Petroleum Development Oman L.L.C.

PR-1243

Emergency Procedures part III: Volume 12

Medical Emergency Response Manual

Part I: MER Guidelines

User Note:

The requirements of this document are mandatory. Non-compliance shall only be authorised by the Document Owner or his Delegate through *STEP-OUT* approval.

A controlled copy of the current version of this document is on PDO's EDMS. Before making reference to this document, it is the user's responsibility to ensure that any hard copy, or electronic copy, is current. For assistance, contact the *Document Custodian* or the Document Controller.

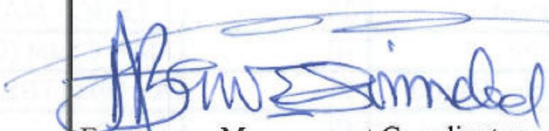
Users are encouraged to participate in the ongoing improvement of this document by providing constructive *feedback*.

Please familiarise yourself with the
Document Security Classification Definitions
They also apply to this Document!

This page was intentionally left blank

I Document Authorization

Document Autorisation		
Document Authority (CFDH)	Document Custodian	Document Authors
Dr. Suad al-Lamki  Ref. Ind: MCC Date: 10/05/2008	Dr. Nasser Al-Azri  Ref. Ind: MCO/11N Date: 10/05/2008	Dr. Nasser al-Azri MCO/11N & Dr Salim Al-Sawai MCO/3  Date: 10/05/2008

Reviewed by	
UID  INFRASTRUCTURE DIRECTOR Date: 10/05/2008	UIC/4  Emergency Management Coordinator Date: 10/05/2008

II Revision History

Chapter No.	Section No.	Description	Date	Initials	Reference Indicator
All	All	Revision and Update of Procedure	MARCH 07	SSB	MCC
All	All	Revision and Update of Procedure	March 2007	SS/NA	MCO/3&MCO11N
CH4	All	Revision and Update of Procedure	December 04	MB	MCO/1
All	All	Revision and Update of Procedure	December 01	MB	MCO/1
All	All	Revision and Update of Procedure	July 01		
All	All	Revision of Procedure	June 99		

III Distribution List

CUSTODIAN	COPY	CUSTODIAN	COPY
CECC - MAF	01	LEBC's (All Areas):	
MCC	02	Fahud (ONO/1F)	24
MCO/1	03	Lekhwair (ONO/1L)	25
MCO/2	04	Qarn Alam (ONO/1Q)	26
MCO/3	05	Yibal (ONO/1Y)	27
MCO/4	06	Marmul (OSO/1M)	28
MCO/11N	07	Bahja (OSO/1B)	29
MCO/22S	08	Nimr (OSO/1N)	30
Sahara PAC Clinic Fahud	09	LEBC - MAF	31
Sahara PAC Clinic, Nimr	10	MAF Coast (OIS/1)	32
Renaissance PAC Clinic, Fahud	11	Air Ops (TSL)	33
Renaissance PAC Clinic, Nimr	12	TSL/3	34
PAC Clinic, Qarn Alam	13	OIS/2	35
OIS	14		
MCN	15		
MCN/1	16		
MCN:			
Fahud	17		
Lekhwair	18		
Qarn Alam	19		
Yibal	20		
Marmul	21		
Nimr	22		
Bahja	23		
All contractor clinics			

Glossary of Terms, Definitions, and Abbreviations.

ABCDE	Airway, Breathing, Circulation, Disability, Exposure
ACLS	Advanced Cardiac Life Support
AED	Automatic External Defibrillators
ALARP	As Low As Reasonably Practicable
ALS	Advanced Life Support
ATLS	Advanced Trauma Life Support
BLS	Basic Life Support
CCR	Central Control Room
CECC	Corporate Emergency Coordination Centre
CPR	Cardiopulmonary Resuscitation
DFA	Designated First Aider
ECG	Electrocardiogram
EFR	Emergency First Responder
EP	Exploration and Production
ER	Emergency Response
ER-MS	Emergency Response Management Systems
ETO	Emergency Telephone Operator
HEMP	Hazards and Effects Management Process
HIV	Human Immunodeficiency Virus
HRA	Health Risk Assessment
HSE	Health, Safety and Environment
KPI	Key Performance Indicator
LEBC	Local Emergency Base Controller
LECC	Local Emergency Control Centre
MCC	Chief Medical Officer
MER	Medical Emergency Response
MHMS	Mininmum Health Management Standard
PHTLS	Pre-Hospital Trauma Life Support
PPE	Personal Protective Equipment
RAM	Risk Assessment Matrix
SHOC	Safety Handling of Chemicals
VHF	Very High Frequency
WHO	World Health Organization

TABLE OF CONTENTS

I Document Authorization ……..3
II Revision History ……..3
III Distribution List ……..4
IV Glossary of Terms, Definitions, Abbreviations ……...5

1 INTRODUCTION ……...7
1.1 Objective of the Document ……7
1.2 Scope ……...7
1.3 Definitions ……...7
1.4 Document Ownership and Maintenance ……..9
1.5 Related Business Control Documents ……..9
1.6 Document Control ……..10
1.7 Review and Update ……10

2 BASICS OF MEDICAL EMERGENCY RESPONSE ……..11
2.1 Background ……11
2.2 Principles of MER Management ……....11

3 MEDICAL EMERGENCY MANAGEMENT ……....12
3.1 Policy and Strategy ……..12
3.2 Organization and Responsibilities, Resources, Competence ……...14
3.3. HEMP ……...29
3.4 Planning and Procedures ……...30

4 SPECIFICATIONS: MER EQUIPMENT AND DRUGS ……32
4.1 Scope ……32
4.2 External References ……..32
4.3 Specifications ……33

5 DEVELP, IMPLEMENT AND MAINTAIN MER ……..40
5.1 Background ……..40
5.2 Design the MER ……40
5.3 Records to be maintained ……..44
5.4 MER Exercises ……..44

APPENDIX I MER CONTACT DIRECTORY ……..45

1. Introduction

1.1 Objective of the Document

This Manual and its associated Controlling Documents define requirements for Medical Emergency Response (MER). The objective of MER is to minimise the potential health consequences of workplace injury or acute illness.

The principles of MER management are to:

- Create awareness of emergency situations and of their potential for escalation;
- Communicate MER procedures to staff who may respond to medical emergency at work as appropriate to their training, qualification, competence and available resources;
- Develop an integrated, systematic and consistent approach to managing MER at a *Site*, providing for coordinated action through several escalation tiers by several levels of expertise;
- Provide reliable communications as needed to provide continuous medical support from the incident scene to the hospital if needed;
- Provide adequately trained, competent personnel with adequate resources, with skills maintenance, and communication facilities;
- Provide for periodic exercises of MER procedures and dissemination of learning;
- Include MER management in the annual review of Company's HSE Control Framework.

1.2 Scope

1.2.1: General

It applies to all PDO working parties and to their activities which are work related as defined in 'Incident Classification, Investigation and Reporting' document:

- This procedures manual is intended to provide for effective MER for Company and employees and others on Company *Sites;*
- Contractors operating under their own management system shall be responsible for providing MER for their own personnel, subcontractors and others on contractor *Sites* pursuant with the requirements of this Standard when performing work for or on behalf of PDO Company.

1.2.2: Site Specific Details

See Medical Emergency Response Manual; Part II : MER Site Specific Procedures (PR-0000)

1.3 Definitions

First Response
The first response delivered by the person(s) nearest to the casualty at the time of the incident (i.e. Make Safe, Call Out to DFA and site control centre, Follow standard 'Do's and Don'ts').

Site
The site, installation, location(s), activity or group of activities for which MER is to be provided. A *Site* may be a single physical site or may consist of a main *Site* with a number of satellite *Sites* grouped to suit the local situation and dependent on the main *Site* for some or all of their MER provision. Two categories of *Sites* are defined based on the activities normally conducted at the *Site.*

Category 1 Site
A *Site* with activities where the results of an incident are not likely to include major injury (typically in the 'blue' area of the RAM), notwithstanding that non-work related acute medical conditions may occur. Such *Sites* typically include light engineering, assembly work, instrument maintenance workshop, inspections in non-hazardous areas, normal office situations and accommodation and catering areas. Standard MER requirements are defined for *Category 1 Sites.*

Category 2 Site
A *Site* with activities where the results of an incident are likely to include major injuries (typically on the 'red and yellow' area of the RAM). Such *Sites* typically include construction sites, manufacturing yards, pipeline laying, drilling and seismic operations, and most production operations. MER requirements are enhanced for *Category 2 Site*s to reflect the higher risks associated with the activities on such *Sites*.

Non-routine Activities
For the purpose of this MER Standard, the following activities are referred to as *Non-routine Activities* and shall be challenged and justified to be necessary prior to work performance. If the activity cannot be avoided additional controls as described shall be implemented:

- Confined Space Entry into a confined space where a toxic, explosive, flammable or non-life supporting environment is/may be present
- Diving Operations
- Chain saw operations
- Mountaineering / abseil (rappel) operations;
- Introduction of hydrocarbons into the system during commissioning of a hydrocarbon treatment plant.
- Other activities, which are infrequently conducted in Company Operations but where injury data indicate a high likelihood of an incident that will require the prompt attention of a Tier 2 MER Professional.

Site Clinic
Site health centre for the provision of medical attention, First Aid and Advanced Life Support, including Tier 2 MER care. *Site Clinics* shall be equipped as per Specification 'MER Equipment'.

Extended Site Clinic
Extended *Site* health centre for the provision of casualty stabilization in transit to a *Tier 3 Hospital*. An *Extended Site Clinic* shall be equipped as per the Specifications.
Note: An Extended Site Clinic and a *Site Clinic* may be combined.

