Medical Emergency Response

Purpose

To ensure provision of uninterrupted *Medical Emergency Response*[1] (MER)*) across all *Sakhalin Energy Activities* to minimize the potential health consequences of workplace injury or acute illness.

This specification 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 response requirements depending on the nature of the hazards and the activities on the Site.

The principles of MER management are to:

- communicate MER procedures to all staff who may respond to medical emergency at work,
- provide competent personnel with adequate resources, skills maintenance, and communication facilities,
- provide periodic exercises to maintain MER and ensure dissemination of learning.

Target Group

- CEO, CED, Asset Managers, Facilities Manager, Logistics Manager, Offshore and Onshore Installation Managers, PMD Site Leads,
- Emergency Coordinators, Emergency Response Team (ERT), Crisis Management Team (CMT),
- General HSE Manager, Security Manager, Corporate Health Team, Site Doctors,
- Contracting and Procurement Manager, Contract Holders, Contract Engineers, Contractors.

Scope of Application

This document applies to all *Sakhalin Energy Assets*, *Facilities*, *Operations*, *Projects* and *Activities*, including activities undertaken by any *Contractor* on behalf of the *Company*.

Requirements – Tier Response Times

Asset/Facilities Managers are Accountable for requirements 1 to 8.

1. Ensure that all persons undertaking work on behalf of the Company have access to medical services that take account of the risks associated with the type and location of their work.

1.1. Tier response times and MER requirements are as follows:

Tier		Action	Time after Injury[2]
Tier 0		*First Response* by people on emergency site – Make Safe and Call Out to Designated First Aider (DFA) and site control centre in accordance with procedure in Appendix 1.	**Immediate**
Tier 1		• DFA arrives on scene. • DFA starts assessing causality and conducts First Aid and Basic Life Support e.g. Cardio Pulmonary Resuscitation (CPR) and Automatic External Defibrillator (AED). The law does not restrict use of AED by DFAs. • Call Out to site control centre and Tier 2 MER Professional.	**4 minutes** (to arrival at scene)
Tier 2	**Stage 1**	Tier 2 MER Professional communicates with DFA attending emergency, while mobilizing to emergency location.	As soon as practicable after Call Out
	Stage 2	Tier 2 MER Professional arrives at casualty, assess injury and need for further action: • Category 1 Sites and Category 2 Sites	**1 hour**

[1] Italicized terms in this document are included in the Sakhalin Energy HSE Glossary.

[2] The four hour response time 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.

*) the list of the abbreviations included in the text is provided in the appendix 6 of the current document

Tier		Action	Time after Injury[2]
Tier 2		• Non-routine Activities	On standby to arrive at casualty within **20 minutes**
	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 needed (ongoing).	-
	Stage 4	Site Manager, with Tier 2 MER Professional's advice, initiates Medevac to *Tier 3 Hospital* as per Site MER Manuals.	
		1. If *Tier 3 Hospital* not accessible within 4 hours then transfer to *Site Clinic* for interim care, consulting with *Remote Medical Support* as needed.	As soon as practicable but within **4 hours**.
		2. Transport from *Site Clinic* to approved *Tier 3 Hospital* and inform Company Health Adviser.	As soon as practicable
Tier 3		Admission to and care at the nearest approved *Tier 3 Hospital* (general hospital).	**4 hours** (unless staged through *Site Clinic*).
Tier 4		Referral, transport, admission to and care at approved *Tier 4 Hospital* (specialist hospital/facility), if: • Recommended by a medical professional at *Tier 3 Hospital*; • Approved in compliance with the Tier 4 Medevac Procedure; • Agreed and accepted by a medical professional at *Tier 4 Hospital*.	Time is casualty-specific.

1.2. The Company shall endeavor to provide medical care for all employees that:

- minimizes the potential health consequences of workplace injury or illness,
- is equivalent to medical care available in the employee's home country[3].

Requirements – MER Assessment

2. Identify Site Category.

2.1. Determine the Site Category using the MER Gap Analysis Questionnaire.

- **Category 1 Site** is 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.

- **Category 2 Site** is 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, marine operations, and most production operations. MER requirements are enhanced for Category 2 Sites to reflect the higher risks associated with the activities on such Sites.

3. Identify *Non Routine Activities* and perform *Risk Assessment*.

3.1. Identify Non-Routine Activities. The following activities are referred to as Non-routine Activities and shall be challenged and justified to be necessary prior to work performance:

- Introduction of hydrocarbons into system during commissioning of a hydrocarbon treatment plant,

[3] This is achieved by provision of personal medical insurance (Shell secondees), medical expense reimbursement (Mitsui secondees), or fixed reimbursement for insurance (expatriate direct hires) in accordance with HR policies and procedures.

- Confined Space Entry into a confined space where a toxic, explosive, flammable or non-life supporting environment is/may be present,
- Working at height,
- Diving Operations,
- Chain saw operations,
- Other activities, which are infrequently conducted in oil and gas industry but where injury data indicate a high likelihood of an incident that will require the prompt attention of a Tier 2 MER Professional.

3.2. Conduct risk assessments for Non Routine Activities, and ensure outcomes are appropriately reflected in the Permit To Work system and the Permit to Work Manual (Document No. 1000-S-90-04-P-0031-03).

