



GLOBAL WIND ORGANISATION
TRAINING STANDARD

Enhanced First Aid Refresher (EFAR)
(Onshore/Offshore)

Version 2
April 2020



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1 LIST OF ABBREVIATIONS

AED	Automatic External Defibrillator
AHA	American Heart Association
ANSI	American National Standards Institute
AS/NZS	Australia and New Zealand Standard
EFAR	Basic and Enhanced First Aid Training Refresher
BST	Basic Safety Training
BSTR	Basic Safety Training Refresher
CO2	Carbon Dioxide
CPR	Cardiopulmonary Resuscitation
CSA	Canadian Standards Association
EFA	Enhanced First Aid
EFAR	Enhanced First Aid Refresher
EN	European Standards
ERC	European Resuscitation Council
GWO	Global Wind Organisation
WTG	Wind Turbine Generator



2 TERMS AND DEFINITIONS

AED	Automatic External Defibrillator
AHA	American Heart Association
ANSI	American National Standards Institute
AS/NZS	Australia and New Zealand Standard
BEFAR	Basic Safety and Enhanced First Aid Training Refresher
BST	Basic Safety Training
BSTR	Basic Safety Training Refresher
CO2	Carbon Dioxide
CPR	Cardiopulmonary Resuscitation
CSA	Canadian Standards Association
EFA	Enhanced First Aid
EFAR	Enhanced First Aid Refresher
EN	European Standards
ERC	European Resuscitation Council
GWO	Global Wind Organisation
ILCOR	International Liaison Committee on Resuscitation
WTG	Wind Turbine Generator



3 CHANGE LOG

Amendment Date	April 1, 2020	Approved by & date	GWO TC
Version	Version 2	Description of changes	

First Review of EFAR standard

- Comprehensive review of the EFAR standard.

Document changes

- Formatting of document changed and aligned throughout, this includes numbering all sections, lessons, elements, sub-sections and tables for ease of reference and reading.
- The term 'delegate' changed to 'course participant' or 'participant'.
- Equipment lists for all modules have been moved to Annex 3.

Overall changes

- Version changed from 01 to 02.
- Added taxonomy domain and level to all learning objectives (e.g. L2- knowledge)

Section specific changes

2.Terms and definitions

- Updated with additional items.

3.Change log

- Format and layout changed for ease of reading.

6.1 Training Staff

- Inserted requirement 5 and 6

Lesson 2: Risks/hazards/legislation

- Added ref. to International Liaison Committee on Resuscitation (ILCOR)

Lesson 3: Anatomy

- Changed 'Personal Hygiene' to 'Personal Protective Equipment against infections' and moved the element to 'lesson 4'

Lesson 5: Management of an incident

- 5.3 "c" critical bleeding has been replaced with catastrophic bleeding in the primary survey
- 5.4 removed demonstration on child and added lesson 5.4.10 with emphasis on step wise approach when conducting treatment with airway management devices and according to national/country regulations.
- Lesson 5.5.3 inserted on chest seals
- 5.5.9 added ERC recommendation on BMV (two person)
- 5.5.11 moved up to lesson 4 – Airway.
- 5.6.13 inserted pulse oximeter
- 5.6.17 inserted use of pelvic sling
- 5.7 Secondary survey moved to 5.9



Element: DROWNING AND WATER IMMERSION deleted

5.9.19 changed to Treatment of a burn

5.10 simplified lesson and removed next of kin

Lesson 6: Pain management

- Simplified learning objectives

Lesson 8: Scenario-based Training

- Traffic related accidents include in lesson: 8.1.3

Annex 3: Equipment list

- Inserted equipment numbers per delegates
- Removed child dummy
- Removed stretcher/spineboard

Amendment Date	October 2018	Approved by & date	
Version	1	Description of changes	
<ul style="list-style-type: none"> - First Edition 			



4 SCOPE

The Global Wind Organisation (GWO) is an association of Wind Turbine owners and manufacturers with the aim of supporting an injury-free work environment in the wind industry. An objective of GWO is to develop common industry training and best practice Standards for health and safety as a vital and necessary way forward to reduce risks for personnel in the wind industry working on site and to reduce environmental risks across Europe and the globe.

This Standard has been developed in response to the demand for recognizable Enhanced First Aid (EFA) training in the industry and has been prepared in co-operation between the members of GWO based on risk assessments and factual incident and accident statistics pertaining to the installation, service and maintenance of wind turbine generators and wind power plants.

This Standard describes the requirements for Enhanced First Aid Refresher training that are recommended by the members of GWO. The members of the Global Wind Organisation (GWO) recognize trained persons as competent within EFA in the wind industry. GWO accepts the trained person as possessing the required knowledge, skills and attitude to provide ongoing care to an ill or injured casualty over a short period of time while waiting for professional emergency rescue teams to arrive.

Training is verified through the GWO database WINDA.

Where national legislation sets higher requirements for the specific training, the Training Provider shall incorporate these requirements into the training program.

Additional training may be required for company or country specific reasons.

This standard has been developed by the GWO Training Committee. Disputes and potential non-conformities should be brought to the attention of the GWO Audit and Compliance Committee.

The standard has been approved by the GWO Executive Committee.



5 GENERAL REQUIREMENT TO GWO ENHANCED FIRST AID REFRESHER

The Enhanced First Aid offers two options to attend the training - see below figure 1. New technicians can enter via the main EFA training which consists of Basic First Aid (FA) and EFA elements and two certificates FA and EFA will be issued.

If you already have a GWO Basic First Aid (or refresher) FA (or FAR) certificate, you have the option of taking the Refresher First Aid (FAR) combined with EFA training elements and you will also receive two certificates EFAR and EFA after successful completion of the training.

- 1) Course Participants (Delegates) can join the main EFA training without prior basic FA training
- 2) The Enhanced training EFA or EFAR includes all elements of the FA(R) training module
- 3) At the end of the training the Course Participants (Delegates) receive both a FA(R) and EFA(R) certificate

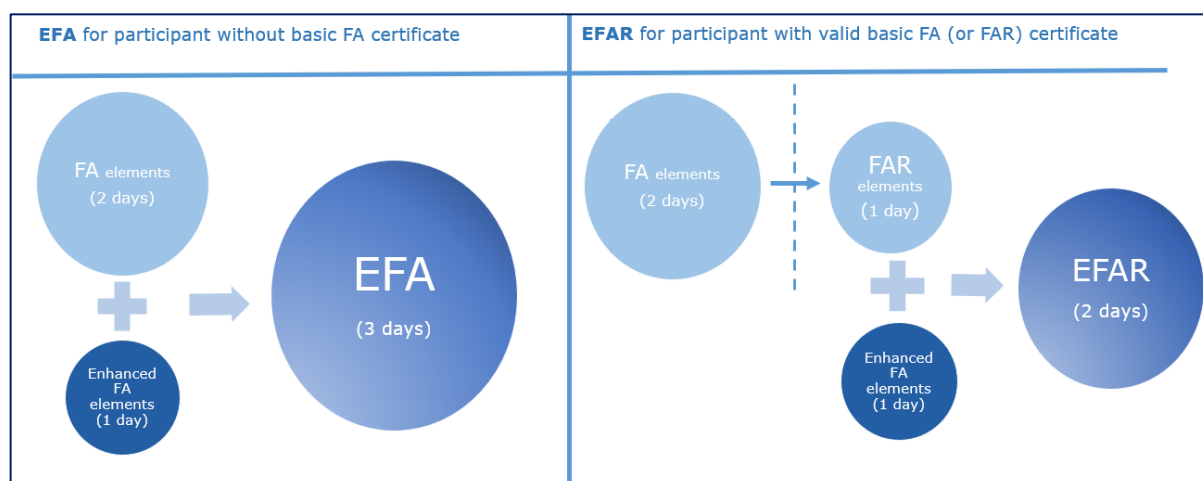


Figure 5-1 – Chart of EFA Process

5.1 Target group

Personnel who will be working in the wind industry or related fields and will have their duties in a wind turbine environment, usually in physical contact with a wind turbine or an offshore wind structure.

Personnel that are selected by their employer to perform Enhanced First Aid onshore or offshore, where training according to the GWO Enhanced First Aid training may enable them to react to incidents and thus mitigate the results of casualties deriving from the identified risks.



The Annex 4 - EFA Guideline: Recommendations has been developed to assist employers in determining who and how many should take the training.

5.2 Aims and objectives

The EFAR Training shall enable Course Participants (Delegates) to support and care for others working in the industry by possessing the knowledge, skills and attitude of Enhanced First Aid. Upon completion of the GWOEFA Course Participants (Delegates) will be able to administer safe, effective and immediate lifesaving and enhanced first aid measures to save life and give assistance in remote areas using advanced emergency equipment and medical teleconsultation.

5.3 Conformity with other Training

The GWO enhanced first aid standard sets out minimum requirements.

The modules, learning objectives, lessons and elements may be delivered in the order that fits best for the specific training situation.

Provided the minimum requirements of the enhanced first aid module are met the Training Provider may choose to incorporate delivery of other similar certified training.

5.4 Legal requirements

The Training Provider shall identify whether national legislation sets additional requirements for EFAR or prohibits delivery of certain elements.

If so, the Training Provider shall incorporate these identified requirements in the training or cancel particular elements.

5.5 Duration and organisation of enhanced first aid module

The total contact time for completing the enhanced first aid refresher training standard is estimated to be **16 hours**. This is based on the time estimates given in the module timetables and summarised in table 5-6 below.

The training provider must not exceed the times per day given in table 5-7 below.

The training provider must ensure that sufficient time is allowed for Course Participants (Delegates) with prior experience to share their experiences related to the modules of the basic training standard in a way that is constructive for the entire class.



Modules	Duration
Enhanced First Aid	16 hours

Table 5-5 - Duration of the GWO Enhanced first aid Module

	Maximum duration per day
Contact time	8 hours
Total training day	10 hours

Table 5-6 - Maximum durations for training days

Note: Contact time includes delivery of course lesson contents, practical exercises and activities directly related to these.

The total training day includes contact time, meals and breaks and travel between training sites (where applicable).

Within the module timetables, approximate duration of each of the lessons are given. The training provider may choose to deliver elements of the training according to other timetables, as long as the total duration is not reduced, and practical elements are not reduced in length. Theoretical elements may be delivered during the practical exercises when feasible.

5.6 Validity period

The EFAR is valid for the period of 24 months as stated in the table below. Certificates and training records shall be renewed before the end of a given validity period. A certificate or training record can be renewed up to two months prior to expiry and maintain the original certification date by uploading the previous certificate's valid until date in WINDA.

If a certificate or training record is renewed outside of two months of expiry, it must carry the new date of certification.

A Course Participant (Delegate) is only allowed to attend a refresher course in the specific EFAR Training prior to the date of expiry on the current certificate or training records.

If a certificate or training record is expired, the Course Participant (Delegate) must attend the full Enhanced First Aid training to obtain new training records in Basic and Enhanced First Aid.

The validity period is automatically calculated in WINDA by entering the course completion date.



Module	Certificate Validity (Months)
EFAR	24 Months

Table 5-6 - Validity Period of GWO EFAR Certificate

5.7 Course Participant (Delegate) prerequisites for the enhanced first aid module

All personnel participating in enhanced first aid module shall be medically fit and capable of fully participating.

