; G00.OMO.M39910.DQ.1001***.* and the PICOP has to give the following details to the ***LC/DC***:

1. TPR number
2. Nature of work, location and time
3. Deployment of look out man at least 3 poles from work area if work implemented in between train runs
4. Installation of the Earthing devices (prior approval from the LC/DC is required).
5. The exact location of the Earthing devices and Stop board Immediately after each Earthing device and Stop board is installed
6. Additional information or assistance require, if any

Before the LC/DC approves the PICOP to execute his work the LC/DC has to ensure the Possession Area is protected by taking the appropriate measures via the TMS as detailed below:

1. Disable Automatic Route Setting (ARS) on the signals leading into the possession area
2. Sleeve the affected tracks, signals and turnouts
3. Put in Sleeve Text [TPR (see message text)]
4. Create a Message Text [TPR number]
5. De-energized the OCL power; if required by TPR

Once the LC/DC has done the measures above, the LC/DC has to advise the PICOP that they can start their work as per approved TPR.

7.13.4 Track Vehicle Movements Entering and Leaving a Possessed Area

Track vehicle movements entering and leaving a possessed area are only allowed after permission is granted from the PICOP. Once the LC/DC has the permission from the PICOP, the LC/DC has to get the approval from the OCS on duty through recorded communication. Once granted, the movement can be allowed by temporary removal of the protection area as detailed below:

1. Cancel the sleeve and the sleeve text
2. Set the route for the movement manually
3. Instruct the track vehicle to approach the track section on sight and caution up to the border of the possession area
4. Instruct the track vehicle driver to communicate and get further instructions from the PICOP
5. Restore back the track protection as stated in **clause 7.13.3** Opening of a TPR, once the Vehicle movement is completed

7.13.4.1 Train Movements Passing a Possessed Area

Train movements passing a possessed area are only allowed after permission is granted from the PICOP. Once the LC has the permission from the PICOP, ***the LC has to;***

1. Cancel the sleeve and the sleeve text at the relevant signal and track
2. Issue an approval to proceed to the train to passed the possession section with Manual route setting (ARS remained disabled)
3. Restore back the track protection as stated in **clause 7.13.3** Opening of a TPR, once the Train movement is completed

REMINDER

NO TRAINS OR OCL VEHICLES WITH RAISED PANTOGRAPH ARE ALLOWED INTO OR WITHIN A DE-ENERGIZED POSSESSED AREA**.**

7.13.4.2 Track Vehicle Movements Within a Possessed Area

Once the TPR has been opened by the PICOP, the PICOP shall take over the responsibility of the OCC within the TPR area, such as;

1. Approval for vehicle within his possession area to pass a signal in danger
2. Safety of work at site
3. The position of the relevant turnout is set correctly
4. PICOP shall request LC/DC to operate the Turnout to the other position if required.
5. Temporary removal of axle counters and etc

REMINDER

IN THE EVENT OF ANY WORK THAT REQUIRES REMOVAL OF AXLE COUNTER, SIG PERSONAL SHALL ADVISE LC/DC THE IMPACT TO THE ADJACENT TRACK SECTION THAT MAY AFFECT THE TRAIN OPERATIONS. I.e. DUE TO SHARING AXLE COUNTERS

7.13.5 Closing of TPR

A TPR only can be closed by the assigned PICOP. Before the LC/DC approved the closure of TPR the LC/DC has to receive the confirmation from the PICOP that:

1. All personal and equipment / Tools is cleared from the SG and track is safe for normal operations
2. Earthing devices have been removed and OCL can be re-energized, if applicable

7.13.6 Notice Call to OCC (NC)

NC is required for any activities outside the Structural Gauge and within the Clearance Gauge and shall be no impact to the train operations. The person in-charge shall notify the LC/DC their activities prior commencement of work for LC/DC acknowledgement. The person in-charge shall brief LC/DC the possible impact to the system if any i.e alarm on SCADA or TMS

NC are exempted for all activities that have a mutual agreement with ERLSB and/or E-MAS (i.e. trackside security guard patrolling along the track) and stationed at the site for a long period.

Example typical works under NC;

1. Grass cutting
2. OCL visual inspection

NOTE

CONTRARY TO NORMAL OPERATIONS, MORE THAN ONE TRACK VEHICLE IS ALLOWED IN A SECTION UNDER TPR

EACH VEHICLE MUST BE CLEARLY IDENTIFIED WITH VEHICLE NUMBERS SPECIFIED IN **CLAUSE 7.2**, TMS TRAIN / VEHICLE IDENTIFICATION OF THE PROCEDURE FOR OCC

8 Degraded Operations

Degraded Operations considers all circumstances, which affect normal service but are not considered potentially life threatening to passengers or staff.

8.1 Verbal Approval to Proceed

A Verbal Approval to Proceed has only to be issued when communication by signals is not possible. A Verbal Approval to Proceed must be issued either by radio or PABX phone, which are connected to the voice recorder. A Verbal Approval to Proceed is on signal-to-signal basis.
A Verbal 'Approval to Proceed' passing signal in danger aspect has only to be issued after this Track Section has been confirmed:

1. To be free from other trains or vehicles
2. Track Section is not under possession in the opposite direction
3. Related turnouts have been manually set as required
4. Related turnouts of the desire route including flank protecting points has been sleeved

REMINDER

AN 'APPROVAL TO PROCEED' PASSING SIGNAL IN DANGER HAS TO BE ISSUED INFRONT OF THE RELEVANT SIGNAL, UNTIL THE NEXT SIGNAL WITH THE **MAX SPEED OF 40 KM/H**

WARNING

OCC TO ENSURE THE TURNOUTS IS CORRECTLY SET AND SLEEVE, BEFORE ALLOWING ANY TRAINS / EHICLE MOVEMENT PASSING THE SIGNAL IN DANGER ASPECT

8.2 Speed Restrictions

Speed restrictions are temporary reduction of the normal operation speed in a section of track or tracks.

Speed restrictions have to be set in the OCC ATP MMI. A maximum of 4 speed restrictions can be implemented in an interlocking area.

The following is a list of possible reasons for the speed restrictions, which is not a complete list. Other possible reasons can also be advised by the staffs (E-MAS, ERLSB or SPYTL) if normal speed could endanger the system or life.

1. Track irregularities (obstacle, flooding, bouncing)
2. Protection of staff during coupling of train / vehicle at mainline
3. Stabling of train or vehicles at reversing track KLS
4. Flooding
5. For TPR activity as requested in the TPR form

Speed restrictions have to be announced to the drivers verbally via radio, until it is included in the Operations notice board at KLS Operation room.

Temporary line side signal board has to be installed for speed restriction that is 1/3 less from the design speed.

8.2.1 Implementation of Speed Restriction

The OCS is responsible for the immediate implementation of speed restrictions after they received information from any ERLSB, SPYTL or E-MAS staff. The OCS is responsible to key-in the required data into the OCC ATP MMI.

Upon implementation of a speed restriction, the OCS has to do the following:

1. Ensure no train within the affected track section
2. Instruct the LC/DC to set the last signal leading into the section of the speed restriction to danger (stop) aspect
3. Inform the Driver approaching the signals, in order to prevent emergency brake activation.
4. Establish the detail of speed restrictions, i.e location, length, track no and max allowable speed
5. Key-in the details into the ATP MMI. Refer to Operating Instructions HTA 403/6.4 [ZSL 90, interlocking equipment. ***Ref no; G00.INT.54080.PG.0001.****
6. Inform the Driver of the first train the detail of the speed restrictions and instruct him to report back of the maximum allowable speed.
7. Set signal to proceed aspect
8. Receive the information from the driver that the ATP needle is reacting accordingly

In case of problems, SIG personnel must be notified earliest possible for assistance. Speed restrictions have to be keyed-in into the relevant ATP MMI based on the interlocking section. In the case a speed restriction is at the border area of two interlocking sections, the following post have to key into the OCC ATP MMI. The areas are:

Section	Starting Post (Meters)	Ending Post (Meters)
KL Sentral	0 000	7 880
BTS	3 880	13 410
X-Over	9 410	25 740
PJS	21 470	40 430
STS	36 430	52 360
KLIA & KLIA 2	48 360	58 270

Any speed restriction imposed on OCC ATP panel shall be recorded in OCC speed restriction log book and to record the event in SAP under OPE to indicate the location affected and the person requesting such restriction.

8.2.2 Release of Speed Restriction and Line Blocking

Before the speed restriction can be released or lifted, ***the OCS has to***;

1. Receive the report from the Authorized personnel (refer table below) about the completion of TPR or rectification or maintenance work or removal of the cause and the tracks are safe for operations.
2. Delete the related details from the OCC ATP MMI. Refer to Operating Instructions HTA 403/6.4 [ZSL 90, interlocking equipment] ***Ref no; G00.INT.54080.PG.0001***.*

3. Inform the train drivers accordingly
4. Below is the authorisation table for the releasing of speed restriction and line blocking:

No	Details of speed restriction/line blocking	Authorize person to release
1	Any speed restriction or line blocking under TPR, which applied by PICOP on duty	PICOP on duty
2	Protection of staff on the adjacent track, which under TPR applied by PICOP or supervisor of works	PICOP on duty
3	Stabling of trains or vehicles at KLS reversing track	OCS on duty or requestor
4	Any track irregularities, which requires track inspection and measurement upon releasing: • Track bouncing • Track swaying • Flood • Etc	SPYTL: Authorised personnel's (refer to SPYTL on call schedule roster)

REMINDER

BEFORE IMPOSING SPEED RESTRICTION, LC/DC SHALL VERIFY WITH THE DRIVER TO CONFIRM THE ACTUAL TRAIN POSITION

DO NOT RELY ON TMS TRACK BERTH!

NOTE

TRACK '0' TO BE SELECTED IN THE ATP MMI FOR ANY SPEED RESTRICTION APPLIED ON BOTH TRACKS AT THE SAME LOCATION

8.2.3 Coupling Train on Main line (Mechanical)

When a train failed on main line and coupling of train is required, the train shall remain in standby mode if the pantograph can be raised up and no disruption on OCL power supply. The train only shall be shutdown after coupling process is successfull

In the event of OCL power supply is not available, the LC/DC shall advise the Driver to switched 'ON' the train baterry to ensure that both tail light illuminated until the rescue train arrives.

***The LC has to**;*

1. Disable the ARS towards the failed train section
2. Advise OCS to impose speed restriction of 25km/h for the block section occupied by the failed train
3. Advise OCS to impose speed restriction of 25km/h on the adjacent track after receiving the advise by the Driver of the failed train that both trains have been coupled
4. Announce the activation of speed restriction and instruct the Driver to drive on sight and under caution passing adjacent track parallel to the failed train via Radio
5. Ensure that all trains at the main line acknowledge the announcement

***The OCS has to**;*

1. Set a speed restriction of 25km/h, adjacent to the failed train location in the OCC ATP MMI (length 100 meter) after advised by LC/DC (for mechanical coupling only)
2. Set a speed restriction of 25km/h, for the block section occupied by the failed train
3. Length2 km from the last signal approaching the occupied block section
4. This speed restriction shall be abolished once the rescue Driver informed LC/DC that both trains are ready to depart

In the event of Shunting Loco to be used as a rescue, ***The LC has to***;

1. Issue a verbal "Approval to proceed" passing the last signal approaching the section occupied by the failed train
2. Remind the Driver to proceed "On sight and under caution" with the maximum speed of 25km/h

NOTE

RADIO COMMUNICATION FOR ALL PARTY INVOLVE IN THE COUPLING PROCESS SHALL BE CONNECTED VIA 'PATCH' MODE GROUP

8.2.4 Coupling of Train at Confine Space (Platform / Reversing track)

In case a train stranded at station platform or reversing track which require be towed back to depot (mechanical coupling), Coupling at confine space procedure shall be applied as below,

The LC has to;

1. Inform the failed train that the train will be coupled and rescued by other train
2. Receive report that the rescue train successfully coupled with the failed train

3. Advise OSS to assist Driver during the pulling of the failed train away from platform (to confirm/ensure that the inaccessible EP panel is cleared from platform)
4. Confirm with Driver that all EP Panels of the failed train has been isolated and all Parking Brakes has been released
5. Issues an approval to proceed to the Driver to pull the failed train back to depot to clear the platform blockage

8.2.5 Train Automatic Coupling (Electrically)

This procedure includes the electrical contact, which will enable the rescue train to activate the brake system on the failed train. The activation of electrical coupling shall be referred as Automatic Train Coupling.

Automatic train coupling ***shall not be carried* out** if the train is having or is experiencing:

1. Low Main Air Pressure (EB loop trip)
2. Flat batteries (Pantograph unable to be raised)
3. Fault 'A' (related to brake and pneumatic)

8.3 Pushing/Pulling of Trains

When a Driver reports that the train is unable to proceed under it's own power,

The LC/DC has to;

1. Instruct the rescue train to detrain passengers and baggage if applicable
2. Informed Rescue train the location of the failed train and prepare for coupling procedure
3. Refer to coupling procedure, ***clause 6.8***

After the trains are coupled and the brakes of the stalled train are released ***the LC/DC has to;***

1. Received report from the Driver that train is ready to push/pull the failed train to the designated area
2. Instruct the Driver to push or pull the train to the nearest station or back to depot to clear the line blockage
3. ***The LC*** informs the OSS of the following station to ensure the safety of passengers on the platform, and to inform the passengers not to board the train if the trains have to stop at a station

8.4 Uncoupling of Train on Main Line

Once the rescue and the stalled trains is ready to depart from the location. The OCS will arrange the (temporary) stabling of train at the nearest station loops if necessary to clear the line blockage. For uncoupling procedure please refer to **clause 6.9** (Uncoupling of trains)

8.5 Baggage Transfer for Stranded Train

In the case an Ekspres train in direction to KLIA 2 is stranded and after completion of the train to train evacuation, the OCS has to arrange for the baggage to be transferred to KLIA as soon as possible, in this case the OCS has to identify the location of the stranded train.

If stranded between KLS and Km 7.2*;*

The LC has to;

1. Arrange for the rescue train to pull the stalled train to KLS platform 3
2. Inform CSM to make arrangement with baggage handler to standby at platform to unload the baggage from the failed train
3. Instruct the rescue train Driver to stop at the baggage stopping point (Parallel to Ekspres stopping point)
4. Instruct OSS to open baggage compartment train door (via external latch) on the platform side for the unloading of the baggage container of the failed train
5. Upon completion of the unloading, instruct rescue train Driver to push stalled train up to the stopping point in direction to KLIA 2.