Remote Medical Support
Real time specialist medical advice to the Site Medical Professional by voice communication as per the Specification 'Remote Medical Support', (see section 3.2.3.4)

Tier 3 Hospital
A hospital approved by the Company Health Adviser to provide Tier 3 medical care. This is usually the nearest, appropriate secondary or tertiary healthcare facility.

Tier 4 Hospital
A hospital approved by the Company Health Adviser to provide specialist medical care required for further response to the injury or illness. The *Tier 4 Hospital* might be outside the country of operation.

1.4 Document Ownership and Maintenance

Document Owner
The Document Owner is the Chief Medical Officer (MCC). MCC is responsible for:

- Approval of the document following review and revision
- Annual confirmation to Corporate Emergency Management Coordinator that the document is 'Fit for Purpose'
- Ensuring that the document defines the organisation and identifies resources to enable PDO to adequately respond to identified scenarios.

Document Holder/ Custodian

The Document Holder/ Custodian is MCO/11N**.** MCO/11N is responsible for:

- The technical accuracy of the document
- Ensuring update, review and revision of the document not later than every 2 years and whenever there are significant changes to the company organisation, resources or assets addressed in the document
- Entering the updated document in 'Livelink' and placing on the web
- Ensuring updates are distributed

1.5 Related Business Control Documents

Code of Practice	Ambulance Code of Practice	
Procedures	Medical Emergency Response Manual Part II	PR-1243B
	E R Document: Part III Contingency Plan : Vol. 2 : Well Engineering	PR-1287
	E R. Document(s) part III, Contingency Plan Vol. 3 : Production Operations	PR-1066
	E R Document: Part III Contingency Plan Vol. 14 : Government Gas System	PR-1246
	E R Document: Part III Contingency Plan : Mina Al-Fahal Offices	PR-1329
	E R Document: Part III Contingency Plan : Vol. 9 : Air Operations	PR-1269

1.6 Document Control

This procedure is a controlled document and shall remain the property of Petroleum Development Oman L.L.C.

Each recipient of this procedure is responsible for;

- Amending the procedure and ensuring their copy is up to date
- Disseminating information contained within to staff and contractors under their control
- Informing the document holder (MCO/11N) of any required amendments that may affect this procedure

An electronic version of this document is available for reference within the Livelink system of the corporate intraweb : http://sww.pdo.shell.om/sites/UID/UIC/CSM/Lists/Contingency%20Plans/AllItems1.aspx

Or from the registered document custodian MCO11N

1.7 Review and Update

This document shall be reviewed by the MER Focal Point (MCO/11N), 2 yearly, amended and re-issued if changes are required.

2. Basics of Medical Emergency Response:

2.1 : Background

The objective of MER is to minimise the potential health consequences of workplace injury or acute illness.

2.2 : Principles of MER management

- Create awareness of emergency situations and of their potential for escalation
- Communicate MER procedures to staff who may respond to medical emergency at work as appropriate to their training, qualification, competence and available resources
- Develop an integrated consistent approach to managing MER at site, providing for coordinated action through several escalation tiers by several levels of expertise
- Provide reliable communications as needed to provide continuous medical support from incident scene to the hospital if needed
- Provide adequately trained, competent personnel with adequate resources, with skills maintenance and communication facilities
- Provide for periodic exercises of MER procedures and dissemination of learning points

3. Medical Emergency Management

3.1 Policy and Strategy

3.1.1 Policy Requirements

The PDO HSE Commitment and Policy states that 'we are all committed to pursue the goal of no harm to people.

The group procedure for an HSE Management System requires EP companies to have emergency response procedures in place, including plans for medical emergencies.

The group MHMS require EP companies to plan for managing medical emergencies in compliance with group yellow guide medical emergency guidelines for management.

Where illness or injury occurs at an installation under operational control (e.g. an office, terminal, a rig or gathering station, production site, an interior or coastal facility etc) this objective can be achieved by a tiered response(Tier 0 – Tier 4) and this is summarized in table 3.1.3.1 below

3.1.2 MER Strategy

This Standard adopts a risk based approach for MER embracing two key concepts: it applies a time-dependent tiered set of responses to an incident, and it sets differing, planned response requirements depending on the nature of the hazards and the activities on the *Site*.

3.1.3 MER Requirements

MER shall be planned, resourced, implemented and documented pursuant to the requirements of this Standard to be able to reasonably meet the response times in Table 3.1.3.1 (page 10), recognising that the actual MER response times to an incident depend on various factors, such as time of notification, the incident location and circumstances (e.g. safety of entering or remaining at incident scene). For situations, where the response times in Table 3.1.3.1 cannot reasonably be achieved section 3.3.3 shall be applied.

3.1.4 MER for Third Parties

PDO MER teams are always willing to assist third parties in medical emergencies within their working territories and the MER procedure is the same as the one outlined in section 2.

The organisation of the tiered Medical Emergency Response Plan for the whole PDO operational control is detailed in Table 3.1.3.1 below

Table 3.1.3.1 Tier Structure and Response Times

Tier	Action party and actions	Time after Injury
Tier 0	*First Response* by people on emergency site i.e.: - Make Safe; - Call Out to DFA and site control centre; - Follow standard 'Do's and Don'ts'	Immediate
Tier 1	- DFA arrives on scene. - Starts assessing causality and conducts First Aid and Basic Life Support e.g. CPR and AED). - Call Out to site control centre (CCR), if not already done, and Tier 2 MER Professional.	Four minutes (to arrival at scene).
Tier 2 Stage 1	Tier 2 MER Professional communicates with DFA attending emergency, while mobilising to emergency location.	As soon as practicable after callout
Stage 2	Tier 2 MER Professional arrives at casualty, assesses injury and need for further action: *Category 1 Sites* and *Category 2 Sites* ---------- *Non-routine Activities* ----------	One hour *On standby to arrive at casualty within 20 min.*
Stage 3	Tier 2 MER Professional administers Advanced Life Support. Stabilizes casualty at scene, transports casualty to *Site Clinic if necessary* and continues response in *Site Clinic*. Communicates with *Remote Medical Support if* warranted (ongoing).	-
Stage 4	Site Manager, with Site Medical Professional's advice initiates Medevac (if required) to *Tier 3 Hospital**. Consulting with *Remote Medical Support* as needed. PDO Medical Officer permission should be obtained prior to any emergency Medevac. 1. If *Tier 3 Hospital* not accessible within four hours transfer to *Extended Site Clinic* for interim care, consulting with *Remote Medical Support* as needed. 2. Transport from *Extended Site Clinic* to approved *Tier 3 Hospital* and inform PDO Medical Officer.	As soon as practicable but within four hours As soon as predictable
Tier 3*	Admission to and care at the nearest approved *Tier 3 Hospital*. Notify Company concerned Medical Officer, who from this point on monitors progress of casualty with the person's physician, as applicable. Collecting relevant specialist reports are the responsibility of the patient supervisors.	Four hours (unless staged through *Extended Site Clinic*).
Tier 4	Referral, transport, admission to and care at approved *Tier 4 Hospital*, if: - Recommended by a medical professional at *Tier 3 Hospital*; - Approved by Company Medical officer; - Agreed and accepted by a medical professional at *Tier 4 Hospital*. Follow up and monitor progress	Time is casualty-specific.

*Note: The four hour response time in Table 3.1.3.1 is based on the maximum time that vital life functions (e.g. respiration, lung function, and blood pressure) can be maintained through artificial respiration, bleeding control etc. without potentially escalating the casualty's condition. It is clear, however, that in an actual case medical judgment should be exercised to readjust the time requirement.

3.2 Organisation and responsibilities, Resources, Competence

3.2.1 Organisation

Medical Emergency Response Plans shall also take account of medical emergencies that arise away from locations under operational control. A risk-based approach should be adopted in planning the appropriate response. PDO runs its MER in close liaison with the Royal Oman Police, Ministry of Health hospitals and external national emergency services when required.

The following roles have MER responsibilities:

MCC
PDO Chief Medical Officer is in overall charge of MER development, implementation and follow up.

MCN
Is in overall charge of the nursing services in PDO.

Line Manager
The Company Manager accountable for the *Site* (e.g. an Asset Manager, Operations/Production Manager or Contract Holder). The Contract Holder may delegate responsibility for MER to the contractor, but remain accountable. Refer to section 3.5.1 for further details.

Health Adviser (Medical officer)
A qualified doctor who provides health advice to the Company or contractor:

Company Health Adviser
The most senior qualified doctor who provides health advice to the Company. The Company Health Adviser can fulfill the role of the Health Adviser for Company managed *Sites*.

Site Manager
The most senior responsible position on the *Site* (e.g. Senior Site Supervisor)

Site Medical Professional
The most senior Tier 2 MER Professional responsible for providing medical care and MER advice for the *Site*.

Tier 2 MER Professional
Tier 2 MER Professionals may include: paramedics, nurses, or a site doctor.

Designated First Aider (DFA)
An individual trained and certified in First Aid and receiving regular skills maintenance from an approved course provider as per Company HSE requirements.

Key Roles and Responsibilities

NON-MEDICAL PERSONNEL :

Site Manager

- Approves implementation of *Site Specific* MER Manual;
- Performs annual review of MER.
- Identifies *Site* characteristics;
- Evaluates, if *Site* MER resources meet Tier response times;
- Evaluates *Non-routine Activities;*
- Manages Sites here Tier response times cannot reasonably be achieved;
- Identifies and manages interfaces with other emergency response plans;
- Identifies possibility of multiple causality incidents;
- Monitors MER performance.