Training providers shall have a procedure that requires Course Participant (Delegate)s to sign a statement stating that they are medically fit to participate in the training and that they do not suffer from any medical illness or are under influence of any narcotic substance or alcohol. The Annex 2: Medical Self-Assessment Form shall be used if no other equivalent procedure is in place.

Course Participants' (Delegates') signatures testifying to their medical fitness shall be collected prior to the start of the enhanced first aid module course.

Furthermore, Course Participants (Delegates) shall have created a personal Course Participant (Delegate) profile in WINDA and provide their own WINDA ID prior to completing the enhanced first aid module training.

5.8 EFA Refresher Training

The GWO EFA training (Refresher) is to be refreshed continuously and regularly within 24 months in a total duration of 2 days (EFAR) supported by relevant drills and exercises ref. Annex 4: EFA Guideline: Recommendations.

5.9 Physical demands

Enhanced first aid module Modules may potentially be physically demanding.

If there is any doubt regarding the medical fitness of any Course Participant (Delegate), the Training Provider shall stop training the Course Participant (Delegate) and seek a physician's advice.

Note: Practical exercises shall be designed and delivered solely to meet this Standard and shall not place any physical or mental demands on the Course Participants (Delegates) other than those required to meet this Standard.



6 GENERAL RESOURCES REQUIRED TO DELIVER ENHANCED FIRST AID MODULE

The Training Provider shall ensure that Staff, facilities and equipment are in place to support the training of Course Participants (Delegates).

6.1 Training Staff

The Instructor shall possess appropriate qualifications and experience to ensure that all training and supportive activities are carried out in accordance with current legislation and current REQUIREMENTS FOR TRAINING PROVIDERS OFFERING GWO TRAINING.

Instructors must be:

- 1) Trained in instructional/lecture techniques and/or have documented instructional/teaching experience
- 2) Continually trained medically and educationally in adequate time intervals
- 3) Included in an on-going training program, which includes visits to onshore and/or offshore wind turbine generators (WTG) (tower, nacelle, hub) prior to instructing Enhanced First Aid training, to enable them to maintain and update skills related to the courses they instruct. Instructors shall physically visit the tower, nacelle and hub of WTGs
- 4) Able to demonstrate competencies in pre-hospital emergency care with evidence of routine practice e.g. a valid certificate for practicing a pre-hospital functions as medical technician, ambulance crew, first responders or similar.
- 5) Nationally certificated non healthcare professional pre-hospital provider caring for patients as a primary role e.g. Police Officers in Specialist Roles, Fire Service Immediate Emergency Care, equivalent SAR trained personnel.
- 6) Trained in the use of airway adjuncts and advanced first aid equipment
- 7) Knowledgeable within medical teleconsultation.

All Staff shall possess the appropriate competencies to conduct/assist the elements of training they have been assigned to.

6.2 Facilities and Equipment

The full range of facilities and equipment relevant to the modules delivered shall be available during the training. The following facilities criteria shall be adhered to.

6.3 Theory training facilities

Facilities shall be designed to enable each Course Participant (Delegate) to see, hear and fully participate in the taught subject matter.



6.4 Practical training facilities

All facilities shall be maintained and where appropriate, inspected and tested in accordance with current national legislation and manufacturers' recommendations.

Risk assessments shall be conducted and documented for all training facilities. The Training Provider shall hold the required permits to operate the facilities.

The learning process during "scenario-based training" is facilitated by identical or comparable elements comparing the training environment and the Course Participants' (Delegates') working environment. Identical or comparable elements enhances the application of what is learned.

The practical training facilities and a training environment are expected to incorporate as many identical or comparable elements to a real wind turbine working environment as possible.

The objective is that the practical training facility should enable each Course Participant (Delegate) to individually and/or as part of a team, see, hear and practice the taught subject matter in such a way, that it resembles the working practices in a real wind turbine environment.

The facilities shall enable training to be executed by doing relevant work tasks end-to-end under realistic simulated working procedures, and/or realistic simulated emergency situations (fire, first aid, evacuation or casualty rescue) end-to-end scenarios in a real or simulated wind turbine environment.

6.5 Training Equipment

The required equipment for training is shown in Annex 3 and shall be available and shall fulfil national legal requirements.

The equipment shall be maintained, inspected and tested in accordance with current national legislation and manufacturers' recommendations. Risk assessments shall be conducted and documented for all training equipment. The Training Provider shall hold the required permits to operate relevant equipment.



7 UNDERSTAND GWO LEARNING OBJECTIVES

The described learning objectives (expected learning outcome) are the foundation of the course contents and what the Course Participant (Delegate) performance assessment must be based upon.

Traditionally learning objectives are prepared within three different domains of learning – knowledge, skills and attitude. A learning objective describes the expected learning outcome on completion of a module or a course, within one or more learning domains.

If a learning objective is related to more than one domain of learning, e.g. to knowledge *and* skills, one learning objective per learning domain is often prepared – to enable a better understanding of the learning objective.

The GWO Training Provider may apply teaching methods (didactics) that are appropriate to the course participants prior training, education and cultural backgrounds, but should always aim to provide course participants ample possibility to perform hands-on demonstrations and learning reflection.

7.1 Taxonomy

To formulate a measurable learning objective, taxonomy is used to describe the *level* of expected learning outcome within a learning domain.

As an example belonging to the learning domain of knowledge, to have a Course Participant (Delegate) *name* or **recognize** something, as opposed to having him **explain** it in his own words, or even *apply* or **demonstrate** what he has learned – describes different performance levels, i.e. different taxonomy levels.

Different taxonomies are associated with different learning domains, for instance:

Knowledge: such as Bloom's "cognitive taxonomy"

- Intellectual knowledge, mental skills and procedures

Skills: such as Simpson's "psychomotor taxonomy"

- Physical skills, cognitive controlled and observable

Attitude: such as Krathwohl's "affective taxonomy"

- Attitude and feelings to the learning

Selecting a suitable taxonomy level, an **action verb** expresses the expected behaviour of the Course Participant (Delegate), thus describing the taxonomy level of a learning objective.

Action verbs are usually highlighted in bold in this standard. The table below presents the three learning domains with taxonomy level 1-3, provided with associated *action verbs* applicable in the learning objective wording, defining the taxonomy level. In the GWO training standard, the learning objectives are in general described as level 2 or 3.



	Knowledge	Skills	Attitude
3	Application / Applying To use in a new situation. Solving problems by applying acquired knowledge, facts, techniques and rules in a different way. Applying a procedure to a familiar or unfamiliar task. Using a manual to calculate and operate. Action verbs Apply, Change, Choose, Compute, Modify, Operate, Practice, Prepare, Schedule, Solve, Write.	Guided response Follows instructions to build a model. Using a tool after observing an expert demonstrate how to use it. Be able to demonstrate an activity to other learners. Can complete the steps involved in the procedure as directed. Action verbs Accomplish, Achieve, Calibrate, Complete, Control, Demonstrate, Perform, Refine, Show.	Value Demonstrates belief in the company described process. Shows the ability to solve problems. Informs management on matters that one feels strongly about. Decide worth and relevance of ideas and tasks. Action verbs Argue, Challenge, Confront, Complete, Debate, Criticize, Justify, Join, Propose.
2	Comprehension / Understanding Construct a meaning from instructional messages, including oral, written and graphic communication. Demonstrating basic understanding of facts and ideas. Explain in your own words the steps of performing a complex task. Action verbs Classify, Distinguish, Estimate, Explain, Express, Give, Illustrate, Indicate, Locate, Predict, Summarize, Translate.	Set Awareness or knowledge of the ability needed to use the skill. Carry out tasks from verbal or written instructions. Showing eagerness to assemble components to complete a task. Knows and acts upon a sequence of steps in a process. Action verbs Access, Build, Complete, Conduct, Execute, Implement, Operate, Perform, Recreate.	Respond Completing work assignments with highly respect to the agreement. Participating in team problem solving activities. Questions new ideas and concepts in order to fully understand them. Participate actively and respectful in discussions. Showing enthusiasm. Action verbs Assist, Contribute, Discuss, Present, Question, Report, Respond, Tell, Write.
1	Knowledge / Remembering Memory of facts, terminology, rules, sequences, procedures, etc. Locating knowledge in long-term memory and retrieving relevant knowledge from long-term memory. Action verbs Arrange, Define, Describe, Find, Identify, List, Name, Outline, Recognize, Relate, Recall, Retrieve.	Perception Watch instructor and repeat action, process or activity. Recognizing sounds or pictures that indicate certain functionalities. Estimate the event of a certain function and be prepared for it. Action verbs Attempt, Copy, Duplicate, Follow, Organize, Repeat, Sketch, Replicate, Reproduce.	Receive Listening to discussions of controversial issues with an open mind. Respecting the rights of others. Listen to others and remember their opinions. Be positive and creative to what is being taught. Action verbs Ask, Be open to, Concentrate, Discuss, Focus, Follow, Listen, Reply, Take part.

Table 7-1 - Taxonomy used by GWO

Note: Higher taxonomy levels exist.



8 ADMINISTRATION AND CERTIFICATION OF ENHANCED FIRST AID MODULE

8.1 Administrative arrangements

Appropriate for the enrolment and certification of Course Participants (Delegates) and all aspects of the delivery of training shall be in accordance with this Standard.

8.2 Course Participant (Delegate) performance assessment

Course Participants (Delegates) will be assessed by means of direct observation and supplementary oral questions where appropriate (formative evaluation).

Throughout the entire course the instructor will enforce the Course Participant (Delegate) Assessment Form (see annex 1) and adhere to it, accordingly, with a high focus on evaluating the Course Participant's (Delegate's) practical skills.

The Trainer keeps a Course Participant (Delegate) Assessment Form (or adaptation) for each Course Participant (Delegate) until the completion / evaluation of the EFAR Module.

The Course Participant (Delegate) Assessment Form (or adaption) is a final evaluation tool for the instructors to assess Course Participants (Delegates) during practical elements. It allows measurement of the number of violations in regard to safety, competency, or attitude.

It shall be used as a progressive evaluation tool to discuss the performance of a Course Participant (Delegate) in guiding them to success and it also serves as supporting documentation if a Course Participant (Delegate) passes or fails the Module. If a Course Participant (Delegate) fails to meet the demands of the EFAR module, they shall attend a new EFAR Module.

Training Provider may adapt the Course Participant (Delegate) Assessment Form to other media. Training Providers shall have a documented procedure in place for dealing with Course Participants (Delegates) not meeting the stated learning outcomes.

8.3 Requirement to upload training record in WINDA

Training Providers are responsible for uploading a record of training to WINDA, the GWO online database of training records. This must be done as soon as possible and no later than 10 working days after completion of the training program.

Each record shall contain the following:

- 1) Course Participant's (Delegate's) WINDA ID
- 2) Course code (as Shown in table 8-3)
- 3) Course completion date



Module	Course Code
Enhanced First Aid Refresher	EFAR

Table 8-3 - GWO EFAR Module course code

8.4 Training Providers own Records and Certificates issue

The Training Provider shall in accordance with the criteria for Training Providers maintain their own records of Course Participants (Delegates).

Upon request from GWO or any of the members of GWO, the Training Provider shall be able to verify the training and competence records of any specific personnel either attending a course and/or performing training of a course by name and nationality.