If stranded after Km7.2 toward KLIA 2

1. Arrange for a rescue train to pull the failed train to next station to unload the baggage container
2. Informed CSM to make arrangement with baggage handler to standby at selected the station.
3. Instruct the Driver of the failed train to communicate with the Driver of the rescue train to guide on the stopping point
4. CSM and Baggage handler to offload baggage from the failed train
5. Arrange next available train to stop at the station to pick up CSM, baggage handler and baggage onboard to KLIA.

REMINDER

SHOULD A TRAIN STALLED BETWEEN KM0.2 AND KM7.2 ON TRACK 2 OR 3, THE RESCUE TRAIN HAS TO APPROACH AND COUPLE THE FAILED TRAIN FROM KLS DIRECTION

8.6 Passengers Evacuation

If a train is stalled on the mainline and it is not possible to move the train to the next station, evacuation of passengers will be the first priority and must be carried out as soon as possible. The passengers have to be transferred to the rescue train. The OCS shall decide on how the passengers have to be evacuated.

Depending on the situation ***the LC has to***;

1. Perform train to train evacuation to another train from the adjacent track by the use of evacuation ramp
2. Maintain Operations on the non-affected area

3. Make announcement to all Drivers and Station staff on next OCC alternative service in accordance to OPS Service Disruption Coding
4. Instruct Driver to make an announcement to the affected passengers
5. Inform RST all available information about the failure

8.6.1 Train to Train Evacuation

The LC has to;

1. Receives the report from the failed train
2. Possess the track section that is occupied by the failed train
3. Informs the Driver that the passengers will be detrained through the side ***door behind the Driver's cab (23/1 or 23/2)***
4. Instruct the OSS of the relevant station to prepare the evacuation ramp for the rescue train
5. Assign the most suitable train to be use as rescue train
6. Inform the Driver that he will be the rescue train and to collect the evacuation ramp at the next station
7. Get confirmation from the OSS that he already boarded the rescue train to assist Driver for the evacuation process
8. Inform the Driver of the failed train from which direction the rescue train will approach
9. Get confirmation from the Driver of the rescue train that all passengers have been transferred and the train is ready to depart

8.6.2 Train to Ground Evacuation

In the event of train stalled at the mainline, where train to train evacuation is not possible or immediate evacuation is required, OCC to consider to perform train to ground evacuation. Possible reason that train to ground evacuation;

1. Train is on fire
2. Loss of OCL power and power could not be resume in the shortest time i.e OCL snapped
3. Wide gap between 2 tracks. i.e train stranded while approaching terminal station
4. Track condition/geometry where installation of evacuation ramp is not possible.

Train to ground nearby the Station.

The LC has to*;*

1. Possess the track section
2. Instruct the Driver to make an announcement to all passengers with regard to the evacuation plan and to do a headcount
3. Instruct the nearby Station OSS to assist the evacuation
4. Stop approaching trains on the adjacent track from entering the evacuation section if required
5. Instruct the EC to call the Emergency Services, if required
6. Instruct the OSS to install the earthing devices if de-enegization of OCL if required

7. Start train to ground evacuation after get confirmation OSS already at site to assist Driver and lead the passengers to the Station
8. Receive confirmation from OSS that all passengers already clear from track and reached Station before re-open track for train Operations if possible.
9. Get the headcount of affected passengers

8.7 Train Failures

In general, the Train failures or irregularities will be indicated by the fault message on the DDU. Where the situation requires a temporary stabling of the train on the line, ***the LC/DC has to***;

1. Informs the RST supervisor
2. Assigns the place where the train shall be stabled temporarily
3. Inform the Driver to stay onboard the train, or how they have to leave the train after the train is secured

8.7.1 Failure of Dead Man Device

In case of Dead man device failure reported by the Driver, the OCC has to advise the Driver the following;

1. Instruct Driver to break the toggle seal and bypass the “Dead-man Control” and “Emergency Brake Loop” and proceed to the nearest station (speed limited by train system to 30km/h)
2. Instruct OSS of the relevant station to standby with the train keys at the platform
3. Instruct OSS to enter the rear cab to break the toggle switch seal and bypass “Dead-man Control”
   > ***For ET– 02 no requirement for OSS to bypass “Dead-man Control” switch in the inactive cab***
4. Instruct the OSS to join the driver in the active cab
5. Receive information from the Driver that the OSS is in the active cab and have been briefed on the method of stopping the train in case of an emergency
6. Make arrangement to replace the next departure of the failed train

REMINDER

OSS IS NOT ALLOWED TO DRIVE THE TRAIN. IF DRIVER UNCONCIUOS WHILE DRIVING, OSS WILL STOP THE TRAIN AND MAKE ANNOUCEMENT TO PASSENGER TO AVOID PANIC UNTIL RESCUE ARRIVE

8.7.2 Train Passenger Door Failure

In case a Driver report a passenger door/ramp failure,

The LC has to;

1. Instruct the Train driver or OSS to isolate the failed door
2. Confirmed with the Driver/OSS the isolation status
3. Instruct the Driver or OSS to paste the “Out of Order sticker” at the failed door

4. Confirmed with the Driver message on DDU either,

   For **ET-01**

   - "one or several doors are locked"
   - "Door Malfunctioning"
     - Continue in service

   For **ET-02**

   - Door locked message pop-up "Door XX/X Door Isolated" appears in DDU home page
   - The isolated door indicates yellow colour at DDU [side 1 or side 2]
     - Continue service and replace the train at earliest possible

If the Driver reports that 'door open' indicator remained blinking and no traction available or Door isolation time taken is **more than 10 mins**, ***The LC has to***;

1. Cancels trip and evacuate the passenger to board the next following / available train
2. Instruct the Driver to bypass the train door loop toggle switch
3. Instruct the Driver to move the train (without passenger) to the next station/Depot to clear the platform blockage

8.7.3 Broken Window (Outer layer)

In the event of broken window glass (outer layer), ***the LC has to***;

1. Confirm the severity of the damaged with the Driver/OSS
2. Instruct the Driver/OSS To isolate the door nearest to the affected area and cordon the area
3. Instructed Driver to drive as per normal line speed
4. Replace train at the terminal or the earliest possible
5. If the inner layer is also affected, ***refer to clause 8.7.3.1***

8.7.3.1 Total Shattered / Both Layers

In the event of both windows or train door glass are totally shattered or broken with a hole, ***the LC has to***;

1. Confirm the severity of the damages with the Driver / OSS
2. If the damage is detected at the terminal stations:
3. Cancel the trip and arrange for a replacement
4. If the damage is detected while train is in motion:
5. Instruct Driver to make an announcement on board train to advise passengers to move away from the affected area
6. Instruct Driver to reduce speed to 120km/h to minimize the damage and to ensure safety to the passengers
7. Stop at the next station

8. Instruct Driver/OSS to isolate the door nearest to the affected area and cordon the area
9. Replace the train at earliest possible

8.7.4 Air Spring Fault

In the event of the Driver report of an Air spring fault failure, ***the LC has to***;

If Air Spring Failure is detected while train is in motion;

1. Receive report from the Driver on the status of the failure via the DDU ("air spring fault') and Fault 'B' indicator is illuminated
2. Instruct the Driver to continue journey with maximum speed of 110km/h
3. Make arrangement to replace the next departure of the failed train
4. Inform the RST Supervisor

If Air Spring Failure is detected at terminal station;

1. Receive report from the Driver on the status of the failure via the DDU ("air spring fault') and Fault 'B' category indicator is illuminated
2. Cancelled the affected trip and advise the Driver
3. Make arrangement to replace the next departure of the failed train
4. Inform the RST Supervisor

8.7.5 Failure of Speedometer

There are 2 types of speedometer installed in the drivers cab i.e. a digital and an analogue type. If any one of the speedometers is having a failure, Driver will proceed according to Normal Operations. ***The LC has to***;

1. Inform the RST supervisor for advise
2. Make arrangement to replace the train at the terminal or the earliest possible

8.7.6 Malfunction of one Driver Display Unit (DDU)

In the event of Driver reported one (1) of DDU malfunction,

The LC has to;

1. Instruct Driver to continue journey and observe the following indicators:
2. Fault A, B, & C indicators (illuminates if there is fault)
3. Passenger Emergency Brake Unit (illuminates if activated)
4. Door open (illuminates if door is not fully closed)
5. Dead-man Control (illuminates if not activate by Driver)
6. Door close/open command button (illuminates if door in close or open position)
7. Parking Brake 'apply & release' command button (illuminates if brakes apply/release)
8. Consult the RST supervisor for advice
9. Make arrangement to replace the train at the terminal or the earliest possible

8.7.7 Pantograph Failure

In case the Driver reports of a Pantograph failure and power supply to the train is lost,

The LC has to;

1. Instruct Driver to coast train and stop at the next station platform
2. Inform the RST supervisor for advice
3. Instruct RST supervisor to communicate with Driver if necessary
4. Make arrangement to replace the next departure of the failed train
5. Make arrangement for the failed train to be coupled back to depot if unable to resolve the failure

8.7.8 Passenger Emergency Door Release (PER) Activation

When PER is operated, the door will open approximately 10 cm. The “Door Open” indication will flash intermittently on control panel and message Door Malfunction will be indicated on the DDU. Traction will be not available once ‘PER’ is activated.

The LC has to;

1. Instruct Driver to Inform passengers that train will stop immediately
2. Request OTD to respond to passenger via passenger emergency intercom
3. Check situation in the train
4. Instruct Driver to reset PER after solving the problem and restore to Normal Operations

REMINDER

FOR ET-02 E/B WILL BE ACTIVATED

FOR ET-02, IN ADDITION TO THE ABOVE 4 STEPS, THE DRIVER HAS TO RESET ‘PER’ HANDLE MANUALLY AND TO OPEN DOOR OVERHEAD PANEL TO RESET SERVICE BUTTON.

8.7.9 Passenger Emergency Brake Unit (PEBU) Activation

The **PEBU** is installed at all passenger train doors of the Ekspres and Transit trains to enable passengers to stop the train in case of an emergency.

If a PEBU is activated,

1. Train will experience an EB
2. Fault message (EB loop has tripped) and (passenger emergency brake activated) is indicated on the DDU
3. PEBU indicator is illuminated

***The LC has to*;**

1. Instruct Driver to request passenger operating the PEBU to respond via passenger emergency intercom
2. Checks the status

3. Instruct Driver to override the PEBU switch and proceed to the nearest station (Max speed restricted to 80km/h)
4. Instructed Driver to reset PEBU after solving the problem at next station

8.7.10 Brake Failures (Fault 'A' category)

In the event the LC/DC received report of an unknown fault 'A' such as:

1. Brake not released but trains speed is normal
2. Any other brake failure except Bogie locked

If the fault message appears at the terminal station,

The LC has to;

1. Instruct the Driver to stop the train immediately or not to move if the train is at platform
2. Cancelled the affected trip and disembark the passengers
3. Inform the RST supervisor of the situation

If the fault message appears while train is in motion,

The LC has to;

1. Instruct the Driver to stop the train immediately
2. Inform the RST supervisor of the situation
3. Instruct Driver to prepare for train to train evacuation
4. Arranged rescue train to pull the failed train to next terminal to unload the baggage if any or route the train back to Depot
5. Make arrangement to replace the next departure of the failed train if possible

8.7.10.1 Fault 'A' (Bogie locked)

In the event the LC/DC received a report of fault 'A', with DDU fault message "**Bogie Locked Car 100" or "Bogie Locked Car 200" and "Parking or service brake pressure low"**,

the LC has to;

If the fault message appears at the terminal station;

1. Cancelled the affected trip and disembark the passengers
2. Make arrangement to replace the next departure of the failed train if possible
3. Inform the RST Supervisor

If the fault message appears while train is in motion;

1. Instruct the Driver to stop the train immediately
2. Instruct the Driver to change ***ATP braking curve to 39%*** (**Code 3**) in the ATP MMI
3. Check with the Driver that the Main Reservoir (MR) needle is above 9 bars
4. Set the route to the next station (loop track)
5. Instruct Driver to drive the train at speed not more than 80km/h, or in accordance to the ATP line speed, whichever is the lowest
6. Instruct Driver to exercise early braking assuming the train has only half of the braking rate

7. Instruct Driver to stop the train at the next station for passenger's evacuation

Once arrived at the next station;

1. Instruct Driver to disembark the passengers
2. Instruct Driver to drive the train at speed not more than 80km/h, or in accordance to the ATP line speed, whichever is the lowest
3. Instruct Driver to exercise early braking Instruct Driver to proceed until next terminal to unload the baggage if any or route the train back to Depot

8.7.11 Failure of Master Controller Brake

In case LC/DC receives report that Master Controller malfunctioned, ***The LC has to***;

1. Instruct Driver to coast to the nearest station, if master controller traction force failed
2. STOP the train using the "EMERGENCY STOP BUTTON", if master controller braking force failed
3. Instruct Driver to change cab and proceed back to the station, if train stop in between stations
4. Make arrangement to replace the train at next terminal
5. If failure of master controller at both driver's cab, instruct Driver to prepare for train to train evacuation

8.7.12 Headlight & Taillight

Failures on one of the train headlight / upper beam or taillight during daytime does not directly affect train operations, however failure of total train headlight or taillight is a safety concern especially during night or low visibility.

8.7.12.1 Failure of ONE Train Headlight & Tail light

DAY TIME

When the LC/DC received report failure on one of the headlight / upper beam or taillight, ***the LC/DC has to;***

1. Instruct the Train Driver to confirm the failure when changing cab at terminal station
2. Inform the RST supervisor
3. Make arrangement to replace the train when spare train is available

8.7.12.2 Failure of ONE Train Headlight

NIGHT TIME

When the LC received report failure on one of the headlight / upper beam, ***the LC has to*;**

1. Instruct Driver to drive the train with a maximum speed of 80km/h until next terminal
2. Instruct the Driver to confirm the failure when changing cab at terminal station
3. Advise PICOP at site if any (train with only one headlight)
4. Inform the RST supervisor
5. Terminate the service if confirm one of head light/upper beam malfunction on both cab

6. Make arrangement to replace the train at next terminal (if the next cab headlight is still functioning as normal)

8.7.12.3 Failure of TOTAL Train Headlight or Taillight

When the LC received report a total failure of headlight/upper beam or tail light, ***The LC has to*;**

DAY TIME

1. Instruct Driver to check and confirm the failure when changing cab at terminal station
2. Make arrangement to replace the train when spare train available
3. Inform the RST supervisor

NIGHT TIME

1. Cancel the trip if train is still not departed from Terminal
2. If train already depart from Station
3. Instruct the Driver to drive the train with a maximum speed of 40km/h until next Station and to check and confirm the failure
4. If confirmed both headlight and upper beam malfunction;
5. Terminate the service and instruct the Driver to evacuate all passengers
6. Make arrangement for the following train to rescue passengers
7. Make arrangement to replace next departure of the failed train

8.7.13 Loss of Interior Lighting

During total loss of train lighting during nighttime, passengers will be evacuated at the nearest station and train will be withdrawn from service. When lighting of a train is partially lost,

***The LC has to*;**

1. Instruct Driver to advise passengers to move into another part of the train where lighting still exists, if possible.
2. Inform the RST supervisor for advice
3. Make arrangement to replace the next departure of the failed train

8.7.14 Failure of Air Conditioning System

Failure of the air-conditioning system will affect comfort of the passengers but do not directly affect the safety of the passengers.