LEBC's

- Liase with medical staff to decide the appropriate level of emergency and medical response required
- Ensure that appropriate section heads are aware of their responsibilities in a major emergency through meetings, flyers, exercises etc.
- Attend LEBC Emergency Response Training
- Be fully conversant with the requirements of all required Emergency Response Procedures

First Aiders

- Attend first aid training
- Assist medical staff as required
- Participate in regular medical emergency response exercises
- Be conversant with the requirements of relevant Emergency Response Procedures and fully aware of the actions to take in a medical emergency

MEDICAL PERSONNEL

MCC

MCC has the authority to request flights for Medivac. If MCC is not available the duty doctor, LEBC or DD have this authority.

MCC is responsible for;

- Ensuring regular medical audits, emergency exercises and drills are conducted in all PDO locations
- All medical staff are adequately trained and qualified
- Sufficient overall medical treatment and facilities are provided
- Liaison with any required external agencies outside agencies

- Defining the level and type of assistance that should be available in the event of multiple casualties and ensuring the quality of medical emergency response by ensuring correct medical procedures are available.
- Ensuring adequate emergency equipments and drugs available for MER

Interior and Coastal Doctors

PDO & Contractor doctors shall ensure;

- Nursing staff maintain up to date registers of first aid teams, medical training, equipment, emergency exercises and drills and distribute as appropriate
- Adequate and appropriate medical emergency response equipment is readily available
- They provide adequate medical advice, support and treatment as required. In emergency situations. MCC, LEBC and the "duty Doctors" have the authority to sanction additional medevac flights.
- All medical emergency exercises and genuine emergencies are logged, discussed with personnel involved and any learning points are laterally distributed
- They are fully conversant with these procedures and other applicable emergency procedures as required

N.B: (Ref. Medical Procedures Guide) on visits to clinics and medical facilities.

MCN

MCN shall ensure;

- PDO Nurses are adequately trained, competent (Ref. Medical Procedures Guide) and capable of acting independently during medical emergencies in accordance with MER procedures and corporate contingency plans
- Compliance with emergency exercises and drills both within the interior and on the coast
- Correct structuring of required PDO first aid teams and maintaining adequate emergency response equipment

Nurses

PDO & Contractor Nurses shall ensure;

- Immediate medical emergency response and adequate medical care is provided to all casualties by medical staff and first aiders
- They are fully aware of the actions to take in a medical emergency
- Duties are assigned to first aid teams and contractor nurses during an incident
- Sufficient medical equipment is maintained in readiness for further incidents
- Adequate and regular refresher training is provided for first aid personnel
- Relations with contractor medical staff are maintained and the contractors ability to respond to medical emergencies is adequate
- Be fully conversant with any PDO's Emergency Response Procedures
- Medical Emergency – Call Out Team are updated monthly and clearly displayed

PAC and Contractor Clinic Staff in the Interior

- Provide adequate medical treatment and support as required

- Ensure adequate and regular training is provided for first aid personnel
- Shall fully support PDO's requests during medical emergencies and maintain relations with PDO medical staff.
- Be fully conversant with any PDO's Emergency Response Procedures and fully aware of the actions to take in a medical emergency

3.2.2 Resources

3.2.2.1 General

Adequate suitable MER resources (including personnel, facilities, equipment and consumables) shall be available consistent with response times in [Table 3.1.3.1] for reasonably foreseeable scenarios that have been identified as requiring MER.

Tier 2 MER Professionals shall not hold other roles that would prevent them from assigning full priority to their medical MER role in a medical emergency. Without prejudice to the above general requirement, the following resources shall be provided.

3.2.2.2 Personnel – DFAs

DFA numbers shall not be less than:

- For *Category 1 Sites*: one per 50 people (or part thereof);
- For *Category 2 Sites*: one per 25 people (or part thereof).

Minimum number of DFA at any *Category 2 site* any time should be no less than two.

3.2.2.3 Personnel - Tier 2 MER Professionals

Providing the Tier 2 response time (one hour) can be assured at all times including the hours of darkness, a non-dedicated third party ambulance/medevac provider may provide the Tier 2 MER Professional. Otherwise the Company or the contractor shall provide at least one Tier 2 Medical Professional for:

- *Category 1 Sites* with ≥ 100 people;
- *Category 2 Sites* with ≥ 25 people;
- Any *Site* with ≥ 25 people, which is completely isolated during night time (no transport possible).

Small *Category 1 Sites* (less than 25 people) may be treated as '*Sites* where Tier response times cannot reasonably be achieved', section 3.3.3.

3.2.2.4 Facilities and Equipment - General

MER facilities and equipment shall comply with Company HSE Specification 'MER Equipment' and shall be maintained within a formal maintenance management system.

A site control centre (CCR) shall be available, suitably equipped to act as communications and coordination centre for MER. See Communication below.

Automatic External Defibrillators and First Aid boxes shall be provided such that one of each can be available to start response to a casualty in any reasonable scenario within the Tier 1 response time (four minutes) [Table 3.1.3.1].

Each Tier 2 MER Professional working on *Site* shall be provided with a personal emergency bag.

3.2.2.5 Facilities and Equipment – Site Clinics

A *Site Clinic* shall be provided at every:

- *Category 1 Site* with ≥ 100 people;
- *Category 2 Site* with ≥ 25 people.
-

For smaller *Sites* conduct a risk assessment and demonstrate, that the chosen alternative solution ensures risks are ALARP.

Where a *Site Clinic* is required, it shall be extended to an *Extended Site Clinic* if the Tier 3 response time (four hours) for admission to a *Tier 3 Hospital* [Table 3.1.3.1] cannot be assured.

3.2.2.6 Facilities and Equipment – Remote Medical Support

The Site Medical Professional shall have access to a *Remote Medical Support* provider according to the Specification 'Remote Medical Support'

3.2.2.7 Safe Handling of Chemicals (SHOC) cards

Safe Handling of Chemicals (SHOC) cards for all chemicals on the *Site* shall be readily and reliably available at the locations where these chemicals are in use ***and*** at the relevant *Site Clinic* /*Extended Site Clinic*. It is the responsibility of the *Site Supervisor* to inform and keep the medical clinic updated on different types of chemicals in use at their site.

3.2.2.8 Medevac Transport

Medevac transport resources (e.g. ambulances, air evacuation) shall be planned and identified in advance. Ambulances shall comply with Ambulance Code of Practice requirements.

Medevac transport capacity shall provide for at least one stretcher case accompanied by a Tier 2 MER Professional.

Adequate Medevac transport shall be available to deliver three casualties, in the company of a Tier 2 MER Professional or DFA, to an *Extended Site Clinic* or a *Tier 3 Hospital* within the Tier 3 response time (four hours) [Table 3.1.3.1]. To achieve this, the Medevac transport may be augmented by suitable planned dual-purpose vehicles.

3.2.2.9 Communication

Each workgroup, vehicle, craft, DFA and Tier 2 MER Professional shall have reliable real-time voice communication with the site ETO/ CCR and with remote medical support. This can be a single mode of communication (e.g. mobile telephone or VHF radio). Close attention shall be given to restrictions in timing of communications (e.g. night time, lunch hours, technical issues) and possible delays before communication can be established.

Each medical clinic shall be equipped with a minimum of:

1. fixed telephone line
2. fax machine
3. Thuraya Mobile for PDO clinics

The site control centre shall have reliable means of communication (e.g. telephone, radio) to:

- External ambulance or Medivac provider;
- *Tier 3 Hospital*;
- *Remote Medical Support*;
- Company main office;
- Other planned sources of external assistance (police, military, coast guard, other operators).

3.2.2.10 PDO MER resources

PDO MER resource capacity has the ability to manage critical and non-critical casualties from an incident.

PDO MER planning addresses the possibility of multiple casualty incidents, which may be resourced in cooperation with external parties (e.g. third party emergency services, military, Royal Oman Police, Royal Air Forces Oman, contractors and other operators).

Tier 1 personnel are normally PDO or contractor staff, dedicated or not to first aid duties.

Tier 2 personnel may be PDO or contractor or contracted staff, depending on the local medical infrastructure.

Tier 3 resources are normally all external to PDO or contractor

Each person involved should have access to appropriate medical equipment and supplies

The number of personnel to be provided at each competence level is dictated by the time standards in Table 3.1.3.1 above and the logistics of each work-site.

3.2.2.10(a) PDO Personnel

Interior Medical Staff

Each permanent interior camp has a PDO health facility staffed by a minimum of one nurse.

There is one doctor based in each major centre i.e. Marmul and Fahud. They are responsible for medical care and facilities within interior clinics.

Doctor's shall remain contactable at all times and the 'on-call nurse' shall be aware of how to contact the doctor at any time.

First Aiders and First Aid Teams

All PDO first aid personnel and medical emergency response teams shall undergo adequate first aid training as defined in PDO's training specification SP-1157 and in accordance with Tier 1 Training Requirements as specified in section 3.2.3.2, and assist medical staff as required.

Doctors, Nurses

All PDO Doctors and nurses shall be fully qualified medical staff in line with the requirements outlined in SP-1230 Medical Examination Treatment and Facilities. Qualifications shall be verified prior to employment.

PDO nurses shall ensure updated medical contact details are available and distributed to all appropriate personnel as required.

There are five (5) coastal based doctors. At any time, a minimum of one Doctor shall be available and readily contactable for emergency call-out on an internal duty roster. Doctors shall manage coastal emergencies and assist with interior emergencies as requested.

Contractor Nurses / Doctors

All contractors providing excess of 100 staff shall supply a trained, qualified and competent medical staff to the required Ministry of Health standards in line with the requirements outlined in SP-1230 Medical Examination Treatment and Facilities. These qualifications shall be verified by MCC prior to employment.

Contractor medical staff shall be available in emergency situations to assist PDO staff and escort patients as required.

The contract company shall provide adequate transport and medical facilities for personnel.

3.2.2.10(b) PDO Medical Facilities

PDO Clinics

PDO has medical clinics in each permanent interior camp. These are generally the best equipped medical resources in these areas.