Training providers may issue other additional proof of training, e.g. as paper certificate or plastic cards. If the training provider chooses to do so, it is recommended (not a requirement) to include the Course Participant (Delegate) WINDA id.



9 MODULE: ENHANCED FIRST AID REFRESHER (EFAR)

9.1 Aims and objectives of the EFAR Module

The aim of this EFAR Module is to review and build on previously gained knowledge and skills from BST First Aid or to refresh current EFA skills through theoretical and practical training so that Course Participants (Delegates) can administer safe and effective Enhanced First Aid in the wind industry.

The EFAR Module shall ensure that the following objectives are covered:

- 1) Local legislation/risks/hazards and demands to ensure knowledge of the roles, responsibilities and rules that apply to Enhanced First Aid in Remote Areas (L2-Knowledge and Attitude)
- 2) The importance of carrying out basic and enhanced First Aid in a safe and sound manner, in accordance with the legislative requirements of their geographic location and according to ILCOR e.g. European Resuscitation Council (ERC) and American Heart Association (AHA) guidelines (L2 -Knowledge)
- 3) Identifying and explaining normal function, normal signs and symptoms of serious and minor injuries and illness related to the human body (L1-Skills and Knowledge)
- 4) Demonstrating understanding and correct order of management in an emergency situation in a Wind Turbine Generator (WTG) environment (L2 Knowledge and Attitude)
- 5) Delivering immediate enhanced first aid to stabilise the casualty, to include but not limited to (L3-Skills and Knowledge):
 - a. Stopping life-threatening bleeding
 - b. Establishing and maintaining an airway
 - c. Knowing the indications for and the use of Automated External Defibrillator (AED)
 - d. Using basic and advanced First Aid equipment in a First Aid scenario
 - e. Resuscitation
 - f. Using standardised methodologies, specifically the Primary and Secondary Survey - based on the "C"-A-B-C-D-E principle
- 6) Assessing the casualty, for injury or acute illness, to determine if medical advice and external-to-incident support is required; to include but not limited to (L3 Skills and Knowledge):
 - a. Life-threatening bleeding, circulatory disorder
 - b. Impaired consciousness
 - c. Compromised airway, breathing, too slow or too fast



- d. Immediate life-threatening illnesses and other health problems especially with severe pain
- 7) Requesting telemedical consultation and medical/rescue assistance providing a concise and relevant report of the casualty's condition and obtaining medical advice to further stabilise the casualty by using : (L3 Skills and Knowledge):
 - a. Telemedical consultation through National resources (e.g. Coastguard)
 - b. Telemedical consultation through private contractor (where established)
- 8) Requesting immediate medical/rescue assistance providing a concise and relevant report of the casualty's condition (L3 Knowledge and Skills)
- 9) Preparing the casualty for transfer to nominated evacuation/rescue point, including (L3 Skills and Knowledge):
 - a. Immobilisation where required or other non-medical mitigation e.g. cooling gels
 - b. Understanding the complexity and restrictions of medical pain relief and the role of clinical governance in the control of medication
 - c. Accompanying the casualty, if required, to suitable medical facility and formally hand over the casualty
 - d. Escorting the casualty to the nominated evacuation/rescue point providing continued enhanced first aid
- 10) Acting as a leader in first aid situations (L3 Skills and Attitude)
- 11) Administering safe, effective and immediate lifesaving and enhanced first aid measures to save life and give assistance in remote areas using advanced emergency equipment and medical teleconsultation, while having particular regard for personal-protection (L3 Skills and Knowledge)

9.2 Duration of the EFAR Module

The total contact time for completing this enhanced first aid refresher module is estimated to be 16 hours. This is based on the time estimate given in the module timetable.

The training provider must not exceed the times per day given in table 9-2 below.

The training provider must ensure that sufficient time is allowed for Course Participants (Delegates) with prior experience to share their experiences related to first aid in a way that is constructive for the entire class.

	Maximum duration per day
Contact time	8 hours
Total training day	10 hours



Table 9-2 - Maximum durations for training day

Note: Contact time includes delivery of course lesson contents, practical exercises and activities directly related to these.

The total training day includes contact time, meals and breaks and travel between training sites (where applicable).

9.3 EFAR Trainer/Course Participant (Delegate) Ratio

The ratio shown for theory sessions indicates the maximum number of Course Participants (Delegates) that can attend the course.

The ratio shown for practical sessions indicates the maximum number of Course Participants (Delegates) to be supervised by one instructor during each activity.

Module	Session	Instructor to Course Participant (Delegate) Ratio
EFAR Module	Theory	1:12
	Practical	1:6

Table 9-3 - GWO EFAR Module Instructor to Course Participant (Delegate) ratio

9.4 Equipment for the EFAR module

The equipment required for training as listed in Annex 3 must be available and must fulfil national legal requirements in the country where the training is taking place.

9.5 EFAR Module Time Table

The order in which the elements of this enhanced first aid module training Module are delivered may vary.

Within the module timetables, approximate duration of each of the lessons are given. The training provider may choose to deliver elements of the training according to other timetables, as long as the total duration is not reduced, and practical elements are not reduced in length. Theoretical elements may be delivered during the practical exercises when feasible.

Lesson		Element		Approx Duration
1	Introduction	1.1	Safety instructions and emergency procedures	
		1.2	Facilities	
		1.3	Introduction	
		1.4	Scope and main objectives	



		1.5	On-going assessments (Delegate Assessment Form)	
		1.6	Motivation	
TOTAL				15 min.
2	Risks/Hazards/Legislation	2.1	Risks and hazards	
		2.2	First Aid guidelines and emergency plans	
		2.3	National legislation	
		2.4	Global legislation	
TOTAL				15 min.
3	Anatomy	3.1	The human body's life conditions, structure, function and signs	
		3.2	Understanding of personal hygiene	
TOTAL				40 min.
4	Management of an incident - National Emergency Response - Medical Teleconsultation	4.1	Safety awareness in an emergency situation	
		4.2	Management of an incident	
		4.3	Emergency Rescue Teams, Emergency Calls and Medical Teleconsultation	
TOTAL				50 min.
5	Lifesaving and Enhanced First Aid using Primary and Secondary Survey	5.1	"C" – A – B – C – D – E – Principle	
		5.2	Primary Survey	
		5.3	"C": Catastrophic bleeding	
		5.4	A: Airway	
		5.5	B: Breathing	
		5.6	C: Circulation	
		5.7	D: Disability	
		5.8	E: Environment/Exposure	
		5.9	Secondary Survey	
		5.10	Psychological First Aid	
TOTAL				280 min.
6	Pain management and further possible medication	6.1	Application algorithm	
		6.2	Further Possible Medication	
TOTAL				40 min.
7	Themes		Choose one of the following 5 themes for Instruction:	
		1.1	Theme 1: Psychological effects of First Aid	
		1.2	Theme 2: Sudden sickness and environmental factors	
		1.3	Theme 3: Types of trauma	



		1.4	Theme 4: Incident management and situational awareness	
		1.5	Theme 5: Complex incidents with several (2-5) casualties	
TOTAL				100 min.
8	Scenario-based training	8.1	Practice First Aid techniques	
TOTAL				245 min.
9	Evaluation	9.1	Summary	
		9.2	Evaluation	
		9.3	Training records	
TOTAL				15 min.
GRAND TOTAL				800 min.

Table 9-5 - GWO EFAR Module timetable

9.6 Detailed description of the EFAR Module

The learning outcomes specified for the EFAR Module are:

Note: The administrative part of the registration should be carried out before the course commences.

Lesson 1 - INTRODUCTION

15 min.

The aim of this lesson is to give the Course Participants (Delegates) the needed awareness of the Refresher Course content and the facilities involved in order to ensure that all Course Participants (Delegates) are aware of what to expect and what is expected of them during the course.

To successfully complete this lesson of the enhanced first aid module, Course Participants (Delegates) shall be aware of:

- 1.1 Safety instructions and emergency procedures
- 1.2 Facilities
- 1.3 Introduction
- 1.4 Scope and main learning objectives
- 1.5 On-going assessment (Course Participant (Delegate) Assessment Form)
- 1.6 Motivation



ELEMENT 1.1 - SAFETY INSTRUCTIONS AND EMERGENCY PROCEDURES

The Instructor shall **explain**:

- 1.1.1 Safety instructions according to internal procedures
- 1.1.2 Emergency procedures and emergency exits for the areas the Course Participants (Delegates) will be located during the course

ELEMENT 1.2 - FACILITIES

The Instructor shall **explain**:

- 1.2.1 General description of the facilities at the training location (Administration, dining area, restrooms, toilets, etc.)

ELEMENT 1.3 - INTRODUCTION

The Instructor shall **give**:

- 1.3.1 A short introduction, including their backgrounds as instructors

Course Participants (Delegates) shall give:

- 1.3.2 A short introduction, including job function and expected primary geographic work location

The Instructor shall **explain**:

- 1.3.3 The programme of the EFAR Module, including breaks and meal times

ELEMENT 1.4 - SCOPE AND MAIN OBJECTIVES

The Instructor shall **explain**:

- 1.4.1 Scope and main objectives of this EFAR Module
- On-going assessments (Course Participant (Delegate) Assessment Form)

The Instructor shall **explain**:

- 1.4.2 The reasons for the on-going assessment
- 1.4.3 GWO Course Participant (Delegate) Assessment and their use

ELEMENT 1.5 - MOTIVATION

The Instructor shall **explain**:

- 1.5.1 The importance of personal involvement in the course



- 1.5.2 The definition and need for correct Enhanced First Aid
- 1.5.3 Chain of survival
- 1.5.4 The importance of refreshing and building on previously acquired understanding, knowledge and skills in First Aid

Lesson 2 - RISKS/HAZARDS/LEGISLATION

15 min

The aim of this lesson is to refresh and increase Course Participants' (Delegates)' previously acquired knowledge of the relevant risks/hazards/legislation and demands of First Aid in order to improve their awareness of the roles, responsibilities and rules that apply to First Aid.

To successfully complete this lesson of the EFAR Module, Course Participants (Delegates) shall be able to:

- 1) Explain risks and hazards relating to (Enhanced) First Aid in a WTG environment as well as relating to remote areas with dangerous locations/tasks (L2 – Knowledge and Attitude)
- 2) Explain various First Aid guidelines – (e.g. ILCOR, ERC and AHA) in the context of (Enhanced) First Aid in a WTG environment (L2 - Knowledge)
- 3) Summarize national legislation relevant to (Enhanced) First Aid (L2 - Knowledge)
- 4) Recognize global legislation relevant to (Enhanced) First Aid (L1 - Knowledge)

ELEMENT 2.1 - RISK AND HAZARDS

The Instructor shall **lead the discussion on:**

- a. Risks and hazards involved in an incident relevant for job functions within the wind industry:
- b. Difficulties in Management of accidents /emergencies / survival in remote areas
- c. Dependency on site organisation, types of activity, work location and personnel
- d. Onshore
- e. Offshore
- f. Remote areas in general

ELEMENT 2.2 - FIRST AID GUIDELINES

The Instructor shall **explain:**



- 2.2.1 Recent changes/updates to guidelines from e.g. ILCOR, ERC and AHA

ELEMENT 2.3 - NATIONAL LEGISLATION

The Instructor shall **explain**:

- 2.3.1 Recent changes/updates to national legislation
- 2.3.2 Recent changes/updates to national legal requirements
- 2.3.3 Recent changes/updates to national legal responsibilities
- 2.3.4 Recent changes/updates to the role of First Aid in the wind industry

ELEMENT 2.4 - GLOBAL LEGISLATION

The Instructor shall **explain**:

- 2.4.1 Refreshing site organisation and types of units on a site and using of the Course Participants' (Delegates') personal practical experiences
- 2.4.2 Recent changes/updates to global legislation
- 2.4.3 Recent changes/updates to global legal responsibilities

Lesson 3 - ANATOMY

30 min

The aim of this lesson is to refresh and increase Course Participants' (Delegates') previously acquired knowledge and skills regarding the human body. Course Participants (Delegates) will be able to identify and explain normal bodily function, signs, symptoms and functions of major and minor injuries and illness related to the human body.

