

ERL MAINTENANCE SUPPORT SDN BHD

Co. Reg. No. 199901023674 (498574-T)



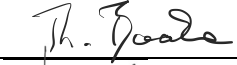




**OPERATIONS DEPARTMENT**

**Operations Training Module**

Ref. No. G00.OMO.M15010.ND.1001.B

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## Release

<b>Released:</b>	Thomas Baake	Chief Executive Officer	20/10/2021	
<b>Checked:</b>	Haryati Khalil	CEO Office	20.10.2021	
<b>Checked:</b>	Muhammad Azim	CEO Office	19.10.2021	
<b>Checked:</b>	James Boudville	Operations Manager	18.10.21	
<b>Checked:</b>	Hazlan Izzuddin	Operations Development	11.10.21	
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	<b>Name</b>	<b>Department</b>	<b>Date</b>	<b>Signature</b>

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

## Change Record and Configuration Control

B	28-Sep-21	Revision. To reflect current processes and new requirements of ISO 9001:2015 and 14001:2015 standards. Emphasize on the Trainer task. Inclusion Of OTS Refresher Course.	Norhandee / Omar
A	18-Jan-13	New document. Compilation of training module for OCC, OTD and OSS	Norhandee / Omar
<b>Revision</b>	<b>Date</b>	<b>Modification</b>	<b>Name</b>

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**Planning Of Changes Reference For Revision: G00.OMO.M15010.ND.1001.B**

<b>Issues To Consider</b>	<b>Checked (<i>Please mark X</i>)</b>				<b>Remarks</b>
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		Adequate
4) Allocation or relocation of responsibilities and authorities required?	YES		NO	X	

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## 1 Purpose

The purpose of this training module is to provide knowledge and skills to the new and existing Operations personnel prior in carrying out their duties.

This procedure describes and provide a guideline for the trainer or assignee with a quick reference for conducting initial training for new staff and refresher course. In addition, during the refresher course, recent failures and past experiences will be shared between trainer and participants.

## 2 Scope, Distribution & Access

This training module is for the use of Operations Department management team and Operations trainer or their assignee.

Access to this procedure in EDMS is limited to all parties mentioned above.

## 3 Abbreviations, Definitions and References

<b>Abbreviation</b>	<b>Description</b>
ATP	Automatic Train Protection
ARS	Automatic Route Setting
COCC	HOD of Operations Control Centre
Driver	Train / Track Vehicle driver
E-MAS	ERL Maintenance Support Sdn. Bhd. Reg. No. 199901023674 (498574-T)
OC	Operations Chief
OCC	Operations Control Centre (LC/DC/EC and OCS)
OCL	Overhead Catenary Line
OSS	Operations Station Supervisor
OTD	Operations Train Driver
OTS	Operations Shift Supervisor
SAP	System Application Product
SCADA	Supervisory Control And Data Acquisition
TPSS	Traction Power Sub Station
TMS	Traffic Management System
*	An asterisk used to refer the latest version, applicable for all pages in this procedure

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#### **4 Training Module**

This training module is a guide primarily used by the trainer for tutoring and learning methodology procedures. The content of this training module consists of training materials that are extracted from procedures as listed below: -

- a. Procedure for OCC [G00.OMO.M15111.NA.1001.\*]
- b. Procedure for Train Driver [G00.OMO.M15113.NA.1004.\*]
- c. Procedure for Station Supervisor [G00.OMO.M15112.NA.1001.\*]
- d. Procedure for Communications and Signal Book [G00.OMO.M15114.NA.1002.\*]

Apart from training in the above procedures, staffs have to attend training and refresher course for Rulebook Section A (G00.OMZ.M10100.BT.0001.\*) conducted by Safety and Security Department.

#### **5 Responsibility**

All Operations personnel are required to attend the initial training and refresher course provided by Operations Department.

Operations Trainer shall deliver sufficient knowledge and skills to ensure all Operations personnel are competent to carry out their duties in accordance to the standard practice and procedures.

- All staff to attend the training as per in-house training calendar
- The in-house Trainer to conduct trainings identified by the respective department
- All appropriate documented information i.e. Training Course Evaluation [TCE], Training Confirmation & Verification [TCV] and Original Certificate are to be submitted to HRD as evidence of attendance and competence

Detailed shall be referred and read together with the HRD Training Procedure (G00.OMH.M10580.SD.0006.\*).

#### **6 Section Separation**

This procedure is administered by Operations Department and separated into 3 (three) sections as follows: -

- i. Section A: OCC Training Module
- ii. Section B: OSS Training Module
- iii. Section C: OTD Training Module

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**Section A: OCC Training Module**



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## **1 OCC Training**

The Operations Controller(s) (Line Controller, Depot Controller and Engineering Controller) is a person that manages the day-to-day Operations of the ERL Network in the Operations Control Centre. OCC training has been design to ensure that at the end of the training, the Operations Controller staff is competent and is able to execute their duty efficiently under Normal, Degraded and Emergency Operations.

## **2 OCC Initial training**

OCC initial training syllabus consists of;

- Procedure for Communication and Signal Book
- Procedure for OCC and related documents
- Incident Command System (ICS)
- Traffic Management System (TMS) training
- SAP training (*for OCS and EC*)
- SCADA training (*for OCS and EC*)
- OCC sub system
  - Radio System
  - PABX
  - PA system
  - FAP
  - CCTV
  - ATP MMI

## **3 Training Materials**

### **3.1 Operations Procedure For OCC (G00.OMO.M15111.NA.1003.\*)**

This procedure details the manner on how the OCC Trainee carries out their operational duties under Normal, Degraded and Emergency Operations. During the training, Trainer shall provide all the relevant procedures that are link to this procedure as a reference document.