4. Identify *Site* characteristics and perform Site Medical Review and relevant Assessments.

4.1. Conduct *Site Medical Review* (coordinated by Company Health Manager).

4.2. Conduct Site-specific risk assessments where required by Occupational Health and Hygiene Standard (e.g. *Health Risk Assessment*, *Impact Assessment*, coordinated by Company Health Manager).

Requirements – MER resources

5. Evaluate and determine required MER resources in accordance with requirements 5 to 10.

5.1. Apply the MER Gap Analysis Questionnaire to identify MER Resources.

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

- MER resource capacity shall be available to manage one critical and two additional non-critical but serious casualties from an incident.
- MER planning shall address the possibility of multiple casualty incidents, which may be resourced in cooperation with external parties (e.g. third party emergency services, military, other operators).

6. Resources for First Response.

6.1. All employees, and all contractors and visitors spending more than 30 days on site in any 12 month period, shall be trained in *First Response* as per Appendix 5.

6.2. DFA numbers shall not be less than:

- For *Category 1 Sites*: one per 100 people (or part thereof)
- For *Category 2 Sites*: one per 25 people (or part thereof).

6.3. Automatic External Defibrillators (AEDs) 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).

7. Resources for Tier 2 response.

7.1. If 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).

7.2. Tier 2 MER Professionals shall not hold other roles that would prevent them from assigning full priority to their role in a medical emergency.

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

- For Remote Work Locations with < 25 people completely isolated during night time, the DFA shall be provided with a personal trauma bag and AED.

7.4. The Tier 2 MER Professional shall have access to Remote Medical Support (refer requirement 19.3).

7.5. A *Site Clinic* shall be provided at every:
- *Category 1 Site* with ≥ 100 people;
- *Category 2 Site* with ≥ 25 people

7.6. The requirement for a *Site Clinic* may only be waived if:
- A *Tier 3 Hospital* is in the close proximity to the *Site* (i.e. admission of a casualty to the *Tier 3 Hospital* can be achieved within approximately 1.5 hours);
- The *Site* is too mobile or has insufficient population for a *Site Clinic* to be practicable and alternative measures are provided (e.g. trauma bags), conditional on Risk assessment completion to demonstrate that the chosen alternative solution ensures risks are ALARP.

8. Tier 3 Response.

Medevac transport resources (e.g. ambulances, vessels, fixed wing aircrafts and helicopters) shall be planned and identified in advance. Medevac transport capacity shall provide for at least one stretcher case accompanied by a Tier 2 MER Professional.

9. Special cases.

9.1. Sites for which the Tier response times cannot reasonably be achieved, such as vehicle drivers, workers in transit, workers located in isolated locations, shall be managed by exception. 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.

9.2. 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 the Hazards and Effects Management Process (HEMP, refer Managing Risk Standard).

9.3. 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. If the activity cannot be avoided additional controls shall be implemented and 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.
- The ability to meet the Tier 3 response time for evacuation to a Tier 3 Hospital or Site Clinic has been confirmed (Medevac resources available and other conditions suitable).
- Relevant specialized medical advisors, medical equipment and supplies, (e.g. decompression chamber) 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.

9.4. 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 Tier 2 MER Professional numbers of a Category 2 Site for those at increased risk.
- Sites where less than 25 people are at risk 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
- For longer-term temporary activities (e.g. major refurbishment construction at an office) the basic Site MER design shall be reconsidered.

10. Communications.

10.1. Each workgroup, vehicle, craft, DFA and Tier 2 MER Professional shall have reliable real-time voice communication with the site control centre. This can be a single mode of communication (e.g. mobile telephone or VHF radio).

10.2. 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.

10.3. The site control centre shall have reliable means of communication (e.g. telephone, radio) to:
- External ambulance or aircraft provider
- Tier 3 Hospital
- Remote Medical Support
- Sakhalin Energy main office
- Other planned sources of external assistance (police, military, coast guard, other operators).

Requirements – Document the MER Manual

11. Prepare Worksite MER Manual inclusive of required MER resources as per requirements 5 to 10. MER Manual shall include the following items

11.1. General Information – Site characteristics (e.g. nature of Site; Site population), Infrastructure of the surrounding of the Site.

11.2. Hazard and Effect Management – outcomes of Requirements 2, 3 and 4.

11.3. MER Organization and Resources – Description of MER Organization (Site Manager or Site Lead, delegation of responsibilities to Site Supervisors; Number and distribution of Designated First Aiders; Tier 2 Medical Professional; Other MER assistants; Remote Medical Support provider; Provision of Medevac transport; Tier 3 Hospital and Tier 4 Hospitals.

11.4. Description of MER Equipment - Site Clinic; MER equipment (e.g. First Aid boxes, Automatic External Defibrillators) with reference to this document's appendices; Medevac transport; Site control centre.

11.5. Planning and Procedures – reference to Emergency Contact List; First Response and Call Out Procedure; Site Tier 3 Medevac Procedure; Corporate Tier 4 Medevac Procedure (if applicable); related emergency procedures, such as search and rescue, fire and assault; Procedure for managing multiple casualty incidents; Protocols for assistance to third parties.