To successfully complete this EFAR Module, Course Participants (Delegates) shall be able to **demonstrate**:

- 1) Understanding of the human body's life conditions, structures, functions and signs (Level 2 - Knowledge)
- 2) Knowledge and skills for detecting abnormal signs, symptoms and functions of serious and minor injuries (Level 2 - Knowledge)
- 3) Knowledge and skills for detecting abnormal signs, symptoms and functions of serious and minor illness related to the human body (Level 2 - Skills & Knowledge)
- 4) Understanding of anatomy and First Aid in emergency situations (Level 2 - Knowledge and attitude)



ELEMENT 3.1 - THE HUMAN BODY'S LIFE CONDITIONS, STRUCTURES, FUNCTIONS AND SIGNS

Course Participants (Delegates) shall **explain** and **demonstrate**:

- 3.1.1 Normal life conditions for the human body
 - a. Human cells and life conditions
 - b. Cells and Oxygen (O₂)
 - c. Role of carbon dioxide (CO₂) on cells
 - d. Vital organs and their requirements
- 3.1.2 Vital systems of the human body
 - a. Nervous system
 - b. Respiratory system
 - c. Circulatory system
 - d. Other systems and organs
- 3.1.3 Nervous system
 - a. Anatomy of the nervous system
 - b. Structure, functions and normal signs
 - c. Threats to the nervous system
- 3.1.4 Respiratory system
 - a. Anatomy of the respiratory system
 - b. Structure, functions and normal signs
 - c. Threats to the respiratory system
- 3.1.5 Circulatory system
 - a. Anatomy of the circulatory system
 - b. Structure, functions and normal signs
 - c. Threats to the circulatory system
- 3.1.6 Other systems and vital organs of the human body
 - a. Anatomy of vital organs
 - b. Structure and functions
 - c. Threats to vital organs



The Instructor shall **explain** and **demonstrate**:

- 3.1.7 If Course Participants (Delegates) do not cover all points during their review, the Instructor shall ensure that following topics are covered:
- a. Life conditions, structure, function and signs of the human body
 - b. Serious and minor injuries - signs, symptoms and function
 - c. Serious and minor illness - signs symptoms and function
 - d. Use of anatomy and First Aid in emergency situations

Lesson 4 - MANAGEMENT OF AN INCIDENT - NATIONAL EMERGENCY RESPONSE - MEDICAL TELECONSULTATION

50 min

The aim of this lesson is to give the Course Participants (Delegates) the knowledge, skills and attitude to demonstrate understanding and correct order of management of emergencies (accident/illness) in remote areas.

To successfully complete this lesson, Course Participants (Delegates) shall be able to:

- 1) Understand personal hazards to rescue personnel and victim associated with emergency situations and apply knowledge and skills for safety awareness (L2 Knowledge)
- 2) Perform skills to take FA-measures with regard for personal protection (L2 Skills)
- 3) Show knowledge about core aspects of psychological care in first aid situations (L2 Knowledge)
- 4) Demonstrate understanding and skills to approach and manage different emergency situations (L3 Knowledge and Skills)
- 5) Demonstrate understanding of the principles of the ACT Method (Assess, Communicate, Triage) and recognize the importance of raising the alarm before starting first aid (L3 Knowledge)
- 6) Demonstrate skills on how to ensure the rescue of injured persons and their removal from the immediate hazard area to the nearest safe location (L3 Knowledge and Skill)
- 7) Conduct proper emergency calls in a remote situation (L2 skills)
- 8) Distinguish and use of the adequate measures given by the chain of survival (L2 Knowledge and Skills)
- 9) Transfer understanding of functions and support from Emergency Rescue Teams in WTG environments (L2 Knowledge)
- 10) Use clear communication in a team setting (L3 Skills)



11) Administer Enhanced First Aid via medical teleconsultation (L3 Knowledge and Skills)

ELEMENT 4.1 - SAFETY AWARENESS AND PERSONAL PROTECTION EQUIPMENT IN AN EMERGENCY SITUATION

The instructor shall **lead a discussion on**:

- 4.1.1 Appropriate safety behaviour and awareness as an Enhanced First Aider in a WTG
- 4.1.2 The risks and hazards of working in the wind industry with special focus on remote locations and the chain of survival
- 4.1.3 How to spot and stop hazardous rescue situations
- 4.1.4 Safety for all persons involved in an accident
- 4.1.5 Universal precautions (e.g. Personal Protective Equipment) against infections; protection and use of barriers in emergency situations
- 4.1.6 The core aspects of psychological care in first aid situations

ELEMENT 4.2 - MANAGEMENT OF AN INCIDENT

The instructor shall **explain** and **demonstrate**:

- 4.2.1 Managing an incident:
 - a. How to follow an efficient and correct First Aid structure
 - b. Analysis and management of an incident
 - c. Different emergency situations in the wind industry
 - d. Call for help - challenges onshore
 - e. Call for help - challenges offshore
 - f. Moving or not moving a casualty in different emergency situations (risks of e. g. fire, water versus deteriorating injuries)
 - g. How to move and place a casualty (depending on injuries, ref: lesson 5)
 - h. How to move and place a casualty in the recovery position

Course Participants (Delegates) shall **explain** and **demonstrate**:

- 4.2.2 Managing an incident:
 - a. How to follow an efficient and correct First Aid structure
 - b. Analysis and management of an incident
 - c. Different emergency situations in the wind industry
 - d. Call for help - challenges onshore
 - e. Call for help - challenges offshore



- f. Moving a casualty with two First Aiders
- g. Moving a casualty alone

ELEMENT 4.3 - EMERGENCY RESCUE TEAMS, EMERGENCY CALLS AND MEDICAL TELECONSULTATION

The instructor shall **explain**:

4.3.1 Emergency Rescue Teams:

- a. Functions of Emergency Rescue Teams
- b. Co-operation with Emergency Rescue Teams
- c. Challenges for Emergency Rescue Team on site

4.3.2 Skills for supporting professional emergency services

4.3.3 The means of "bridging the time" while waiting for professional help to arrive

4.3.4 The use of the principles of ACT Method (Assess, Communicate, Triage)

4.3.5 The principles of emergency calls in accordance with emergency response plans

4.3.6 The means and use of medical teleconsultation focusing on the current and future applicability and technical infrastructure

4.3.7 The administering of First Aid measures via medical teleconsultation

Course Participants (Delegates) shall **practice** and **demonstrate**:

4.3.8 A proper emergency call in a remote situation

4.3.9 The use of medical teleconsultation and communication media

4.3.10 Performance of First Aid measures in representative work setting comparable to specific remote locations including the use of medical teleconsultation

Lesson 5 - LIFESAVING AND ENHANCED FIRST AID USING PRIMARY AND SECONDARY SURVEY

280 min.

The aim of this lesson is to give the Course Participants (Delegates) knowledge, skills and steps to follow a methodical sequence to identify and treat life threatening time critical injuries and illnesses. Course Participants (Delegates) shall be able to demonstrate correct use of Lifesaving and Enhanced First Aid using the "C"-A-B-C-D-E principle during primary and secondary survey supported by teleconsultation. Further aim of this lesson is to give the Course Participants (Delegates) confidence and skills to be able to deliver immediate enhanced first aid to stabilize the casualty and to perform



basic life support with the help of additional FA equipment, such as supplemental respiratory aids and the use of an Automatic External Defibrillator (AED).

Course Participants (Delegates) shall receive the knowledge and skills to be able to assess, assist and provide the necessary First Aid to special incidents frequently occurring after injuries/accidents or during illnesses.

To successfully complete this lesson, Course Participants (Delegates) shall be able to:

- 1) Understand the principles of Primary and Secondary survey (L2 Knowledge)
- 2) Assess a casualty using the Primary and Secondary Survey (L3 Skills and knowledge)
- 3) Immediate First Aid actions using Primary and Secondary Survey and the "C"-A-B-C-D-E- principle (L3 Skills and Knowledge)
- 4) Treatment of Catastrophic external haemorrhage "C" critical bleeding (L3 Skills and Knowledge)
- 5) Deliver correct First Aid for obstruction of airways - establish and maintain an airway (L2 Skills and Knowledge)
- 6) Implement the required recovery position, dependent on the status (L2 Skills)
- 7) Correct First Aid to an unresponsive and breathing/not breathing casualty (L2 Skills and Knowledge)
- 8) Perform Cardiopulmonary Resuscitation (CPR) (L2 Skills and Knowledge)
- 9) Understand the capabilities, the different technical specifications and safe use of AEDs (L2 Knowledge)
- 10) Understand the enhanced use of AED e.g. advanced functionalities through help of medical teleconsultation (L2 Knowledge)
- 11) Provide knowledge of the benefits of airway management devices during resuscitation (resuscitation bag incl. accessories e.g. pocket mask, supraglottic airway devices) (L2 Knowledge)
- 12) Apply techniques to assess circulation (e.g. pulse oximeter for heart rate monitoring) (L2 Skills)
- 13) Deliver correct First Aid for external and internal bleeding (L2 Skills and Knowledge)
- 14) Deliver correct First Aid for shock (L2 Skills and Knowledge)
- 15) Identify signs and symptoms of serious and minor injuries and illnesses (L3 knowledge)
- 16) Deliver Enhanced First Aid for acute illnesses of deteriorated disorders/diseases which are critical in terms of time (L3 Skills and Knowledge)
- 17) Understand psychological First Aid (L2 Knowledge)

ELEMENT 5.1 - THE "C"- A-B-C-D-E- PRINCIPLE



The Instructor shall **explain** and **demonstrate**:

- 5.1.1 Meaning of the "C"- A-B-C-D-E- principle
- 5.1.2 Procedure of Primary and Secondary Survey

ELEMENT 5.2 - PRIMARY SURVEY

The Instructor shall **explain** and **demonstrate**:

- 5.2.1 Conditions and procedure of Primary survey comprising assessment of risks and threats for First Aider and victim, safety awareness, rescue measures, emergency call
- 5.2.2 First approach using the "C"-A-B-C-D-E-principle as steps to follow a methodical sequence to identify and treat life threatening time critical injuries and illnesses
- 5.2.3 Check for response ("look, listen, feel") to find out: alert - voice/pain responsive – unresponsive "AVPU"

The Course Participants (Delegates) shall **practice** and **demonstrate**:

- 5.2.4 Delivering Enhanced Life Saving First Aid using the "C"-A-B-C-D-E principle during primary survey supported by teleconsultation.