***The LC/DC has to*;**

1. Inform the RST supervisor for advice
2. Instruct the RST supervisor to communicate with Driver if necessary
3. Make arrangement to replace the next departure of the failed train
4. Instruct the Driver to make an announcement to passengers that the effected car, air-con is not available

8.7.15 Train In Redundancy Mode

In the event of train having 400v redundancy mode failure, train's speed will be restricted to a maximum of 110km/h only and the air condition system for the whole train will be not available. Only ventilation and blower are in operation (no cooling). OTS/OSS will be instructed to board the affected train for opening/closing the flap window.

If the failure occurs before train depart from terminals. (KLS, KLIA or KLIA2)

The LC has to;

1. Instruct the OTS to be on-board if the failure occurred in KLS
2. Instruct the OSS to be on-board if the failure occurred in KLIA or KLIA2
3. Instruct the affected Train Driver to make an announcement to passengers that air-con is not available
4. Instruct the OSS/OTS to unlock and open all the flap window
5. Instruct all OSS at intermediate station to make an announcement to passengers at platform that the arriving train air-con is not available

If the failure occurs after an Ekspres train depart from Terminal station,

the LC has to;

1. Instruct the affected Train Driver to make an announcement to the passengers that air condition is not available
2. Instruct the affected Train Driver to make an announcement that train will stop at PJS
3. The Train Driver to make an announcement to passengers that air-condition is not available and for those who wish to disembark from train could take the next available train
4. Instruct PJS OSS to make an announcement to passengers at platform not to board the train
5. Based on OSS feedback, make arrangement for the next Ekspres train to fetch the affected passenger if any

If the failure occurs after a Transit train depart from Terminal station,

the LC has to;

1. Instruct the affected train to make an announcement to the passengers that air condition is not available
2. Instruct all OSS at intermediate station to make an announcement to passengers at platform that the arriving train air-con is not available

REMINDER

IN THE EVENT OF TRAIN FAILED (STRANDED) AND AIR CONDITIONING SYSTEM ALSO NOT AVAILABLE ***MORE THAN 10 MINS*** LC/DC SHALL INSTRUCT THE DRIVER TO OPEN THE FLAP WINDOW

OPENING OF FLAP WINDOW WILL BE DONE SUBJECT TO WEATHER CONDITION I.E HEAVY RAIN, HAZE.

8.7.16 Train PA System Failure

In case of train's PA system failure, ***the LC has to*;**

1. Inform the RST Supervisor
2. Instruct Driver to make the necessary announcement manually
3. In case of a total loss of the PA system onboard:
4. Instruct the relevant OSS to make the necessary announcements at platforms by the use of loudhailer.

8.7.17 Failure of Bogie Set

The following failures of the bogie set have to be considered:

1. Hot axle boxes,
2. Brake rigging defect resulting in dragging brake
3. Broken or damages to bogie frames, etc
4. Flat Wheels

WARNING

DRAGGING BRAKE ACCORDING TO THE RST MANUAL IS A FAULT 'A' FAILURE, STOP THE TRAIN IMMEDIATELY

In case of LC receive report from Driver that train having Wheel Slip / Slide Protection,

For ET-02,

1. Pre alarm warning & warning buzzer triggered, when temperature exceeded
2. DDU will display message and train will run with restricted speed limit

The LC has to;

3. Instruct the Driver to stop at the next station
4. Inform the RST Supervisor for advise
5. Ensure the failed train shall not be routed through the diverging track
    - If Ekspres train approaching KLIA, The train shall be routed to platform B instead of normal platform A
    - If Transit train approaching KLS, the train shall be routed to platform 1 (arrival platform instead of normal platform 2

Instruct the Driver or OSS to check train bogie at station for any sign of the following;

1. Smoke or fire,
2. Burning smell,
3. Glowing parts,
4. Strange noise
5. Flat wheels

In case of the above defect detected,

The LC has to;

1. Inform the RST supervisor for advice

WARNING

TRAIN WITH BOGIE SET FAILURE SHALL NOT BE DRIVEN BACK TO DEPOT WITHOUT PYSICALLY INSPECT AND CONFIRM BY RST IT IS SAFE TO DO SO

8.7.18 Failure of Baggage Compartment

In case of a baggage compartment failure,

***The LC has to*;**

1. Inform the RST supervisor
2. Consult with RST Supervisor whether the train to be taken out of service or to continue journey
3. LC to ensure no container loaded into the compartment before sending train back to Depot

If the train will remain in service;

1. LC to advise CSM and OSS that no container to be load into the respective train

8.7.18.1 Baggage Locking Mechanism Failure

In case Driver reported one of baggage container locking mechanism faulty was not properly locked, ***the LC has to;***

1. Instruct the train to stop at the next station
2. Instruct OSS to check and secure the container if possible or remained on board inside the baggage compartment until the next terminal

8.7.19 Main compressor MCB tripped

In case LC receives report from Driver informing that Main Reservoir (MR) air pressure dropped and "**Main Compressor MCB Tripped**" message appears on DDU,

The LC has to;

1. Inform RST Supervisor
2. Give approval to Driver to communicate with RST Supervisor
3. Monitor situation and communication between Driver and RST Supervisor
4. Receive advise from Driver or RST Supervisor
5. Whether the train may continue journey to terminal; or
6. Stop at the nearest intermediate station
7. Arrange for swapping or prepare for evacuation of passengers
8. Advise Driver to make proper onboard announcement

8.7.20 Traction Power Failure

If the traction power fails when a train is in a station and the traction power cannot be restored immediately, ***the LC/DC has to;***

1. Instruct Driver to detrain the passengers.
2. Inform RST Supervisor
3. Make arrangement to replace the next departure of the failed train if possible

If the fault message appears while train is in between Station;

The LC/DC has to decide whether to instruct the Driver to coast to the next station or to stop immediately (if the train has just started moving away from a station).

If train has come to a standstill between stations;

***The LC has to*;**

1. Inform RST Supervisor
2. Prepare for evacuation of passengers
3. Arranged for coupling procedure
4. Make arrangement to replace the next departure of the failed train if possible

8.7.21 ET 02 VCB / TCU / APC Failure

In the event of TPSS power tripped and train ET 02 is unable to normalize the main switch due to Vacuum Circuit Breaker (**VCB**) / Traction Control Unit (**TCU**) / Auxiliary Power Converter (**APC**) Failure, Isolated and Off. ***The LC has to;***

1. Inform RST supervisor
2. Instruct Driver to coast and stop at next station
3. Instruct Driver to reset main switch [Affected TCU or APC]
4. If failure persist, inform RST Supervisor and prepare for passengers' evacuation

REMINDER

RE-SETTING OF TCU & APC ONLY CAN BE EXECUTED WHEN TRAIN IS STANDSTILL

8.7.22 ET 02 Brake Test Expired

In case of a train **ET-02** reported fault message brake system self-test activated [reminder and/or expired], ***the LC has to;***

Brake – Fault 'A' due to brake system self-test - REMINDER

1. Instruct the Driver to stop the train immediately
2. Inform RST for advice
3. Receive instruction from RST to perform brake system self-test
4. Make an announcement to passengers due to train technical stop

Brake – **Fault 'C'** due to brake system self-test - **EXPIRED**

If train at platform;

1. Instruct the Driver to perform brake system self-test
2. if success continue journey
    - If brake system self-test fail, Instruct for passengers evacuation
3. Make arrangement for a spare train (if available) to cover the next departure from next terminal

if train in motion;

1. Make arrangement for a spare train (if available) to cover the next departure from next terminal
2. Instruct Driver to proceed to the next station and perform brake system self-test,
    - if success continue journey
    - if brake system self-test fail, Instruct for passengers' evacuation

REMINDER

BRAKE SYSTEM SELF-TEST REMINDER: FAULT MESSAGE APPEARS WHEN THE BRAKE SYSTEM SELF-TEST HAS NOT BEEN PERFORMED SUCCESSFULLY FOR ***MORE THAN 26 HOURS***.

(ENSURE THE MRP READING IS MAINTAINED ABOVE 9 BARS BEFORE INITIATING BRAKE SELF-TEST)

REMINDER

BRAKE SYSTEM SELF-TEST EXPIRED: FAULT MESSAGE APPEARS WHEN THE BRAKE SYSTEM SELF-TEST HAS NOT BEEN PERFORMED SUCCESSFULLY FOR ***MORE THAN 24 HOURS*** OR WHEN THE TRAIN IS RESTARTED

8.7.22 Transit ET 02 train "Bogie Overloaded"

In the event of Transit Driver reported "Bogie Overloaded" fault message after train departed from STS, ***the LC has to;***

1. Make arrangement for the affected train to be routed and stop at PCS platform 1
2. Instruct OSS to make an announcement that the arriving Transit Service will be diverted to platform 1

NOTE

REASON OF THIS ACTION IS DUE TO TRACK GEOMETRY (SLANTING) AT PCS STATION THAT WILL CAUSE A BIG GAP BETWEEN TRAIN RAMP AND PLATFORM EDGE IF ET 02 TRAIN STOP AT PLATFORM 2

8.8 Signaling Failures

The TMS system provides reports about these failures as message texts screened on the TMS in the Message Manager Window. The controllers immediately report these message texts to the SIG Technician.

8.8.1 Point Detection Missing

In the case where fault message of 'Point's detection missing' appear in the TMS screen, the ***LC/DC has to;***

1. Disabled ARS for main signal approaching the failed turnout
2. Operate the turnout individually to the left and right position
3. Test them twice for each position

If detection is available, enable back ARS**.**

If the LC / DC does not succeed in operating the turnout, the following steps should be taken:

1. Instruct OSS to scotch the turnout to the required position
2. Prepare for the bi-directional Operations
3. Inform SIG Technician

This action is necessary to reduce the delay time or to minimize cancellation in the case of the above failure.

REMINDER

OSS SHALL TAKE POSSESSION THE FAILURE SECTION FROM OCC PRIOR ENTERING THE STRUCTURAL GAUGE

8.8.2 Scotching of Turnout

If the turnout detection still missing, the LC/DC instructs the **OSS** or SIG Technician to scotch the turnout and provides the following information below:

1. Turnout number
2. Location of turnout
3. Position required

After receiving the report that the turnout is scotched, ***the LC has to;***

1. Confirmed the turnout final position is correctly detected in TMS
2. Unlock track section,
3. Issues a verbal 'Approval to Proceed', to the Driver to pass the scotched turnout with max speed of 25 km/h
4. OCS to make an entry in SAP of this activity

LC/DC shall not allow movement over a failed turnout if;

1. No detection is available and yet inspected on site by authorised personnel

2. Used in facing direction and not scotch by a manual point lock
3. Total failure of interlocking and turnout is not secured by manual point lock

NOTE

MOVEMENT OVER A TURNOUT IS RESTRICTED TO A MAXIMUM SPEED OF **25KM/H** WHEN THEY ARE SECURED WITH MANUAL POINT LOCK BUT "DETECTION MISSING" MESSAGE STILL APPEAR IN TMS

8.8.3 Point to be 'Reset after Trailed'

When 'Point trailed' fault message appear on TMS, ***the LC/DC should***;

1. Inform the SIG technician and OSS (if at station area) to check the turnout
2. Receive the report about the condition of the turnout
3. Obtained confirmation from the SIG technician or OSS that turnout blade has reached the end position
4. Reset after trail on TMS
5. Verify the position of the turnout reported at by SIG/OSS at site is in the same position indicate in the TMS
6. Operate the turnout to the other position to confirm that the turnout is in good working condition
7. Instruct to scotch the turnout with a manual point lock, if required

8.8.4 Track Occupation

The signaling system is provided with an Uninterrupted Power Supply (UPS) for a minimum of 60 minutes and to backed up with power generators. In case of a power loss the signaling system will be supported by back up batteries. After few minutes the generator starts and supplies the system.

After a loss of power to the signaling interlocking, track sections are indicated as occupied. The LC is responsible to provide safe train movements.

After failures of the vital signaling system the LC/DC cannot assume that the track section is free from trains or vehicles, e.g. after an OCL power tripped some axle counters indicate a track occupation. For the failure of axle counter the resetting procedure requires the use of a train or by signaling personnel from the interlocking room. (**Refer to clause 8.9**)

Should a LC/DC be doubtful or does not have any indication on his TMS, ***the LC/DC has to;***

1. Checked the track occupation indication in the TMS.
2. To check by a Control Train or by qualified personnel when assumed that the track section is occupied but not correctly indicated.
3. To check by a Control Train or by qualified personnel, when indicated occupied but assumed free.

