#53174

ERL MAINTENANCE SUPPORT SDN BHD

(Company No. 498574-T)

E-MAS

Effective Railway Operations; Reliable System Maintenance

SIGNALLING DEPARTMENT

SIGNALLING MAINTENANCE MANAGEMENT PROCEDURE

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Release

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Acknowledged:	David Thiagarajan	Quality, Environment and Documentation	13.05.16	
Acknowledged:	Sukhbir Singh	Safety and Security.	23/05/16	
Acknowledged:	James L. Boudville	Operation	16.5.16	
Checked:	Anthony Arokianathan	Signalling	11.05.16	
Checked:	Aziz Hashim	Signalling	10.05.16	
Author:	Asmawi Jusoh	Signalling	10.05.16	
	Name	**Department**	**Date**	**Signature**

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

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1 Purpose

The purpose of the document is to provide guidance to the Signalling Department in the maintenance processes for the purpose of providing safe and efficient maintenance of the ERL/CRS Systems and to ensure a safe on-time service.

This is also to clearly define and describe the various maintenance and other supporting processes that govern the maintenance activities of the signalling department system.

To clearly define the job functions of Signalling personnel in Signalling Department.

1.1 Abbreviations, Definitions and References

No	Term	Definition
1	BTS	Bandar Tasik Selatan Station
2	CEO	Chief Executive Officer
3	Depot	ERL Maintenance Activity and E-MAS Main Office Base
4	Employee(s)	Staff that employed by E-MAS
5	ERLSB	Express Rail Link Sdn.Bhd. (375839-H)
6	EMSNET	E-MAS Domain
7	E-MAS	ERL Maintenance Support Sdn Bhd (498574-T)
8	ERL/CRS	Express Rail Link / Commuter Rail Service
9	HRD	Human Resource Department
10	HOD	Head Of Department
11	INF	Infrastructure
12	KLIA	Kuala Lumpur International Airport
13	KLIA2	Kuala Lumpur International Airport 2
14	KLS	Kuala Lumpur Sentral
15	OCC	Operation Control Centre
16	O & M	Operation and Maintenance
17	OS	Operating System
18	PC	Personal Computer
19	PCS	Putrajaya and Cyberjaya Station
20	PIDS	Passenger Information Display System
21	QMD	Quality, Environment and Documentation Department
22	SAP	System Application Products
23	SD	System Development
24	SIG	Signalling
25	SIG-IT	Signaling Information Technology
26	STS	Salak Tinggi Station
27	SPYTL	Syarikat Pembenaan Yeoh Tiong Lay
28	TLE	Telecomunication
29	TPSS	Traction Power Sub-Station
30	XA	Crossover
31	*	An asterisk (*) used to refer latest version

2 Scope, Distribution and access

The document provides an overview of the signalling system maintenance with reference to the details and principles being provided by the supplier's manuals for use by the relevant maintenance staff.

This procedure implemented for all Signalling Personnel. This document can be accessed from the Electronic Document Management System and E-MAS Portal by all Signalling Personnel.

3 Maintenance Management

3.1 Introduction

The SIG department consists of four main sub-groups. As of 1st May 2013, Information Technology (IT) services was incorporated to SIG department as per SIG Department Organization chart. Refer Doc. No.: G00.OMW.M11110.BB.*.

The details of the 4 main sub-groups are as follows:

3.1.1 Signalling Group (SIG - SIG)
Maintain all Signalling Equipment

3.1.2 Telecommunications Group (SIG - TLE)
Maintain all Telecommunications equipment

3.1.3 Infrastructure Group (SIG - INF)
Maintain all Infrastructures (building services) of all stations with the exception of Kompleks Rel Udara (KRU). At KRU, only the Genset and fire alarm system is maintained by Infra.

3.1.4 E-MAS IT Services
Maintain all IT equipment and provide IT support for E-MAS (including the back end support (server) as of 1st October 2014). Kindly refer appendix no 1 for E-MAS IT General Procedure.