The objective of this training is to ensure that all instructions and procedures are understood before OCC Trainee start their practical training.

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OCC trainee must be able to apply this procedure during on the job training and should serve as a reference for them during their decision making process. This Procedure provides a guideline for the OCC Trainees to response accordingly.

### **3.2 Incident Command System (ICS)**

The occurrence of serious accidents on the system premises is likely to be extremely rare. Nevertheless, it is recognized as extremely important that a well-rehearsed procedures are implemented, to control and mitigate the consequences of an incident.

The ICS is an effective system for managing emergencies and a tools for command control and coordination of a response towards the common goal of stabilizing the incident, protecting life, property and environment.

The topic will be carried out in theoretical basis based on the ICS document G00.OMZ.M11451.CB.0001.\* The subjects that will be covered are as follows: -

- Identification of emergency situation that may affect the safety and health of employee, the users, the community or the environment.
- On-site and off-site emergency response.
- Evacuation plans and activities to restore operations
- Line of information during incident, accident and service disruption

### **3.3 Radio System and Communication Training**

The trainees will be trained on how to operate the communication equipment such as Radio Console, PABX and hand portable radio. The trainees also will be train on communicating with line site staffs according to the procedure for Communication and Signal book such as;

- Performing a radio check
- Issuing a verbal Approval To Proceed
- Giving instruction

### **3.4 PA System**

The Public Announcement System is a system that control the announcement made throughout the network. This can be done either on pre-recorded format or a manual announcement made by the OCC or by Station staff.

OCC trainee will be expose to the following system below;

- System layout
- User Guide
- Normal Operations

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- Emergency Operations
- DVA – Digital Voice Announcement
- Setting Loop Option
- File manager
- Making manual announcement

The trainer will deliver the theoretical and practical training in the OCC. The OCC Trainee will be train on system function and operating of the PA system. The trainee will have to complete several exercises on activating both manual and pre-recorded announcement at Stations.

### **3.5 CCTV – Closed Circuit Television System**

The CCTV System monitors all Operational activities in our network. The CCTV Monitors are located in the OCC as well as stations. The CCTV Cameras are located at strategic location along the network to provide optimum coverage. The CCTV System is used to monitor the passengers and to provide crowd control.

OCC trainee will be expose to the following system below;

- The function of the system
- Manual Control of the system
- Pan and zoom function
- System description

The training is delivered on theoretical and practical basis in the OCC

The OCC Trainee will be train on system function and operating the CCTV camera during on the on job training in the OCC.

### **3.6 SCADA and Power Distribution System**

Supervisory Control and Data Acquisition System (SCADA) together with the Power Distribution System, monitor and control the power distribution for the traction power through OCL to the Train set. The System comprises of the SCADA system located in the OCC and TPSS (Traction Power Sub Station) located at km 24.5, Serdang.

For SCADA system operations, training will be conducted by TLE department trainer.

The trainer will deliver the training theoretically in the OCC or in the classroom. The OCC Trainee will be expose in the switching procedure on the SCADA system during on the Job training. The use of SCADA simulator is also available to enhance understanding of the system. Visit to the TPSS will be arranged for the EC trainees to understand in details the system component and their function.

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### **3.7 ATP Panel System**

ATP or Automatic Train Protection Panel system is a set of devices located in the OCC that are connected to the operations of the ZSL 90 train safety system in the interlocking. They are able to control the speed of the train at any sections on the line through transmission of telegram to the train.

The OCC Trainee will be trained on how to operate the ATP MMI, such as;

- Understanding of the Operating of the ATP MMI
- Setting and deleting of speed limit

### **3.8 TMS Training**

TMS is a tools that regulates train operations and thus ensuring the reliability of the services. It also ensures the safety of train operations by preventing conflicting train movement.

To establish thorough understanding of the system where the OCC Trainee are able to identify all system messages, and takes appropriate action. The trainee must familiar with the system such as: -

- Starting up the system
- Familiar with Top level menu
- Understand Message Manager
- Understand the Detail View
- Understand the General View
- Understand the Operating of the Interlocking unit
- Familiar with Miscellaneous functions

Document required to carry out this training is as follows;

- Traffic Management System (basic know-how) - Manual A
- ILTIS Instruction Manual – Manual B
- ILTIS Route Setting – Manual C
- Train database Manual – Manual D
- Time Distance Diagram – Manual E
- Passenger Information System (PIDS) – manual F

Upon completion of their theoretical training, The OCC Trainee will undergo the On Job Training in the OCC. They will be expose to actual operations system with the guidance from the Senior Controller and under the supervision of the OCS on duty.

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### **3.9 SAP Training**

SAP or System Application Product is database software is used to manage reporting of defect. The OCS and EC trainees will be expose to the system.

The objective is to establish thorough understanding of the System where the OCC Trainee(s) is able to;

- Gather all data and defect report from various parties
- Register the data in the Daily Failure Report sheet
- Understand the function of the OCS and the Engineering Controller in relation with the creation of the SAP Notification.
- Understand the SAP Notification Processes.

The trainer will deliver the training theoretically and follow with some practical training creating notification into the SAP system.