8.9 Resetting of Axle Counter

8.9.1 Simple Reset

Before the LC/DC executes the command 'Reset Axle Counter' he has to ensure that

1. No train or vehicle is in the affected track section
2. After the 'Reset Axle Counter' command is selected,
3. Issue an 'Approval to proceed' and to drive 'on sight and under caution' to the Driver at location of the signal entering the occupied track section
4. Monitor the success of the command. The axle counter should be cleared, after the train has passed the occupied axle counter

8.9.2 Hard Reset

If the 'simple reset' fail and the section remain occupied, upon arrival of the signaling technician at the relevant interlocking room, ***the LC/DC has to;***

1. Inform the SIG technician of the number of occupied axle counters
2. Ensure no train or vehicle is in the occupied axle counters section
3. Request the SIG technician to pre-reset the axle counters
4. Receive information from the SIG technician, that he has pre-reset the axle counters
5. Operate command "Reset axle Counter" for the occupied axle counters
6. The axle counters will clear immediately after the execution of the command
7. If not successful, inform signalling technician

NOTE

SIMPLE RESET WILL BE SUCCESFULL FOR THE TRACK OCCUPANCY WITHOUT MAGENTA RING ONLY

8.9.2.1 KLIA 2 Hard Reset (Track occupied by a failed train)

In the event of a train failed and unable to move at KLIA 2 platform, the upcoming will be not able to enter the occupied section. In order to run train operation at the maximum capacity and highest safety possible, LC/DC shall attempt to clear the track occupation as the below procedure

1. Instruct the Driver to bypass the failed system if possible and to move their train as close as possible to the buffer stop
2. Receive confirmation from the Driver that vehicle has been stabled and standstill
3. OCS to imposed speed restriction to protect occupied section as below,
4. Set speed restriction in KLIA ATP MMI:
    - Position – 58140
    - Track – 1 (Track 15) or 4 (Track 45)
    - Length – 80m

- Speed – 0 km/h

5. Informed all Driver about the stabled vehicle and application of speed restriction
6. Advise SIG personal to reset the axle counter for the section occupied by the failed train
7. Instruct OSS to apply brake shoe and to erect the stop signal board – minimum one meter from the vehicle
8. Receive confirmation with OSS that brake shoes have been applied

8.10 Traffic Management System (TMS) Failures

8.10.1 TMS Workstation Failure

In case one of the TMS workstation failed, the OCS may assign the LC/DC to shift to the adjacent work station which still in operations. The LC/DC have to observe the fault messages and report to the SIG technician immediately.

8.10.2 Automatic Route Setting (ARS)

The ARS operated in accordance to the train timetable. In the event of Open Transmission Network (OTN) failure, the switching of OTN server will immediately take place. When this situation occurs, the effects are depending on the amount of information lost on the failed transmission link. The LC/DC may see the following affect on the TMS screen

1. Track elements belonging to certain interlocking areas will be displayed in magenta for a short time
2. Train numbers may get stuck
3. In cases where the ARS does not restore, the LC/DC has to set the routes manually
4. In case of failures of the ARS the TMS has to be operated manually

8.10.3 Failure of ARS

Should the main signal route is unable to perform, ***the LC/DC has to;***

1. Check for possible reason
2. Check all elements have been set
3. Sets the route again manually
4. If the route is still not performed the LC/DC has to:
5. Initiate a route calling manually
6. Ensure that all elements have been made safe either automatically, manually, or operationally
7. Check again that no element is missing
8. Issue a verbal "**Approval To Proceed"**, if necessary

8.10.4 ARS to be Disabled

LC/DC need to disabled the ARS if;

1. Signal cannot be set to a green aspect and a train has to pass with a verbal approval to proceed

2. Track section needs to be sleeved,
3. In order to avoid unintended train movements during bi-directional operation in a section
4. In case a train has overshoot a platform or signal and has to drive back. (in order to avoid the next train entering the affected section)

In case a route element fails, ARS will not perform automatically. LC/DC must ensure the preconditions for route setting has been full fill, before issuing a verbal “Approval to proceed”

Examples for Route Element Failures;

1. Axle counter occupied
2. Turnouts detection missing
3. Route setting not cleared

REMINDER

THE LC/DC SHALL ISSUE AN ‘APPROVAL TO PROCEED’ AT THE HIGEST POSSIBLE BY SIGNAL

8.11 TMS Critical Operations Command

Some failures necessitate critical Operations to the TMS. Before such critical Operation is executed the LC/DC must check if the critical Operation is absolutely necessary or can be bypassed by other mode of safe operation.

1. The LC/DC has to ensure that this Operation does not expose any danger or lead to a hazardous situation.
2. The LC/DC has to take operational measures in order to make such critical Operations safe and inform staff concerned accordingly.

NOTE

IF A CONTROLLER HAS DOUBT ABOUT SAFETY OF HIS CRITICAL OPERATION, HE MUST STOP HIS OPERATION AND CHECK OTHER SOLUTIONS OR CONSULT THE OCS

8.11.1 Operational Measures for Critical Operations Commands

Critical Operations of the TMS shall only be operated after all the necessary safety measure has been taken safeguarding this activity.

The reason for the execution of critical Operations shall be recorded in the TMS sleeve Text.

REMINDER

ALL SLEEVES SET BY LC/DC IN THE TMS MUST BE ATTACHED WITH A SLEEVE TEXT

8.11.2 Cancel Sleeve to the Signals (Unlock Signal)

Before a signal is unlocked, ***the LC/DC has to;***

1. Check the reason of sleeve are no more required
2. Track section has been confirmed as free by a Control Train
3. Ensure that no Maintenance or OPS (TPR) is active in the locking track

8.11.3 Cancelling Sleeve to the Track Section (Unlock Track)

Before a LC/DC unlocks a track section for route setting, ***the LC/DC has to;***

1. Ensure that no Maintenance or OPS (TPR) is active in the locking track
2. Ensure that no train proceeds unintentionally
3. Set the access signal to stop, if required
4. Certify that the next train receives the correct route setting
5. Set the required route manually, if required
6. Inform the relevant Driver accordingly, if required

8.11.4 Cancel Sleeve to Points (Unlock point)

Before a point is unlocked against switching (Cancel Sleeve) ***the LC/DC has to;***

1. Ensure that no Maintenance or OPS (TPR) is active in the locking point
2. Set the access signal to stop, if required
3. Ensure that the unlocking Operation does not impair other Operations
4. After Maintenance work the controller should confirmed point status and may be instructed maintenance staff to confirm the position of the point monitored on the TMS and the position on site

8.12 ATP Local Panel.

There are 6 ATP panels placed in OCC that represent 5 stations and Crossover. OCC shall check and log any speed limit imposed in the relevant ATP panel before activate ATP local control command.

8.12.1 TMS ATP Local Control Command

To switch ATP to Local Control, **the LC/DC has to*;***

1. Open the ‘Detail View Window’ for the mention station and,
2. Select the station name icon to see a drop down menu
3. Select ‘More’
4. Select ‘ATP Local Panel On’

When the activities by the Qualified Employee/ Contractor completed, OCC must be advised. They have to ensure the Local Control is return to remote and must advise for any speed restriction set locally.

To regain the control of the ATP, ***the LC/DC has to;***

1. Open the 'Detail View Window' for the mention station and,
2. Select the station name icon to see a drop down menu
3. Select 'More'
4. Select 'ATP Local Panel Off'
5. Record the time Remote Control is enable in the OCC Journal
6. Check the speed limit that previously has been imposed has been restored
7. Select the station name icon to see a drop down menu
8. Select 'Set Remote Control'

8.13 Interlocking Failures

Interlocking failures shall be handled according to the various control levels. The LC/DC receives TMS information of the level still available. Under extreme cases where the interlocking is in total failure where safety of operations is not guaranteed, the movement of trains is handled from signal to signal and the train cannot pass any facing turnout unless the turnout has been secured by manual point lock.

8.14 Automatic Through Routing (ATR)

ATR system is a contingency plan in the event of a communication failure between the Interlocking and TMS. The system will automatically operate when the communication is lost to the interlocking. When ATR is in operation, Station (KLS and KLIA) ATR "GO" switch light will be illuminated.

The LC/DC has to;

1. Inform OTS, Driver and OSS about activation of ATR
2. Supervise the location of all trains and communicate using the train number and NOT by Call sign
3. Inform Driver to activate ATR switch at home signal
4. To advice Driver / OTS on departure times for trains departing station

NOTE

OSS TO OPERATE THE ATR "GO" SWITCH AT DEPARTURE PLATFORM.

NO ATR SWITCH AVAILABLE AT KLIA T2

8.15 ATP Failures

The ATP is an established fail-safe system so that right side detection or failures lead always to an emergency braking. In the event that train reported having ATP failure, below technical guideline shall be referred

8.15.1 Technical Guideline for OCC: ATP Disturbances

No	Fault Message	Reason	Action
1	Antenna 1 (or 2) defective	ATP antenna defect	Inform SIG technician
2	Cold reboot	Computer cold reboot	
3	**Magnetic Receiver**	Magnetic receiver faulty	
4	**Computer off**	1 or 2 ATP computer automatic switch off	
5	System abort	Internal faulty	
6	Line data wrong	No data/telegram transmitting	
7	**Wheel sensor 1 (or 2)**	Wheel pulse generator faulty	
8	Cab off	Cab “not occupied” during journey	* Switch master off and On again * Acknowledge ATP configuration * Release EB
9	**No telegram**	No data/telegram transmitting	Refer clause 8.15.3
10	**ZSI sector 0**	Trainborne ATP loss of position	
11	**Position?**		
12	Data missing		
13	**Signal {name} stop**	Signal {name} in danger aspect, train may EB	
14	**Point {name} defect**	Point {name} defect, not correct	
15	Point {name} stop		
16	**** ATP MMI Blank / No respond ****	Computer off ***Not a failure message***	Refer clause 8.15.2
17	Brake test	EB activated due to brake test	Release EB
18	**V-route**	Over speed	
19	**V-vehicle**		
20	V-depot		
21	Shunt end reach	Route not set, end of shunting area	
22	**Shunting not on**	Shunting mode not On	On shunting mode
23	**Train data**	ATP configuration / ATP train data not confirmed	* Switch Off master key and On again * Acknowledge ATP configuration by pressing [↵].

Bolded items are frequent or critical failures

8.15.2 Train ATP MMI total Malfunction

Indication:

Train comes to a complete stop without an Emergency Brake indication on MMI (LED 'E' not lit)

Instruction to Driver;

1. Check fault messages on ATP MMI (Press 'F' button)
2. Fault message shall appear on ATP MMI
3. **If no ATP fault**, MMI shall display, "***Current Limit***" text message

If No text displayed;

1. Instruct Driver to press "P" button
2. ATP MMI should show 'KM position'

If no text displayed it's indicated that the ATP MMI is total malfunction

1. Reset ATP MCB in the leading (active) cab [Note: ATP needle remains/drop to 0km/h]
2. Check if "A" and "W" LED is illuminated after ATP MCB is reset

If YES;

1. Acknowledge train data
2. Instruct Driver to Proceed to the next OCL pole with max speed 80 km/h and provide new ATP position
3. If EB is activated due to any Signalling elements [signal or turnout), instruct Driver to override the elements (ATP MMI fault messages)
4. Proceed as per normal

If NO ("A" and "W" LED is not illuminated);

1. Repeat steps - Reset ATP MCB in the leading (active)
2. If still unsuccessful, prepare for passenger evacuation.

REMINDER

LC/DC SHALL INSTRUCT DRIVER TO OVERRIDE ANY SIGNALLING ELEMENT EVEN THOUGH THE SIGNAL / TURN OUT IS NOT RELEVANT TO THE TRAIN LOCATION

8.15.3 ATP Loss Position

Indication:

1. MMI LED indicator 'A', 'E', 'W' and 'F' is illuminated
2. ATP needle show '0' km/h
3. Receive info from Driver of fault message
   - disturbance no 1: ZSI sector 0
   - disturbance no 2: Position Deleted
   - disturbance no 3: Position

Instruct Driver to;

1. Release EB
2. Proceed to the next OCL pole with max speed 80km/h (ATP needle remain at '0'km/h)
3. Request OCL pole number from Driver
4. Provide the new position to Driver [refer to ATP Repositioning in case of loss of position ***Ref no; G00.OMO.M15110.ND.0014.****

NOTE

'F' LED INDICATOR ON ATP MMI REMAIN ILLUMINATED UNTIL TRAIN HAVE PASSED THE NEXT CALIBRATING MAGNET

8.15.4 Train borne ATP Loss Telegram

Indication:

1. Train will experience EB in front of a signal or turnout
2. Receive info from Driver of fault message
   - disturbance no 1: no telegram

Instruct Driver to;

1. Release EB
2. Override signal and/or turnout (facing/trailing) in the affected section.
3. Before instructing Driver to pass the facing turnout check that Driver has press either the left [4] or right [6] button via the ATP MMI.
   - After override signal, proceed with 40km/h up to the next signal.
   - After override the turnout, proceed with 20km/h when passing the turnout.

8.15.5 Failure of an Interlocking – OTN Failure

Indication:

Affected area will be in magenta but no magenta ring and sleeve on signals and Track sections. TMS will show fault message:

1. No connection to IXL
2. PLC no connection to neighbour PLC

Alarm will be triggered on SCADA indicated affected station RTU failed

ATR should be in operation:

1. Check position of trains in the affected area
2. Issue approval to proceed to the Driver to override the border signal if in danger aspect (entering and leaving border signals)
3. LC/DC shall instruct the Driver to proceed up to the Home signal
4. Driver shall receive proceed aspect at Station Home and Exit signal

NOTE

AUTOMATIC BLOCK SIGNAL SHALL OPERATED BASE ON TRACK OCCUPANCY AND NOT COVERED BY **ATR** MODE

If the Home signal is also in danger aspect OCC may consider that ATR is not functioning and shall refer to the procedure under clause **8.15.6 - Total failure of an Interlocking**.

8.15.6 Total Failure of an Interlocking – Interlocking Shutdown

Indication:

Affected area will be in magenta, all signals and track sections will be sleeved and with magenta ring. All signals within the affected area will be in **dark aspect (blank)**

Instructions to Driver/OSS:

1. Check position of trains in the affected area
2. Instruct OSS and/or Signalling staff to scotch all facing turnouts to mainline
3. Receive confirmation from OSS or Signalling staff that turnouts has been scotched to required position
4. Before instructing Driver to pass the facing turnout check that Driver has press either the left [4] or right [6] button via the ATP MMI
5. Approval to override signal and/or turnout (facing/trailing) in the affected section
    - After override signal, proceed with 40km/h up to the next signal.
    - After override the turnout, proceed with 20km/h when passing the turnout

Note: *OCC to confirm with Driver the turnout number and position before approval to override is granted.*

8.15.7 No Telegram

1. Receive information/report from Driver of the fault message (on ATP MMI)
   - Disturb nr1. No Telegram
2. Give approval to Driver to release the EB
3. Give approval to override signals or turnouts
4. Instruct Driver to drive on sight with 40km/h for overriding signal and 20km/h for overriding turnout (ATP needle would remain at 0 km/h)
5. Remind Driver to observe signal and turnout, as ATP train borne will assume all signals and turnouts in the particular loop as in danger aspect.
6. Repeat step 1 to 5 for any EB occurrences
7. ATP will resume normal after reach into next ATP loop
8. ATP needle will indicate the allowable line speed
9. Status of turnout and signal are back to normal

REMINDER

TRAIN OR VEHICLE SHALL NOT BE ALLOWED TO PASS ANY FACING TURN OUT IF NOT SCOTCHED BY MANUAL POINT LOCK

8.16 Telecommunication Failures

Telecommunication failures normally do not lead to immediate response as far as this system is redundant and does not impair the availability of the System itself.