ELEMENT 5.3 - "C" CATASTROPHIC BLEADING

The Instructor shall **explain** and **demonstrate**

- 5.3.1 Haemostasis of Catastrophic external haemorrhage:
- 5.3.2 Threat and detection of catastrophic bleeding
- 5.3.3 Haemostasis using algorithm-oriented procedures
- 5.3.4 Correct treatment of a casualty with catastrophic external haemorrhage including the use of normal and enhanced first aid equipment:
 - a. Direct pressure
 - b. Pressure dressings
 - c. Haemostatic agents/dressings
 - d. Tourniquets

ELEMENT 5.4 - A: AIRWAY

The Instructor shall **explain** and **demonstrate**:

- 5.4.1 Obstruction of airways, respiratory disorders
- 5.4.2 Reasons for obstruction of airways, breathing - not breathing
- 5.4.3 Threats



- 5.4.4 First Aid to an unresponsive, breathing casualty
- 5.4.5 Placing of a casualty in the recovery position and use of the rescue blanket

The Course Participants (Delegates) shall **practice** and **demonstrate**:

- 5.4.6 Checking airways
- 5.4.7 Removal of occluding objects
- 5.4.8 Recovery position - single First Aider
- 5.4.9 Recovery position - two First Aiders
- 5.4.10 Correct treatment of a casualty with an obstructed airway following a step wise approach according to national best practice with airway management devices (according to country/company regulations):
- 5.4.11 Use of manual suction
- 5.4.12 Use of a nasopharyngeal tube
- 5.4.13 Use of an oropharyngeal tube (Guedel) and/or
- 5.4.14 Use of a supraglottic airway device e.g. I-gel, laryngeal tube

ELEMENT 5.5 - B: BREATHING - CARDIOPULMONARY RESUSCITATION (CPR)

The Instructor shall **explain** and **demonstrate**:

- 5.5.1 Casualty position needed to facilitate breathing
- 5.5.2 How to perform a breathing assessment
- 5.5.3 Serious chest injuries and their treatment, including the use of chest seals
- 5.5.4 Casualties not breathing
- 5.5.5 Reasons for being unresponsive and not breathing
- 5.5.6 Cardiopulmonary Resuscitation (CPR) through the use of training dummies:
- 5.5.7 Performing CPR - single First Aider
correct use of AED and ventilatory equipment
- 5.5.8 Performing CPR - two First Aiders
correct use of AED and ventilatory equipment
- 5.5.9 The capabilities and the different technical specifications of AEDs
- 5.5.10 AED safety procedures including environment conditions
- 5.5.11 Correct treatment of a casualty who requires ventilatory support including:
 - a. Use of a pocket face mask
 - b. Use of a bag valve mask (two-person technique for bag-mask ventilation is recommended according to ERC guidelines)



Course Participants (Delegates) shall **practice** and **demonstrate**:

- 5.5.12 Performing CPR on adults - single First Aider correct use of AED and ventilatory equipment
- 5.5.13 Performing CPR on adults - two First Aiders correct use of AED and ventilatory equipment
- 5.5.14 Treatment of a casualty who requires ventilatory support using advanced First Aid equipment/airway management devices:
 - a. Bag valve mask resuscitation (two-person technique for bag-mask ventilation is recommended according to ERC guidelines)
 - b. Mouth-mask resuscitation (pocket face mask)
 - c. Supraglottic airway devices
- 5.5.15 Reanimation with correct use of resuscitation equipment and help of medical teleconsultation, enhanced using an AED and various respiratory aids

Note: Resuscitation according to applicable resuscitation guidelines e.g. ERC, AHA etc.

ELEMENT 5.6 - C: CIRCULATION

Instructor shall **explain** and **demonstrate**:

- 5.6.1 Circulation - Assessment techniques
- 5.6.2 Skin colour and temperature
- 5.6.3 Capillary refilling time
- 5.6.4 Pulse
- 5.6.5 Correct functioning and informative value of a pulse oximeter for heart rate monitoring
- 5.6.6 Bleeding, external
- 5.6.7 Reasons for external bleeding
- 5.6.8 Threats
- 5.6.9 Use of advanced First Aid equipment

The Course Participants (Delegates) shall **practice** and **demonstrate**:

- 5.6.10 First Aid when a casualty is bleeding externally
- 5.6.11 Bandaging
- 5.6.12 Use of advanced First Aid equipment, including pulse oximeter



The Instructor shall **explain** and **demonstrate**:

- 5.6.13 Bleeding, internal
- 5.6.14 Reasons for internal bleeding
- 5.6.15 Threats
- 5.6.16 Use of medical teleconsultation

The Course Participants (Delegates) shall **practice** and **demonstrate**:

- 5.6.17 First Aid when a casualty is bleeding internally, including use of pelvic sling
- 5.6.18 Recurring surveys

The Instructor shall **explain** and **demonstrate**:

- 5.6.19 Shock
- 5.6.20 Reasons for shock
- 5.6.21 Types of shock
- 5.6.22 Threats
- 5.6.23 Recurring surveys
- 5.6.24 Use of advanced First Aid equipment
- 5.6.25 First Aid to shock

The Course Participants (Delegates) shall **practice** and **demonstrate**:

- 5.6.26 Use of advanced First Aid equipment
- 5.6.27 First aid treatment of shock

The Instructor shall **explain** and **give examples on**:

- 5.6.28 Acute illnesses of deteriorated disorders/diseases including heart attacks, strokes, seizure disorders, suspension trauma and other casualties out of general or internal medicine, which are critical in terms of time
- 5.6.29 The reasons, frequency and risks of these diseases
- 5.6.30 Minor incident in an escalating to a serious incident
- 5.6.31 FAST-schema (Face, Arms, Speech, Time) as assessment for stroke
- 5.6.32 Necessity of support by medical teleconsultation
- 5.6.33 Discuss the difficulties of EFA

The Instructor shall **show** the procedure and value of:

- 5.6.34 Taking care of the casualty / psychological FA-techniques



- 5.6.35 Contacting professional rescue personnel nearby
- 5.6.36 Using medical teleconsultation services for advice on pain management and medication (ref. lesson 6)

The Course Participants (Delegates) shall **explain and practice**:

- 5.6.37 Assessment of stroke following FAST schema
- 5.6.38 Continuous monitoring of casualty in cases of deteriorated disorders
- 5.6.39 Early use of medical teleconsultation services

ELEMENT 5.7 - D: DISABILITY

CONSCIOUSNESS

The Instructor shall **explain** and **demonstrate**:

- 5.7.1 The different levels of responsiveness
- 5.7.2 How to check pupils and the reasons why

The Course Participants (Delegates) shall be **able to**:

- 5.7.3 Distinguish different levels of responsiveness e.g. "AVPU" Alert, Voice, Pain, Unresponsive
- 5.7.4 Check Pupils are Equal And Reactive to Light "PEARL"
- 5.7.5 Perform adequate first aid measures

ELEMENT 5.8 - E: ENVIRONMENT/EXPOSURE

HYPOTHERMIA AND HYPERTHERMIA

The Instructor shall **explain**:

- 5.8.1 The causes and stages of hypothermia and hyperthermia and the appropriate measures
- 5.8.2 The difference between heat exhaustion and heat stroke
- 5.8.3 The use of active warming blankets
- 5.8.4 Cooling measures for heat exhaustion and heat stroke

The Course Participants (Delegates) shall **explain** and **recognize**:

- 5.8.5 The risks of hypothermia and how to take appropriate measures
- 5.8.6 The difference and risks between heat exhaustion and heat stroke



5.8.7 The use of active warming blankets

The Instructor shall **explain** and **demonstrate** toxic / allergic symptoms of the body:

5.8.8 Assessment of different reactions of the body

5.8.9 Immediate first aid measures

5.8.10 The need of medical teleconsultation for further treatment

The Instructor shall **explain** and **demonstrate** superficial chemical burn of skin / eye injury:

5.8.11 Align with emergency / company physician because of removal/antidote

5.8.12 Application of bandages and the use of an eyewash bottle

The Course Participants (Delegates) shall **explain** and **recognize**:

5.8.13 The risks of hypothermia and how to take appropriate measures

5.8.14 The difference and risks between heat exhaustion and heat stroke

5.8.15 The use of active warming blankets

ELEMENT 5.9 - SECONDARY SURVEY

The Instructor shall **explain**:

5.9.1 The general conditions of secondary survey using the A-B-C-D-E - principle without "C"

5.9.2 The A - B - C - D - E- principle in the context of the secondary survey

5.9.3 The differences between/indications for sitting, lying and shock position (conscious/unconscious) and the importance of keeping up body temperature

During the secondary survey, the Course Participants (Delegates) should be made aware of the following injuries, symptoms and course of illness, taking into account the specific conditions of the wind industry and its varying workplaces:

DAMAGE AND POISONING THROUGH CONTACT WITH CHEMICAL/BIOLOGICAL SUBSTANCES

The Instructor shall explain and demonstrate the toxic/allergic symptoms of the body:

5.9.4 Assessment of different reactions of the body

5.9.5 Immediate first aid measures

5.9.6 The need for medical teleconsultation for further treatment



The Instructor shall explain and demonstrate superficial skin burns and the treatment of eye injuries:

- 5.9.7 Advice from the emergency doctor on the removal of corrosive substances or the use of antidotes
- 5.9.8 Applying bandages and using an eye wash bottle

The Course Participants (Delegates) shall demonstrate:

- 5.9.9 Process for removing the corrosive substances (washing off) and applying sterile bandages
- 5.9.10 Applying bandages and using an eye wash bottle

BROKEN BONES AND INJURIES TO JOINTS/MUSCLES

The Instructor shall explain and demonstrate:

- 5.9.11 Body Check: examination of the injured person from head to toe (skull, thorax, abdomen, spine, hips, lower extremities upper extremities)
- 5.9.12 Measures for immobilisation and correct axial, pain-relieving positioning of the casualty
- 5.9.13 R(est) - I(ce) - C(ompressions) - E(levation) Method

The Course Participants (Delegates) demonstrate:

- 5.9.14 Use of splint material, and other immobilisation/stabilisation materials
- 5.9.15 Positioning for head injuries

BURNS

The Instructor shall **explain** and **demonstrate**:

- 5.9.16 Severity of burns
- 5.9.17 Types of burns, including electrical burns
- 5.9.18 Treatment of burns including cooling measure

The Course Participants (Delegates) shall **perform**:

- 5.9.19 Treatment of a burn



BITE WOUNDS

The Instructor shall **explain** and **demonstrate**:

- 5.9.20 Severe, possible secondary infected bite wounds, e. g. by dogs
- 5.9.21 Bites for example of bats or raccoons possibly transmitting viral diseases like rabies
- 5.9.22 Snake and spider bites with venom

The Course Participants (Delegates) shall **be able to**:

- 5.9.23 Distinguish different forms / threats of bites
- 5.9.24 Know importance of companies OHS strategy depending on assessment on site
- 5.9.25 Use advice of medical teleconsultation services

ELEMENT 5.10 - PSYCHOLOGICAL FIRST AID

The Instructor shall **explain** aspects of Psychological First Aid:

- 5.10.1 Reactions to an unusual situation/ extreme event, and how to mitigate abnormal reactions
- 5.10.2 Behaviour to a casualty

Lesson 6 - PAIN MANAGEMENT AND FURTHER POSSIBLE MEDICATION

40 min.