Permanent Accommodation for Contractors (PAC) Medical Facilities

There are five PAC Medical Clinics, two each at Nimr and Fahud and one at Qarn Alam. Each Clinic is manned by a Contract Doctor and Nurse who are members of the local emergency response teams (LECC).

Doctors and nurses on call shall carry pagers and be fully conversant with PDO medical emergency response plans and procedures.

Medical Equipment

Each clinic shall maintain a major emergency box the minimum contents of which are detailed in Specification 4.3.2. The equipment shall be easily transportable to site when required

Each 'on call' Doctor or nurse shall maintain and carry a 'quick response bag' (personal emergency kit) which will allow medical staff to commence treatment immediately on arrival at the scene.

The contents of emergency medical equipment shall be in accordance with the specifications in Table 4.3.5, regularly checked and replaced as required.

Ambulance

Each interior clinic has an ambulance located at the respective clinic parking area. Marmul, Nimr and MaF clinics each have two (2) ambulances. The minimum contents of the ambulances is defined in SP-1230 Medical Examination, Treatment and Facilities and Ambulance Code of Practice document. Ambulance drivers shall be fully licensed, competent, adequately trained and aware of all locations within their areas. All ambulances shall be suitably maintained and equipped as required. If required, PDO flights are able to carry stretchers and can be diverted as needed. The local 'on call' Doctor, LEBC, DD (CECC) or MCC should be contacted to authorise and arrange medevac flights. Should a medevac be required military resources may be contacted if needed.

Contractor Clinics

These are distributed in various locations and usually staffed by nurses employed through their respective contractors.

3.2.3 Competence

Competencies, refresher training and skills maintenance for first response, MER Tier 1 and Tier 2 roles are defined below. All employees shall be trained in *First Response* in accordance with HSE requirements.

3.2.3.1 First Response

3.2.3.1a Training Components, Skills Maintenance and Duration

All employees shall be trained in *First Response* in accordance with this Specification. This requirement shall apply to all personnel including both contractors and visitors spending more than one month in any 12-month period on the *Site*.

***First Response* training components and skills maintenance frequencies are defined in Table 3.2.3.1 below.**

Table 3.2.3 .1 First Response Training Components and Skill Maintenance

Initial Training Component	Description / Skills maintenance	Skills Maintenance Frequency
Basic	• Recognition of a potential medical emergency; • Scene Assessment; • Call DFA Support - if the DFA on/near emergency location (according to local systems).	
Provider Safety	• Training in universal precaution; • Avoid exposure to blood-borne pathogens (HIV, Hepatitis B&C), see OSHA Regulations - 'Blood-borne Pathogens Standard' for further guidance	
Communication of the potential medical emergency to site control centre (Call Out).	Primary information: • Exact location of the casualty/incident; • Number of casualties; • Nature of injury, vital life signs of casualties; • Identity and function of caller. Secondary information: • Nature of incident causing the injury; • Hazards identified/threats/escalation; • Access routes that are safe for use, weather/sea state as relevant; • Number of personnel present, DFA present/not, transport available.	
Make Safe – Prevention of secondary accident (as appropriate, in a safe manner).	Examples of Make Safe include: • Cut off electricity; • Turn off switches/equipment; • Ensure open escape routes; • Put out fire near casualty; • Watch for fuel leaks, control fire/explosion risks; • Stabilise falling equipment/debris; • If casualty is crushed by a heavy object, lift/remove	

	the object to the point of allowing casualty to breathe; • If location cannot be made safe quickly, move casualty to a safe location; • If casualty is inside a vehicle, do not move him, but do what is needed to make quick removal possible: break open windows, force doors open, see if casualty is trapped and attempt to free him, while leaving the casualty alone as much as possible. Do not remove seat belts! • Basic assessment of vital life signs • (conscious/unconscious, gross external bleeding, Pulse/heart beat, breathing (airway).	Once per year (+/- one hour)
Initial care	Refresh Do's and Don'ts: **Do's** • Assurance/reassurance and comfort care (e.g. shade or keep warm); • Continued casualty observation including vital life signs and communication with casualty; • Continued communication with site control centre. **Don'ts** • Avoid exposure to blood-borne pathogens (HIV, Hepatitis B&C), • Do not move the casualty at all, unless required to protect from further harm (use basic spinal precautions); • Do not rush the casualty to (e.g. some nearby clinic), unless instructed to do so by the Site Medical Professional; • Do not move the head and neck, especially if fall, unconscious, or trauma to head and neck is suspected; • Do not leave the casualty alone; • Do not allow the casualty to stand up; • Do not allow the casualty to eat or drink; ice chips or small sips of water is fine); • Do not smoke in the area and do not allow the casualty to smoke; • Do not remove objects from wounds; • Do not remove clothing; • Do not push any protruding part of the body back through the wound. **Other training elements*** • Control external bleeding by pressure only; • Gently wash off toxic materials on skin with water, cool; • Evaluate adequacy of airway (ensure casualty does not choke). **Note:* These training elements have a high occupational risk of	

	exposure to blood-borne pathogens. They shall be practiced in the training sessions but appliance in the field as *First Response* is voluntary.	

3.2.3.1b Duration of the initial EFR Training
Two Hours

3.2.3.1c Knowledge and Skills Maintenance
Preferably through safety meetings (+/- one hour)

3.2.3.2 Designated First Aider

3.2.3.2a Training Components, Skills Maintenance and Duration
Training for Tier 1 providers (DFAs) shall include all the training components listed above in **Table 3.2.3 .1** Additional Tier 1 (DFA) training is given in Table **3.2.3.2**

3.2.3.2b Knowledge and Skills Maintenance
In order to maintain knowledge and skills, periodic annual training (one day) shall be conducted. These training sessions shall address the different training components given in Table 3.2.3.2 below taking into account the required maintenance frequency of each training component.

For example: Provision of Basic Life Support, provision of trauma care and Site MER procedures shall be addressed twice a year in these sessions. It is further possible to address two or more training components during one session.

Actual time spent in MER drills does not count towards this skill maintenance time.

Table 3.2.3.2: DFA Training Components and skill maintenance

Initial Training Component	Competency Description / Skills maintenance	Skills Maintenance Frequency
Basic	• Communication in emergencies and use of communication devices provided; • Initial assessment; • Focused history and examination; • Basis above, call for help and consult Site Medical Professional; • Record keeping; • Use of eyewash and shower stations in cases of chemical injuries; • Use of personal protection equipment such as breathing apparatus, eyewash and shower stations; • Other skills as derived in the Health Risk Assessment (HRA) and/ or Hazard and Effects Management Process (HEMP) (e.g.: the availability and use of calcium gluconate on hydrofluoric acid burns, part of the emergency care in the Road Safety Case).	Once per year

Provision of Basic Life Support (BLS)	• To maintain adequate ventilation and circulation, which should be continued until Tier 2 help arrives; • Pre-hospital scene safety and management skills; • Initial assessment and consultation with Site Medical Professional to establish immediate priorities; • Vital life support including blood pressure using automated devices; • Initiation of cardio-pulmonary resuscitation, if required, to include: o Airway maintenance with spine protection; o Adequate ventilation – expired air o ventilation, bag-valve-mask device; o Maintain circulation – chest compressions combined with ventilation; o Early use of Automatic External Defibrillator (AED). • Use of standard resuscitation aids, such as required by Basic Life Support.	Once per year
***Site* MER**	• *Site* MER; • The role of all employees, DFA, Site Medical Professional and Company Health Adviser; • The safety and well being of the DFA; • Communication techniques and safe lifting and moving of casualty.	6 monthly
Casualty Assessment	• Assessment of the vital signs (breathing, heart beat and blood pressure), level of consciousness; • Recognition of severe blood loss and shock; • Recognition and management of acute cardiovascular emergencies; • Identify casualty history, documentation, and communication.	Once per year
Airway Management	• Airway management using external maneuvers, mouth-to-mouth breathing or moth-to-mask breathing.	Once per year
Respiratory and Cardiac Emergencies	• Respiratory and cardiac emergencies, including Cardiopulmonary Resuscitation (CPR) and the use of AED.	6 monthly
Other Medical Emergencies	• Recognition of diabetic, anaphylaxis, environmental, behavioral and obstetrical emergencies by simple history.	Once per year
Trauma Emergencies	• Recognition of external bleeding and shock and obvious injuries to the head, neck, spine, chest and abdomen and limbs.	Once per year
Provision of Trauma Care/ First Aid	• Assess the need and provision of emergency trauma care including First Aid. Examples of this include initial assessment and management of: o Bleeding (external or internal); o Unconscious person; o Simple wounds and dressings; o Immobilization of injured parts; o Choking; o Convulsions; o Burns and scalds;	6 monthly

	o Drowning, hypothermia and heat stroke.	
Provision of Work Specific First Aid / Operations	• Provision of work specific First Aid • Ambulance operations, rescue and extrication, multiple casualty situations; Hazardous materials situations; • Familiarity and understanding of Safe Handling Of Chemicals (SHOC) for all hazardous chemicals at the *Site.*	In accordance with specific regulations, Otherwise once per year

3.2.3.2c Certification/Re-Certification of DFA

First Aid as well as BLS courses offered and resultant certification is generally valid for a maximum of two to three years. The Company MER Focal point shall assess if this training sufficient to meet the competence requirements listed above in Table 3.2.3.2 If knowledge and skill maintenance are provided as noted above, upon appropriate testing, the Site Medical Professional (if approved trainer/examiner) may be able to certify/re-certify the DFA's competency in these areas. DFA must have documented evidence of skills maintenance throughout, otherwise full course shall be re-taken instead of the 2-yearly refresher course.

3.2.3.2d Qualification Criteria

At the conclusion of each training session, the Site Medical Professional (if approved trainer and examiner) can conduct an evaluation including practical skill demonstration where appropriate.