Should the communication facilities of a train fail the OCS decides to withdraw such train after service has finished or during off peak hours possibly earlier, if a spare is available.

In case the intercom link is lost during pushing with another train, the train shall be pushed to the next station where the OSS has to support the correct stopping of the train.

Details can be found in the Operations Procedure for Communication and Signal Book ***Ref no; G00.OMO.M15114.NA.1002.****

8.16.1 Interruption of Communication

The LC/DC monitor the train runs. In case a LC/DC recognizes a train, which does not move on the Line according to Normal Operations and no report received from the Driver, the LC/DC has to call the Driver. If the Driver does not respond, the LC/DC instructs the Driver on the adjacent track to stop to check the situation and to report immediately.

The LC/DC may instruct OSS/OTS of the nearest station of the stalled train to supply the next possible Driver coming from the opposite direction with a hand portable radio.

8.16.2 Radio System Failure

The loss of the Radio system as a redundant facility does not impair System Operations directly. During Degraded Operations, in case of Radio system failed, the OCS shall instruct LC/DC to communicate with the Driver/OSS via their dedicated train/Station hand phone. For communication with station beside the dedicated hand phone The PABX system also could be use as another alternative.

8.16.3 Station PA System Failure

In case of a PA system at stations fails ***the LC/DC has to;***

1. Inform the TLE personal
2. Inform the relevant OSS
3. Instruct OSS to make the necessary announcement manually from station PA console

In case the PA system cannot be operated from Station console;

1. Instruct OSS to make necessary announcement manually from Platform PA

In case of PA system cannot be operated from Platform PA;

1. Instruct OSS to make necessary announcement manually by using the Loudhailer

8.16.4 Master Clock System

Failures of the Master Clock do not affect the availability of the System.

The failure will be reported to TLE for rectification.

8.17 TPSS Power Failure

8.17.1 TPSS Power Failure (Auto re-closed)

In the event of TPSS power tripped and auto re-closed, ***the LC/DC has to;***

For trains at Main Line;

1. Instruct all effected train to switch on back their main switch component in DDU

Stationary trains:

1. Instruct Driver to inspect for any failure message on train's DDU at stabling area
2. Instruct Driver to inspect for any failure message on train's DDU at KLS during night time stabling
3. Advise Driver of the affected train to switch on back their main switch component in DDU
4. Notify RST supervisor with about to the power tripped

REMINDER

NO MATTER IN WHICH AREA THE POWER TRIP OCCURS, OCC SHALL CHECK ALL TRAINS FOR ANY FAULT MESSAGE VIA TRAIN DDU

8.17.2 TPSS Power Failure (Manual Re-closed)

A loss of one TNB Main feeder normally does not causes serious impact. The TNB main (132 KV) will be restored by TNB. If any tripping occurs at the 132KV circuit breaker at TPSS (ERL A), the Senior Chargeman and the competent Engineer must be informed and further advise requested.

A total loss of traction power is a serious impact to the System Operation. After a partial or total loss of traction power the LC must ensure an orderly and safe restart of the System.

Before any attempt is made to restore the traction power supply via SCADA System, the EC must advise the LC to ensure all trains within the tripping area have lowered down the pantograph. Once the power is energized, the LC/DC can instruct the Train to lift up the pantograph.

If the EC declared that power is unable to restore, the OCS advise LC/DC to prepare for detraining or to initiate Alternative Train Operations. **(Clause 9.24)**

REMINDER

THE LC/DC SHALL INSTRUCT TRAIN APPROACHING THE TRIPPING AREA (IF ANY) TO STOP THE TRAIN IMMEDIATELY TO AVOID POSSIBLE EXTENSION OF DAMAGE IF POWER TRIP IS DUE TO OCL SNAPPED

8.17.3 TPS Power Trip Verification

In the event of TPS tripped more than one times within a 2 km distance, ***the LC/DC has to;***

1. Impose a speed restriction of 20km/h (100m) within the affected section
2. Instruct the following train to drive on sight and under caution and inspect any irregularities on the OCL
3. Instruct the Driver on the adjacent track to inspect any irregularities on the train pantograph for the train that just passed the trip section
4. Instruct the Driver that just passed the trip section to stop at the next station

5. Instruct the OSS to standby at platform and inspect any irregularities on the pantograph of the said train

8.17.4 Restoration of Power

The EC shall contact TNB for power restoration should the supply system fail. The OCS informs the EC of the action to be taken. The EC is responsible for a correct switching sequence and liaison with TNB. When traction power is restored the EC informs the LC/DC immediately. The LC/DC informs the Drivers about the power restoration. Therefore, Drivers have to be instructed to follow strictly the instruction issued in order to restore normal operation

The LC/DC is responsible for a safe restoration of System Operation and an orderly restart of train runs. If depot operation could affect Line operation, depot operation has to be stopped.

9 Operational Irregularities

Operational irregularities are irregularities, which are not caused by the System Operation, due to technical failures or other non-technical issues. The LC/DC in co-operation with the OCS decide upon proper response.

9.1 Accompanying Driver on Board Train

In case Driver reporting having health problem while driving,

The LC has to;

1. Instruct Driver to stop at next possible station
2. Instruct OSS to join Driver in active cab until next terminal
3. Receive information from Driver that the OSS is in the active cab and have been brief on the method to stop the train in case of an emergency (i.e Emergency stop Button)

9.2 Track Irregularities / Abnormalities

In the event OCC receives report of any track irregularities i.e., bouncing, unusual noise/sound, SPYTL trackwork has to be informed immediately. To safeguard train operations until the arrival of SPYTL personnel on site, the following procedures has to be followed:

1. Immediately block the affected track section and implement alternative train operations.
2. Instruct Driver on the adjacent track to **reduce speed to 40km/h** and observe for any visible obstacles in the said area and report back to OCC.
3. Wait for further instruction from SPYTL if the affected track section is safe for train operation.
4. Imposed speed restriction on OCC ATP MMI at the affected section as per advice by SPYTL if require.

WARNING

IN THE CASE SPYTL CONFIRMS THAT TRACK IS NOT SAFE FOR TRAIN OPERATIONS, OCC SHALL MAINTAIN TO BLOCK THE AFFECTED SECTION AND MAINTAIN ALTERNATIVE OPERATIONS UNTIL FURTHER NOTICE

9.2.1 Track Flooding

In case of OCC received a report possibly flash flood and water level rising up to a ballast toe, ***the LC has to;***

1. Instruct the subsequent train approaching the flood area to **reduce speed to 20km/h to observes water** and to stop the train if the water level is reached the ballast shoulder
2. Informed all relevant parties in accordance to Line of communication during service disruption, incident and accident, ***Ref no; G00.OMO.M15610.CI.1001***.*

9.3 Spark on Pantograph / OCL

In the event of OCC receives report of sparks on OCL/Pantograph, while train passing stations or track section, LC/DC has to confirmed with the Driver if any failure triggered on DDU.

If the Driver reported "Auxiliary converter failure' fault message on DDU;

1. Make arrangement to replace the train at earliest possible for further inspection at Depot
2. Instruct the Driver to stop at the next station
3. Instruct OSS at the next station to check,
4. Any spark from Pantograph while train approaching station
5. Any physical damage on Pantograph

If OSS *report either spark or damage on Pantograph*

1. Terminate service at the relevant station
2. Informed OCL team to investigate
3. To confirmed either faulty on OCL or Train
4. If confirmed defect on OCL
5. Blocked (possess) section from any train movement

9.4 Train Hit Un-known Object

In case of a train hit un-known object on mainline, ***the LC has to;***

1. Inform RST supervisor
2. Instruct Driver to observe the following items while in motion, on site or at terminal: -
    - Main reservoir pressure is not dropping
    - DDU fault message(s)
    - Visual damage(s) from the driver's cab [windscreen, side window and etc]
    - Instruct the subsequent train to reduce speed and inspect the hitting area
    - Receive advise and findings from RST supervisor/Driver on the status of train

NOTE

DURING AN EMERGENCY, TRAINS CAN EITHER BE STOPPED BY SETTING A SIGNAL TO 'DANGER' OR BY AN EMERGENCY CALL TO THE DRIVER

9.5 Platform Screen Door Failure

In case platform screen door (PSD) is not opening at Ekspres terminal platform (KLS and KLIA), ***the LC has to;***

1. Instruct OSS to assist Driver at platform
2. Inform Infra personnel
3. Receive information from OSS that all PSD are manually opened
4. Confirm the situation visually via CCTV

In case the PSD is not closed when trains is ready to depart from terminal station, ***the LC has to;***

1. Instruct OSS to assist Driver at platform
2. Inform Infra personnel
3. Receive information from OSS that all PSD are closed.
4. Confirmed the situation visually via CCTV
5. Give approval to Driver to depart as per signal indication

9.6 Baggage Clearance Signal Not Illuminated

In case of baggage clearance signal is not illuminated when train is ready to depart from KLIA platform, ***the LC has to;***

6. Receive report from the Driver
7. Instruct Driver to check visually via cab window for any obstruction before closing the doors
8. Instruct OSS to investigate the reason
9. Informed the relevant department if baggage signal is malfunction

In case of baggage clearance signal is not illuminated when train is ready to depart at Departure platform KLS or Arrival platform KLIA, ***the LC has to;***

1. Receive report from the Driver
2. Instruct OSS to investigate the reason
3. Receive info from OSS that loading process is completed
4. Gave approval to Driver to close the passenger's doors and proceed as per signal indication

9.7 Overrun of Stopping Point at Platform Screen Doors

Stations KL Sentral and KLIA are equipped with a Platform screen doors. The driver has to stop the train exactly at the stopping point.

In case a driver overruns the stopping point **more than one door**, ***the LC has to;***

1. Instruct the Driver to change cab and proceed back to the correct stopping point.
2. Instruct OSS to proceed to baggage area.
3. Receive info from OSS that train is safe for movement
4. Instruct the Driver to stop at the correct stopping point

REMINDER

IN CASE AN EKSPRES TRAIN OVERSHOOT A STOPPING POINT LESS THAN ONE DOOR, OCC TO INSTRUCT THE TRAIN DRIVER TO REVERSE THE TRAIN TO THE DESIGNATED STOPPING POINT

9.8 Train Overshoot the Platform (Transit)

In case a Transit train overshoot the platform **more than one door**:

The LC has to;

1. Receive report from the Train Driver that he has overshoot the platform
2. Instruct the Driver to change cab and proceed back to the correct stopping point.
3. Instruct OSS to standby and monitor passengers at platform
4. Instruct the Driver to stop at the correct stopping point

NOTE

IN CASE A TRANSIT TRAIN OVERSHOOTS, A PLATFORM BUT ALL PASSENGERS' DOORS ARE STILL WITHIN THE PLATFORM AREA, TRAIN DRIVER CAN OPEN THE TRAIN DOORS AS PER NORMAL AND TO CHECK VISUALLY THE PASSENGERS FLOW VIA THE CAB WINDOW

9.9 Handling Over Carried Passengers

If a passengers was over-carried to the reversing track, disembark at the wrong station, missing child, etc.

The LC has to;

1. Receive report from OTD or OSS
2. Inform OSS and CSM to standby at platform to attend and assist the passenger
3. Instruct the OTD to guide the passenger to the OSS for assistant
4. LC/DC shall get assistance from OTS on duty to attend the passenger from the OTD if the OSS and CSM at KLS are unable to present before the next schedule train departure

If the passengers refuse to disembark from the train that could cause delay to the train, LC shall allow train to depart as schedule and notify CSM for their further action

1. OCS to notify management in accordance Line information during service disruption, accident and incident
2. Log the event in the SAP

9.10 Providing Assistance to Passengers

If a passenger is injured while at station or on-board train.

The LC has to;

1. Verify with OSS / Driver If the passenger requires further medical attention, request for an ambulance or paramedics
2. Call Ambulance or other relevant parties for assitance as require
3. OCS to notify management in accordance Line information during service disruption, accident and incident
4. Log the event in the SAP

NOTE

LC TO ENSURE THAT TRAIN SHALL NOT DEPART FROM PLATFORM UNTIL THE PASSENGER IS SAFELY HANDED OVER TO THE OPERATIONS STAFF (OSS, CSM, STANDBY OTD OR OTS)

9.11 Passengers not Following Rules

Any such person shall be informed that he/she is committing an offence while at station or on-board train e.g. rampage, intoxicate, under influence of drug. This situation could create panic and endanger safety to the other passengers.

The LC has to;

1. Receive report from OTD or OSS
2. Instruct OSS to standby at platform with Security Personnel to assist OTD
3. OCS to notify management in accordance Line information during service disruption, accident and incident
4. Log the event in the SAP

NOTE

OPERATIONS STAFF IS NOT ALLOWED TO ACT ALONE AS TO AVOID ANY PHYSICAL PROVOCATION OR HARM AND TO AVOID ANY LEGAL DISPUTE

9.12 Passengers Trapped Inside the Lift

If a person is trapped in the Lift, the person has to be attended in the shortest time possible.

Upon confirmation that there is a person/s trapped in the Lift, at BTS and STS, ***the LC/DC has to;***

1. Inform SAS supervisor
2. Notify BOMBA immediately.
   - The keys for the lift at BTS and STS have been placed in a break glass in the OSS room.

- Only BOMBA personnel are authorized to utilize the keys for the Lift at BTS and STS in the process of rescuing the trapped person/s.

3. Receive final information from OSS and update SAP – OCC journal

NOTE

OSS TO NOTIFY THE RESPONSIBLE SERVICE PROVIDER AND SIG-INFRA PERSONNEL AND DC HAVE TO NOTIFY SAS SUPERVISOR

Upon confirmation that there is a person/s trapped in the Lift (KLS, PCS, KLIA T1 or KLIA T2 station), ***the LC/DC has to;***

1. Inform SAS supervisor
2. Received final information from OSS and update SAP – OCC journal

9.13 Signal Passed at Danger (SPAD)

Signal Passed at Danger (SPAD) is considered a dangerous event and has to be investigated:-

If a Driver passing a signal with a danger aspect, the LC/DC has to instruct the trains / vehicles to stop immediately.

After the train or Vehicle has come to a stop, ***the LC/DC has to;***

1. Get all particulars from the Driver
2. Arrange with the relevant department for driver replacement if possible
3. Immediately refrain the Driver from driving the Train or Track Vehicle if possible or,
4. Secure the route and gives approval to proceed to the Driver to complete the trip and refrain the Driver at the next terminal/destination

The OCS has to;

1. Inform OPS Chief on duty
2. Instruct the OTS or the relevant supervisor to obtain an incident report from the driver
3. Inform CEO and SAS Manager

The LC/DC has to log in the List of Train passing Danger Signal with OCC Approval to Proceed. ***Ref no; G00.OMO. M15111. DQ. 1012****.**

For further investigation, the OPS Management must inform RST and SIG to take relevant readouts – ATP, TCU, CCU and BCU etc.