11.6. Implementation, Performance Monitoring and Corrective Action – Reference to inspections and maintenance program for medical equipment; Reference to MER exercise program; Reference to skills maintenance program.

Requirements – MER Implementation

12. Establish and maintain MER preparedness as defined in the Worksite MER Manuals.

12.1. Procure that Sites are equipped in accordance with Appendix 4.

12.2. Implement and maintain **First Response** training in accordance with Appendix 5.

12.3. Implement and maintain **Designated First Aider** training in accordance with Appendix 5.

12.4. Material Safety Data Sheets (MSDS) for all chemicals on the Site shall be readily and reliably available at the locations where these chemicals are in use and at the Site Clinic.

13. Perform MER exercises and monitor MER performance of exercises.

13.1. Include MER exercises in the Site program of ER drills and exercises. 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.

14. In case of medical emergency, implement plan as per Site MER Manual.

Offshore rigs:
- LUN-A (EN RU)
- PA-A "Molikpaq" (EN RU)
- PA-B (EN RU)

Onshore Pipelines:
- Sovetskoye PMD (EN RU)
- Gastello PMD+Booster Station-2(EN/ RU)
- Yasnoye PMD (EN RU)
- Nogliki PMD (EN RU)

Onshore Processing Facility/OPF (EN RU)

Nogliki Base Camp (EN RU)

LNG/OET Prigorodnoye (EN RU)

Kholmsk Marine Port (EN RU)

Yuzhno Located Offices (EN RU)

Zima Highlands, Yuzhno-Sakhalinsk (EN RU)

15. Respond to external requests for MER assistance.

Sakhalin Energy is willing to assist third parties in medical emergencies and protocols are included in Site MER Manuals.

16. Incident Investigation and Follow-Up.

16.1. Detailed records of MER incident events and casualty management shall be maintained.

16.2. Incidents involving MER shall be investigated in accordance with the Incident Reporting and Follow-Up Standard.

16.3. The Tier 2 Medical Professional and the Corporate Health Manager shall review incident reports involving MER to identify learning and improvement opportunities.

16.4. Corrective actions and learning opportunities shall be tracked using Fountain and implemented.

17. Management Review

17.1. Review MER arrangements for *Remote Worksites* annually.

17.2. 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 Manual, MER procedures and resources (including staff numbers and competency, facilities and equipment).

Requirements – Corporate Health Support

Corporate Health Manager is *Responsible* for requirement 18 to 19.

18. Support establishment of MER.

18.1. Coordinate Site Medical Reviews.

18.2. Review Worksite MER Manuals.

18.3. Ensure availability of DFA training course.

18.4. Pre-qualify Health Care Service Providers for MER and Worksite clinics.
- Professional health advisory services shall comply with RF and international (OGP and Shareholder) requirements and shall have appropriate experience in RF and international medical evacuation.

18.5. Ensure provision of competent Tier 2 Medical Professionals and that they receive appropriate training to maintain/improve their qualifications (Appendix 5).

18.6. Establish and maintain the Tier 4 Medevac Procedure (Tier 3 Hospital to Tier 4 Hospital, Appendix 2).

18.7. Establish liaison with Tier 3 and 4 service providers (this may be achieved via the Health Care Service Provider), including local hospitals, Specialist Hospitals, and Assistance Companies.

19. Support implementation of MER.

19.1. Participate in review of MER exercises and investigation of incidents to identify lessons learned.

19.2. Recommend medevac or referral in accordance with the Company Tier 4 Medevac procedure (Appendix 2).

19.3. Ensure availability of a Remote Medical Support Service Provider. *Remote Medical Support* is defined as real time specialist medical advice to the Tier 2 Medical Professional by an audio/video connection.

Remote Medical Support shall be provided by the Duty Health Officer of the Health Care Service Provider and shall provide:

- 24 hr, seven days a week support;
- Reliable means of communications (e.g. telephone, radio);
- Communication in the same language as the Tier 2 Medical Professional;
- Access to specialist advisers from major hospital unit of the region;
- Competency of a Remote Medical Support Adviser shall include: Advanced training and certification in emergency medicine, Licensed/registration with appropriate organisations/bodies, Five years experience in emergency medicine, and Ability to have effective communication with additional medical specialist advisers.

Remote Medical 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, mode and urgency of transport, and 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.

Appendix 1. Emergency Response and call out procedure [4]