3.2.3.3 Tier 2 MER Professionals

Tier 2 MER Professionals at this level may include: paramedics, offshore medics, nurses, or a site doctor.

3.2.3.3a Training Components, Skills Maintenance and Duration

Training for Tier 2 providers (Tier 2 MER Professionals) shall include all the training components listed above in Table 3.2.3.2. Additional Tier 2 MER Professional training is given in Table 3.2.3.3

3.2.3.3b Initial Training

All Tier 2 MER Professionals shall possess one of the following medical qualification or equivalent:

- Emergency Medical Technician- Paramedic (EMT-P)
- Paramedic;
- medic, nurse or doctor

Additionally, all Tier 2 MER Professionals shall possess current:

- Basic Life Support (BLS) certification or equivalent;
- Advanced Life/Cardiac Support (ALS or ACLS) certification or equivalent.

Extended medical care, Pre-Hospital Trauma Life Support (PHTLS) or Advanced Trauma Life Support (ATLS) training and certification may be required.

3.2.3.3c Knowledge and Skills Maintenance

The ALS/ACLS, PHTLS, ATLS or equivalent are generally valid for three years. In addition to the renewal of their appropriate certification, a three to six week hands-on retraining/refresher in emergency room, trauma unit or similar settings should be required, unless knowledge and skills maintenance have been obtained on a continual basis. The Company MER Focal Point shall assess if this training suffice to meet the competence requirements listed in Table 3.2.3.3

Tier 2 MER Professional training components and skills maintenance frequencies are defined in Table 3.2.3.3 below

Table 3.2.3.3: Tier 2 MER Professional Training Components and Skills Maintenance

Training Component	Competency Description / Skill maintenance	Skill Maintenance Frequency
Basic	• Recognise and assess the life and limb threatening conditions including cardio-pulmonary arrest; • For cardiac cases: Assess and manage ABCDE* for Advanced Life Support (ALS) – airway, breathing, circulation, disability and exposure/environment; • For other medical and trauma cases: Assess and manage injuries (head, spinal, chest and abdomen), neurological and psychological function, hypothermia and burns; • Manage medical and trauma emergencies; • Conduct triage for multiple casualties; • Formulate differential diagnosis of shock; • Communicate with *Remote Medical Support* to provide casualty status and medical information and receive instructions for further medical management; • Communicate appropriate condition, related information to casualty, DFAs, Site Medical Professional, Company Health Adviser and supervision/management; • Assess and recommend transfer of the casualty for Medevac to a *Tier 3 Hospital* or a *Tier 4 Hospital* in consultation with Site Medical Professional and *Remote Medical Support*.	Every three year
Resuscitation	• Advanced airway management. Definitive airway skills • Use of oral and nasopharyngeal airways, insertion of laryngeal mask airway and endotracheal intubation; • Maintenance of adequate airway with spine protection, including accurate placement of tracheal tube and use of suction devices; • Adequate ventilation, oxygen therapy, bag-valve-mask and bag-valve-tube techniques; • Use of AED; • Maintenance circulation, establish and maintain intravenous access, IV fluids therapy, chest compression, CPR and ventilation; • Use of pharmacological therapy regimes – agents for arrhythmias, those that optimise cardiac output and blood pressure, appropriate pain management, etc; • Oxygen therapy, bag-valve-mask, and bag-valve-tube techniques.	Every three year
Stabilise	• Assess the adequacy of advanced CPR and other resuscitation measures; • Continue use of pharmacological agents as indicated;	Every three year

	• Stabilize the casualty pre-hospital, and during transportation; • Post-resuscitation care.	
Transfer	• Stabilization and resuscitation skills required for different types of transportation; • Record keeping and use of transfer notes; • Call Out scheme to inform and hand over to definitive care *Tier 3 Hospital* or *Tier 4 Hospital* doctor or specialists.	Every three year
Leadership & Management	• Teaching, training, coaching and mentoring skills; • Managing, leading and team building.	Every three year
Additional Training and Skills for Tier 2 MER Professionals providing extended care	• Continued detailed assessment and management of the principal problems using ABCDE* in consultation with *Remote Medical Support*; • Assessment of the secondary problems using ABCDE* and its impact on the condition of the casualty in consultation with *Remote Medical Support*; • In addition, Tier 2 MER Professional providing extended care shall have specific training, experience and skills related to the usage of equipment and supplies available at the *Site Clinic*.	Every three year
Provision of Work Specific Medical Care	• The Site Medical Review or Health Risk Assessment may identify additional relevant specialized medical competency to be required (e.g. for diving operations).	In accordance with specific regulations

Note: *ABCDE: **A**irway, **B**reathing, **C**irculation, **D**isability, **E**xposure

Experience

All Tier 2 MER Professionals should possess at least two - three years of experience working in active ambulance care, in a medical emergency room or similar acute setting. Tier 2 MER Professionals likely to provide extended care (*Extended Site Clinic*) should possess three - five years experience in active ambulance care, in an emergency or trauma unit, or similar settings.

3.2.3.4 REMOTE MEDICAL SUPPORT

3.2.3.4a Competence and training requirements

Remote Medical Support is defined as real time specialist medical advice to the Site Medical Professional by an audio connection. This support shall cover:

- Diagnosis of injury/illness and further action to be taken to confirm/ascertain this diagnosis. Possible alternative diagnosis, and how to take this into account;
- Recommended (initial) treatment, within the framework of local limitations;
- Other action to be taken (e.g. in case of highly contagious disease suspected);
- Advice on need and modality of -, as well as urgency of transport, special precautions to be observed during transport;
- Advice on choice of transport destination (i.e. an approved *Tier 3 Hospital* or otherwise, e.g. burns unit, immediate international Medevac);
- Priorities / triage.

3.2.3.4b Requirements for a Remote Medical Support Service Provider

- 24 hr, seven days a week support;
- Reliable means of communications (e.g. telephone, radio);
- Communication in the same language as the Site Medical Professional;
- Access to specialist advisers from major hospital unit.

3.2.3.4c Competency of a Remote Medical Support Adviser

- Basic training and certification in emergency medicine;
- Licensed/registration with appropriate organisations/bodies;
- Five years experience in emergency medicine receiving assessments and providing medical management guidance to the Site Medical Professional via telephonic communication;
- Ability to have effective communication with additional medical specialist advisers.

3.3. HEMP

3.3.1 Site MER Design Evaluation

It shall be demonstrated that, for reasonably foreseeable scenarios and considering the characteristics of the *Site* and its surroundings, the MER design of the *Site* complies with:

- The Tier response times, [Table 3.1.3.1]; and
- Resource requirements (section 3.2.2).

This demonstration shall be documented, or referred to in the *corporate* MER procedure. For *Sites* with large populations (>300), large areas, and/or widely distributed population or uncommon *Site*-specific risks (e.g. identified in Site Medical Review and Health Risk Assessment) compliance with the resource requirements alone may not be adequate to ensure the Tier response times can be achieved and therefore the resource requirements shall be reassessed by applying HEMP.

3.3.2 Managing MER for Non-routine Activities

MER preparedness shall be enhanced for *Non-routine Activities.* These *Non-routine Activities* shall be identified during work planning, recorded and reflected in the Permit To Work system and the Manual Of Permitted Operations. *Non-routine Activities* shall be managed by exception following HEMP. A risk assessment shall be conducted including a rigorous challenge and justification that the activity as proposed is necessary.

Where a *Non-routine Activity* cannot be avoided, the following steps shall be taken prior to the start of the *Non-routine Activity*:

- A Tier 2 MER Professional has been briefed and is on standby to arrive at the casualty within 20 minutes upon request, see [Table 3.1.3.1];
- The ability to meet the Tier 3 response time [Table 3.1.3.1] for evacuation to a *Tier 3 Hospital* or *Extended Site Clinic* has been confirmed *(*Medevac resources available and other conditions suitable);
- Relevant specialised medical advisors, medical equipment and supplies are identified and available upon request;
- A written communication protocol is in place requiring 'positive reporting' checks at prescribed frequencies and defining action to be taken on failure to report.

3.3.3 *Sites* where Tier Response Times cannot reasonably be achieved

Sites for which the Tier response times in [Table 3.1.3.1] cannot reasonably be achieved, such as vehicle drivers, workers in transit, workers located in isolated locations, shall be managed by exception following HEMP. A risk assessment shall be conducted including a rigorous challenge and justification that the activity

as proposed is necessary. Practicable additional controls shall be implemented and it shall be demonstrated that the chosen MER design reduces the Tier response times to ALARP.

3.3.4 Temporary Higher-Risk Activities on Category 1 Sites

Where short-term temporary activities typical of *Category* 2 *Sites* are carried out on a *Category 1 Site*, MER cover shall be enhanced for the duration of the activities to achieve the DFA and Tier2 MER Professional numbers of a *Category 2 Site* for those at increased risk. Where less than 25 people are at risk the approach of Section 3.3.3 may be invoked.

For longer-term temporary activities (e.g. major refurbishment construction at an office) the basic *Site* MER design shall be reconsidered.

3.4 Planning and Procedures

3.4.1 Planning

Planning for MER shall be carried out in the early stages of overall activity planning and shall comply with MER requirements. This requirement applies to all activities, which may affect MER, throughout the life cycle of *Site*, to ensure that MER provision remains current.

3.4.2 MER Procedures

Corporate MER procedures shall be prepared and maintained describing the planning, management and implementation of MER.