9.14 Shunting Mode not Switching off Automatically

In case of “Shunting Mode” does not switch Off automatically AFTER departing at Terminal Stations Exit signal or while leaving Depot to Main Line, ***the LC/DC has to;***

1. Receive info from Driver that ATP speed is limited 40km/h
2. Instruct the Driver to stop the train immediately
3. Instruct the Driver to switch the master switch to “OFF” position and turn back to “ON”
4. The ATP should back to normal or consult with SIG Technician if failure still persist

9.15 Wrong Routing

In the event of train diversion is required due to any possible reason, LC/DC should always use Route Macro to execute this command to avoid wrong routing due to original ARS data not edited. Be aware that the activation of Route Macro will eliminate the supplementary 'A' for a transit train data.

9.15.1 Wrong Routing during Shunting Movement

Should a shunting movement have been routed in a wrong direction the LC/DC has instruct the driver to stop the train or vehicle where safe and appropriate

9.15.2 Wrong Routing During Train Movement

Should a train have been routed into a wrong direction, ***the LC/DC has to;***

1. Instruct the Driver to stop his train immediately
2. Consult with OCS to resolve the deviation
3. Issue a new approval to proceed

9.16 TMS Command 'Cancel route'

The interlocking system is designed in a manner where signals in a particular track are grouped to share a timer relay. The timer relay is a timer that delay the route cancellation to ensure that train(s) in the section has (have) come to a stop.

Before a formed route is cancelled, ***the LC/DC has to;***

If train standstill in front of signal;

1. Notify the Driver about the route cancellation
2. Receive the Driver acknowledgement about the route cancellation
3. Instruct the Driver not to move until a new 'Approval To Proceed' is issued

If train approaching signal:

1. Notify the Driver about the plan for the route cancellation
2. Receive confirmation from the Driver that the train has come to a standstill
3. Cancel the route
4. Instruct the Driver not to move until a new 'Approval To Proceed' is issued

REMINDER

THE LC/DC HAS TO AWARE THAT ROUTE CANCELLATION WHILE TRAIN ON APPROACH TRACK SECTION WILL CAUSE AN EMERGENCY STOP FOR THE TRAIN AND IT IS POSSIBLE FOR THE TRAIN TO OVERSHOOT THE SIGNAL.

CANCELLATION OF ROUTE AT TEST TRACK WILL RESULT THE ARS ON TRACK 2 (STS) WILL NOT PERFORMED

In STS/Depot interlocking, the following signals share one timer relay and only one route cancellation is allowed at any one time until the timer is available again (after completes counting).

These groups of signals are:

Signal	**Track/Section**
N22, N32, N42, N52, T12, T22 and T32	STS Track 2 (main line)
N31 and T31	STS Track 1
N45, T35 and T15	Test track (143 & 144)
N46 and T36	Depot

Also note that during the route cancellation from this signal group, setting of new or other routes are not possible.

9.17 Toilet SOS Button Activation

In the event the LC/DC received a report from the Driver that toilet SOS button is activated, ***the LC has to;***

1. Instruct the Driver to stop at the next station to verify the alarm
2. Instruct the Driver to make a proper announcement
3. Instruct the respective OSS to assist the Driver to verify the alarm
4. Instruct Driver to reset the alarm and continue journey
5. Act according to clause 10.1 Incident management if the situation required

9.18 Train Door Opened While in Motion

In the event the LC received a report of train door opened while in motion, the

The LC has to;

1. Instruct the Driver to stop the train immediately
2. Instruct Driver to physically check all the trains doors
3. Instruct Driver to isolate the affected door
4. Received confirmation from Driver that affected door is isolated
5. Instruct Driver to continue journey
6. Consult with RST Supervisor for the next course of action

9.19 Ekspres Service Accidentally Stop at the Intermediate Station

In the event the LC sighted or received a report of an Ekspres service accidentally stop at the intermediate station, ***the LC has to***;

If train still at Platform;

1. Instruct the Driver to make an announcement to transit passengers to disembark from the train.

If train already left the platform;

1. Instruct the Driver to make an announcement to transit passengers that train will continue journey to terminal and will not stop at the next intermediate stations
2. Informed OSS and CSM at next terminal station to assist the transit passengers

9.20 Line blockage

When a Driver report of an irregularity, which leads to a line blockage ***the LC has to;***

1. Take all details and report to the OCS immediately
2. Blocks access to the affected track accordingly and inform the Driver
3. Inform the relevant Maintenance Team
4. Informs the relevant staff accordingly
5. Depending on the situation the OCS will decide either the track section to be blocked or to initiate:
   - Bi-directional train runs
   - Alternative programs
   - Detraining or evacuation

9.21 Train Services Terminated at KLIA T1 (Turn Back Service)

In the event of an Ekspres or Transit train will terminate its service in KLIA T1 and not proceed to KLIA T2 due to platform KLIA occupied by a failed train, line blockage, Major delay etc., arrangement has to be made as detailed below:

The LC has to;

1. Inform OTD,OSS and CSM that the train service will be terminated at KLIA T1 and will turn back to KLS
2. Advise OSS and CSM to assist passengers who wish to continue their journey to KLIA T2 to board the next train to KLIA T2
3. Instruct OTD to make appropriate annoucement and advise passengers who wish to continue journey to KLIA T2 to refer to station staff at platform
4. Make TMS train data editing accordingly

REMINDER

THE LC/DC HAS TO CONSIDER TO TERMINATE KE SERVICE AT KA, IF THE DELAY IS ***MORE THAN 7 MINS*** TO AVOID ACCUMULATE DELAY ON THE SUBSEQUENT TRIPS

9.22 Action During Service Disruption and Line Blockage

In the event of a train or system has failed and could lead to a line blockage or longer travelling time, The OCS should act according to the table below:

No	Event Scenario	Action
1.	Any failure that could lead to the line blockage and cannot be determined or rectified within 10 mins	- Instruct all trains to stop at the nearest stations and prepare for combined service (Code 1) - In case a train is just behind the failed train or section, Instruct the Driver to change cab and proceed back to the nearest station - Train will be routed to terminal or PCS (whichever is closer) as a point of disembarking of passengers for alternative transport arrangement
2.	Failure cannot be rectified within 15 mins that lead to line blockage	- Initiate Combined service
3.	Any failure that causes Ekspres service traveling time from KS – KA2 more than 40 mins	- Initiate Combined service 15 mins
4.	Any failure that causes Ekspres service traveling time from KS – KA2 more than 43 mins	- Initiate Combined service 20 mins
5.	Any failure that causes Ekspres service traveling time from KS – KA2 take more than 60 mins	- To consult with CEO for consideration to stop service

9.22.1 OPS Service Disruption Coding

The objective of Operations Coding is;

1. To have a better disruption handling process that can be applied for any kind of disruption.
2. To minimise the communication between operation staff and OCC to allow OCC to focus on next action during disruption.
3. Operation staff will be aware of the situation and act independently without making further calls to OCC.

LC/DC must announce the activation of OPS code via Radio (Ops 1001 & 9997) and ensure that Operation staff (OSS, OTD and CSM) acknowledges the coding issued in order to confirm that Operation staff has receives the message.

CODE 1	Stop Command (All trains will stop at the next station or remain if already stop at station)
CODE 2	Combined Service (Ekspres and Transit services are being temporarily combined into a single service)
CODE 3	Total Cancellation of Service (Total line blockage)
CODE 4	Shuttle Service (Sectioning) (Section closure or blockage in any part of the system)
CODE 0	Resume Normal Operation

9.22.2 Activation of CODE 1:

1. Any failure that could lead to the line blockage and cannot be determined or rectified within 5mins
2. All sales activity will be suspended
3. OCC will have 10 minutes to decide on next course action
4. Train services will be suspended for 15 minutes
5. Announcement will be done by OSS, OTD & CSM to inform passengers that train services will be suspended for 15 minutes
6. OCC will advice at the 10th minutes for further update (i.e. CODE 1 will continue or activate CODE 2 or 3)

NOTE: *If CODE 1 is extended – passengers will be informed to remain or find alternative transport.*

9.22.3 Activation of CODE 2:

1. Failure cannot be rectified within 15mins and/or any failure that caused additional journey time of more than 15mins
2. OCC to inform time to start with first departure e.g. at 07:20 from both terminals
3. Announcement will be done by OCC, OSS, OTD & CSM
4. Notices to be displayed accordingly by CSM
5. Headway every 20 minutes.

9.22.4 Activation of CODE 3:

1. Announcement will be done by OCC, OSS, OTD & CSM
2. Notices to be displayed accordingly by CSM.
3. Train will be routed to terminal or PCS (whichever is closer) as a point of disembarking of passengers for alternative transport arrangement.
4. OCC will update every 30 minutes

9.22.5 Activation of CODE 4:

1. Terminal to terminal service is not available
2. Train is able to run within certain part of the system e.g. between stations – XKL to PCS or KUL to PCS.
3. OCC to inform start time of first departure e.g. at 07:20 from both terminals
4. Announcement will be made by OCC, OSS, OTD & CSM
5. Notices to be displayed accordingly by CSM
6. Headway every 20 minutes.
7. Ekspres services will be suspended (no check-in service)

For details refer ***Doc No : ERL-DMD-0745710.****

9.23 Closing of intermediate Stations

Major incidents or operational situations may lead to a closing of stations. The closing of stations can result in:

1. Closing the access to the station, and/or
2. Trains not stopping at the station

The LC has to;

1. Received the report from the OSS that it is intended to close the station
2. Reports immediately to the OCS who considers appropriate response. In case of overcrowding the increase of transportation capacity should be considered
3. Instruct Driver of Transit trains not to stop at the affected station and pass this station with caution
4. Instruct the OSS to announce the passengers at platform accordingly and to assist the passengers

5. Inform the Driver to make appropriate announcement to the passengers on-board that the train will not stop at the affected station
6. Inform the passengers for any arrangement to transfer them back to their original destination

9.23.1 Closing of Track Sections

If a track section has to be closed the OCS decides to initiate Alternative Train Operations

9.24 Alternative Train Operations

The OCS shall instruct to run Alternative Train operations according to the situation that may consist of either one of the following:

1. Turnaround services in sections of Lines
2. Bi-directional train runs
3. Shuttle Services
4. Combined service
5. Timetables with different headways

Alternative Train Operations may lead to an extension of headways.

REMINDER

THE ALTERNATIVE TRAIN OPERATIONS SHALL MAINTAIN THE HIGHEST POSSIBLE LEVEL OF SAFETY ASPECT

Before an Alternative Train Operations is initiated, the LC/DC informs the OCS about the section which is still possible to run trains operation. Based on the info given by the LC/DC the OCS decides which Alternative Train Operations shall be initiated

The OCS shall instruct the LC/DC to initiate the Alternative Train Operations by:

1. Temporary stabling of trains on the Line, or
2. Routing trains back to the Depot
3. Keeping trains in standby within the Depot
4. Should the OCS expect that the duration of the train stabling is only for a short period, he may consider that a Driver shall stay on his train
5. The LC updates trips numbers
6. The LC/DC inform Drivers, OSS and CSM the details of the Alternative Train Operations

9.24.1 Double Ending of Trains

When a train is required to depart from the same platform it arrives or also known as single platform operations,

The LC has to;

1. Sleeve adjacent platform to avoid unintended ARS route setting
2. Inform Driver about this arrangement

3. Activate Route macro for this movement if necessary

9.24.2 Bi-directional Train Run

The signaling system is designed to allow Bi-directional Train Runs. Bi-directional train runs may be necessary due to Maintenance work on the adjacent track, or during Alternative Train Operations.

The OCS may specify the details of the bi-directional train runs.

Before bi-directional train runs commence, ***the LC has to;***

1. Get the approval from the OCS
2. Disable the ARS at the access signals of the bi-directional section
3. The LC instruct Driver in which track section the trains shall run bi-directional
4. Inform the relevant OSS in which Line section trains shall run bi-directionally and which platform to be used

9.24.3 Sectioning of Lines

The entire main line track is divided into seven (7) sections. These track sections are defined as 4 intermediate, 2 terminals stations and the crossover. Should one of these Line sections be totally or partially blocked or possessed due to operational or maintenance reason, the OCS decides which of the Alternative Train Operations shall be initiated.

9.24.4 Combined Service

In the event of one section of track is blocked, the OCS shall decide to minimize the impact to train operation by initiating Combined service operations. Before Combined service is initiated, the OCS will decide and advise LC/DC which timetable shall be initiated. ***The LC/DC has to;***

1. Inform OSS, OTS, CSM and Drivers about;
    - Departure time
    - Train headway
    - Platform deviation if any
2. Change CCTV view for Transit platform to Ekspres baggage loading area
3. Ensure that the baggage handle bar is lowered down after baggage loading is completed

REMINDER

IN THE EVENT OF AN EKSPRES TRAIN BODY TO BE USE AS TRANSIT SERVICE, THE LC/DC MUST INSTRUCT THE DRIVER TO ISOLATE THE TOILET DOOR AND ISOLATE THE BAGGAGE CAR BY LOWERING THE BAGGAGE HANDLE BAR

9.24.5 Shuttle Service

Shuttle service means train runs between a Line Section, which is still safe, and possible to run train operations. The OCS will define the sections:

The LC has to:

1. Clear the track from trains that are not necessary to run the shuttle service.
2. Instruct the Driver which speed has to be used.
3. Inform the Driver and the relevant OSS
4. Decides on which track section the shuttle train shall operate

NOTE

SHUTTLE SERVICE SHALL BE ESTABLISHED TO ENABLE PASSENGERS TO USE THE MAXIMUM POSSIBLE LENGTH OF THE SYSTEM DESPITE A PARTIAL SYSTEM CLOSURE

10 Emergency Operations

Emergency Operations considers potentially life-threatening situations in which passengers or staff has to be evacuated.

OCC has to ensure the situation is carefully attended. Proper record is essential to retrieve data for immediate action by the OCC. Those data can also be used for investigation purposes. All information in relation to the event has to be recorded in the Incident Work Sheet, ***Ref no. G00.OMO.M15111.DQ.1019.**** .The copy of the document has to be forwarded to OMO or SAS Manager for further action.