The overall aim of this lesson is to give the Course Participants (Delegates) an understanding of the different analgesics and medication that may be available according to company policy or national best practices as well as how to safely and effectively administer analgesics and medication via medical teleconsultation or according to national best practices .

Note: Consideration should be taken by training providers to select the most appropriate analgesics and medications according to national best practices or select the analgesic and medication at the request of the company physician. Training aids should be selected that are as realistic as possible to the analgesic or medication that they are teaching the Course Participants (Delegates) to administer.

To successfully complete this lesson of the EFA Module, Course Participants (Delegates) shall be able to:

- 1) Master the application algorithm for pain management (L3 knowledge)
- 2) Administer safe and correct further possible medication via medical teleconsultation or according to national best practices (L3 Skills and Knowledge)



ELEMENT 6.1 - APPLICATION ALGORITHM OF PAIN MANAGEMENT

The instructor shall **explain** and **demonstrate**:

- 6.1.1 Numerical rating scale for pain
- 6.1.2 Non-medicinal treatment according to the step-scheme of pain relief
- 6.1.3 Clarification of prerequisites for the application of medicinal pain relief through the emergency-call physician or national best practices
- 6.1.4 Indications and Contraindications of administering appropriate analgesics

Course Participants (Delegates) shall be able to **demonstrate**:

- 6.1.5 Assessment of pain using a numerical rating scale
- 6.1.6 Performance of non-medicinal treatment according to the step-scheme of pain relief see annex
- 6.1.7 Clarification of prerequisites for the application of medicinal pain relief through the emergency-call physician or according to national best practices
- 6.1.8 Safe and correct management of administering appropriate analgesics according to national best practices or via medical teleconsultation during a scenario in a WTG environment.
- 6.1.9 Indications for administering appropriate analgesics according to national best practices
- 6.1.10 Contraindications for administering appropriate analgesics according to national best practices

ELEMENT 6.2 - FURTHER POSSIBLE MEDICATION

The instructor shall **explain** and **demonstrate**:

- 6.2.1 Indications for the application of medications in casualties according to national legislation
- 6.2.2 Contraindications and possible side-effects of medication, e.g. analgesia, aspirin, Glucose, Glyceryl trinitrate (GTN)
- 6.2.3 Clarification of prerequisites for the application of medication according to national legislation or after the release through the emergency call physician

Course Participants (Delegates) shall be able to **demonstrate**:

- 6.2.4 Safe and effective management of administering medication according to national best practices or through the use of medical teleconsultation
- 6.2.5 Indications for administering further possible medication



6.2.6 Contraindications for administering further possible medication

Lesson 7 - THEMES

80 min.

This lesson presents **5 themes** (situations or factors) that may significantly affect the response and management of First Aid incidents in Wind Turbine environments.

The aim of this lesson is to give the Course Participants (Delegates) the knowledge, skills and understanding presented in one of the **5 themes**.

The course Instructor shall **select one of the 5 themes** to teach during the EFAR Training.

THEME 1 - PSYCHOLOGICAL EFFECTS OF FIRST AID:

To successfully complete this EFAR Module Theme 1, Course Participants (Delegates) shall be able to demonstrate:

- 1) Knowledge of how administering (Enhanced) First Aid during an incident psychologically affects the Enhanced First Aider
- 2) Knowledge of how to give psychological (Enhanced) First Aid to the Enhanced First Aider (Person administering Enhanced First Aid)
- 3) Immediately after an incident (short-term impacts on the Enhanced First Aider)
- 4) After an incident (long-term impacts on the Enhanced First Aider)
- 5) Knowledge of tools an Enhanced First Aider can use to evaluate whether they can give psychological (Enhanced) First Aid or if they need to contact professional help
- 6) Knowledge of where Enhanced First Aiders can receive psychological help (company-specific internal and external psychological help)

THEME 2 - SUDDEN SICKNESS AND ENVIRONMENTAL FACTORS:

To successfully complete this EFAR Module Theme 2, Course Participants (Delegates) shall be able to demonstrate:

- 1) Knowledge of and skills for responding to sudden sickness and environmental factors, that affect the central nervous system
- 2) Knowledge of and skills for responding to sudden sickness and environmental factors that affect the respiratory system
- 3) Knowledge of and skills for responding to sudden sickness and environmental factors that affect the circulatory system



THEME 3 - TYPES OF TRAUMA:

To successfully complete this EFAR First Aid Module Theme 3, Course Participants (Delegates) shall be able to demonstrate:

- 1) Knowledge of and skills for managing and responding to trauma incidents that affect the central nervous system
- 2) Knowledge of and skills for managing and responding to trauma incidents that affect the respiratory system
- 3) Knowledge of and skills for managing and responding to trauma incidents that affect the circulatory system

THEME 4 - INCIDENT MANAGEMENT AND SITUATIONAL AWARENESS:

To successfully complete this EFAR Module Theme 4, Course Participants (Delegates) shall be able to demonstrate:

- 1) Knowledge, skills for and understanding of incident management and situational awareness in a wind turbine environment, onshore
- 2) Knowledge, skills for and understanding of incident management and situational awareness in a wind turbine environment, offshore

THEME 5 - COMPLEX INCIDENTS WITH SEVERAL (2-5) CASUALTIES:

To successfully complete this EFAR Module Theme 5, Course Participants (Delegates) shall be able to demonstrate:

- 1) Knowledge of and understanding for managing and effectively carrying out Enhanced First Aid during complex incidents with several (2 - 5) casualties in a wind turbine work environment
- 2) Knowledge of and understanding of situational awareness and psychological effects of managing and administering Enhanced First Aid during complex incidents with several (2 - 5) casualties in a wind turbine work environment

ELEMENT 7.1 - THEME 1: PSYCHOLOGICAL EFFECTS OF (ENHANCED) FIRST AID

The Instructor shall **explain** and **demonstrate**:

- 7.1.1 Psychological effects of administering (Enhanced First) Aid for Enhanced First Aider (person administering Enhanced First Aid)
- 7.1.2 Psychological consequences of administering Enhanced First Aid
 - a. Post-Traumatic Stress Disorder (PTSD) after administering First Aid
 - b. Tools First Aiders can use to minimise psychological impacts of administering First Aid



- c. Where Enhanced First Aiders can receive help for coping with psychological effects (including PTSD) of administering Enhanced First Aid
- d. How Enhanced First Aiders can evaluate whether they can administer psychological (Enhanced) First Aid or if they need to contact professional help

Course Participants (Delegates) shall **explain** and **demonstrate**:

- 7.1.3 Psychological effects of administering (Enhanced) First Aid for Enhanced First Aider
 - a. Psychological consequences of administering (Enhanced) First Aid
 - b. PTSD after administering First Aid
 - c. Tools First Aiders can use to minimise psychological impacts of administering First Aid
 - d. Where Enhanced) First Aiders can receive help for coping with psychological effects (including PTSD) of administering First Aid
 - e. How Enhanced First Aiders can evaluate whether they can administer psychological (Enhanced) First Aid or if they need to contact professional help

The Instructor shall facilitate **debriefing**:

- 7.1.4 Psychological effects of administering (Enhanced) First Aid for Enhanced First Aider
- 7.1.5 Review positive actions observed during exercise
- 7.1.6 Suggest points for improvement

ELEMENT 7.2 - THEME 2: SUDDEN SICKNESS AND ENVIRONMENTAL FACTORS

The Instructor shall **explain** and **demonstrate**:

- 7.2.1 Sudden sickness and environmental factors (e.g. chemical, air quality, dust, pollen, gases, poisonous animals, etc.)
 - a. Most common First Aid conditions caused by local environmental factors found at the specific geographic work locations and workplace related hazards
 - b. Most common First Aid conditions worsened by local environmental factors found at the specific geographic work locations
 - c. Effects of alcohol and other medication/narcotics on physical and psychological performance

Course Participants (Delegates) shall **explain** and **demonstrate**:

- 7.2.2 Sudden sickness and environmental factors (e.g. chemical, air quality, dust, pollen, gases, poisonous animals, etc.)



- a. How to respond to sudden sickness caused and worsened by environmental factors that affect the central nervous system
- b. How to respond to sudden sickness caused and worsened by environmental factors that affect the respiratory system
- c. How to respond to sudden sickness caused and worsened by environmental factors that affect the circulatory system

The Instructor shall facilitate **debriefing**:

- 7.2.3 Sudden sickness and environmental factors (e.g. chemical, air quality, dust, pollen, gases, poisonous animals, etc.)
- a. Review positive actions observed during exercise
 - b. Suggest points for improvement

ELEMENT 7.3 - THEME 3: TYPES OF TRAUMA

The Instructor shall **explain** and **demonstrate**:

- 7.3.1 Types of trauma
- a. Most common trauma conditions caused by accidents at construction sites onshore and offshore
 - b. Most common trauma conditions caused by accidents at service sites during operation and maintenance onshore and offshore

Course Participants (Delegates) shall **explain** and **demonstrate**:

- 7.3.2 Types of trauma
- a. How to respond to trauma incidents that affect the central nervous system
 - b. How to respond to trauma incidents that affect the respiratory system
 - c. How to respond to trauma incidents that affect the circulatory system

The Instructor shall facilitate **debriefing**:

- 7.3.3 Types of trauma
- a. Review positive actions observed during exercise
 - b. Suggest points for improvement

ELEMENT 7.4 - THEME 4: INCIDENT MANAGEMENT AND SITUATIONAL AWARENESS

The Instructor shall **explain** and **demonstrate**:

- 7.4.1 Incident management and situational awareness



- a. How lacking situational awareness can worsen First Aid incidents and cause further harm
- b. How to manage First Aid incidents and preserve situational awareness offshore and onshore

Course Participants (Delegates) shall **explain** and **demonstrate**:

7.4.2 Incident management and situational awareness

- a. How lacking situational awareness can worsen First Aid incidents and cause further harm
- b. How to manage First Aid incidents and preserve situational awareness offshore and onshore

The Instructor shall facilitate **debriefing**:

7.4.3 Incident management and situational awareness

- a. Review positive actions observed during exercise
- b. Suggest points for improvement

ELEMENT 7.5 - THEME 5: COMPLEX INCIDENTS WITH SEVERAL (2-5) CASUALTIES

This theme allows Course Participants (Delegates) to gain knowledge, skills and practical experience with managing and administering First Aid during complex incidents with several (2-5) casualties. For this theme the Course Instructor shall divide their Course Participants (Delegates) into three (3) different groups with roles shown in the table below:

During this exercise the following shall occur:

- 1) The Observational, First Aid and Casualty Groups give each other feedback on the incident management, First Aid performance and situational awareness during this exercise
- 2) The instructor leads and supports the group discussion and gives personal feedback on the incident management, First Aid performance and situational awareness during this exercise
- 3) The exercise is repeated, switching the participants of each group. Each Delegate shall participate at least once as a member of the Observational, First Aid and Casualty groups

The Instructor shall **explain** and **demonstrate**:

7.5.1 Complex incidents with several (2-5) casualties in wind turbine working environments

- a. Difficulties and challenges of managing and administering First Aid during complex incidents with several (2-5) casualties



- b. Situational awareness and psychological effects of managing and administering First Aid during complex incidents with several (2-5) casualties
- c. Systematically and effectively managing complex First Aid scenarios during complex incidents with several (2-5) casualties

The Instructor shall **lead the discussion on:**

7.5.2 Complex incidents with several (2-5) casualties in wind turbine working environments

- a. Positive observations and constructive criticism for Course Participants' (Delegates') performance during this exercise with several (2-5) casualties
- b. How Course Participants (Delegates) can manage and administer First Aid more effectively and efficiently during complex incidents with several (2-5) casualties

Course Participants (Delegates) shall **explain** and **demonstrate:**

7.5.3 Complex incidents with several (2-5) casualties in wind turbine working environments

- a. How to manage and administer First Aid during complex incidents with several (2-5) casualties
- b. Situational awareness, knowledge and understanding of psychological effects of managing and administering First Aid during complex incidents with several (2-5) casualties
- c. How to systematically and effectively manage complex First Aid scenarios during complex incidents with several (2-5) casualties

Course Participants (Delegates) shall **explain** and **discuss:**

7.5.4 Complex incidents with several (2-5) casualties in wind turbine working environments

- a. Positive and negative points of the Observational, First Aid and Casualty Groups' performance and incident management during these complex incident exercises with several (2-5) casualties
- b. How to improve the Enhanced First Aid Groups' performance with regards to administering First Aid, situational awareness and incident management for complex incidents with several (2-5) casualties using their background knowledge of First Aid.