## **4 OCC Refresher Training**

Refresher Training syllabus consist of ;

- Operations Procedure for OCC
- Operation Instruction
- Case study
- TMS training
- SCADA simulator

### **4.1 Operations Procedure for OCC**

Trainer will go through the OCC procedure, latest OI and case studies from the previous incident for improvement in handling future incident. The participants will be given several exercises and they have to answer the questions base on the Operations Procedure for OCC and other relevant document.–

### **4.2 TMS System – General**

The trainee will have to describe TMS Symbols and Diagram and to explain several TMS Functions.

### **4.3 SCADA Simulator**

The trainee will be trained on how to do safe SCADA switching. In the end of training session, the trainee will have to complete several switching exercises on the SCADA simulator.

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**Section B: OSS Training Module**

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## **1 OSS Training**

This OSS Training Module is a quick reference use by the Trainer to conduct training for the Trainee OSS and during Refresher Courses.

- a) An overview on what is the requirement relating to the training and refresher course
- b) Training concept and guideline to all OPS Trainer in conducting the training

OSS training objective is to ensure that at the end of the training, the OSS is competent and is able to execute their duty efficiently under Normal, Degraded and Emergency Operations.

## **2 OSS Initial Training**

This is a training program for trainee OSS in order for them to be qualified and able to carry out their duties at station. Trainee OSS trained by the Trainer will have the knowledge and/or skills required to perform their tasks competently and independently.

The objective of this training is to ensure that OSS understood all instructions and procedures convey by the Trainer.

### **2.1 Training Plan**

Most of the Trainee OSS are selected from the existing OTD pool and having the experience in railway operation. Thus, the training period is shorten compared to the training for Trainee OTD.

Trainee OSS are required to attend theoretical and practical training identified by the OPS Department. The training plan duration of two (2) months depending to their capability and competency.

The theoretical training will be conducted in the classroom with slide presentation and other means of training aids. Some technical description and procedures also describe in this training for basic understanding of the station equipment's prior attending the practical training.

## **3 Training Material**

The content of this training consists of training materials that are extracted from procedures as listed below: -

- Procedure for Station Supervisor [G00.OMO.M15112.NA.1001.\*]

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- Procedure for Communications and Signal Book [G00.OMO.M15114.NA.1002.\*]
- Administration of Cleaning Services – Station [G00.OMO.M82100.CD.1001.\*]
- Actions During Service Disruption, Incident & Accident [G00.OMO.M11150.CB.1002.\*]

### **3.1 Theoretical**

The Trainer shall conduct comprehensive training on theoretical and practical for the Trainee OSS, The training syllabus should cover topic as follows: -

#### **a) Normal Operation**

Describing of normal duties, administration of station operation office, managing of station facilities & safety equipment, administration of cleaning contractor, providing assistant to passenger, etc.

Details of Normal Operation training slide, as per ref. no.: G00.OMO.M10580.SH.1005.\*

#### **b) Degraded Operation**

Describing of station facilities failure, signaling system and/or train equipment related failure which may lead to service disruption i.e. combine service, train to train evacuation, etc.

Details of Degraded Operation training slide, as per ref. no.: G00.OMO.M10580.SH.1006.\*

#### **c) Emergency Operation**

Describing of potentially life-threatening situations i.e. Incident Command System (ICS), accident involving fatal or serious injuries, fire at stations, evacuation plan at stations, etc.

Details of Emergency Operation training slide, as per ref. no.: G00.OMO.M10580.SH.1007.\*

#### **d) Communication & Signal Book**

Guidelines for communication when communicating with the Operations Control Centre (OCC) and other personnel, communication equipment related matters, basic understanding of signaling equipment's, etc.

Details of Communications & Signal Book training slide, as per ref. no.: G00.OMO.M10580.SH.1016.\*

#### **e) Turnout Equipment Related Failure & Irregularities**

Understanding of turnout function, troubleshooting of defect or failures turnout i.e. detection missing, point trailed, installation of manual point lock, etc.



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Details of Turnout Equipment Related Failure & Irregularities training slide, as per ref. no.: G00.OMO.M10580.SH.1008.\*

**f) Train Equipment Related Failure & Irregularities**

Understanding of train operation, troubleshooting of defect or failures train i.e. isolation of door/ramp, Dead-man device failure, on-board train during redundancy mode, etc.

Details of Train Equipment Related Failure & Irregularities training slide, as per ref. no.: G00.OMO.M10580.SH.1015.\*

**g) Station Facilities Related Failure & Irregularities**

Describing and troubleshooting failures of Platform Screen Door (PSD), Emergency Egress Door (EED), Train Direction Display (TDD), etc.

Details of Station Facilities Related Failure & Irregularities training slide, as per ref. no.: G00.OMO.M10580.SH.1009.\*

**h) Handling Service Disruption**

Guidelines for handling service disruption i.e. line of information, operation code, combine service, roller shutter at KLIA2, etc.

Details of Handling Service Disruption training slide, as per ref. no.: G00.OMO.M10580.SH.1011.\*

**i) Basic PICOP & Permit To Work Related Matters**

Understanding of PICOP function, Permit To Work, Track Possession Request (TPR), Notice Call To OCC (NC), etc.

Details of Basic PICOP & Permit To Work Related matters training slide, as per ref. no.: G00.OMO.M10580.SH.1013.\*

**j) Evacuation From Train & Station Premises**

Describing of controlled and uncontrolled evacuation of passengers at station, train to train evacuation, emergency exit evacuation plan, etc.