REMINDER

SHOULD AN EMERGENCY TO THE SYSTEM OPERATION ARISE ALL STAFF HAVE TO REACT CAUTIOUSLY AND TO DO EVERYTHING POSSIBLE TO PREVENT OR AT LEAST TO MINIMIZE POSSIBLE DANGER IN ALL CASES OF EMERGENCY, SAS MUST BE INFORMED ACCORDINGLY

10.1 Incident Management

In Malaysia the use of the Incident Command System (ICS) is compulsory for railways in order to cope with an emergency situation. Emergency situations are categorized by 3 (three) tiers or incident levels.

1. Tier 1 (level 1) incidents are those incidents that can be dealt with the internal emergency response teams
2. Tier 2 (level 2) incidents are those incidents that require the assistance by external emergency response teams such as Bomba, Police and medical services
3. Tier 3 (level 3) incidents are catastrophes beyond the capacity of internal and external response teams. In such cases the National Security Council would call up the SMART

The ICS provides for a unified command structure. The Incident Commander heads the unified command at the Incident Command Post. At ERL the OCS assumes the role of the Incident Commander in an emergency. The senior Bomba and Rescue Officer, the senior Police Officer and senior Medical Officer join him in the command.

At the site of the incident the OC is in charge of rescue operations. At ERL the OC is a on call duty. The OC is also responsible for the safety of rescue operations.

The OC co-operates with the Bomba , Rescue Chief, Police Chief and the Medical Chief. At the incident site the OC sets up the Incident Base, which serves as his command post.

The structure of the Line of Information during Incidents is given in **Annex 11.4**

In case of an Emergency the OCS appoints the first responder arrive at site as an acting OC until the responsibility OC take over the role of OC at site. The OC has to report to the OCS when taking over responsibility.

The OCC staff must support the OC to ensure this requirement. If necessary, the OCS arranges security staff from other stations to support the OC at the location of the incident.

After being informed of an emergency, ***the LC/DC has to;***

1. Check the location and situation according to the given report,
2. Stop trains as appropriate and issue an “Emergency Stop Order” via radio and request for a more detailed information, if required,
3. Reports to the OCS if the Emergency Team is required or to be kept in standby

The OCS instructs the LC/DC to continue use the System Operation currently in place or on Alternative Program. The OCS alerts and briefs the relevant personnel accordingly.

10.2 Operation Chief (OC)

During an emergency, the activities of the OC on site to support the OPS staff. He has the Authority to give instruction on site in close liaison with the OCC personnel. The OC decides about operational support and gives the required instruction.

The OCS keeps a close contact with the OC and supports his activities wherever possible. On the other hand the OCS must take care for the rest of the System, which is not affected.

In the very first moment the OCS has to alert all necessary staff and teams. Internal support has the highest priority. In case of Emergency Services are involved, the EC has to notify the relevant authorities as required. External support has to be guided and accompanied by a representative of E-MAS in any cases.

NOTE

THE OC HAS TO BE PRESENT WHENEVER MAJOR FAILURE, INCIDENT, ACCIDENT OR EMERGENCY TO ASSIST THE OPERATIONAL RESPONSE IN OR ABOUT THE STRUCTURAL GAUGE

10.3 Role of Acting OC (AOC)

During an emergency, usually it takes time for the OC on call duty to arrive at incident site. Therefore, OCS can nominate Driver on site as the Acting OC until OC arrives to the incident site. Refer to Incident Management Procedure ***Ref no. G00.OMO.M15880.NG.0001.****

In case of first responder is nominated to be an Acting OC, ***the OCS has to;***

1. Instruct to supervise incident area and keep LC/DC updated of the situation
2. Secure the safety of passengers and equipment
3. Instruct to render assistance and first aid to casualties

Takes measures to prevent further danger on site, such as:

1. To stop trains movement on the adjacent track
2. Instruct to take care of evidence to ensure it is not being touched or taken away
3. Collect information from person involved

In the event where emergency response teams are required to access to the track, Acting OC must ensure access is safe. Driver has to;

1. Request LC/DC to block both tracks in between stations or necessary tracks at stations
2. Supervise incident area and keep LC/DC update of the situation

10.4 Relief by the OC

When OC on duty arrives at incident site, Acting OC briefs the OC i.e safety precautions taken, evidence collected and hand over responsibility to the OC

10.5 Line of Information During Service Disruption with Train Delays

During Incidents, Major Failure or Emergency Operations the CSM and OSS have to be informed by the OCC immediately to enable them to advise the passengers about the next possible train services and the estimated journey time.

In the case of service disruption with train delays the ***LC/DC has to*** inform;

1. CSM and OSS to enable them to advise the passengers about the next departure
2. OTS for the Drivers arrangement
3. The affected Driver on the main line to enable them to make appropriate announcement the passengers on boards the train

The LC/DC has to update the Driver, CSM, OSS, and OTS on the relevant item accordingly:

1. Alternative program and detail i.e. combined service, single platform operation, bi-directional and etc.
2. Headway and time of departure
3. Approximate duration of disruption
4. Estimated journey of travel time

The communication to respective HOD and personnel is in accordance to the Line of Information during Service Disruption, Incident or accident Flow Chart ***Ref no. G00.OMO.M15610.CI.1001.****
and Action During Incidents procedure ***Ref no; G00.OMO.M11150.CB.1001.****

10.5.1 Incident Report to APAD

Any incident or accident that causes delay on trains operations for more than **15 minutes** shall be reported to **APAD**. The report must be submitted within 24 hours from the incident time. ***The OCS has to;***

1. Brief CEO about the incident / accident details
2. CEO will decide either report to **APAD** is required or not
3. Prepare the report using the **APAD** reporting template
4. Forward the report to CEO for perusal
5. Once received the confirmation from CEO, send the report via e-mail to **APAD** Correspondence list required

For details, refer to the Flow Chart of Operator Actions during an Accident / Interruption (**annex 11.5**)

NOTE

APAD CORRESPONDENCE NAME LIST COULD BE CHANGE AS PER APAD ADVICE

10.6 Emergency Stop for Trains

When a signal is set to danger the Automatic Route Setting (ARS) must be disabled. The LC places a command 'Cancel Signal ARS' in order to disable the automatic route setting.

Trains can be stopped by:

1. Emergency Stop Order by Radio or can be stopped technically by setting a signal to a 'Danger' aspect
2. Placing a sleeve at signals, turnouts or tracks against route setting

The LC/DC has to decide which is the most effective response. Emergency stop instruction shall be supported by technical measures.

10.6.1 Emergency Stop Instruction

The instructions to stop the trains shall be issued in order to prevent accidents

After issuing the Emergency stop instruction, the LC/DC shall sleeve the appropriate signals. The LC/DC may add further information, if required.

10.7 Accident with Person/s on the Track

The OCS assumes the role of Incident Commander according to the Incident Management Procedure. ***Ref. no; G00.OMO.M15880.NG.0001.****

If a Driver or other staffs witness an accident where a fatality or serious injuries occurs, the OCC must immediately be informed as per Communication Procedure. The OCC must carry out these following actions prior attending to this incident;

1. Notify the relevant party as per line of information during Service disruption, Incidents or accident ***Ref. no; G00.OMO.M15610.CI.1001.****
2. Inform OC and furnish him with all necessary information
3. Log all the chronology of event in the Incident Worksheet

After all the necessary details is gathered from the report, the OCC have to ensure the following before the train continues;

1. Establish with the train driver whether the train sustained any abnormalities or damages
2. Initiate evacuation of Passengers if the train is stalled after the accident.
3. Inform all trains about the accident and to advise them to drive on sight and under caution passing the accident area and prepare to stop their train if required
4. Arrange with the OTS at terminal to relief the Driver involved in the accident
5. Arrange with the RST for a spare train and make a replacement at the first opportunity available
6. Arrange with RST the stabling location of the withdrawn train for further investigation and cleaning

After securing the area, The LC/DC may resume the operations of train under instruction by the OC indicating the maximum speed in the track section, which tracks can be used and other relevant observation to be made by the Driver.

10.7.1 Injured Person on the Track

In the event of an injured person lying beside or on the track, ***the LC has to;***

1. Instruct Acting OC to remove injured person to the safe area
2. Secure incident place from further danger
3. Initiate medical assistance to the injured person
4. Informed related party as per communication chart

10.7.2 Dead Body on the Track

In the event of dead body is found beside or on the track, ***the LC has to;***

1. Advise OC to secure incident place to avoid train from passing over the dead body/parts.
2. Block track section from train movement if required

NOTE

THE DEAD BODY MUST BE COVERED AS SOON AS POSSIBLE TO AVOID FROM BEING SIGHTED BY THE PUBLIC

10.8 Unauthorized Person into the Structural Gauge

In the event of the LC/DC receive report of unauthorized person in the structural gauge, ***the LC/DC has to;***

1. Inform SAS supervisor
2. Instruct the Driver to reduce speed and activate the warning device if necessary to alert the person in the area concerned
3. Instruct OSS or other site staff to help the person out of the Structural gauge
4. Inform OCS

If it is necessary, the LC/DC has to;

1. Issue an Emergency Call to the Drivers
2. Instruct the Driver to drive on sight and under caution
3. Get the reports immediately when they have passed the section or the person is outside of the Structural Gauge

Should the OSS informs a person have trespass the Structural Gauge at a platform area, ***the LC/DC has to;***

1. Initiate announcement through the PA system
2. Instruct the Driver to drive on sight and under caution
3. Set the home signals to danger if required

10.9 Fire

Fire causes a hazardous situation that may lead to an emergency. However not every fire has to be seen as an emergency especially if staff is able to limit or extinguish the fire. All trains, stations and Depot area are equipped with firefighting equipment.

10.9.1 Fire in the Train

The highest priority for Driver should be to reach the next station when a fire is detected on a moving train. When the Driver of a moving train reports a fire, ***the LC/DC has to;***

1. Inform the EC who will notify the Emergency Services, if required
2. Instruct the OSS to evacuate the platform and give support to the Driver of the affected train when arriving at the platform
3. Instruct Driver and OSS to fight the fire with the equipment provided if possible
4. Instruct the Driver to move the train out from the station area when the fire cannot be extinguished

10.9.2 Fire at a Station

A fire in a station will normally be reported by the OSS or will be detected by the station fire detection devices. EC shall receive the fire alarm through SCADA system. When a fire in a station is reported:

1. The LC/DC inform the OCS immediately
2. The OCS evaluate the impact to Operations
3. The LC/DC inform SAS Supervisor

The LC has to;

1. To advice the Driver to pass through a station
2. To stop train entering the affected station, at the station before, if possible, or
3. To evacuate the station
4. Instruct EC to call the Emergency Services and make announcement at station

10.9.3 Fire in the Depot

In case of fire in the Depot Area the Fire detection system will provide an immediate alarm on the Control Panel in the OCC. A fire in the Depot area can also be reported to the OCC by any Depot staff or Driver.

Alerts all staff in the Depot by making announcements through the PA system.

Only trained staff can extinguish the fire and the rest of the staff will have to evacuate to the assembly point.

After the fire is reported, ***the DC has to;***

1. Inform SAS Supervisor
2. Inform the OCS who will alert the Emergency Services, if required
3. Arranges access to the site for the Emergency Services
4. Prevents trains from being affected by the fire, if possible, either by

5. Removal of trains from the affected area or removal of a burning train to a suitable place if possible
6. Checks if other System premises such as the Washing Plant are possibly endangered, and
7. Arranges protective provisions for these facilities

REMINDER

DURING A FIRE IN THE DEPOT ALL STAFF HAVE TO BE AWARE OF THE FACT THAT DANGEROUS GOODS HAVE TO BE DEALT WITH A SPECIAL CAUTION

10.9.4 Fire in the Workshop Area

In case of fire in the Workshop Area the Fire detection system will provide an immediate alarm. The OCC staff will receive the alarm at the control panel in the OCC.

In case of a fire in the Workshop area the Maintenance department deals with the required responses. The Maintenance staff will inform the OCS about:

1. Affected area
2. Affected trains
3. The need to remove trains from the Workshop site
4. Involvement of dangerous goods

The emergency services will be contacted once the OCC received the information, providing all necessary information such as nature of fire, location and number of injuries.

Normally the Workshop staff does not need a support from the Operations staff due to the fact that fire-fighting equipment are provided and the train can be move as required with the Workshop equipment.

10.9.5 Fire in the Administration Building

In case of fire in the Administration Building the fire, alarm and smoke detection system will provide an immediate alarm. EC will receive the alarm at the control panel in the OCC.

The OCS is to inform the Fire Warden (Appointed staff from SAS). The Admin Fire Warden will inform the OCC once all staff has evacuated the Building to the assembly point.

The OCS has to decide evacuation of the OCC after a detailed investigation has been made to determine the extent and possible impact of the fire. Before he instructs an evacuation of the OCC.

the OCS has to:

1. Have a detailed information about the location, intensity of the fire, and possibly affected systems
2. Alert the LC/DC to check the situation and judge the necessity of an evacuation of the OCC
3. Instruct to extinguish the fire as far as possible, and
4. Alert Emergency Services

Should all the efforts fail, ***the OCS has to;***

1. Instruct the LC/DC to inform the staff on site accordingly

2. Instruct the LC/DC to set the route to the main line
3. Inform other staff that the OCC will be evacuated
4. Receive confirmation from the OCC staff that the System is closed down
5. Instruct the OCC staff to leave the Administration Building via the designated escape route

10.10 Derailment / Collision

In the event the LC/DC receives report of a derailment / collision, ***the LC/DC has to;***

1. Get the location of incident
2. How many axles are derailed
3. Damage to train and infrastructure
4. Compares the report by the Driver with the display on TMS
5. Checks the impact to Operations
6. Warns other trains and Possesses the track section
7. Sets an emergency stop to the adjacent track, if required
8. Informs the Maintenance Department

The OCS coordinate with the relevant department on the mobilization of the rescue team to the site to assist the rescue work.

10.11 External Events

Incident may be reported from both E-MAS, ERLSB, SPYTL Staff or General Public who recognize events which could endanger System Operations. In the event of the LC/DC receives the report

The **OCS** shall instruct the ***LC/DC has to;***

1. To stop the trains, as required
2. To send a ‘Control Train’ to check the situation on site if required
3. To send Operations staff to check the situation at the location of the reported incident
4. How to respond in detail according to his present judgement
5. Informs subsequence or adjacent train to verify
6. Inform the OC if required.

NOTE

DURING AN EVACUATION ANNOUNCEMENTS HAVE TO BE MADE IN SUCH A WAY NOT TO CREATE PANIC TO THE PASSENGERS

10.11.1 Evacuation of Passengers

An evacuation of passengers is an emergency response. The OCC staff must check all other solutions first before deciding an evacuation. The OCC staffs must be able to handle such a situation due to the possible affects to the safety of passengers.