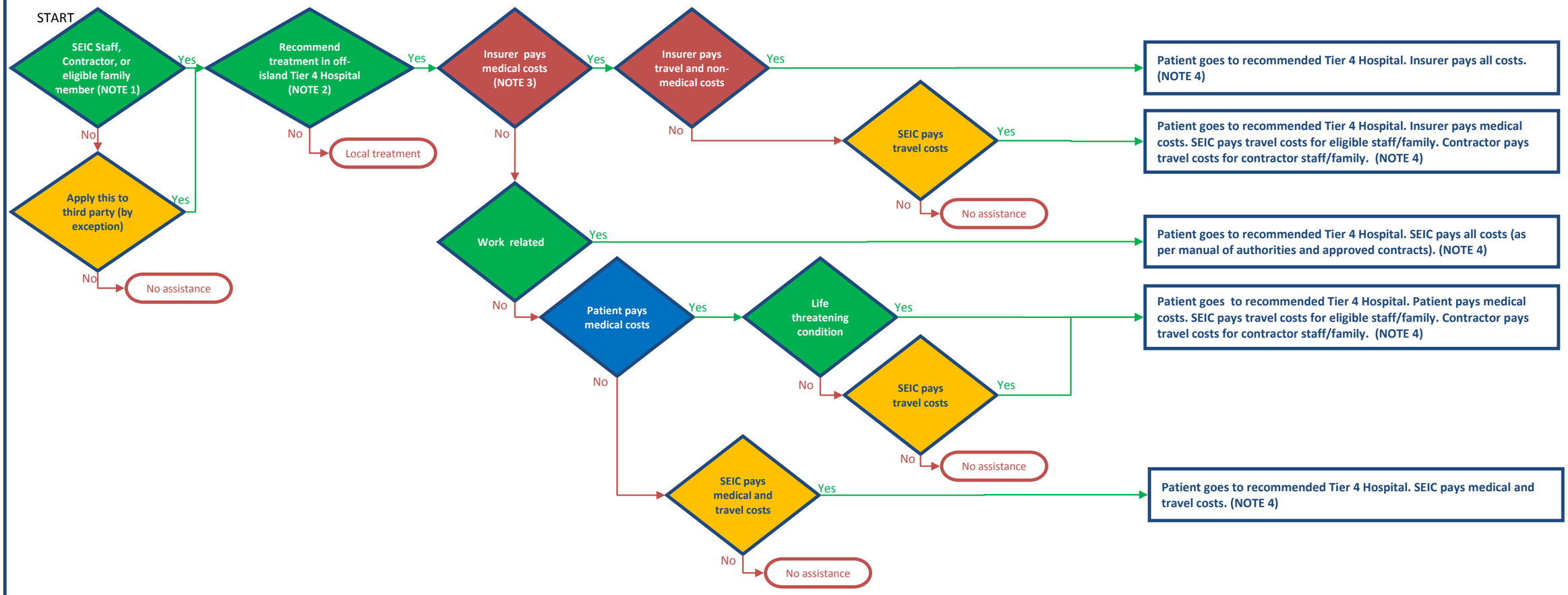
1	■ CHECK YOUR LOCATION (BUILDING NAME, FLOOR NUMBER, ROOM NUMBER)
2	■ CALL FOR HELP FROM THE LOCAL FIRST AIDER
3	■ CALL **662500** (OR LOCAL EMERGENCY CALL NUMBER) AND ASK TO BE CONNECTED TO THE DOCTOR ON DUTY
4	■ STATE YOUR NAME AND CALL-BACK NUMBER
5	■ STATE YOUR LOCATION
6	■ WHILE WAITING FOR HELP, TRY TO GIVE THE FIRST AID

[3] This procedure is generic and shall be adapted where appropriate to be specific for individual Sites

Appendix 2. Tier 4 MEDEVAC Procedure

Procedure	Action ⇩ / Responsibility ⇨	Company Health Advisor	Health Care Service Provider	Tier 3 Hospital	Tier 4 Hospital	Emergency Coordinator	CEO	Insurance provider	Transportation
1. **Medical Decision**	**Company Health Advisor**, in liaison with Tier 3 Hospital medical practitioner(s) via Health Care Service Provider, shall assess the condition of the casualty and determine whether specialist medical care is required for further response to the injury or illness, considering preservation of life and the best interests of the casualty.	●	●	●					
2. **Identify Tier 4 Hospital**	**Company Health Advisor** shall liaise with **Health Care Service Provider** to identify appropriate Russian Federation or international Tier 4 Hospital(s) in compliance with the Tier 4 Medevac Decision Tree (Appendix 3).	●	●						
3. **Notification and Support**	**Company Health Advisor** shall advise the **Emergency Coordinator** of the requirement and conditions (urgency, transportation method) for medevac to Tier 4 Hospital. Where indicated in Tier 4 Medevac Decision Tree (Appendix 3), **Emergency Coordinator** shall liaise with **CEO** and advise **Company Health Advisor** of decision. **Emergency Coordinator** shall provide support as per Emergency Coordination Procedure.	●				●	●		
4. **Arrange medevac**	**Company Health Advisor**, via Health Care Service Provider, shall ensure that: • Medical Insurer of the casualty consented to pay medical evacuation and treatment costs, or otherwise that alternative arrangements are properly agreed in compliance with Tier 4 Medevac Decision Tree. • Tier 4 Hospital agrees casualty admission. • In the case of international evacuation, authorizations (passports, visas, etc) are in place for departure from Russia and arrival at destination. • Medevac of casualty to approved Tier 4 Hospital is initiated and appropriate transportation is arranged. *(Note that if aircraft/vessel is required, the Pilot or Vessel Master shall advise on their ability to transport the casualty, and have the right to refuse on the basis of safety risk. Night medevac is strongly discouraged.)* • Casualty is accompanied by appropriate medical practitioner(s) during the medevac . • Regular status updates are provided until medevac is completed.	●	●	●	●	●		●	●

Appendix 3: Tier 4 Medevac Decision Tree



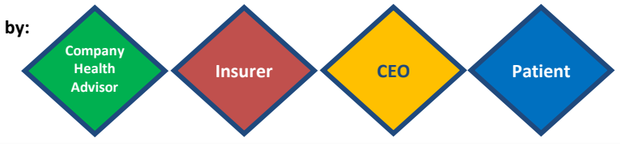
NOTE 1: **Eligible family members** include spouse of employee, and employee's biological/adopted children aged 21 years or less. All types of staff are included.