The Instructor shall facilitate **debriefing:**

7.5.5 Complex incidents with several (2-5) casualties in wind turbine working environments



- a. Review positive actions observed during exercise
- b. Suggest points for improvement

Lesson 8 - SCENARIO-BASED TRAINING

245 min.

The aim of this lesson is to refresh and build on Course Participants' (Delegates') previously acquired knowledge and skills to be able to assess, assist and provide correct Enhanced First Aid during an incident.

To successfully complete this EFAR Module, Course Participants (Delegates) shall, through different scenarios, be able to demonstrate:

- 1) Managing incidents - approaching and assessing incidents (L3 Skills Knowledge and Attitude)
- 2) Providing the necessary life-saving First Aid in an incident (L3 Skills Knowledge and Attitude)
- 3) Correct use of basic and advanced First Aid equipment (L3 Skills and Knowledge)
- 4) Knowledge and skills for AED safety procedures and correct use of an AED (L3 Skills and Knowledge)

After the course, the Course Participants (Delegates) will have the attitude to:

- 1) Act as a leader in first aid situations (L3 Skills and attitude)
- 2) Administer safe, effective and immediate lifesaving and enhanced first aid measures to save life and give assistance in remote areas using advanced emergency equipment and medical teleconsultation, while having particular regard for personal-protection (L3 Skills and Knowledge)

ELEMENT 8.1 - PRACTICE FIRST AID TECHNIQUES

The Instructor shall **explain**:

8.1.1 Safety procedures in the training area

Course Participants (Delegates) shall **practice** and **demonstrate**:

8.1.2 Safe life - saving First Aid techniques through relevant scenarios according to the Control Measures Form

The Instructor shall **ensure** that:

8.1.3 Following topics are covered during scenario-based training:

- a. Managing incidents using medical teleconsultation



- b. Providing necessary life-saving First Aid
- c. Correct use of First Aid and advanced emergency equipment
- d. Knowledge of and skills for AED safety procedures
- e. Correct use of an AED and airway management devices

This scenario-based training shall be conducted as group work with one or more Course Participants (Delegates) as First Aiders, while the other Course Participants (Delegates) act as casualty/casualties or observer/s. Each Course Participant (Delegate) shall, as a minimum, act as First Aider at least one time. Relevant normal and advanced First Aid equipment shall be available and used at all times during scenario-based training.

To ensure all of the above mentioned points are covered during scenario-based training, Training Providers shall combine several of the following First Aid situations mentioned below.

Note: At least one scenario must be based on an electrical incident:

First Aid situations

- 1) Dropped object - serious head injury, unresponsive, breathing
- 2) Fall from heights - external bleeding, unresponsive, breathing
- 3) Serious internal bleeding
- 4) Serious external bleeding
- 5) Unresponsive with normal breathing
- 6) Unresponsive, not breathing
- 7) CPR using an AED
- 8) Epileptic seizure
- 9) Asthma
- 10) Stroke (circulatory, respiratory, central nervous system, includes heat stroke)
- 11) Serious burn
- 12) Hypothermia
- 13) Hyperthermia
- 14) Crush injury
- 15) Eye injury
- 16) Electrical accidents minor/serious
- 17) Amputation
- 18) Minor incident escalating to a serious incident
- 19) Traffic related accident



The Instructor shall facilitate **debriefing**:

8.1.4 First Aid situations

- a. Review positive actions observed during exercise
- b. Suggest points for improvement

The Instructor shall facilitate **debriefing**:

8.1.5 Complex incidents with several (2-5) casualties in wind turbine working environments

- a. Review positive actions observed during exercise
- b. Suggest points for improvement

Lesson 9 - EVALUATION

15 min.

The aim of this lesson is to summarise the EFAR Module and give the Course Participants (Delegates) the opportunity to conduct an open-minded review of the training and the instructor.

To successfully complete this EFAR Module, Course Participants (Delegates) shall be able to demonstrate:

- 1) Active participation in the evaluation

ELEMENT 9.1 - SUMMARY

The Instructor shall:

- 9.1.1 Summarise the EFAR Module and give the Course Participants (Delegates) final feedback

ELEMENT 9.2 - EVALUATION

Course Participants (Delegates) shall:

- 9.2.1 Conduct a written evaluation

The Instructor shall:

- 9.2.2 Give necessary feedback on the written evaluations

ELEMENT 9.3 - TRAINING RECORDS

The Instructor shall:



- 9.3.1 Ensure that all Course Participants (Delegates) are registered with a personal Course Participant (Delegate) profile in WINDA and have provided their WINDA ID to the Training Provider prior to completing the training course.

9.7 Course Participant (Delegate) performance assessment

Assessment of learning outcomes:

Course Participants (Delegates) will be assessed according to the learning outcomes stated in Section 1.6 by means of direct observation and supplementary oral questions, where appropriate.

The assessment shall be conducted during practical scenarios based on the wind turbine work environment. Each Course Participant (Delegate) shall demonstrate the ability to deal with a casualty that is:

- 1) Unconscious
- 2) Requires CPR
- 3) A scenario as detailed in Lesson 8

The formal evaluation of knowledge of above scenarios shall be in accordance with the Practical Assessment Measures in Section - 3 (Measures).

Training Providers shall have a documented procedure in place for dealing with persons not meeting the stated learning outcomes.



ANNEX 1 - COURSE PARTICIPANT (DELEGATE) PERFORMANCE ASSESSMENT

Course Participant (Delegate) full name as in passport:					
Course Participant (Delegate) WINDA ID:					
Course module:					
Date of completion:					
Topics	Violation of Assessment Measures			0-2 passed 3 failed	Instructor Remarks
Scenario Organisation					
Aware of personal and group safety at all times					
Organises and utilises correct equipment for given scenario					
Organises individuals and groups as required					
Scenario Management					
Establishes and maintains control of the exercise scenario at all times					
Fully participates in the exercise scenario					
Follows instructions when required					
Demonstrates correct and safe First Aid exercise scenario					
Knowledge, skills and understanding					
Applies subject knowledge correctly in given scenario					
Demonstrates understanding of subject					
Delivers appropriate first aid measures					
Total Marks	0-9 Pass 10-27 Fail			PASS: <input type="checkbox"/>	FAIL: <input type="checkbox"/>
Instructor Name (in CAPITAL letters)					
Instructor Signature					
Training provider					



ANNEX 2 - MEDICAL SELF-ASSESSMENT FORM

YOUR PERSONAL HEALTH IS YOUR OWN RESPONSIBILITY. YOUR TRAINING PROVIDER SHALL NOT BE HELD RESPONSIBLE FOR ANY ILLNESS WHATSOEVER DURING OR AFTER THE TRAINING.

I hereby confirm that I have read and understood the listed risks and potentially life-threatening medical conditions and that I am physically and medically fit to participate in GWO Training.

I hereby confirm that there is no factor that will inhibit or affect my participation in GWO Training. I agree to follow all instructions from the appointed Instructor for the duration of the GWO Training. Should there be any doubt regarding my medical fitness, the training provider will stop the training and seek a physician's advice.

Name as in passport	
Course Participant (Delegate) WINDA ID	
Course module	
Signature and date	

The following conditions could pose a risk, when you participate in GWO training

- Asthma or other respiratory disorders
- Epilepsy, blackouts or other fits
- Angina or other heart complaints
- Vertigo or inner ear problems (difficulty with balance)
- Claustrophobia/Acrophobia (fear of enclosed area/height)
- Blood pressure disorder
- Diabetes
- Pacemaker or implanted defibrillator
- Arthritis, osteoarthritis or other muscular/ skeletal disorders affecting mobility
- Known allergies (E.g. bee, wasps or spider stings / bites)
- Recent surgery
- Any other medical condition or medication dependency that could affect climbing or physical impact of climbing



ANNEX 3 - EQUIPMENT LIST

Any equipment used during this GWO training module shall meet or exceed the minimum requirements of the national standards in the country where the training is taking place.

When working in a country where there is no applicable national standard then the equipment shall meet or exceed the minimum requirements of the European standards.

The following equipment is required during the entire duration of this EFAR Training to meet the needs of the EFAR First Aid Training Module:

- 1) Torso anatomy dummy
- 2) Airway model
- 3) Resuscitation dummies - (e.g. for ventilation, laryngeal tubes, AED use, immobilization)
- 4) First Aid equipment
- 5) First Aid bag
- 6) Make - up kit for First Aid scenarios
- 7) AED (Automated External Defibrillator) according to national best practice
- 8) Bag valve mask incl. accessories, national best practice airway devices e.g.
 - a. laryngeal tubes (sizes. 4/5)
 - b. supraglottic airway device
 - c. oropharyngeal tube
 - d. manual suction device
- 9) Pulse oximeter for heart rate monitoring
- 10) Trauma pressure dressing, haemostatic agents/dressings, tourniquet
- 11) Eyewash fluid
- 12) Medications e.g. analgesic, cooling gel (exercise samples without active ingredients)
- 13) Splint material, basic immobilisation, pelvic sling, chest seals
- 14) Cervical immobilizer according to national best practice
- 15) Blankets and/or chemical active warming blanket
- 16) Equipment for medical teleconsultation
- 17) Suitable media (e.g. videos)



Note: All equipment shall be maintained and where appropriate, inspected and tested in accordance with current national standards/legislation and manufacturers' recommendations.



ANNEX 4 - EFA GUIDELINE: RECOMMENDATIONS

1. INTRODUCTION

Wind turbines are placed in increasingly remote areas, away from established medical facilities – both offshore and onshore. This can increase the time interval between the placing of an emergency/distress call and the arrival of professional emergency responders. The GWO Enhanced First Aid (EFA) Standard has been devised so that wind turbine technicians have an additional level of first aid training focused on stabilising and keeping a casualty alive until they are rescued.