3.2 SIG Sub- Groups

3.2.1 Signalling Group (SIG - SIG)

3.2.1.1 SIG group maintains the signalling system on a 24-hour basis.

3.2.1.2 SIG group shall ensure the availability of the system and assist in additional works that involves or affects the signalling system.

3.2.1.3 SIG group consists of office based and shift personnel. The shift personnel are divided into 4 groups to provide the 24-hour support. Each group divided and stationed at two maintenance bases, which are TPSS and Depot. However, this arrangement may be changed by the supervisor depending on work requirement and manpower optimization.

3.2.1.4 The System Development group consists of selected SIG personnel responsible for engineering works such as improvements, modifications, research, investigation, analysis and to offer technical support when required.

3.2.2 Telecommunications Group (SIG - TLE)

3.2.2.1 The TLE group maintains the telecommunication equipment on a 24-hour basis.

3.2.1.2 TLE group shall ensure the availability of the system and assist in additional work that involves or affects the signalling system.

3.2.1.3 TLE group consists of office based and shift personnel. The shift personnel are divided into 4 groups to provide 24-hour support. The shift personnel are based at Depot, where the central telecommunication is installed.

3.2.3 Infrastructure Group (SIG - INF)

3.2.3.1 The INF group maintains all equipment and provide services mentioned in item 3.1.3 above on a 24-hour basis.

3.2.3.2 The INF group has been recently re-structured in March 2008 and these changes are reflected in the organization chart referred in item 3.1 above. In the new structure, INF group is divided based on two main area of focus which are Maintenance and Development.

3.2.3.3 The Maintenance group is headed by a supervisor in-charge of preventive and Corrective Maintenance. The Preventive Maintenance has one group while the Corrective Maintenance is divided into 4 groups as the Corrective Maintenance is required to provide 24-hour support. The Objective of the System Development group is similar to that mentioned in item above.

3.2.1.4 E-MAS IT personnel

Kindly refer appendix no 2 for the roles and responsibility between E-MAS IT and ERLSB's Information Service Management department.

3.3 Job Responsibility

Each employee has been given a Job Description which they have read and understand and duly signed. Below is the general overview of their scope of responsibilities.

3.3.1 Assistant Manager

Assistant Manager is a part of the management team of SIG. His duties are similar to the duties of the SD and Supervisor. He would also take over the role of SIG HOD when the latter is not available. He is responsible for the development of the SIG personnel and system. He shall be actively involved in the planning and execution of training and development of the SIG personnel along with the SIG HOD. He shall also look into the improvement of the various subsystems to ensure high system availability.

Assistant Manager also responsible for the correct documentation of the works carried out and analyzes the monthly Report to ensure efficient handling of manpower. He shall also be involved in the monthly Preventive Maintenance Plan along with the Supervisor and analyzes the monthly adherence report produced within the department. The daily work process is similar to that of SD. However, his area of responsibility and authority's wider.

3.3.2 System Development (SIG, TLE, INF)

SD Group is formed to assist the Supervisor and the SIG HOD in technical and work process issues. The System Development consists of Engineers and selected technicians to study, analyze and propose practical and effective recommendations for solving problems related to technical and work processes.

The SD Group reports directly to the Assistant Manager. SD Group is assigned to work on office hours (0815 hrs -1715hrs or 0845hrs – 1745 hrs) however, for special maintenance activities such as testing, inspections or other special works; they may work during the maintenance period (0000 hrs - 0600hrs) when approved by the Signalling HOD. Refer Appendix no 3 for a detail guide of the work process for the SD.

3.3.3 Supervisor (SIG, TLE, INF)

Supervisor shall manage and maintain the work process and the welfare of staff. The supervisor is also responsible to monitor their staff's attendance and late comings. Any discrepancies and abnormalities will be reported to the immediately and highlighted to the SIG HOD.