NOTE 2: **Medical Decision**. The Company Health Advisor, in liaison with Tier 3 Hospital medical practitioner (via Health Care Service Provider), shall assess the condition of the patient and determine whether specialist medical care is required for further response to the injury or illness, considering preservation of life and the best interests of the patient. This may be at a RF mainland or International (e.g. Japan/Korea) facility. For Russian National personnel, local medical treatment is fully acceptable (by law) however the decision should be taken considering the condition and best interests of the patient. **A dedicated fixed wing charter to location outside Sakhalin Island shall be approved by EC in accordance with the decision tree above. Use of non-approved air carrier requires CEO approval.**

NOTE 3: **Insurance**. Expatriate Shell Secondees have BUPA or equivalent insurance as part of the expatriate package. Expatriate direct hire personnel should obtain their own medical insurance and claim reimbursement in accordance with the Expatriate Direct Hires Manual. All employees are entitled to road ambulance and clinic access via the Health Care Service Provider, but this does not cover further medical evacuation.

NOTE 4: **Additional Support** for specific travel and/or non-medical costs (i.e. transport and accommodation for patient and one non-medical accompanying person, and translator if required) that are not covered by Insurer may be provided by Sakhalin Energy if approved by Company Health Advisor in accordance with the Manual of Authorities (approved budget is available specifically for medevac related costs incurred in accordance with the above decision tree). **Any other additional support requires approval of CEO**.

Decision Key – Decision shall be taken by:



Outcome Key:

Medical evacuation as described

Treatment locally (or as otherwise arranged by patient). No involvement/assistance from Sakhalin Energy.

Appendix 4. Equipment and Supplies

Instruction for use: Select the appropriate equipment and indicate Compliance:

- YES if compliant,
- NO if not compliant plus note remedial actions.

Table 4.1 Requirements for First Aid Boxes for DFAs

№	Items	Size	Quantity in a set (pcs.)
1	**Products of medical appointment for a temporary stop of external bleeding and bandaging of wounds**		
1.1.	Tourniquet		1
1.2.	Roller-bandage medical, non-sterile	5 m x 5 sm	1
1.3.	Roller-bandage medical, non-sterile,	5 m x 10 sm	1
1.4.	Roller-bandage medical, non-sterile	7 m x 14 sm	1
1.5.	Roller-bandage medical, sterile	5 m x 7 sm	1
1.6.	Roller-bandage medical, sterile	5 m x 10 sm	2
1.7.	Roller-bandage medical, sterile	7 m x 14 sm	2
1.8.	Individual Medical Package dressing, sterile, with a tight cover		1
1.9.	Napkins (the gauze) medical, sterile	16 см x 14 sm	1 set./10 pcs.
1.10.	Adhesive plaster, bactericidal	4 см x 10 sm	2
1.11.	Adhesive plaster, bactericidal	1,9см x 7,2 sm	10
1.12.	Adhesive plaster, roll	1 см x 250 sm	2
1.13.	2,5 x 4,5 sm ZnO Adhesive plaster, roll (Omniplast)		1
1.14.	Adhesive plaster, sterile, Steri-Strips № 5		1
1.15.	Eye Pads, sterile	set	2
1.16.	Triangular bandages		2
2.	**Products of medical appointment for carrying out CPR (cardio-pulmonary resuscitation)**		
2.1.	The device for carrying out artificial breath "the Mouth - the Device - the Mouth" or a pocket mask for artificial ventilation of lungs "A mouth - a Mask"		1
3.	**Other types of medical equipment**		

3.1.	Scissors for cutting of bandages (Lister)		1
3.2.	Medical Napkins, antiseptic (paper textile material, sterile, spirituous	Not less than 12,5 x 11,0 sm	5
3.3.	Medical Gloves, unsterile,	Not less than M size	2 pairs
3.4.	Medical mask, unsterile 3-layer from a nonwoven material with elastic bands or with outsets		2
3.5.	Saving Cover, isothermal	Not less than 160 x 210sm	1
3.6.	Safety Goggles		2
3.7.	For the farthest remote places / assets — the automatic device for measurement of arterial pressure		1
4.	**Other**		
4.1.	Safety pins steel with a spiral	Not less than 38 mm	3
4.2.	Information cards of Basic Life Support (BSL), First Aid, Algorithms with pictograms about first-aid care to workers		1
4.3.	Case for FAK or sanitary bag		1
4.4.	Notebook separated for records	Format A7 and bigger	1
4.5.	Ball-point pen		1
4.6.	Disposable Splint Set	On request	-

Quantity of First-aid kits (FAK) on objects:

Headcount - less than 20 persons - 1 FAK

Headcount - 20 - 50 persons - 2 FAKs

Headcount - more than 50 persons - 3 FAKs + additional 1 FAK for each next 50 persons

Table 4.2 First Aid Kit for Vehicles

№	Description	Normative Doc	Size	Quantity	Compliance
1.	**Means for external hemorrhage suppressing**				
1.1	Bandage	GOST R ISO 10993-99		1	
1.2	Gauze bandage non-sterile	GOST 1172-93	5m x 5cm	2	
1.3	Gauze bandage non-sterile	GOST 1172-93	5m x 10cm	2	
1.4	Gauze bandage non-sterile	GOST 1172-93	7m x 14cm	1	
1.5	Gauze bandage sterilized	GOST 1172-93	5m x 7cm	2	
1.6	Gauze bandage sterilized	GOST 1172-93	5m x 10cm	2	
1.7	Gauze bandage sterilized	GOST 1172-93	7m x 14cm	1	
1.8	Sterilized dressing	GOST 1172-93		1	
1.9	Gauze tissues sterilized	GOST 16427-93	Not less than 16x14cm №10	1 pack	
1.10	Adhesive plaster antibacterial	GOST R ISO 10993-99	Not less than 4x10cm	2	
1.11	Adhesive plaster antibacterial	GOST R ISO 10993-99	Not less than 1,9 x7,2cm	10	
1.12	Roll adhesive plaster	GOST R ISO 10993-99	Not less than 1 x 250cm	1	
2	**Means for cardio-pulmonary resuscitation**				
2.1	Apparatus for artificial ventilation “Mouth- Apparatus- Mouth”	GOST R ISO 10993-99		1	
3	**Other**				
3.1	Scissors	GOST R 51268-99		1	
3.2	Disposable gloves	GOST R ISO 10993-99	Not less than M	1 pair	
3.3	Manual for FIK usage			1	
3.4	Boxing			1	

Table 4.3 General Requirements

Item	Description	Compliance
SITE CLINIC SHALL HAVE	• Access limited to Tier 2 MER Professionals;	❑
	• Easy ingress/egress with stretcher;	❑
	• Easy access to ambulance or helipad;	❑
	• 24 hours exclusive use availability;	❑
	• Adequate space to hold up one beds/stretcher and working space (e.g. table, chairs), as well as storage cabinets;	❑
	• Ventilation, illumination, temperature control;	❑
	• Hand-washing facilities;	❑
	• Proper medical waste disposal system;	❑
	• Lockable filing cabinet;	❑
	• Material Safety Data Sheet archive and other medical reference materials;	❑
	• Communication with Site Manager and *Remote Medical Support* direct from *Site Clinic*;	❑
	• Refrigerator for certain drugs.	❑
	• Space for two beds or more;	❑
	• Potable water (running or in containers, e.g. bottles);	❑
	• Toilet and shower;	❑
	• Accommodation for Tier 2 MER Professional immediately adjacent to the *Site Clinic*.	❑
AMBULANCE SHALL	• Be in compliance with local legislation and regulatory requirements;	❑
	• 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 stabilization 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.	❑
STRETCHER CABIN 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.	❑
Item	**Description**	**Compliance**
VEHICLE EQUIPMENT SHALL INCLUDE	• Equipment or have access to other resources for dealing with vehicle crashes, such as:	
	o One 90-cm crowbar or equivalent;	❑
	o One metal hacksaw;	❑
	o Hammer and pliers;	❑
	• One map of the area served;	❑
	• Navigation equipment as deemed necessary;	❑
	• For each member of the crew:	
	o One set of eye protectors;	❑
	o One safety vest;	❑
	o One pair of safety gloves.	❑
	• Recovery equipment if necessary (e.g. shovel).	❑

Table 4.4 Equipment and Supplies – Trauma Bag, Ambulance, Clinic

Inspection frequency: Equipment daily, inventory weekly						
	Item	**Emergency Responder bag**	**Ambulance**	**Site Clinic**	**SEIC clinic**	**Compliance**
A.	**Ventilation and Airway Equipment**					-
	1. Portable and fixed suction apparatus • Wide-bore tubing, rigid pharyngeal curved suction tip; flexible suction catheters		X	X	X	
	2. Portable/fixed oxygen cylinder with equipment • Variable flow regulator	X (portable)	X	X	X	
	3. Oxygen administration equipment • Adequate length tubing; nasal cannulas and masks	X	X	X	X	
	4. Pocket mask with one-way valve	X	X	X	X	
	5. Bag-valve mask • Hand operated, self expanding bag with oxygen reservoir/ accumulator	X	X	X	X	
	6. Airways • Nasopharyngeal, oropharyngeal		X	X	X	
	7. Laryngoscope handle and blades with extra batteries and bulbs		X	X	X	
	8. Endotracheal tubes including introducer for endotracheal tubes		X	X	X	
	9. Nasogastric tubes		X	X	X	
	10. Magill forceps		X	X	X	
	11. Lubricating jetly (water soluble)		X	X	X	
	12. Securing tape		X	X	X	
B.	**Monitoring and Defibrillation**					
	1. Automatic External Defibrillator	X		X		
	2. Portable, battery-operated monitor/defibrillator • With tape write-out/recorder, defibrillator pads, quick-look paddles or hands-free patches, electrocardiogram (ECG) leads		X		X	
	3. ECG machine				X	
C.	**Immobilisation Devices**					
	1. Cervical collars	X	X	X	X	
	2. Head immobilisation device	X	X	X	X	
	3. Lower extremity (femur) traction devices			X	X	
	4. Upper and lower extremity immobilisation devices: • Joint-above and joint-below fracture.	X	X	X	X	
	5. Backboards (long, short) and extrication device	X	X	X	X	
D.	**Bandages and Sutures**					
	1. Bum pack • Standard package, clean burn sheets or towels	X	X	X	X	
	2. Triangular bandages with safety pins	X	X	X	X	
	3. Dressings • Sterile multitrauma dressings (various large and small sizes) •ABDs, 10"x12" or larger • 4"x4" qauze sponqes	X	X	X	X	
	4. Gauze rolls • Sterile (various sizes)	X	X	X	X	
	5. Elastic bandages • Nonsterile (various sizes)	X	X	X	X	
	6. Occlusive dressing • Sterile, 3"*8" or larger	X	X	X		