2. PURPOSE

This training standard provides the foundation for the development of the enhanced first aid competencies. This document serves as a guideline for when and how GWO members should implement EFA-training and what special equipment wind technicians should be trained to use. The decision to employ enhanced first aiders should be the outcome of a medical risk assessment.

To implement GWO Enhanced First Aid, the employer will need to have the following:

- 1) EFA training
- 2) EFA equipment
- 3) Access to medical teleconsultation services

3. WHEN TO IMPLEMENT EFA TRAINING

GWO recommends that implementation of EFA training is based on a risk assessment (see table 1 below).

In general, all First Aid (FA) requirements for a wind farm will be dependent on the specific activity being undertaken and an estimation of the likely time interval for either medical support to reach the site or for the casualty to receive medical support.

4. EMERGENCY CALLS AND MEDICAL TELECONSULTATION SUPPORT SYSTEM AS A BASIC PRINCIPLE

The company/employer emergency plan is a central component of the rescue chain, especially offshore.

The employer must ensure that in the event of an emergency, it has established lines of communication between itself and any external emergency control centre or external facilities such as First Aid, emergency medical care, emergency rescue services and firefighting.



All personnel must always be able to place an emergency call, from every workstation. In an emergency, rescue and first aid workers (employed or externally contracted) must be able to quickly respond to and access the scene of the emergency.

The employer is also obligated to ensure appropriate transport which may include public resources in specific cases. Onshore public emergency service facilities are usually available to provide qualified transportation; however, this may not be the case with offshore.

Delivering EFA must be supported by company/national arrangements ensuring a system for medical teleconsultation: It is a recommendation that the employer has a robust telecommunication system - enabling medical teleconsultation support for EFA.

The term 'Teleconsultation' in the context of administering basic and enhanced First Aid should be seen primarily as guidance, support and assistance provided by an emergency-call physician to all first aiders and medical assistants in emergencies (Fig. 1). The goals of teleconsultation are to achieve a qualitative improvement in First Aid and, in the context of enhanced first aiders, to extend the range of potential measures. As such, Teleconsultation should be understood as representing an additional structural element within the existing company rescue service capabilities, aimed at realizing a qualitatively high degree of patient care.

EFA trained personnel provide a valuable component to meet this requirement. However, an enhanced first aider is not a medical professional and may have had limited real-life experience in providing medical intervention. Therefore, he/she will require medical teleconsultation and in severe cases support from professional medical responders.

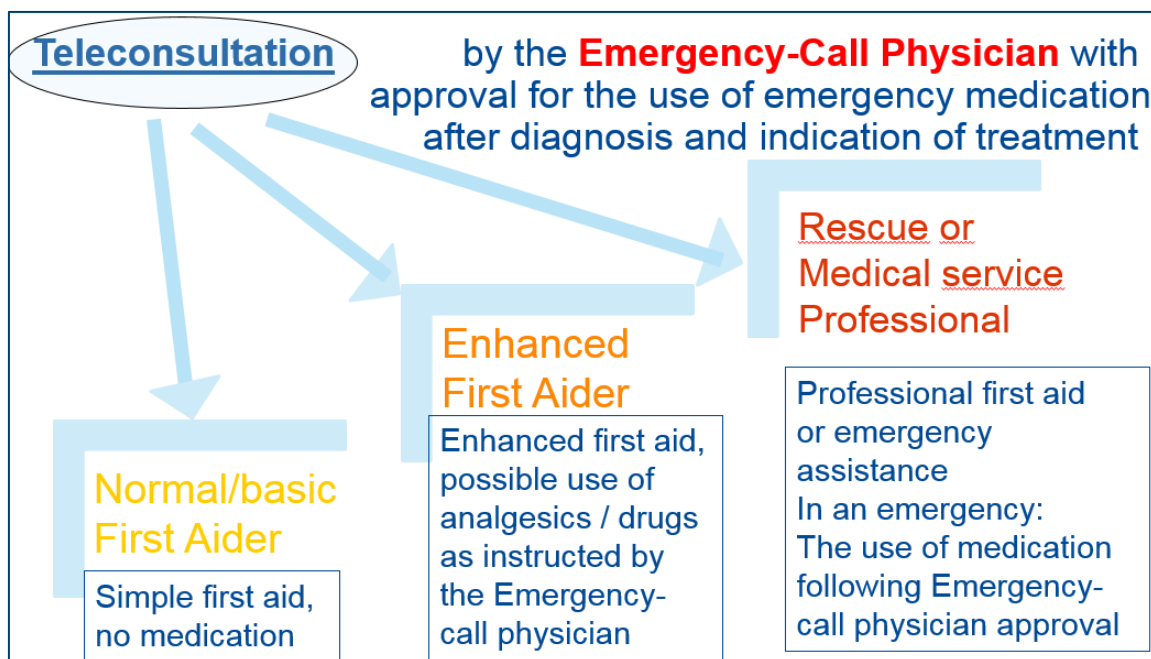


Figure 1 - Teleconsultation - support of (enhanced) first aid with respect to qualifications and approval of medication



Teleconsultation can essentially be grouped into the following components:

- 1) Supporting first and enhanced first aiders in carrying out First Aid measures
- 2) Diagnosing and determining the indication status of the medical measures taken
- 3) Monitoring and supervising the measures taken
- 4) Providing individual as well as psychological support of the (enhanced) first aider
- 5) Ensuring documentation and evaluation

An essential prerequisite for teleconsultation is the availability of adequate information and communications technology (ICT). The reliability and durability of the ICT deployed must be assured along with the technical and organisational guarantee of data protection and data security. The availability of bi-directional and reliable audio transmissions (e.g. radio, satellite or IP telephony or mobile phones) is not always sufficient. The possibility for transmitting photos to the consulting physician and the availability of reliable, at least unidirectional, real-time video transmissions should be the standard.

So the consulting physician will be able to oversee a patient examination while remaining informed about the events transpiring on location. The integration of medical-technical equipment for transmitting and monitoring vital data establishes an essential foundation for the emergency physician in making decisions about necessary actions. Employers should provide documented instruction as to the use and deployment of information and ICT.



5. RISK ASSESSMENT

This chapter provides guidance about reasonable numbers of personnel to be EFA trained.

In renewable energy installations there are Normally Unmanned Installations (NUI) such as wind turbines; Manned Installations (MI) like Offshore Support Platforms (OSPs) and fixed building structures, which will require different FA measures.

The following factors need to be considered¹:

- 1) The nature of work activities performed at the site
- 2) Number of people on site
- 3) Project duration
- 4) Transportation options and availability
- 5) Transportation infrastructure
- 6) Geography
- 7) Climate
- 8) Security
- 9) Characteristics of the working population (e.g. age profile, gender mix, migrant status, etc.)

In general, in a high-risk situation, basic and enhanced FA as well as paramedic support may need to be immediately available. In a medium risk situation, basic FA should be immediately available with Enhanced FA available within a defined time, which is to be determined by the employer. In a low risk situation, time to provide Enhanced FA may be prolonged. However, health related considerations alone, may be the driver for maintaining a heightened Enhanced FA readiness.

In order to decide on the appropriate degree of FA-measures based on the risk assessment it is imperative to take company-work-specific characteristics into account. The duty of care ultimately lies with company management.

Employers can in justified cases and where appropriate deviate from the measures recommended in this document, whenever an equally effective alternate measure has been implemented.

¹ IRHC Institute for Remote Healthcare for Energy and associated Maritime activities



6. NON-PERMANENT MANNED INSTALLATION

In general, each location and activity should be subject to its own medical risk assessment. The following table shows an example of the output of a medical risk assessment and the recommended ratio of personnel with EFA-training according to the level of risk depending on type of activity and work location.

Level of risk depending on type of activity and work location	Number or ratio of personnel with EFA-training		
High <ul style="list-style-type: none"> • (De)commissioning work • Large component replacement • New installation work • Replacing rotors • Working with cranes • Working under stress 	2 EFA	2:10 ratio EFA	2:10 ratio EFA
Medium <ul style="list-style-type: none"> • Scheduled work • Maintenance work • Minor installation work 	1 EFA	2 EFA	2:10 ratio EFA
Low <ul style="list-style-type: none"> • Normal inspection work • Operation monitoring 	0 EFA	1 EFA	2 EFA
	<4	4-10	>10
	Number of persons on a non-permanently manned offshore/onshore renewable energy installation		

Table 8-1 - (Example of) Risk Assessment with recommended ratio of EFA-personnel for a non-permanent manned renewable energy installation

7. MANNED INSTALLATION

Manned installations, e.g. supply ships, transformer and residence platforms, normally offer various additional FA-equipment or facilities and special rescue personnel, e.g. paramedic support.

If, in principle, an increased level of risk exists (see preceding table 1) or at the locations above, many workers are present for prolonged periods more highly qualified professional emergency responders and fixed equipment should be allocated.

The emergency capabilities of co-located assets should be considered e.g. other manned platforms, oil and gas platforms.



8. ORGANISATIONAL MEASURES

It is the employer's duty to ensure, according to the specific national regulations, coordination between all parties and participants, especially between the company physician, safety responsible FA-personnel, onsite rescuer personnel and employee representatives.

This also includes First Aid rendered through external sources, such as public rescue services, emergency control centres and medical teleconsultation, as commissioned by the employer.

9. EFA-EQUIPMENT - PERSONAL RESCUE BAG FOR EFA

This standard recommends work-team-related special EFA-bags are issued containing the following items:

- 1) Automated External Defibrillator (AED) according to national best practice
- 2) Bag valve mask incl. accessories, national best practice airway devices e.g.
 - a. laryngeal tubes (sizes. 4/5)
 - b. supraglottic airway device
 - c. oropharyngeal tube
 - d. manual suction device
- 3) Equipment for medical teleconsultation
- 4) Pulse oximeter for heart rate monitoring
- 5) Trauma pressure dressing, haemostatic agents/dressings, Tourniquet
- 6) Eyewash fluid
- 7) Medications e.g. analgesic, cooling gel

The equipment supplied and used by the instructors and Course Participants (Delegates) shall follow and comply with relevant national legislation and the appropriate guideline standards.

The following additional EFA equipment will also be recommended on site:

- 1) Splint material
- 2) Cervical immobilizer and stretcher
- 3) Blanket and/or chemical active warming blanket

For drills and exercises e.g. during mandatory breaks or planned tutorials (see section 'Drills and Exercises' in this annex):

- 1) Training dummy (e.g. for ventilation, laryngeal tubes, AED use, immobilization)
- 2) Suitable media for support (e.g. videos)



10. DRILLS AND EXERCISES

Frequent practice of EFA competencies will ensure Course Participants' (Delegates') capabilities are maintained. All refresher EFA training is recommended to be combined with further training and drills.

Employers are encouraged to focus on practice-oriented training, while addressing offshore/onshore renewable energy installations and specific scenarios therein. For example, drills and exercises should where possible, be carried out at the workplace e.g. WTG nacelle.

To supplement the training, local monthly small-scale exercises are recommended with content and participants altering regularly to ensure all personnel and scenarios are covered during a defined calendar period, nominally 12 months.

Table top and live exercises with external emergency services should be conducted regularly. The timing will be determined by the emergency services. As a guide, a table top every 6 months with a live exercise every 12 months is recommended.