The supervisor is also responsible for the timely closing of the work orders within their group and to ensure maximum data accuracy on a monthly basis. Supervisor is assigned to work on normal office hours (0815 hrs -1715hrs or 0845hrs – 1745 hrs), Refer Appendix no 4 for a detail guide of the work process for the supervisor.

3.3.4 Senior Technicians / Technicians

To cover the maintenance activity for the entire ERLSB network. The technicians are divided into groups according to their subsystems.

The SIG technicians are based at both TPSS and Depot to ensure fast and effective response during failures. These technicians work on 3 rotating shift (0700hr-1530hr / 1500hr-2330hr / 2300hr-0730hr) to provide 24-hour coverage. The technicians report to the supervisor. Refer Appendix no 5 for a detail of their work process.

The TLE group technicians are based in Depot and follow the same shift pattern as the signalling technicians. Although they are based at depot, they are required to maintain the telecommunication equipment in all stations.

The INF groups are based in KLS to offer fast response. The technicians work on 3 rotating shifts (0700hr-1530hr, 1500hr-2330hr, 2300hr-0730hr), for senior technicians' and technicians' Job Description.

3.3.5 IT Executive

IT Executive is responsible for the maintenance of all E-MAS IT equipment. This includes the maintenance of the back end system such as the servers. IT Executive is responsible for the planning of preventive maintenance, ad-hoc technical support, yearly audits and strategic planning of IT equipment replacement and repairs.

The working hours will follow that of the normal office based staff (0815 hrs -1715hrs or 0845hrs – 1745 hrs). They will be based in Depot and provide support for the whole of E-MAS throughout the ERLSB network (KLS to KLIA 2).

3.4 SIG Department Objective

The application of strategies, processors, resources and record management described above together with other procedures is aimed to achieve the following:

- To ensure 100% system reliability for the train operation.
- To ensure 100% Station and IT equipment availability while maintaining an eco-friendly environment

3.5 Department Administration

3.5.1 Leaves

The leave is governed by the HRD as per 'Leave Administration Procedure'. All leave applications must be filled in the approved leave application template. Refer appendix no 6.

3.5.2 Card Access System

All E-MAS employees are required to sign in and out when they report for duty and leave the office. SIG personnel are stationed at TPSS, Depot and KL Sentral (KLS). All personnel stationed at TPSS are required to sign in and out at the TPSS Card Access System Reader. This is vital to monitor the time they report for duty. Those stationed in Depot are required to sign in and out at depot (Administration building & Main workshop), the same applies for those stationed at KLS.

Any deviation from the above practice must be approved by the HOD or his delegate. In cases of emergencies, signing in or out at different places is allowed but the HOD or his delegate must be informed verbally or in writing. The Card Access System maintains all records and is sent to the relevant HOD as and when required. HRD will request the records as and when required.

3.5.3 Vehicle

3.5.3.1Company vehicle

3.5.3.1.1 SIG Pool Vehicle.

Key personnel are provided with pool company vehicle for fast response in case of failure or emergency. These vehicles are allowed to be driven back home after office hours and kept at home during the week ends. However, the vehicles are to be used for company related matters only. The vehicles should not be used for personal reasons and could also be used by other personnel for official matters on pool basis. No personal effects or belongings are allowed to be kept in these vehicles.

Vehicle log report is provided for each vehicle and it is the duty of the user to ensure that the vehicle log report is updated every time the company vehicle is used. The user is also responsible to report to Material Management / Administration Department of any

damage or accidents to the company vehicle. The user must always ensure the company vehicle is serviced to the pre-determined scheduled (mileage marker for next service).