Inspection frequency: Equipment daily, inventory weekly						
	Item	**Emergency Responder bag**	**Ambulance**	**Site Clinic**	**SEIC clinic**	**Compliance**
	7. Adhesive tape • Various sizes (including 2" or 3") hypoallergenic • Various sizes (including 2" or 3") adhesive	X	X	X	X	
	8. Suturing kit including assorted sutures, steristrips, artery forceps, needles, needle holder, etc.			X	X	
	9. Assorted scalpels, blades, razors, etc.		X	X	X	
E.	**Communication**					
	1. Two-way radio communication	X	X	X	X	
	2. Satellite Cellular phone	X	X		X	
F.	**Obstetrical**					
	1. Kit (separate sterile kit) • Towels, 4"*4" dressing, umbilical tape, sterile scissors or other cutting utensil, bulb suction, clamps for cord, sterile gloves, blanket 2. Thermal absorbent blanket and head cover, aluminium foil roll, or appropriate heat-reflective material (enough to cover newborn) 3. Appropriate heat source		X		X	
G.	**Medical and Miscellaneous Supplies**					
	1. Sphygmomanometer (adult regular and large, for example, thigh sizes)		X	X	X	
	2. Stethoscope		X	X	X	
	3. Thermometer with low temperature capability				X	
	4. Paramedic scissors for cutting clothing, belts, and boots	X	X	X	X	
	5. Cold packs		X	X	X	
	6. Sterile saline solution for irrigation (1 -liter bags)	X	X	X	X	
	7. Flashlights (2) with extra batteries and bulbs		X	X	X	
	8. Blankets		X	X	X	
	9. Sheets, linen/paper, pillows			X	X	
	10. Towels		X	X	X	
	11. Triage tags	X	X	X	X	
	12 Disposable emesis bags or basins		X	X	X	
	13. Disposable bedpan		X	X	X	
	14. Disposable urinal		X	X	X	
	15. Urinary indwelling catheter		X		X	
	16. Wheeled cot (properly secured casualty transport system) and hospital bed/stretcher		X	X	X	
	17. Folding stretcher		X	X	X	
	18. Stair chair or carry chair			X	X	
	19. Casualty care charts/forms/recording books		X	X	X	
	21. Tongue depressor		X	X	X	
	25. Magnifying glass		X	X	X	
	26. Autoclave or sterilizer				X	
	27. Refrigerator			X	X	
	28. Otoscope / Opthalmascope				X	
	29. Percussion Hammer				X	
H.	**Infection Control** Latex-free equipment should be available					
	1. Eye protection (full peripheral glasses or goggles, face shield)	X	X	X	X	

Inspection frequency: Equipment daily, inventory weekly						
	Item	**Emergency Responder bag**	**Ambulance**	**Site Clinic**	**SEIC clinic**	**Compliance**
	2. Masks	X	X	X	X	
	3. Gloves, non-sterile	X	X	X	X	
	4. Jumpsuits, disposable gowns	X	X	X	X	
	5. Shoe covers		X		X	
	6. Disinfectant hand wash, commercial anti-microbial (towelette, spray, liquid)	X	X	X	X	
	7. Disinfectant solution for cleaning equipment		X	X	X	
	8. Standard sharps containers		X	X	X	
	9. Disposable trash bags (identifiable colour, such as red)	X	X	X	X	
I.	**Vascular Access**					
	1. Intravenous administration equipment sets (microdrip and macrodrip), including pressure bag for IV fluid administration and securing/dressing tape		X		X	
	2. Crystalloid solutions, Ringer's lactate or normal saline solution (1,000-mL bags), 5% dextrose in water (optional)		X		X	
	3. Antiseptic solution (alcohol wipes and povidone-iodine wipes preferred)	X	X	X	X	
	4. IV pole or roof hook			X	X	
	5. Intravenous 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	X	
J.	**Other Advanced Equipment**					
	1. Nebulizer		X		X	
	2. Glucometer or blood glucose measuring device with reagent strips and lancets		X		X	
	3. Pulse oximetry or oxygen saturation monitor		X		X	
	4. Chest drains				X	
	5. Urinary catheters				X	
K.	**Optional Advanced Equipment**					
	1. Portable automatic ventilators				X	
	2. Automatic blood pressure device	X	X	X	X	
	3. Blood sample tubes		X		X	
L.	**Medications (pre-load when available)**					