3.5 Implementation, Performance Monitoring and Corrective Action

3.5.1 Implementation

The Line Manager shall be accountable for the planning and implementation of the MER procedure. It entails:

- Issuing the documentation to all concerned, discussing any foreseeable problems and updating them as required.
- Contracting the resources required.
- Providing basic awareness and first aid training as required (in house or by specialised outside organisations

3.5.2 Performance Monitoring

The Line Manager shall monitor the effectiveness of all elements of MER management. This includes addressing all relevant changes to the *Site* and reflecting these in risk assessments, the MER procedures and resources (including staff numbers and competency, facilities and equipment).

3.5.2.1 MER Exercises

Periodic MER exercises shall be conducted. They shall:

- Involve external service providers in some cases;
- Be realistic and challenging (e.g. include at least one escalation factor);
- Be evaluated and followed by a debrief with learning opportunities appropriately disseminated.

MCC with PDO MER Focal Point define monitoring requirements, review performance against those requirements and manage the overall standard of medical personnel and equipment.

The PDO medical department and staff are involved in a number of genuine emergency call outs, these exercise the department's response ability, medical facilities and response. For now performance is monitored through the response time and the appropriateness of first aid treatment administered. Medical staff participates in local and corporate level emergency exercises therefore emergency calls out procedures are frequently practiced. Performance of nurses and medical staff is closely monitored by doctors.

A 'live' medical exercise shall be held twice yearly in each PDO location and involve the full participation of medical staff, contractors and any applicable staff. These shall be practical exercises and co-ordinated with assistance of local management. PDO Doctors are responsible for ensuring the quality of these exercises. All medical drills, exercises and emergencies shall be reported, discussed and signed off with recommendations from the responsible Doctor. A detailed report shall be submitted to MCC and all relevant parties at the conclusion of each exercise.

Topics to be covered within the exercise summary reports are; the medical response times, adequacy of medical treatment, personnel and equipment. Learning points, recommendations and findings shall be conveyed immediately to MCC, for distribution of action items which will be rectified as appropriate.

3.5.2.2 Incident Investigation and Follow-Up

Incidents involving MER shall be reviewed in accordance with HSE Procedures PR-1418 'Incident Notification, Analysis, Reporting and Follow-Up'. Detailed records of events and casualty management shall be maintained. The Site Medical Professional and the Company MER Focal Point shall review incident reports involving MER to identify learning and improvement opportunities. Corrective actions and learning opportunities shall be tracked and implemented using Fountain.

3.5.2.3 Key Performance Indicators (KPIs)

Suitable KPIs shall be maintained and regularly reviewed to monitor MER performance, e.g.: Frequency of and response times in Medevac drills and real MER events; Number of non-compliances with the requirements of this Standard. In general, MER adequacy is judged against, but not restricted to, three main criteria:

1. Response time
2. Application of relevant professional standards of practice in the medical management
3. Conforming to the MER standards and requirements

3.6 Audits

In compliance with Corporate HSE Auditing Guidelines, MER planning and performance shall be included in the Terms of Reference of local and independent HSE Management System audits

4. SPECIFICATIONS : MER EQUIPMENT AND DRUGS

This document may set requirements supplemental to applicable law. However, nothing herein is intended to replace, amend, supersede or otherwise depart from any applicable law relating to the subject matter of this HSSE document. In the event of any conflict or contradiction between the provisions of this HSSE document and applicable law as to the implementation and governance of this HSSE document, the provisions of applicable law shall prevail.

4.1 Scope

This Specification sets minimum requirements for medical equipment for MER. The Site Medical Review or Health Risk Assessment may identify additional relevant specialised medical equipment to be required.

4.2 External References

- World Health Organization List of Essential Medicines
- American Heart Association Emergency Cardiac Care Committee
- European Resuscitation Council

4.3 Specifications

4.3.1 First Aid Boxes for Designated First Aiders

All First Aid boxes to be used in medical emergencies by Designated First Aiders (DFAs) shall comply with the following requirements. To protect the sterilisation as well as content integrity, they should be sealed. If the provision of simple band-aids and non-prescription drugs (paracetamol, anti-acids) is considered useful, these shall be in a separate band-aid box.

Table 4.3.1 Requirements for First Aid Boxes for DFAs

No.	Item	>50 persons (Size A)	10-50 persons (Size B)	<10 persons (Size C)
1	Information cards of Basic Life Support (BSL), First Aid, Algorithms	1	1	1
2	Medium sterilised dressings 12x12cm	24	12	6
3	Large sterilised dressings 18x18cm	12	6	3
4	Adhesive wound dressings – various shapes/sizes	36	24	12
5	Triangular bandages	6	4	1
6	1" x 5yds zinc oxide plaster	4	2	1
7	Alcohol freed wipes – individually wrapped	20	10	6
8	Disposable gloves (pair)	6	4	2
9	Eye pad	8	4	2
10	Protective goggles	4	3	2
11	Pressure bandage 7.5cm	6	4	2
12	Assorted safety pins	12	12	6
13	Foil blanket adult size	2	2	1
14	Vent-aid or Laerdal Masks resuscitation aid	2	2	1
15	A pair of scissors	1	1	1
16	Recording book	1	1	1
17	Automatic External Defibrillator, including gel pads	1	1	1
18	For more remote locations, automatic blood pressure measurement devices	1	1	1
19	Where appropriate: self-injectable anti-histamine or epinephrine (areas with africanised bees) - - -	-	-	-

4.3.2 Multi-casualty Emergency Box

Every clinic should have this Box readily available to transport in case required, especially for Multi-Casualty Incidents. This is in addition to the medical staff emergency bag.

Table 4.3.2 Requirements for Multi-Casualty Emergency Box

Equipment Packs	Other Equipment
IV Infusion Pack (500ml Saline + Plasma Expanders) (x10 each)	IV Cannula (x15)
Chest Drain Pack (x1)	IV Giving Sets (x10)
Urinary Catheter Pack (x2)	Dressing Assorted (x10)
Wound Pack (x10)	Splints Assorted (x10)
Burn Pack (x5)	Cervical Collars (x5)
Cut Down Pack (x2)	Mortuary Bags (x2)
Amputation Pack (x1)	Triage Cards (x50)
Airway/ ventilation Pack (x2)	
Suture Pack (x5)	

N.B. Quantity may need to be increased in larger sites or when activities may warrant, e.g. airport activities.

4.3.3 Site Clinics and Extended Site Clinics

The *Site Clinic* and *Extended Site Clinic* shall comply with the requirements of PDO Medical examinations and facilities specification (SP1230)

4.3.4 Ambulances

Ambulances shall:

- Be in compliance with local legislation and regulatory requirements as per PDO "Ambulance Code of Practice";
- Be suitable for the local road and terrain conditions;
- Be suitable for stretcher recovery work - the doors should fully open to allow free and unrestricted access;
- Have harnesses to secure the casualty;
- Have a seat belt for the Tier 2 MER Professional in the stretcher cabin;
- Have emergency rotating flashlight;
- Have beam spotlights at the rear of the vehicle, to support casualty stabilisation and stretcher handling behind the vehicle;
- Reliable real time voice communication with the *Tier 3 Hospital* to which the casualty will be transported.

The Tier 2 MER Professional shall be able to issue instructions to the Driver during the transport.

The *Vehicle* equipment shall include:

- Equipment or have access to other resources for dealing with vehicle crashes, such as: One 90-cm crowbar or equivalent;

- One metal hacksaw;
- Hammer and pliers;
- One map of the area served;
- Navigation equipment as deemed necessary;
- For each member of the crew:
    - One set of eye protectors;
    - One safety vest;
    - One pair of safety gloves.
- Recovery equipment if necessary (e.g. shovel).

The stretcher cabin of the ambulance shall have:

- Suitable climate control;
- Adequate lighting;
- All surfaces padded;
- No sharp or protruding objects;
- Fixture for IV drip;
- Water bottle(s) for drinking and hand washing.

The stretcher shall be securely fastened to a vehicle anchor point and preferably have locking wheels. It should be possible to load the vehicle with the casualty's head towards the front and the Tier 2 MER Professional should be able to sit next to the patient's head.

In addition, if the ambulance is owned, contracted or leased by the Company or contractor, the *Vehicle* and the Driver shall meet the requirements of "Ambulance Code of Practice" and any other related standards.

4.3.5 MER Equipment and Supplies

The equipment and supplies listed in this table establishes minimum requirements. Further, the medications list for Advanced Life Support shall periodically be updated and modified on annual basis. The Site Medical Professional in consultation with the Corporate MER Focal Point should review the contents for appropriateness and updates for their *Site*.