3.5.3.2 Company Pool vehicle

There are a total of 3 vehicles for shift staff stationed at Depot, TPSS and 1 for those stationed at KLS. These are pool vehicle and used by all shift staff with valid driving license. Those caught driving without a valid driving license will be severely penalized. The car users are required to fill in all the details as in the Vehicle Log record. The pool car is assigned to a custodian and it is the responsibility of the custodian to ensure proper usage and handling of the car. The pool cars are not allowed to be driven back home by the technicians and it is to be used for company purposes only. The technicians must also ensure that enough fuel is available during all times. For further details, refer appendix no 7 for Company Vehicle Procedure.

3.6 Company Hand phone

3.6.1 Individual Hand Phone Allowance and Reimbursement

Individual Hand phone allocation means that hand phones can be purchased and claimed for reimbursement once after every twenty four (24) months completed from the last claim made, while a monthly hand phone line allowance is provided to selected individuals who have to be reachable at all time. Only recipients of the monthly hand phone line allowance shall clam for hand phone purchase reimbursement. For further details, refer appendix no 8.

3.6.2 Pool Hand Phones and SIM Card Allocation

The pool phones and SIM Card are used by a group of personnel; it is their duty to settle the phones charges. If certain charges cannot be justified, the number of people in the group will divide it. The supervisor will collect the payment for the shift phones. For further details, refer appendix no 8.

3.7 Work Orders

Work orders are created and manually closed by supervisor, or by their delegate. The accuracy and completion of the work order is ensured by the supervisor. Work orders left unclosed for more than a month are required to be justified via email as and when requested.

3.8 Swap Duty

Technicians are rostered every month for carrying out their duties as a shift based personnel. The shift based personnel provide 24 hours coverage. However, they are also allowed to swap duty (change duties) with their colleagues if they are unable to abide by the planned roster. This shall be done only if both the following are complied;

Agreed by the colleague with whom the duties are to be changed (swapped) approval from the Supervisor that the swapping of shift if no concern.

The technician must then complete the Swap Duty Form Doc No: G00.OMW.M10000.DQ.1001.* for SIG-Sig and SIG-Tle and G00 OMW..M10000..DQ.1002.*. for SIG-Inf. And get the signature of the colleague specified in item 1 above. This form is then submitted to the Supervisor for recording purposes and to the team assistant to update the roster.

3.9 Tools

3.9.1 Tools Usage

The technicians are issued with individual tools as listed in Doc No: G00.OMM.M15510.BT.* These tools are given to the technician and their acknowledgement of receipt recorded in the same document. Any missing tools will be replaced by the technician as described in the same document. Additionally, any required tools to perform the daily works, which are not in the individual tool box will be issued by the supervisor and will be handed over from shift to shift. The technicians are responsible for the proper usage of the tools and if any tools found missing, damaged or unusable, the technicians must immediately inform the supervisors (verbally or written). Supervisors will removed the defective tools and keep in a safe place for further action and arrange for replacement of missing tools. A new tool will then be issued for replacement. All tools used must be in accordance with the O&M Manual.

3.10 Calibration

All tools shall be calibrated in accordance to the predefined calibration date. The calibration of tools is to be ensured by the HOD or his delegate. For further details of calibration process guide, please refer appendix no 9.

3.11 Spares

The spares provided by ERLSB are divided into "Critical" and "Normal" spares. Spares that have a direct impact to service are considered as "Critical" while the others are considered as "Normal".

Spares that have a long lead-time are also stocked by SIG. In addition, parts are checked for obsolesces to avoid unavailability of spares. They are also categorized as "Critical".

3.12 Computerized Maintenance Management System (CMMS)

In E-MAS the selected CMMS is the SAP system. This system is used to plan preventive activities, report failures and obtain spares from store. The SAP is also used to record man-hours spend performing various different job functions.

The process flow for the SAP system and its use can be referred from SAP PM End User Process Guide – Doc No. G00.OMQ.M11070.CA.*.

In addition the SAP system is used to analyze failure trends, produce productivity reports monthly, analyze goods movement and other functions.