Details of Evacuation From Train & Station Premises training slide, as per ref. no.: G00.OMO.M10580.SH.1012.\*

### **3.2 Practical**

The Trainer must ensure that trainee is able to demonstrate and describe how to carry-out and to operate all related station equipment's.

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The practical training conducted at the respective area in the depot and station are as follows: -

- Turnout operation i.e. hand crank for point machine, manual point lock, and inspect trail point
- Communication equipment i.e. PIDS, PA System in SOO & Platform, CCTV
- Station facilities i.e. lift and escalator
- Operating manually Platform Screen Door
- Installation of Brake Shoe and STOP Marker

In addition, trainee will be trained technically on the operational requirements of train operation as follow: -

- Activate the train driver's cab i.e. double ending relief
- Train door and/or ramp isolation
- Train Dead-man device malfunction i.e. on-board train to assist OTD
- Train redundancy mode i.e. on-board train to operate the flap window

#### **4 OSS Refresher Course**

The Trainer shall conduct refresher courses that consists of both theoretical and practical training. This refresher course will be conducted on 2 (two) days.

The refresher course syllabus should cover topic as follows: -

##### **a) Normal Operation**

Station operational related matters and updating new/current issues including checking validity of all Operations Instructions on a periodical basis incorporated in to the operations procedures.

##### **b) Degraded Operation**

First line troubleshooting and the Trainer shall ensure to refresh OSS with the safety skills, precautions and applying the standard procedure during operating and installing all station equipment's and facilities at stations.

##### **c) Emergency Operation**

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First responder and the trainer shall emphasize that occurrence of serious accidents on the station premises such as bomb threat, fire is likely rare but nevertheless, it is recognized as extremely important that a well-rehearsed procedures are implemented, to control and mitigate the consequences during such incident.

### NOTE

OSS also require to attend Refresher Course for PICOP that planned for 2 (two) years interval.

#### 4.1 OSS Refresher Course Day 1 - Theoretical

No.	Descriptions	Time
1.	GREETING AND BRIEFING Module content	0900hrs – 0930hrs (30 minutes)
2.	PROCEDURE REVISION Part 1 Presentation by Participants Demonstrate any Degraded and/or Emergency incidents. Content of subject as per Annex 1.	0930hrs – 1100hrs (1:30 hrs)
3.	SHORT BREAK	1100hrs – 1115hrs (15 minutes)
4.	PROCEDURE REVISION Part 2 Content of subject as per Annex 1.	1115hrs – 1245hrs (1:30 hrs)
5.	MEAL BREAK	1245hrs – 1345hrs (1:00 hrs)
6.	PROCEDURE REVISION Part 3 Case Study (example) a) Accident & Incident b) Operations Instructions c) Station Operational Related Matters	1345hrs – 1515hrs (1:30 hrs)
7.	SHORT BREAK	1515hrs- 1530hrs (15 minutes)
8.	HOD/IMMEDIATE SUPERIOR DISCOURSE	1530hrs – 1600hrs (30 Minutes)

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9.	E-LEARNING	1600hrs – 1700hrs (1:00 hrs)
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## 4.2 OSS Refresher Course Day 2 – Practical

No.	Descriptions	Time
1.	GREETING AND BRIEFING Module content	0900-0930 (30 minutes)
2.	TURN OUT TROUBLESHOOTING Site Practical Training Content of subject as per Annex 2.	0930- 1130 (2:00 hrs)
3.	SHORT BREAK	1130 – 1200 (30 minutes)
4.	TRAIN TROUBLESHOOTING Site Practical Training Content of subject as per Annex 3.	1200 – 1300 (1:00 hrs)
5.	MEAL BREAK	1300 – 1400 (1:00 hrs)
6.	STATION FACILITIES Station Equipment and Facilities Content of subject as per Annex 4	1400 – 1700 (3:00 hrs)

## 4.3 Details of the Annexes

No.	Annex 1
1.	<b>Set : 1</b> <ol style="list-style-type: none"> <li>a) Stabling of Train or Track Vehicle at Stations/ Reversing Track</li> <li>b) Operating of Automatic Through Routing (ATR) GO Switch</li> <li>c) Failure of Train Bogie Set</li> <li>d) Coupling of Train at Confined Space</li> <li>e) Train Redundancy Mode</li> </ol>

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	f) Procedure During Emergency at KL Sentral (Unpaid Area)
2.	<p><b>Set: 2</b></p> <ul style="list-style-type: none"> <li>a) Line of Information during Service Disruption, Incidents and Accidents</li> <li>b) Communications Equipment Failures</li> <li>c) Operating of Automatic Through Routing (ATR), GO Switch</li> <li>d) Train overshoot platform and Stopping Point</li> <li>e) Passengers trapped inside an Elevator</li> <li>f) Fire</li> </ul>
3.	<p><b>Set: 3</b></p> <ul style="list-style-type: none"> <li>a) Failure of train Dead-Man Device</li> <li>b) Passengers train door/ramp failures</li> <li>c) Incident Management</li> <li>d) Appointment of Acting Operation Chief (AOC)</li> <li>e) Handing over to Operation Chief (OC)</li> <li>f) Accident involving fatal or serious injuries</li> </ul>
4.	<p><b>Set: 4</b></p> <ul style="list-style-type: none"> <li>a) Vandalism and obstruction at Stations</li> <li>b) Controlled evacuation of passengers</li> <li>c) Uncontrolled evacuation of passengers</li> <li>d) Electricity Power Loss</li> <li>e) Items dropped onto track at Stations</li> <li>f) Roller Shutter at KLIA2</li> </ul>