The OCS shall arrange the evacuation from strategic locations by the evacuation plans. The plan provides data and information, which can help during the emergency response.

Two types of evacuation procedures may occur:

1. The Controlled Evacuation, which refers to situations where the safety of passengers is not at immediate risk
2. The Emergency Evacuation, when passengers have to be evacuated immediately.

For each of the above following scenarios is possible:

1. From stations
2. From trains at stations
3. From trains between stations

Drivers shall be instructed to coast to the next station or approach the next station whenever possible. If a train has been stalled between stations the subsequence train shall be instructed to perform either:

1. Pushing or pulling of trains
2. Detraining
3. Evacuation

Should efforts to do so failed and an evacuation of passengers to the track is unavoidable the following shall be required.

10.11.2 Evacuation from Train at Stations

When a train has to be evacuated at a station ***the LC has to***;

1. Instruct the Driver of the relevant train at which station to evacuate his train
2. Instruct the OSS of the relevant station to support the Driver of the affected train during the evacuation
3. Inform the Driver of the other trains accordingly
4. Make announcements at the platform
5. Instruct the Driver what to do after the evacuation

REMINDER

IN CASE A TRAIN IS STALLED ON THE LINE THE LC/DC SHALL SAFEGUARD SAFETY OF PASSENGERS FROM POSSIBLE DANGER FROM TRAINS ON THE ADJACENT TRACK

10.11.3 Evacuation from Train to the Ground

The location where the train has stalled is important for the measures taken during the evacuation. When a train has to be evacuated between stations. Once the LC receives the information from the Driver that a train has stalled between stations and cannot move by its own power the LC has to;

1. Possess the relevant track section
2. Instruct Driver of trains on the adjacent track to pass said section 'On sight and under caution'
3. Set the signals on the adjacent track to danger immediately to block train movement if the driver report that passengers have opened the side doors and try to get off from the train

OCS shall instruct EC to de-energization the OCL in the relevant track section if required (i.e OCL snapped). OCS shall liaise with the Maintenance Department for trouble shooting and arrangement to clear the line blockage.

The LC has to;

1. Get confirmation from the EC that OCL is switched off
2. Inform the other Drivers on the Line about the evacuation

The LC has to instruct the OSS or OCL team

1. To apply earthing device (if OCL power isolation is require due to OCL snapped) before train to ground evacuation executed
2. To proceed to the stalled train if possible
3. To assist the Driver during the evacuation if required and possible

The LC has to;

1. Inform the Driver that the traction power is de-energized and secured by an earthing device
2. Instruct the Driver to evacuate the train
3. Get passengers head count and confirmation from the Driver that all passengers have safely evacuated from the train
4. Get confirmation from the Driver when all passengers have left the Structural Gauge to a place of safety
5. Receive instruction by the OCS how to remove the stalled train
6. Make arrangement for the failed train to be coupled and towed back to Depot
7. Restores Normal Operations or alternative Operation as soon as possible

REMINDER

RESTORATION OF OCL POWER AFTER AN EVACUATION IS ONLY ALLOWED AFTER THE CONTROLLERS HAVE RECEIVED THE CONFIRMATION FROM OC THAT ALL PERSONS HAVE LEFT THE STRUCTURAL GAUGE AND THE RELEVANT DRIVER (S) REPORTED ARE IN THE LEADING CAB

10.11.4 Evacuation from Stations

In the event of a station has to be evacuated due to security alert or emergencies, the LC/DC is informed by the OSS that the station has to be evacuated and what kind of evacuation is established.

10.11.5 Station Evacuation

The LC has to;

1. Instruct incoming trains from pass or stop at the affected station
2. Informs EC to call the Emergency Services, if required
3. Set a '**Non Stop**' for the affected station
4. Inform all the Drivers about the situation
5. Instruct the relevant Driver to an announcement to the passengers
6. Get up date about the situation in the station from the OSS or asks for further information

10.11.6 Evacuation to a Train

In the event the LC received a report from the OSS about the requirement of evacuation from station to a train, ***the LC has to;***

1. Instruct the Drivers of approaching train to detrain the passengers at the station before if necessary (i.e to avoid overcrowding)
2. Informs the Driver and the relevant OSS ('s) about the arrangement
3. Instruct the OSS to support the Driver and make announcements at the platform
4. Announce to the passengers at the station concerned that they can board the next incoming train
5. Inform the EC to call the Emergency Services, if required

NOTE

SHOULD AN EVACUATION FROM A STATION TO THE GROUND LEVEL IS NOT POSSIBLE THE FIRST RESPONSE IS TO EVACUATE PASSENGERS USING TRAINS

10.11.7 Evacuation to the Track

In the event the LC/DC received report from the OSS that passengers have entered the Structural Gauge without safety measures, ***the LC has to;***

1. Stops trains entering the affected station
2. Issue an Emergency Stop instruction to the train Drivers in the relevant track section
3. Block Station from any trains movement if require
4. Inform the EC to call the Emergency Services, if required
5. Get confirmation from the Drivers approaching the station that their trains have come to a standstill

6. Instruct the approaching trains to drive back the train to the nearest station
7. Possess the track section
8. Decide how to deal with the passengers within the Structural Gauge
9. Instruct the OSS of the station concern to guide the passengers to clear from the Structural Gauge

10.12 Emergency Evacuation

The steps during an emergency evacuation are almost the same as for controlled evacuation. The ***LC/DC has to;***

1. Issue an Emergency Stop instruction to trains in front of the station concerned
2. Set the home signals at the relevant station to danger
3. Instruct the Driver(s) approaching the station not to stop within the station area if required.
4. Sleeve the track against route setting
5. Instructs the EC to switch off the OCL immediately if require.
6. Arrange all available support to the stalled train if any

The OCS notify the OC immediately and advise the LC/DC with regard to action to be taken to minimize the impact and possible train operations.

10.13 Restoration of Normal Operations

After incidents or accident resolves, ***the LC/DC has to:***

1. Return to Degraded or Normal Operations as soon as possible
2. Keep the affects to the System Operation at a minimum
3. Save evidences, information and data
4. Check the situation, particularly in case Third Parties is involved

***The LC/DC has to confirm with OC or AOC*;**

1. That the track is clear from any personal and obstruction including the external emergency teams If it is safe for a train operation
2. If the track is safe for normal operation

The LC/DC has to;

1. Verify the signalling system is working correctly by sending a control train to passing thru the track section
2. Update the relevant staff accordingly
3. Inform the OCS after successful restoration of System Operation

NOTE

WHEN THE SITUATION ALLOWS, OPERATIONS SHALL BE RESTORED AS SOON AS POSSIBLE

1 Annexes

11.1 Reference Docs

No	List	Doc No
1	Rule Book Section A	G00.OMZ.M10100.BT.0001.*
2	Operations Procedure for Communications and Signal Book	G00.OMO.M15114.NA.1001.*
3	Operations Procedure for Train Driver	G00.OMO.M15113.NA.1004.*
4	Operations Procedure for Stations	G00.OMO.M15112.NA.1001.*
5	Procedure for works Within Structural Gauge & Clearance Gauge	G00.OMO.M15631.NP.1001.*
6	Action During Incidents	G00.OMO.M11150.CB.0001.*
7	Operating Instruction HTA 403/6.4[ZSL 90 Interlocking equipment]	G00.INT.M54080.PG.0001.*
8	Operation Fault Immediate Action and Guideline	G00.OMO.M15110.NA.0012.*
9	Train Automatic (Electrical) Coupling	G00.OMR.M92181.BT.0001.*
10	Incident Management Procedure	G00.OMO.M15880.NG.0001. *
11	Action During Service Disruption, Incident & Accident	G00.OMO.M11150.CB.1002.*
12	Shift Procedure	G00.OMH.M11750.ZP.0006.*
13	Abbreviations and Glossary	G00.OMO.M15110.NA.1003. *.

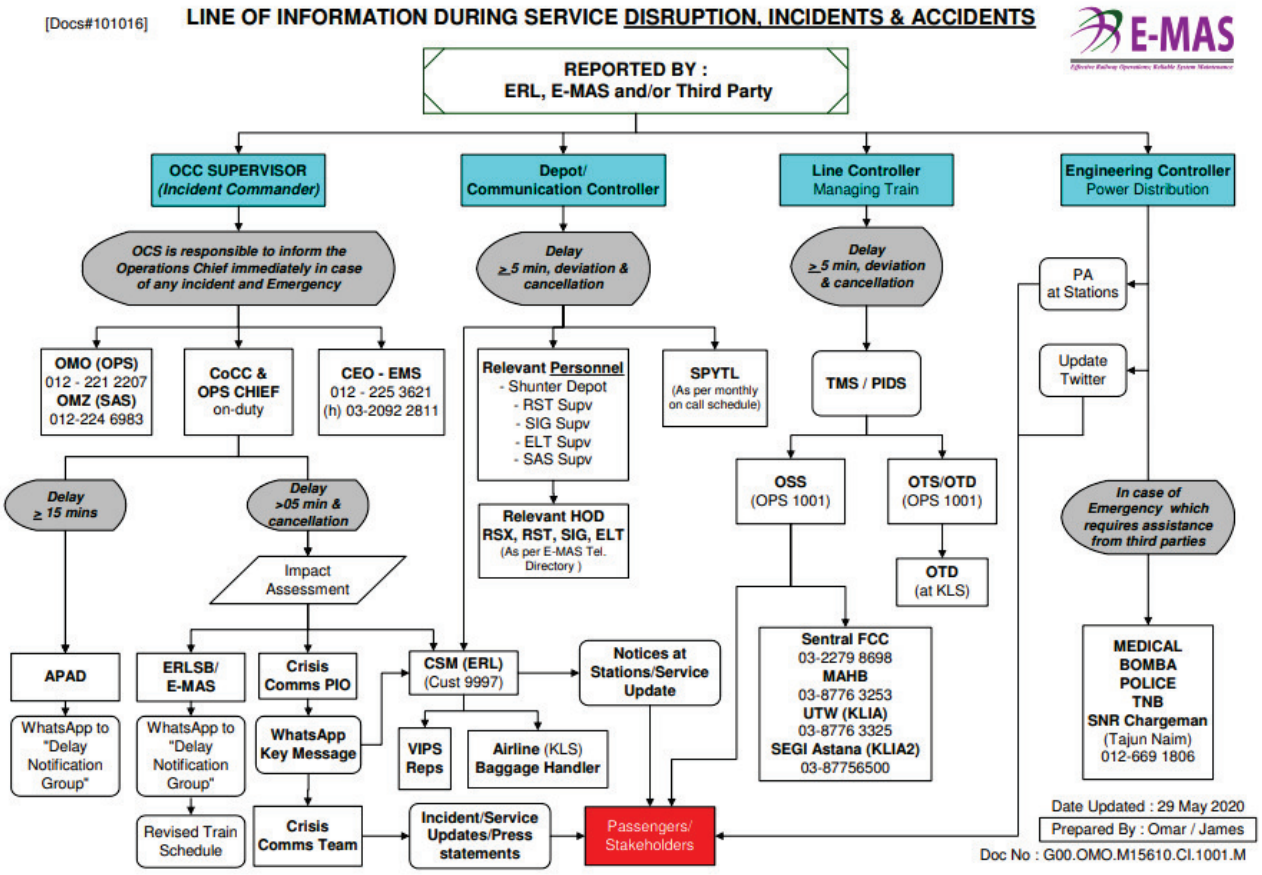
11.2 Glossary

TERM	DESCRIPTION
Acceptance Button	Located at MWS Track 10 South. Indicates as an approval for trains or vehicles entering MWS.
Authorized Person	A person who is authorized by the management of the system to carry out an activity
Degraded Operation	Degraded Operations considers all circumstances which affect Normal Service or require immediate unscheduled maintenance action but which are not considered life threatening to passengers or staff
Driver	Represent all Track vehicle driver i.e OTD, Shunter and SPYTL track vehicle operator
Dwell Time	The time taken by train spends at station for passengers to board and alight.
Emergency Operation	Emergency Operations considers potentially life-threatening situations in which passengers or staff has to be evacuated.
Normal Operation	The operation of KLIA Express and KLIA Transit services are possible without impairment and hazard to staff or passengers
Headway	The time period between one train with following train.
Look Out Man	An qualified personnel which monitor and guiding trains or vehicles movements entering/leaving MWS or Appointed personnel to monitor train movement and alert PICOP during implementation of IWN
Sleeve	SCADA and TMS system lock command
Sleeve text	Lock command messages
Trespasser	Any person entering the structural gauge without permission.
Washing Plant	A specific track for exterior train cleaning for remote or local or manual washing activity (track 04 depot).
Qualified Personnel	An employee of E-MAS qualified by an examination to undertake the duties of the position held.

11.3 OCC daily operations form

No	Form	Ref No
1	Train Movement & Daily Train Mapping	G00.OMO.M15111.DQ.1002.*
2	Track Possession Activities	G00.OMO.M15111.DQ.1004.*
3	Train Mapping Sheet	G00.OMO.M15111.DQ.1008.*
4	Daily Train Despatch	G00.OMO.M15111.DQ.1010.*
5	Entry into Drivers Cab & EB	G00.OMO.M15111.DQ.1011.*
6	Signal Passed at Danger & Limit of ESP	G00.OMO.M15111.DQ.1012.*
7	Train Availability & Daily Washing	G00.OMO.M15111.DQ.1013.*
8	OCC Shift Handing Over Duty Form	G00.OMO.M15111.DQ.1015.*
9	Daily Failure & Event Report	G00.OMO.M15111.DQ.1016.*
10	Entering Technical Room	G00.OMO.M15111.DQ.1017.*
11	Mutual Swap form	G00.OMO.M15111.DQ.1021.*
12	Permit to Work Activities	G00.OMO.M15150.NA.1001.*
13	EC switching procedure form	G00.OMO.M15111.DQ.1023.*
14	TPR Form - Track Possession Request	G00.OMO.M39910.DQ.1001.*
15	TMS Data Four Eye Verification Principle	G00.OMO.M15111.ND.1016.*
16	OCC data error report	G00.OMO.M15111.DQ.1020.*
17	Incident Logging Record	G00.OMO.M15111.DQ.1018.*
18	Incident Work Sheet	G00.OMO.M15111.DQ.1019.*

11.4 Line of Information During Service Disruption, Incidents & Accidents



11.5 Flow Chart of Operator Actions during an Accident / Interruption