4. Maintenance Process Management

The various types of maintenance carried out by SIG is described in item 4.1, 4.2, 4.3, 4.4 and 4.5 below. These maintenance activities are governed by the O&M Manual and carried

out as specified in the mentioned manuals. Excerpts are created from these manuals to enable an easier and more effective maintenance planning and execution. Any deviation from the normal practice (as in the O&M Manual) must be communicated to the respective Supervisor and his approval obtained. Once all maintenance work is completed, and confirmation is obtained from the supervisor, OCC is informed that the system is fit for service. For some maintenance work, a general guidelines and forms is required. These guidelines and forms are listed in Doc no: G00.OMW.M50000.PG.*.

4.1 Scheduled Maintenance

Scheduled Maintenance is the Preventive Maintenance specified for each subsystem. Scheduled maintenance activity for these subsystems is specified in the O&M Manuals. These manuals are the basis from which all maintenance activities are carried out and the basis for creation of the scheduled maintenance processes (checklists).

An overview of the scheduled maintenance is created based on the O&M Manuals. The purpose of this overview is to assist in planning and creating the monthly scheduled maintenance activities. Overview schedule created for IT Equipment is based on our own initiative and our view of best practice to ensure high reliability of IT Equipment. Refer the following documents for overview of the maintenance schedule:

Sig Group	Doc no: G00.OMW.M12950.RC.*.
Tle Group	Doc no: G00.OMW.M60000.DP.*.
INF Group	Doc no: G00.OMW.M12950.CZ.*.
IT Group	Doc No: G00.OMW.M12950.RC.*.

4.1.1 The overview of the scheduled maintenance shall be used to plan and execute the monthly scheduled (preventive maintenance) activities. The monthly scheduled activities are planned and supervised by the Supervisor. The supervisor shall provide all the technicians with the monthly scheduled activities via e-mail. Monthly schedule for IT Equipment is not required as the quantum of work is insignificant and the overview will be sufficient to plan and monitor the work. Refer the following documents for overview of the maintenance schedule:

Sig Group	Doc no: G00.OMW.M50000.DP.*.
Tle Group	Doc no: G00.OMW.M60000.DP.*.
Inf Group	Doc no: G00.OMW.M12950.DP.*.

4.1.2 The supervisor shall monitor the execution of the scheduled maintenance activities and handle the manpower as he sees fit to ensure the monthly plans are complied.

4.1.3 A series of checklists are created from the activities mentioned in the O&M Manual to provide a clear process and indicate clearly what activities are required for each of the scheduled maintenance activities. These checklists are divided according to the various subsystems and according to the different time intervals as specified in the O&M Manuals. Refer Doc No: G00.OMW.M50600.YC.* for the list of checklists for the various systems.

4.1.4 All technicians are required to understand the processes and the proper order of carrying out the schedule maintenance. A 'Preventive Maintenance Adherence Report' is generated on a monthly basis for the scheduled maintenance carried out the previous month. The adherence report shall clearly indicate the planned activities, re-scheduled

activities complete with justifications and completion status of the re-scheduled activity. Refer the following documents:

a) Sig Group Doc No: G00.OMW.M50000.CZ.*.
b) Tle Group Doc No: G00.OMW.M60000.CZ.*.
c) Inf Group Doc No: G00.OMW.M12950.CZ.*.

4.1.5 The scheduled maintenance plans shall be entered in SAP and these plans will trigger work orders at the scheduled times, with the exception of IT. The triggering is done automatically by the SAP system based on the interval inserted in the system. These scheduled maintenance plans are based on the O&M Manuals.

4.1.6 The costs of work done shall be collected by recording all the details on the work order in the manner specified by QMD. Refer to doc no: G00.OMQ.M11070.CA.*.

4.1.7 The supervisor or the technician shall attend to the work orders triggered. These work orders are also used to withdraw required materials from store or for advance TPR application for the work

4.1.8 After the scheduled maintenance is completed, the work orders are filled up by the supervisor and verified by the Manager or Assistant Manager and sent to QMD to be inserted in the SAP system.