No.	Annex 2
1.	<p>INSTALLING STOP SIGNAL BOARD &amp; BRAKE SHOES</p> <ul style="list-style-type: none"> <li>a) Stop Signal Board (Stop Marker)</li> <li>b) Brake Shoes</li> </ul>
2.	<p>TURNOUT OPERATION &amp; TROUBLE SHOOTING</p> <ul style="list-style-type: none"> <li>i. Parts of turnout</li> <li>ii. Turnout Principle</li> <li>iii. Turnout Inspection</li> </ul>

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	<p>iv. Operating turnout installed with 1 motor and 2 motors</p> <p>Turn Out Failure</p> <ul style="list-style-type: none"> <li>a) Detection Missing</li> <li>b) Point Trail</li> </ul> <p>Installation of Manual Point Lock</p> <ul style="list-style-type: none"> <li>a) Scotching</li> <li>b) Clamping</li> </ul>
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No.	Annex 3
1.	Train Door/Ramp Failures
2.	Dead-Man Device Failures
3.	Train Air Condition Failures
4.	Train Bogie Set Failures
5.	Train Redundancy Mode
6.	Accompanying OTD Onboard Train

No.	Annex 4
	<p><b>Set: 1 (KL Sentral)</b></p> <ul style="list-style-type: none"> <li>a) Platform Screen Doors (PSD)</li> <li>b) Automatic Through Routing (ATR)</li> <li>c) Passenger Information Display System (PIDS)</li> <li>d) Public Address (PA)</li> <li>e) Close Circuit Television (CCTV)</li> </ul>

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	<ul style="list-style-type: none"> <li>f) Fire Alarm System</li> <li>g) Baggage Operation</li> <li>h) Escalator and Elevator</li> <li>i) Roller Shutter</li> <li>j) Emergency Exit</li> </ul>
	<p><b>Set: 2 (KLIA)</b></p> <ul style="list-style-type: none"> <li>a) Platform Screen Doors (PSD)</li> <li>b) Emergency Exit Door (EED)</li> <li>c) Automatic Through Routing (ATR)</li> <li>d) Passenger Information Display System (PIDS)</li> <li>e) Close Circuit Television (CCTV)</li> <li>f) Public Announcement (PA)</li> <li>g) Fire Alarm System</li> <li>h) Baggage Operation</li> <li>i) Escalator and Elevator</li> <li>j) Roller Shutter</li> <li>k) Emergency Exit</li> </ul>
	<p><b>Set: 3 (KLIA 2)</b></p> <ul style="list-style-type: none"> <li>a) Passenger Information Display System (PIDS)</li> <li>b) Close Circuit Television (CCTV)</li> <li>c) Public Address (PA)</li> <li>d) Fire Alarm System</li> <li>e) Escalator and Elevator.</li> <li>f) Roller Shutter</li> <li>g) Emergency Exit</li> </ul>

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**Section C: OTD Training Module**



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## **1 OTD Training**

This OTD Training Module is a quick reference that will be used by the Trainer to conduct New/Initial Training for Trainee OTD, and Refresher Course.

- a) An overview on the requirement relating to the training and refresher courses
- b) Training concept and guideline to all OPS Trainer in conducting the training

OTD training intention is to ensure that at the end of the training, the OTD is competent and is able to execute their duty efficiently under Normal, Degraded and Emergency Operations.

## **2 OTD Initial Training**

This is a training program for trainee OTD in order for them to be qualified and able to carry out their duties to drive train and shunting loco. Trainee OTD trained by the Trainer will have the knowledge and/or skills required to perform their tasks competently and independently.

The objective of this training is to ensure that OTD understood all instructions and procedures conveyed by the Trainer.

### **2.1 Training Plan**

Trainee OTD are require to attend theoretical and practical training identified by the OPS Department. The training plan durations are between four (4) to six (6) months depending to their adaptability and capability.

The theoretical training will be conducted in the classroom with slide presentation and other means of training aids. Some technical description and procedures also describe in this training for basic understanding of the train equipment's prior attending the practical training such as on-board train for route knowledge, familiarization of train operation and signaling within the network.

The examinations are allowed to be taken up two (2) times only [initial and maximum one (1) time re-sit] for the same training. Any failure to pass theoretical and practical examinations after the second attempt, which states in the Training Procedure ref. no.: G00.OMH.M10580.SD.0006.\*, would result in the termination of the contractual employment.

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### **3 Training Material**

The Trainer to prepare and furnish Trainee OTD with a hardcopy of training handout for reference and guideline This is to ensure that all Trainee OTD's fully understands, applying the standard procedure, well trained with the safety precautions, trains' equipment and requirement as well as to familiarize all relevant trains' system.

The content of this training module and the training handout (hardcopy) consists of several procedures and attachments as follows: -

- Abbreviations and Glossary (Operations) [G00.OMO.M15110.NA.1003.\*]
- Track Layout [G00.OMO.M15110.NA.0001.\*]
- Procedure for Communications and Signal Book [G00.OMO.M15114.NA.1002.\*]
- Procedure for Train Drivers [G00.OMO.M15113.NA.1004.\*]

#### **3.1 Theoretical**

On theoretical training, the Trainer shall initiate an induction to OPS Department and brief operational procedures related matters such as communication equipment's, signaling system, depot operation, train system configuration, etc.