Table 4.3.1 Equipment and Supplies

	ITEM	Emergency Bag	Site Clinic	Extended Site Clinic
A	Ventilation & Airway Equipment			
	portable and fixed suction apparatus wide-bore tubing, rigid pharyngeal curved suction tip, flexible suction catheters	X	X	X
	portable/ fixed oxygen cylinder with equipment variable flow regulator	X	X	X
	oxygen administration equipment adequate length tubing, nasal cannulas and masks	X	X	X
	pocket mask with one-way valve	X	X	X
	Bag-valve-mask Hand-operated, self-expanding bag with	X	X	X

	oxygen reservoir			
	Airways Oropharyngeal and nasal	X	X	X
	Laryngeal Mask Airway Different sizes	X	X	X
	Laryngoscope handle and blades with extra batteries and bulbs	X	X	X
	Endotracheal tubes including stylettes	X	X	X
	Nasogastric tubes	X	X	X
	Magill Forceps	X	X	X
	Lubricating jelly (water soluble)			
	securing tape			
B	Monitoring and Defibrillation			
	1. Automatic External Defibrillator (AED)	X	X	X
	2. Portable, battery-operated monitor/ defibrillator With tape write-out/ recorder, defib pads, quick-look paddles or hands-free patches, ECG leads		X	X
	3. ECG machine		X	X
C	Immobilization Devices			
	1. Cervical collars (different sizes)	X	X	X
	2. Head Immobilization Device		X	X
	3. Upper & Lower extremity traction/ splinting devices		X	X
	4. Backboards		X	X
D	Bandages & Sutures			
	1. Burn pack		X	X
	2. triangular bandages with safety pins	X	X	X
	3. dressings (assorted)	X	X	X
	4. 4 sterile gauze rolls	X	X	X
	5. elastic bandages	X	X	X
	6. occlusive dressings	X	X	X
	7. suturing kit (with assorted sutures, steristrips, artery forceps, needles, needle holder, …etc.)	X	X	X
	8. Adhesive tapes (assorted)	X	X	X
	9. assorted scalpels, blades, razors, ..etc	X	X	X
E	Communication			
	1. two-way radio communication	X	X	X
	2. Satellite Cellular phone (Thuraya)	X	X	X
F	Obstetrical*			
	Kit (Separate sterile kit) (Towels, 4x4 dressings, umbilical tape, sterile scissors, bulb suction, cord clamps, sterile gloves, blanket and/or aluminum foil roll) 2. Appropriate heat source	Based on Risk Assessment		
G	Medical & Miscellaneous Supplies			
	1. sphygmomanometer (with different sizes cuffs)	X	X	X
	2. stethoscope	X	X	X
	3. Thermometer	X	X	X
	4. Paramedic scissors for cutting clothing, belts, and boots	X	X	X

	5. Cold packs		X	X
	6. Sterile saline solution for irrigation	X	X	X
	7. Flashlights with extra batteries	X	X	X
	8. blankets		X	X
	9. sheets, linen/ paper, pillows		X	X
	10. Towels		X	X
	11. Triage Tags	X	X	X
	12. Disposable Emesis bags/ basins	X	X	X
	13. Disposable urinal		X	X
	14. Urinary Indwelling catheter		X	X
	15. Wheeled cot or hospital bed/ stretcher		X	X
	16. folding Stretcher		X	X
	17. Stair chair or carry chair		X	X
	18. Casualty care charts/ forms/ recording books	X	X	X
	19. Tongue depressor	X	X	X
	20. Magnifying glass	X	X	X
	21. Autoclave or sterilizer		X	X
	22. Refrigerator		X	X
	23. Otoscope/ ophthalmoscope		X	X
	24. Percussion hammer		X	X
H	Infection Control			X
	1. eye protection (full peripheral glasses or goggles, face shield)	X	X	X
	2. masks	X	X	X
	3. Gloves, non-sterile	X	X	X
	4. disposable gowns	X	X	X
	5. Shoe covers	X	X	X
	6. Disinfectant hand wash, commercial anti-microbial	X	X	X
	7. standard sharp containers	X	X	X
	8. disposable trash bags	X	X	X
I	Vascular Access			
	1. IV administration sets, including large-bore cannulas, pressure bags for IV fluid administration, …etc.	X	X	X
	2. Crystalloid solutions (LR and/or NS), 5% Dextrose in water (optional)	X	X	X
	3. antiseptic solution (e.g. alcohol wipes)	X	X	X
	4. IV pole or roof hook		X	X
	5. IV catheters (assorted sizes)	X	X	X
	6. Tourniquet, rubber bands	X	X	X
	7. syringes of various sizes	X	X	X
	8. needles of various sizes	X	X	X
	9. Intravenous arm boards		X	X
J	Other Advanced Equipment			
	1. Nebulizer		X	X
	2. Glucometer or blood glucose monitoring device with reagent strips and lancets		X	X
	3. Pulse oximetry or Oxygen saturation monitor			X
	4. Chest drains		X	X
	5. Urinary catheters		X	X

K	Optional Advanced Equipment			
	1. portable automatic ventilators			X
	2. Automatic Blood Presuure Device	X	X	X
	3. Blood sample tubes	X	X	X

4.3.6 List of Essential MER Medications for PDO and contractor clinics

- Site Categories have been considered in section 1.3. For purpose of quantity of Essential Drugs, All PDO & PAC clinics shall be considered under Category 2
- Some of the medications will be considered for the clinics only but should be readily available for the Emergency Bag. For example, Morphine and Valium should be kept in DDA but taken along with the emergency bag when a call is there.
- The calculated quantity is based on the assumption that replacement of used items can take place within two weeks.
- At any single time, no less than 60% of the required stock should be available in the clinic.
- The quantities represent the minimum stock for MER and do not include the routine daily requirements of these drugs.

Table 4.3.6 Essential MER Medications

Medications	Category 1 Sites	Category 2 Sites
1. Epinephrine (Adrenaline) 1:10,000 (1mg/10ml)	X5	X10
2. Amiodarone (150mg/3ml)	X5	X10
3. Atropine (0.6mg/1ml)	X10	X20
4. Lidocaine (Xylocard) 2% 100mg/5ml IV	X5	X10
5. Adenosine 6mg/2ml	X5	X10
6. Diltiazem or Atenolol IV	X0	X3
7. Nitroglycerin tablets/ spray	X10	X20
8. Salbutamol (or other B agonist) (0.5mg/1ml) IV	X3	X6
9. Epinephrine (Adrenaline) 1:1,000 for IV/IM use (1mg/1ml)	X10	X30
10. Furosemide (20mg/2ml)	X8	X20
11. 5% Dextrose solution 500ml	X7	X20
12. Antiepileptic Medications, e.g. Diazepam or Midazolam	X5	X10
13. Aspirin	X7	X20
14. Glucagon (1mg/1ml)	X1	X3
15. Sodium Bicarbonate 8.4% (50ml)	X2	X4
16. Morphine (10mg/1ml)	X4	X10
17. Sulphadiazine (Flamazine) cream	X4	X10
18. Oxygen	X5	X15
19. Hydrocortisone (or equivalent	X6	X15

steroid) for IV use		
20. Naloxone	X0	X0
21. Dopamine (200mg/5ml)	X2	X6
22. MgSO4 (1G/5ml)	X2	X6
23. Chlorpheniramine (10mg/1ml)	X4	X10
24. Ranitidine (50mg/2ml)	X3	X5
25. Metoclopromide	X5	X10
26. Largactil (50mg/2ml)	X2	X5
22. Colloidal IV fluid (Plasma expander) 500ml	X5	X15
23. Crystalloid IV Fluid 500ml	X10	X20
23. Anesthetic and Muscle relaxant Medications (for Rapid Sequence Intubation): a. Fentanyl or Ketamine (or equivalent) b. Muscle relaxant (e.g. Suxamethonium)	Optional Based on R.A.	Optional Based on R.A.
24. Venom Antidotes	PDO clinics, given on Doctor order only	
25. Hydrofluoric Acid Antidote (FHD & MRL)	X10	
26. Sodium Nitrite Injection 10ml (MRL, Yibal & Harweel)	X6	

5. Develop, Implement and Maintain MER

This document may set requirements supplemental to applicable law. However, nothing herein is intended to replace, amend, supersede or otherwise depart from any applicable law relating to the subject matter of this HSE document. In the event of any conflict or contradiction between the provisions of this HSE document and applicable law as to the implementation and governance of this HSE document, the provisions of applicable law shall prevail.

5.1 Background:

Objective
To develop, implement and maintain the requirements of MER procedure.

Scope
This Procedure is intended to provide for effective MER and applies to PDO and contractor *Sites*, which are work related.

5.2 Design the MER

Task 1: Identify Site Characteristics
Identify and describe as input to the MER design:

- Nature of *Site* (e.g. main *Site*, satellite), *Site* location (e.g. remoteness) and *Site* dimensions;
- *Site* population (e.g. employees, long term contractors) and population distribution;
- *Site* activities and *Site*-specific risks (e.g. day and night activities);
- *Non-routine Activities*.

Based on the activities normally conducted at the *Site* classify the *Site* as *Category 1 Site* or *Category 2 Site.*

Review *Site*-specific risk assessments if available (e.g. Health Risk Assessments, Impact Assessments) and identify the MER related controls.

Task 2: Conduct Site Medical Review
Conduct Site Medical Review as input to the MER design, e.g.:

- Applicable legislation and regulations;
- Infrastructure of the surrounding of the *Site* (e.g. roads, airports);
- Local medical infrastructure/resources (potential *Tier 3 Hospitals* and *Tier 4 Hospitals*, including specialized facilities, such as cardiology and burn units);
- Medevac providers;
- Types of Medevac transport available (e.g. ambulance, aircraft, vessels). Ambulances shall meet the requirements of 'MER Equipment' Specification and comply with "Ambulance Code of Practice".
- Transport distances and transport duration to external medical facilities (e.g. *Tier 3 Hospital(s*) and *Tier 4 Hospital*(s));
- Transport availability and reliability;
- Local medical aspects (e.g. morbidity causes, occurrence of endemic diseases, health and age distribution of the workgroups);

- Other major companies operating in the area.

Task 3: Identify and Assess MER Resources Required
Based on the identified *Site* characteristics and the Site Medical Review, identify the required MER resources as below.

Tier 0: Identify number of on-*Site* people to conduct *First Response*.

Tier 1: Identify the number and location of:

- DFAs
- Automatic External Defibrillators (AEDs) and First Aid boxes

Tier 2: Identify:

- If external Tier 2 service provider meets the Tier 2 response time, otherwise provide own Tier 2 MER Professional(s)
- Related medical equipment (e.g. trauma bags) to meet the Tier 2 response time
- Appropriate MER support teams (e.g. stretcher bearers);
- A *Remote Medical Support* provider
- 'Remote Medical Support for Tier 2 MER Professionals'
- Need for *Site Clinic** and *Extended Site Clinic*
- Type of Medevac transport (e.g. ambulance, aircraft) meeting the requirements of Sites that can rely on external Tier 2 support do not require a *Site Clinic.*

Tier 3: Assess the potential *Tier 3 Hospital*s taking into account:

- Ability to deal with life threatening and time critical situations;
- Competence of health professionals;
- Equipment;
- Building and administration;
- Access and logistics.