4.1.9 Copy of completed work order is to be kept by the supervisor in his personal file for reference.

4.1.10 Refer Doc No: G00.OMW.M12910.BA.*. for the detailed work process for scheduled maintenance.

4.2 Unscheduled Maintenance

4.2.1 The priority in this circumstance is to rectify the failure urgently. On notification of failure (normally verbal notification by OCC/HOD) the maintenance personnel shall proceed with the work immediately, following the safe working procedures. Refer Doc no.: G00.OMZ.M11451.NP.*.)

4.2.2 The unscheduled maintenance shall be carried out in accordance with the O&M Manual.

4.2.3 The OCC shall create the SAP failure notification and the supervisor will generate a work order from the notifications. In the case of INF Group, they will create the notification as their equipment is not monitored and controlled by OCC.

4.2.4 The technicians provide all details of work carried out for the unscheduled maintenance to the Supervisor via the Microsoft Access system. The Supervisor then uses this system to complete the work orders.

4.2.5 Refer Doc No: G00.OMW.M12950.BA.*. for a detailed work Process of Unscheduled Maintenance Activity.

4.2.6 The "Standard Operating Procedure" was created as a guide for the SIG group in performing their tasks, mainly Corrective Maintenance. Refer Doc no: G00.OMW.M12950.BT.*.

4.2.7 This procedure is created based on the guide lines from the O&M manual as specified in Doc no: E00.OMW.M15000.BT.*. and as a quick reference to the relevant document in the O&M Manual.

4.2.8 Please refer Corrective Maintenance Guideline Procedure for reference and fast corrective action. SIG Group Doc No: E00.OMW.M15000.BT.1001.*

4.2.9 IT related failures are not reported to OCC and therefore, there is no notification created. Users are required to contact SIG-IT either by email (EMS SIG IT Support) or phone (03 2267 7124).

4.3 Modifications

4.3.1 The modification maybe initiated by any party (i.e Siemens, SPYTL, E-MAS) but the final acceptance and the instruction to carry out the modification must be given by ERLSB.

4.3.2 E-MAS as the maintenance contractor must ensure that ERLSB are notified and have approved any modification before it is carried out.

4.4 Improvements

4.4.1 The improvement strategy of SIG Department shall be to seek a continuous development in: (list not in priority)

- Safety
- Process
- Methodology
- Cost Reduction
- Techniques
- Personal Development of Staff

4.4.2 The priority at any point in time (except for safety) shall be determined by the circumstances of the time and the needs of the service.

4.4.3 Refer Doc No: G00.OMW.M12910.BA.* for a detailed process of improvement.

4.4.4 All improvements activities are monitored through a time schedule. The document Doc No: G00.OMW.M50000.UH.*. provides a list of activities and its respective time schedule.

4.5 System Performance

4.5.1 SIG Group

4.5.1.1 The various maintenance planning and execution are done to meet the objective as specified in the Quality & Environment manual. Refer Doc No.: G00.OMQ.M11421.AF.*.

4.5.1.2 The System Performance has to be monitored, analyzed and proper counter measure implemented (if required) to meet the department objective.

4.5.1.3 To implement a comprehensive System Performance monitoring to meet the Department Objective, the following documents are prepared and analyzed.

- Emergency Brake Analysis- Doc No: (G00.OMW.M12950.RC.*.)
- SIG Department Target – Doc no (G00.OMW.M12950.RC.*.)
- Monthly performance report for maintenance of lifts and escalators- Doc No (OMW.SUP.M74000.*.)

4.5.1.4 Apart from the monthly updates, SIG personnel shall also provide the system status on a daily basis to the general management and the HODs of all departments.This shall be done everyday before 9am.This daily update shall be sent via e-mail by the HOD or his delegates.