The Trainer shall conduct comprehensive training on theoretical and practical for the Trainee OTD. The training syllabus should cover topic as follows: -

##### **a) Familiarization with Railway Operation & Railway System**

Describing of OPS working chart and organization structure such as Operations Control Centre, Station and Train crew. This module will give the Trainee OTD get more familiar with important terms of System Operations. The Trainee OTD will get basic knowledge regarding a system overview, and introduction to the ERL-CRS system.

The training material details can be referred from the OTD Initial Training slide, ref, no.: G00.OMO.M10580.SH.1017.\*

##### **b) Operations Glossary & Abbreviation**

Describing term and definition use in all operations and safety documents.

##### **c) Communication & Signal Book**

Guidelines for communication when communicating with the Operations Control Centre (OCC) and other personnel, communication equipment related matters, understanding of signaling equipment's, etc.

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The training material details can be referred from the Communication & Signal Book training slide, ref, no.: G00.OMO.M10580.SH.1023.\*

**d) Depot Operation**

Describing of Depot area including tracks, Workshop, stabling area, Under Floor Wheel Lathe, washing plant, movement in Depot, etc.

The training material details can be referred from the OTD Initial Training slide, ref, no.: G00.OMO.M10580.SH.1017.\*

**e) Normal Operation**

Describing of normal duties, train operation at main line i.e. changing cab, dwell time, providing assistant to passenger, etc.

The training material details can be referred from the OTD Initial Training slide, ref, no.: G00.OMO.M10580.SH.1017.\*

**f) Degraded Operation**

Describing of service disruption due to SIG or RST equipment related failure which resulted to combine service, delay/termination of train service, etc.

The training material details can be referred from the OTD Initial Training slide, ref, no.: G00.OMO.M10580.SH.1017.\*

**g) Emergency Operation**

Describing of potentially life-threatening situations i.e. Incident Command System (ICS), role as an Acting Operations Chief, accident involving fatal or serious injuries, fire on-board train, etc.

The training material details can be referred from the OTD Initial Training slide, ref, no.: G00.OMO.M10580.SH.1017.\*

**h) RST Equipment Related Failure & Irregularities**

Understanding of train operation, troubleshooting of defect or failures train i.e. isolation of door/ramp, dead-man device failure, coupling/uncoupling of trains, etc.

The training material details can be referred from the RST Equipment Related Failures & Irregularities training slide, ref, no.: G00.OMO.M10580.SH.1024.\*

**i) SIG Equipment Related Failure & Irregularities**

Troubleshooting of ATP train borne failures i.e. ATP loss position, overriding signal at Danger Aspect, overriding of turnout failure, etc.

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The training material details can be referred from the SIG Equipment Related Failures & Irregularities training slide, ref, no.: G00.OMO.M10580.SH.1025.\*

#### **j) Station Facilities Related Failure & Irregularities**

Describing and communication with OSS during failures of Platform Screen Door (PSD), Baggage Clearance Signal, etc.

The training material details can be referred from the OTD Initial Training slide, ref, no.: G00.OMO.M10580.SH.1017.\*

#### **k) Handling Service Disruption**

Guidelines for handling service disruption i.e. line of information, operation code, combined service, shuttle service, etc.

The training material details can be referred from the OTD Initial Training slide, ref, no.: G00.OMO.M10580.SH.1017.\*

#### **l) Evacuation From Train & Station**

Describing of controlled and uncontrolled evacuation of passengers at station, train to train evacuation, train to Ground, etc.

The training material details can be referred from the OTD Initial Training slide, ref, no.: G00.OMO.M10580.SH.1017.\*

### **3.2 Practical**

On practical training, Trainer shall ensure that trainee must be able to demonstrate and describe how all the above said procedures carried out. Trainee OTD must perform train preparation (external and internal check) and rectified failures on the train as per train trouble shooting procedures.

The driving training below will be conducted at the respective area in the depot, test track and mainline. The trainings are as below: -

- Drive train with Shunting Mode movement in the distinct area of the depot such as stabling area, workshop and washing plant
- Drive train at test track with signalling failures and irregularities such as ATP loss of position, turnout failures and Passing Signal At Danger, etc
- Drive train at test track with train failures and irregularities such as dead-man device malfunction, passenger emergency brake unit activation, passenger emergency door release action, etc
- Coupling and uncoupling of train at stabling area and/or test track

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- Driving train during daytime and at night with different level of eyesight and to operate lighting component

The Trainer will make arrangement with OTS for Trainee OTD to drive train at main line under supervision by the Senior OTD.

#### **4 OTD Refresher Course**

The trainer shall conduct refresher course that consists of both theoretical and practical training. The refresher course will be conducted in 2 (two) consecutive days or divided into 2 sessions (on another day). Mostly in the Day 1, training will take place with classroom and on-board train at depot. The Day 2 is solely for practical training at test track, stabling area, and movement in the depot area. In addition, 2 (two) trains are required for the practical training e.g. coupling & uncoupling of trains.

The refresher course syllabus should cover topic as follows: -

##### **a) Normal Operation**

Train operational related matters and updating new/current issues including checking validity of all Operations Instructions on a periodical basis incorporated in to the operations procedures.