Select *Tier 3 Hospital*(s) to be approved by the Company MER Focal Point/ Health Advisor

Tier 4:

- Assess potential *Tier 4 Hospital*(s) taking into account the same criteria as for *Tier 3 Hospitals*;
- Select *Tier 4 Hospital*(s) to be approved by the Company Health Adviser.

General:
Identify location and communication structure (e.g. communication to *Tier 3 Hospital*) of the site control centre

For *Sites* with large populations (>300), large areas, and/or widely distributed population or uncommon *Site*-specific risks (e.g. identified in Site Medical Review and Health Risk Assessment) compliance with the resource requirements alone may not be adequate to ensure the Tier response times can be achieved and therefore the resource requirements shall be assessed by applying HEMP.

Task 4: Evaluate MER Resources to Meet Tier Response Times
Demonstrate that the MER resources identified in Task 3 meet the Tier response requirements [Table 3.1.3.1] taking into account criteria such as:

- The risk of near-simultaneous incidents (particular for *Sites* with large population);

- Learnings from incident investigations and exercises;
- Likely escalation factors (e.g. interruption of communication / transport, weather);
- Benefits of controls versus additional risks which their provision may incur.

Document this demonstration. If the requirements cannot be met go back to Task 3 and redefine MER resources. In case of specific '*Sites* where Tier response times [Table 3.1.3.1] cannot reasonably be achieved' go to Task 6.

Task 5: Evaluate Non-routine Activities
Evaluate if *Non-routine Activities,* identified in Task 1, can be avoided or replaced by other activities. If not, conduct a risk assessment in accordance with HEMP and implement the
controls as required by [3.3.2] prior to starting the activity.

Document *Non-routine Activities*, together with the chosen MER design controls and the associated risk assessment (or reference to the study), in the *Site Specific* MER Manual.

Task 6: Manage Sites where Tier Response Times cannot reasonably be achieved
Evaluate if these activities on such *Sites* can be avoided or replaced by other activities. If not, conduct a risk assessment in accordance with HEMP and identify additional controls.

Document the related *Site* activities, together with the chosen MER design controls and the associated risk assessment (or reference to the study), in the *Site Specific* MER Manual.

Task 7: Identify and Manage Interfaces with other Emergency Response Plans
Identify interfaces if applicable with other Emergency Response (ER) Plans such as:
- Corporate ER Plan;
- *Site* ER Plan and Search and Rescue Plans.

Link MER with these ER Plans and reassess the resource levels identified if required.

Task 8: Establish Policies and Procedures for Responding to External Requests for MER Assistance
Establish policies for responding to external requests for MER assistance in medical emergencies, develop procedures and link MER with these procedures.

Task 9: Assess Possibility of Multiple Casualty Incidents
Assess the possibility of multiple casualty incidents. For these cases MER may be resourced in cooperation with external parties (e.g. third party emergency services, military, other operators).

Task 10: Verify MER Design
Verify if MER design meets the following requirements:
- DFA and Tier 2 MER Professional numbers.
- Tier response times [Table 3.1.3.1]
- Managing *Non-routine Activities*
- Managing *Sites* where Tier Response Times cannot reasonably be achieved, see [3.3.3]
- Temporary Higher Risk Activities on *Category 1 Sites*, see [3.3.4].

If the above cannot be met go back to Task 3 to reassess the staffing levels and required controls.

Task 11: Prepare and Implement MER Manual
Document the MER design in MER Manual applying associated Tool "Site Specific MER Manual" and implement the required resources identified in Task 3-9 for the different Tiers, see below.

Tier 0:
- Provide *First Response training* and ensure skills maintenance as described in the Specification 'Training and Competence Requirements for Tier 1 and Tier 2 Roles'.
- Develop, document and implement a procedure for *First Response* and
- Call Out as required by the Specification 'Local MER Procedures'.

Tier 1:
- Train DFAs and ensure skills maintenance;
- Procure Tier 1 related medical equipment (i.e. First Aid boxes and AEDs)

Tier 2:
- Train Tier 2 MER Professionals if applicable (with *Site Clinic* and *Extended Site Clinic* competence if required) and ensure skills maintenance;
- Procure Tier 2 related medical equipment (e.g. stretchers, emergency bags) and communication equipment;
- Establish Medevac to *Tier 3 Hospital* (by contracted third parties or own resources);
- Develop, document and implement a procedure for Medevac to *Tier 3 Hospital* as required .
- Establish a *Site Clinic* and *Extended Site Clinic* if required;

Tier 3:
- Set up contract(s)/ plans with *Tier 3 Hospital*(s), if required.

Tier 4:
- Establish Medevac to *Tier 4 Hospital* (by contracted third parties or own resources);
- Establish contracts (s) with *Tier 4 Hospital*(s);
- Develop, document and implement a procedure for Medevac to a *Tier 4 Hospital* as required.

General:
Establish:
- The site control centre (CCR);
- An inspection and maintenance programme for medical equipment (e.g. asset register; maintenance and inspection schedule, work instructions);
- A MER exercise programme (e.g. exercise schedule; resources);
- Contracts if applicable with third parties for:
  - Assistance in medical emergencies, as identified in Task 8;
  - Cooperation activities in case of multiple casualty incidents, as identified in Task 9.

Task 12: Monitor MER Performance
Conduct MER exercises. Record summaries of the exercises and resultant action items in Fountain.

To monitor the effectiveness of MER management ensure that MER is included in the Terms of Reference of local independent HSE Management System audits.

Update the MER design as a result of change triggers (e.g. new activities, learning from incidents and exercises, longer term temporary activities, see [3.3.4]).

Ensure that *Site* management procedures will identify any short-term temporary activities typically of *Category 2 Sites,* which require short-term changes to MER in accordance with [3.3.4].

Task 13: Perform Annual Review of Site Specific MER Manual
Review:

- Results of MER exercises and any real MER incidents;
- Skills maintenance programme;
- Key Performance Indicators [3.5.2.3]
- Performance of external service providers.

5.3 Records to be maintained

- MER Guidelines
- MER Site Specific Procedures Manual
- MER equipment inventories
- MER exercises;
- Demonstration of effective MER design;
- If applicable, a waiver for not having a Site *Clinic;*
- If applicable, risk assessments to demonstrate that:
    - The chosen alternative solution for smaller *Sites* not having a *Site Clinic* ensures risks are ALARP;
    - Risks of *Non-routine Activities* are reduced to ALARP;
    - The chosen MER design for '*Sites* where Tier Response Times cannot reasonably be achieved' reduces the Tier response times to ALARP.

5.4 MER Exercises

Site	**Communication Test**	**Local Medivac Drill**	**Full Scale Medivac Drill**
Functions Tested	Communication Only	Tests only ONE function related to MER, e.g. Triage or Trauma Management or ACLS performance, …etc	Tests ALL functions related to a particular MER
Explanation	Test all communication systems needed for MER, including 'external' ones and back up systems. All listed telephone numbers shall be tested.	Simulation up to casualty being ready for transport and aircraft confirmed ready for take off, or ambulance ready to depart from main *Site* to *Tier 3 Hospital*.	Simulation with (dummy) casualty delivered to local *Tier 3 Hospital*. (Standalone or in conjunction with local Medevac drill)
FREQUENCY	Once weekly	As per MER Exercise Schedule issued by MER Focal Point	

- An appropriate level of MER exercise shall be conducted within 30 days of any significant change affecting MER (e.g. Medevac provider).

APPENDIX I: MER CONTACT DIRECTORY

PDO MER Contact List

Emergency Number
2467-5555

Location	Function	Office Phone	Pager	Fax
MAF	MAF Clinic	246-77444		246-76502
	CECC - Medical	246-70606		246-78483
	MAF CCR	246-77230		246-75473
---	---	---	---	---
NORTH	Fahud Clinic	243-84439	4439	243-84745
		243-84245		
	Fahud LECC	243-84333		243-84483
		243-84317		
	Yibal Clinic	243-81145	4431	243-81110
		243-81139		
	Yibal LECC	243-81430		243-81488
		243-81495		
	Qarn-Alam Clinic	243-85544	4432	243-85595
		243-85464		
	Qarn-Alam LECC	243-85999		243-85773
		243-85701		
	Lekhwair Clinic	243-81944	4435	243-81744
		243-81939		
	Lekhwair LECC	243-81829		243-81728
		243-1830		
---	---	---	---	---
SOUTH	Marmul Clinic	243-86500	6643	243-86936
		243-86439		
	Marmul LECC	243-86033		243-86084
		243-86349		
	Nimr Clinic	243-82439	6667	243-82436
		243-82435		
	Nimr LECC	243-82662		243-86084
		243-82414		
	Bahja Clinic	243-88712	6623	243-88939
		243-88908		
	Bahja LECC	243-88711		243-88939
		243-88911		
	Harweel Clinic			
	Harweel LECC			

GOVERNMENT HOSPITALS	
ROYAL - OPERATOR	24599000
A & E DEPT	24599457
ICU DEPT	24599773
CARDIOLOGY DEPT	24599901
GASTRO DEPT.	24592965
BOUSHAR POLYCLINIC	24593311
KHOULA	24560455
A & E DEPT	24563625
ICU DEPT	24562863
ORTHO CLINIC	24561773
NAHDHA	24831255
DERMATOLOGY	24833175
ENT	24833998
EYE	24832045
IBN SINA	24876322
ARMED FORCES HOSP	24331931
NAVAL	24815038
POLICE HOSPITAL	24683100
UNIVERSITY HOSP	24147777
SQU - SALALAH	23216000
NIZWA HOSPITAL	25449155
IBRI HOSPITAL	25691990
ADAM HOSPITAL	25434055