Inspection frequency: Equipment daily, inventory weekly						
	Item	**Emergency Responder bag**	**Ambulance**	**Site Clinic**	**SEIC clinic**	**Compliance**
	In general, medications should include: • Cardiovascular medication, such as: o 1:10,000 epinephrine, atropine, amiodarone, lidocaine, bretylium tosylate, adenosine, diltiazem, propranolol, nitroglycerin tablets, aspirin; • Cardiopulmonary/respiratory medications, such as: o Albuterol (or other inhaled beta agonist), 1:1,000 epinephrine, furosemide; • 50% dextrose solution (and sterile dilutent); • Analgesics, such as morphine, meperidine hydrochloride; • Antiepileptic medications, such as diazepam or midazolam; • Activated charcoal, sodium bicarbonate, magnesium sulfate, glucagons; • Nitroglycerin, tabs or spray, Aspirin; • Bacteriostatic water and sodium chloride for injection.		X	X	X	
	Antihistamine		X	X	X	
	Snake bite antidote	Optional for remote conditions			Based on risk assess ment	

Appendix 5. Training and Competence

Definitions:

Duty Health Officer - The medical doctor carrying emergency coordination duties for Health who provides health advice to the Company.

Designated First Aider (DFA) - An individual trained in First Aid and receiving regular skills maintenance from Tier 2 Medical Professional.

Tier 2 MER Professional - Tier 2 MER Professionals is a graduate from a medical school (college/university) having a post-graduate certification in emergency medicine and a valid certificate in Advance Life Support.
All Tier 2 MER Professionals should possess at least two - three years of experience working in active ambulance care or in a medical emergency room. Tier 2 MER Professionals likely to provide extended care should possess three - five years experience in active ambulance care, in an emergency or trauma unit, or similar settings.

Table 5.1 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).	Once per year (+/- one hour)
Provider Safety	• Training in universal precaution; • Avoid exposure to blood-borne pathogens (HIV, Hepatitis B&C)	
Communication of the potential medical emergency to site control centre (Call Out).	• Primary information: o Exact location of the casualty/incident; o Number of casualties; o Nature of injury, vital life signs of casualties; o Identity and function of caller. • Secondary information: o Nature of incident causing the injury; o Hazards identified/threats/escalation; o Access routes that are safe for use, weather/sea state as relevant; o 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; • Stabilize 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).	
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.	

Initial Training Component	Description / Skills maintenance	Skills Maintenance Frequency
Initial care	**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.	Once per year (+/- one hour)

Table 5.2: 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 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, Tier 2edical Professional and Company Health Adviser; • The safety and well being of the DFA; • Communication techniques and safe lifting and moving of casualty.	Once per year
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 every six months
Airway	• Airway management using external maneuvers, mouth-to-mouth breathing.	Once every three

Initial Training Component	Competency Description / Skills maintenance	Skills Maintenance Frequency
Management		months
Respiratory and Cardiac Emergencies	• Respiratory and cardiac emergencies, including Cardiopulmonary Resuscitation (CPR) and the use of AED.	Once every six months
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 Immobilisation of injured parts; o Choking; o Convulsions; o Burns and scalds; o Drowning, hypothermia and heat stroke.	Once per year
Provision of Work Specific First Aid / Operations	• Provision of work specific First Aid (e.g. for diving operations in accordance with Diving Medical Advisory Committee 11: 'Provision of First Aid'); • Ambulance operations, rescue and extrication, multiple casualty situations; • Hazardous materials situations; • Familiarity and understanding of Material Safety Data Sheet (MSDS) for all hazardous chemicals at the *Site.*	In accordance with specific regulations, otherwise once per year

Table 5.3: 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 optimize cardiac output and blood pressure, 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

Training Component	Competency Description / Skill maintenance	Skill Maintenance Frequency
	• 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 [5] 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

Appendix 6. List of abbreviation

MER – Medical Emergency Response
CEO – Chief Executive Officer
CED – Committee of Executive Directors
MTD – Material and Technical Department
ECT – Emergency Coordination Team
DR – Disaster recovery
CMT – Crisis Management Team
HSE – Отдел охраны труда и окружающей среды
MTS – Material-Technical Supply (Procurement)
DFA – Designated First Aider
AED – Automatic External Defibrillator
CPA – Cardio-Pulmonary Resuscitation
ALV – Artificial Lung Ventilation
EMC – Emergency Medical care
RAM – Risk Assessment Matrix
PWM – Permit to Work Manual
ALARP – As Low As Reasonably Practicable
HEMP – Hazards and Effects Management Process
MSDS – Material Safety Data Sheet
PMD – Pipeline Maintenance Depo

[5] ABCDE: **A**irway, **B**reathing, **C**irculation, **D**isability, **E**xposure