##### **b) Degraded Operation**

The trainer shall conduct the theoretical training in classroom with slide presentation and other training aids. Practical training conducted onboard train and participants must be able to describe and demonstrate the functionality of the equipment's as listed below:-

- Automatic Train Protection (ATP)
- Coupling and De-coupling/Pushing and Pulling of trains
- Train Door/Ramp Isolation
- Main Components Failure and Rectification

##### **c) Emergency Operation**

The Trainer to reiterate potentially life-threatening situation and shall emphasize responsibility to control and mitigate the consequences of an incident during emergency as listed below: -

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- Incident Management including role as an Acting Operations Chief, etc
- Accident involving Injuries or Fatality
- Fire On-Board A Train
- Derailment and Collision

## 4.1 OTD Refresher Course Day 1 - Theoretical

No.	Descriptions	Time
1.	GREETING & BRIEFING Module content	0900hrs – 0930hrs [30 minutes]
2.	PROCEDURE REVISION Part 1  Presentation by Participants Demonstrate any Degraded and/or Emergency Operation e.g. Train system failures, Role as an Acting Operations Chief, etc.  Content of subject as per Annex 1.	0930hrs – 1100hrs [1:30 hours]
3.	SHORT BREAK	1100Hrs – 1115hrs [15 minutes]
4.	PROCEDURE REVISION Part 2  a) Train Internal/External system overview b) ATP & Automatic Through Routing system overview c) Override signal & turnouts  Content of subject as per Annex 1.	1115hrs – 1300hrs [1:45 hours]
5.	MEAL BREAK	1300hrs – 1400hrs [1:00 hours]
6.	PROCEDURE REVISION Part 3	1400hrs – 1515hrs [1:15 hours]

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	a) Operations Instructions b) Latest train technical instruction c) Handling of accident & incident  Content of subject as per Annex 1.	
7.	SHORT BREAK	1515hrs – 1530hrs [15 minutes]
8.	HOD/IMMEDIATE SUPERIOR DISCOURSE	1530hrs – 1600hrs [30 minutes]
9.	E- Learning & Examination	1600hrs – 1700hrs [1:00 hours]

## 4.2 OTD Refresher Course Day 2 - Practical

No.	Descriptions	Time
1.	GREETING & BRIEFING Module content and Safety briefing	0900hrs – 0915hrs [15 minutes]
2.	TRAIN TROUBLESHOOTING ET01 & ET02 Stabling area a) Underneath equipment inspection b) Coupling and Uncoupling – Mechanical  Content of subject as per Annex 2	0915hrs – 1115hrs [2:00 hours]
3.	SHORT BREAK	1115Hrs – 1130hrs [15 minutes]
4.	TRAIN TROUBLESHOOTING ET01 & ET02 Test track – movement at depot a) Simulation of ATP troubleshooting – Lost position b) PEBU and PER activation c) Radio communication & Signaling familiarization  Content of subject as per Annex 3	1130hrs – 1300hrs [1:30 hours]
5.	MEAL BREAK	1300hrs – 1400hrs [1:00 Hours]

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6.	<p>TRAIN TROUBLESHOOTING ET01 &amp; ET02</p> <p>Inside the train at Stabling area</p> <p>a) Door Isolation &amp; Rectification</p> <p>b) Power supply disruption handling - Redundancy mode</p> <p>Content of subject as per Annex 4</p>	1400hrs – 1515hrs [1:15 hours]
7.	<p>SHORT BREAK</p>	1515hrs – 1530hrs [15 minutes]
8.	<p>TRAIN TROUBLESHOOTING ET01 &amp; ET02</p> <p>Inside the train at Stabling area</p> <p>a) Startup &amp; shutdown of train – item to be observed</p> <p>b) Carryout brake test &amp; troubleshooting – item to be observed</p> <p>Content of subject as per Annex 5</p>	1530hrs – 1700hrs [1:30 hours]

### 4.3 Detail of the Annexes

Annex 1	
1.	<p><b>Set 1:-</b></p> <p>a) Coupling &amp; Uncoupling - Mechanical and Confine area</p> <p>b) Shunting agreement &amp; movement in Depot</p> <p>c) Train brake system failure</p> <p>d) Role as an Acting Operations Chief at incident/accident area</p> <p>e) Door/Ramp isolation &amp; rectification</p> <p>f) Signaling system within Depot/Workshop</p> <p>g) Evacuation of passengers - train to ground</p> <p>h) Guideline for driving “On sight &amp; under caution” for safety train operation</p> <p>Training slide ref. no.: G00.OMO.M10580.SH.1019.*</p>
2.	<p><b>Set 2:-</b></p> <p>a) Dead-man device failure</p> <p>b) Evacuation of passengers - train to train</p> <p>c) Manual announcements during Degraded/Emergency Operation</p> <p>d) ATP - lost position &amp; troubleshooting</p> <p>e) Door and ramp isolation</p> <p>f) ATP - Override signal and turnouts</p> <p>g) Emergency Operation – Tier &amp; Definition</p>



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	<p>h) Principle of Signaling on mainline</p> <p>Training slide ref. no.: G00.OMO.M10580.SH.1020.*</p>
3.	<p><b>Set 3:-</b></p> <ul style="list-style-type: none"> <li>a) Coupling &amp; Uncoupling - Electrical</li> <li>b) Handling of train lost traction &amp; redundancy mode</li> <li>c) Emergency Operation - Train hit object/human</li> <li>d) Guideline for reporting of train failure</li> <li>e) Activation of PEBU - responding &amp; rectification</li> <li>f) ATP train borne system troubleshooting</li> <li>g) Bi-directional movement - signal to be observed</li> <li>h) Role &amp; responsibilities of Workshop Lookout man</li> </ul> <p>Training slide ref. no.: G00.OMO.M10580.SH.1021.*</p>
4.	<p><b>Set 4:-</b></p> <ul style="list-style-type: none"> <li>a) Washing of train – Karcher &amp; Britannia</li> <li>b) Operating ATR – Route selector &amp; GO switch</li> <li>c) Train movement – Entering/Leaving Workshop</li> <li>d) Action during PSD failure</li> <li>e) Proper Startup &amp; Shutdown of train</li> <li>f) Pulling &amp; Pushing of trains on mainline</li> <li>g) Re-setting of PER</li> <li>h) Role &amp; responsibilities of Acting Operations Chief</li> </ul> <p>Training slide ref. no.: G00.OMO.M10580.SH.1022.*</p>