5 Incident Management

5.1 Incident Reports

In the event of a failure that causes service disruption or considered a failure of a critical system, an incident report shall be created. This incident report will contain all details (time, location, personnel/material involved) relating to the failure and clearly specify the chronology of the event. Incident reports are to be created by SD Group for SIG.

The incident report is then submitted to SIG-HOD for verification. The hardcopy is filed for reference and failure analysis.

5.2 Incident Failure Analysis

Major incidents that involve critical system failure or frequent systems failure requires a thorough failure analysis to be carried out. Failure analysis is done by SD Group for SIG. Failure analysis may require reviewing of documents, testing and simulation of events.

After completion of the failure analysis, a report is then submitted to SIG-HOD for verification. The hardcopy is filed for reference and failure analysis. The matter may also be referred to the system supplier for further action if necessary.

5.3 Communication structure

5.3.1 SIG ←→ OCC

OCC will contact SIG personnel (DEPOT/TPSS) when a failure occurs. The mode of communication will be via hand portable radio. In case the personnel cannot be reached via hand portable radio, OCC shall try and contact the personnel via the shift handphone. All shift handphone numbers are listed in OCC. The communication flow between OCC and SIG is a shown in Doc No: G00.OMW.M12950.BA.*.

5.3.2 SIG internal communication flow.

The first point of communication regarding a failure is between OCC and the technician. The technician will then proceed to the incident site to rectify the failure. The technicians are

required to inform their supervisor if the problem cannot be solved within 15 minutes of troubleshooting.

This will allow the supervisor to arrange for the necessary assistance for the technicians. The supervisors are also required to inform the SIG-HOD of similar failures. Refer Doc No: G00.OMW.M12950.BT.* for SIG internal communication flows.

5.4 Management of Defects

5.4.1 Management of Maintenance detected defects

Defects detected by maintenance staff during inspection and or maintenance will fall into three categories:

- Operational impact defects
- Safety impact defects
- Non-Operational and non-safety impact defect

5.4.2 Operational Impact Defect

The following steps are to be followed:

- OCC shall be advised of defect and the impact of operations (if known)
- OCC will raise SAP failure notification
- Supervisor will raise work order
- SIG-HOD or delegate will make the necessary arrangement with the Operation Manager to carryout restoration activities based on operational requirements
- Work carried out following all normal operations and safety procedures
- Costs collection is derived from the SAP reports.

5.4.3 Safety Impact Defect

The following stages shall be followed:

- OCC shall be advised of the defect and the safety impact.
- OCC will raise SAP failure notification
- Supervisor will raise work order
- SIG-HOD or delegate will make the necessary arrangement with the Operation Manager to carryout restoration activities based on operational requirements
- Work carried out following all normal security and safety procedures
- Cost collection is derived from SAP reports.

5.4.4 Non Operational and Non Safety Impact Defect

The following stages shall be followed:

- Supervisor shall be advised of the defect
- Supervisor will raise SAP failure notification
- Supervisor will raise work order
- Supervisor will make the necessary arrangement to carryout restoration activities based on operational requirements

- Work carried out following all normal operational and safety procedures
- Cost collection is derived from the SAP reports.

6. Appendix

No	Procedure / Form	Reference Number
1	E-MAS IT General Procedure	G00.OMW.M12950.BT.*.
2	E- MAS IT Roles and Responsibilities	G00.OMW.M12950.DP.*.
3	Daily Work Process – System Support Development	G00.OMW.M12950.BA.*.
4	Daily Work Process - Supervisor	G00.OMW.M12950.BA.*.
5	Daily Work Process – Senior Technicians/ Technicians	G00.OMW.M12950.BA.*.
6	Leave Administration Procedure	G00.OMH.M11750.ZP.*.
7	Company Vehicle Procedure	G00.OMM.M11715.CD.*.
8	Telecommunication Facilities Procedure	G00.OMM.M11150.CD.*.
9	Calibration And Measurement Management System	G00.OMN.M15510.QP.*.