TRAIN TROUBLESHOOTING ET01 & ET02	
Annex 2	
1.	<p>Bogie equipment &amp; function</p> <ul style="list-style-type: none"> <li>a) Primary &amp; Secondary suspension</li> <li>b) Axle &amp; wheel</li> <li>c) Under frame compartment</li> <li>d) ATP train borne equipment – underneath train</li> </ul>
2.	<p>Coupler unit inspection &amp; function</p> <ul style="list-style-type: none"> <li>a) Inspect coupler manual device functionality</li> <li>b) Coupler electrical contact box cover</li> </ul>

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	<ul style="list-style-type: none"> <li>c) Coupler telescopic arm</li> <li>d) Coupler isolation valve position</li> <li>e) Coupler test – Both coupler engage &amp; locked</li> </ul>
3.	<p>EP panel &amp; parking brake function</p> <ul style="list-style-type: none"> <li>a) Isolation of EP panel</li> <li>b) Releasing of Parking brake &amp; inspect of brake calipers</li> </ul>
<b>Annex 3</b>	
1.	<p>Automatic Train Protection [ATP] Lost position</p> <ul style="list-style-type: none"> <li>a) Reporting of failure to respective department</li> <li>b) Releasing of Emergency brake</li> <li>c) Identify Kilometer Board at OCL Pole</li> <li>d) Key-in new position and relevant track</li> <li>e) To ensure train passing the Magnetic pole</li> <li>f) ATP MMI function &amp; fault clearance</li> </ul>
2.	<p>PEBU and PER activation</p> <ul style="list-style-type: none"> <li>a) Identify the failure and door location</li> <li>b) Action to be taken during handling of failure</li> <li>c) Re-setting of PEBU &amp; PER</li> </ul>
<b>Annex 4</b>	
1.	Door Fault identification at DDU & Physical inspection
2.	Door proper isolation – Observe the proper sequence of isolation
3.	<p>DCU inspection &amp; message to be observed after isolation</p> <ul style="list-style-type: none"> <li>a) Switch Off DCU before door can be closed &amp; locked</li> <li>b) Normalise DCU after isolate the door</li> </ul>
4.	<p>Managing train power disruption – Redundancy mode</p> <ul style="list-style-type: none"> <li>a) Item to be observed at Driver's Display Unit [DDU]</li> <li>b) Manual Announcements – Content &amp; Sequence</li> <li>c) Action to be taken if train will be pulled out of service</li> </ul>
<b>Annex 5</b>	
1.	<p>Start-up &amp; shutdown of train</p> <ul style="list-style-type: none"> <li>a) Observe Driver's Display Unit [DDU]</li> <li>b) Observe Main Reservoir Pressure [MRP]</li> </ul>
2.	Carryout brake test & troubleshooting

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a) Observe Driver's Display Unit [DDU]
b) Observe Main Reservoir Pressure [MRP]
c) Observe train parking brake switch
d) Brake test fault/defective

## 5 OTS Refresher Course

The same training contents is applicable for the OTS refresher **course**. However, there are some additional supervisory contents **that** shall be covered for the highly interactive and discussion based session for the OTS.

### 5.1 IVU Rail Plan

- i. Managing OTD main duties assignments, leave, absenteeism, etc.
- ii. Monitoring data for monthly overtime
- iii. Planning, prepare and coordinate for monthly OTD and Shunter duties
- iv. IVU Rail Plan training (G00.OMO.M11190.NE.1002.\*)

### 5.2 Crew Planning.

- i. Reshuffle operation train crew during degraded and emergency situation
- ii. Monitoring leave administration every month for OTD
- iii. Placing crew concerning mutual swap, emergency leave and medical leave
- iv. Prepare the daily train driver's summary and duties sheet
- v. Liaise with relevant controller for crew management and train movements
- vi. Ensure trains depart according to the timetable at both terminals

### 5.3 Disciplinary

- i. Conduct counseling session for OTD as per advise and guide by OPS management and in accordance to the company Industrial Relation procedure
- ii. Conduct coaching session for OTD to improve their knowledge and skills
- iii. Monitoring daily attendances and tardiness for OTD via System Log-in (Log viewer) and train summary hard copy
- iv. Logging and monitoring disciplinary action taken and observation period against OTD
- v. Ensure train crew wear a proper Operation uniform and PPE as per required
- vi. Evaluate train driver's overall performance based on job description

### 5.4 Documentation

- i. Compile & gather all record and incident cases

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- ii. Lodge and updating daily operation events in Operation journal
- iii. Briefing train drivers on the new implementation of Operation Instruction
- iv. Convey information to OTD concerning daily operation, operation memo and operation instruction

## **5.5 Evaluation & Assess OTD performance**

- i. Conduct On job assessment to evaluate attitude, skills & knowledge
- ii. Identify the train driver needed & training required
- iii. Face to face assessment on train driver driving skills & trouble shoot knowledge