GLOBAL WIND ORGANISATION

TRAINING STANDARD

Enhanced First Aid (EFA)
(Onshore/Offshore)

Version 1
October 2019
# GWO ENHANCED FIRST AID TRAINING STANDARD V01

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10. Drills and Exercises

1 ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AED</td>
<td>Automatic External Defibrillator</td>
</tr>
<tr>
<td>AHA</td>
<td>American Heart Association</td>
</tr>
<tr>
<td>ANSI</td>
<td>American National Standards Institute</td>
</tr>
<tr>
<td>AS/NZS</td>
<td>Australia and New Zealand Standard</td>
</tr>
<tr>
<td>BEFAR</td>
<td>Basic Safety and Enhanced First Aid Training Refresher</td>
</tr>
<tr>
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<td>Basic Safety Training</td>
</tr>
<tr>
<td>BSTR</td>
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<tr>
<td>CO2</td>
<td>Carbon Dioxide</td>
</tr>
<tr>
<td>CPR</td>
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<td>CSA</td>
<td>Canadian Standards Association</td>
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</tr>
<tr>
<td>EN</td>
<td>European Standards</td>
</tr>
<tr>
<td>ERC</td>
<td>European Resuscitation Council</td>
</tr>
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<td>GWO</td>
<td>Global Wind Organisation</td>
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<td>WTG</td>
<td>Wind Turbine Generator</td>
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# 2 Terms and Definitions

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<td><strong>October 2018</strong></td>
<td></td>
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<td>Version</td>
<td>Description of changes</td>
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<td>First Edition</td>
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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 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 Steering Committee.
5 GENERAL REQUIREMENT TO GWO ENHANCED FIRST AID

The Enhanced First Aid offers two options to attend the training - see below figure 5-1. 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) 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 Delegates receive both a FA(R) and EFA(R) certificate

Delegates can join the main EFA training without prior basic FA training

The Enhanced training EFA or EFAR includes all elements of the FA(R) training module

At the end of the training the Delegates receive both a FA(R) and EFA(R) certificate

5.1 Target group

Personnel who will be working in the wind industry or related fields, and who will have duties to fulfil in a wind turbine environment, as well as usually being in physical contact with a wind farm environment or an offshore wind structure.

Personnel that is 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 3 - EFA Guideline: Recommendations has been developed to assist employers in determining who and how many should take the training.
5.2 Aims and strategic objectives

The EFA Training shall enable 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 GWO EFA training 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 EFA 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 EFA are met the Training Provider may choose to incorporate delivery of other similar certified training or cancel particular elements.

5.4 Legal requirements

The Training Provider shall identify whether national legislation sets additional requirements for enhanced first aid, or prohibits delivery of certain elements.

If so, the Training Provider shall incorporate these identified requirements in the training.

5.5 Duration and organisation of EFA Module

The total contact time for completing the enhanced first aid training standard is estimated to be 24 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 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.

<table>
<thead>
<tr>
<th>Modules</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced First Aid</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

Table 5-6 - Duration of the GWO Enhanced first aid Module
<table>
<thead>
<tr>
<th>Contact time</th>
<th>8 hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total training day</td>
<td>10 hours</td>
</tr>
</tbody>
</table>

Table 5-7 - 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 EFA training 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 Delegate is only allowed to attend a refresher course in the EFA Training prior to the date of expiry on the current certificate or training records.

If a certificate or training record is expired, the 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.

<table>
<thead>
<tr>
<th>Course/Modules</th>
<th>Certificate Validity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enhanced First Aid</td>
<td>24 months</td>
</tr>
</tbody>
</table>

Table 5-6 - Validity Period of EFA Certificate

### 5.7 Delegate prerequisites for the EFA

All personnel participating in the enhanced first aid shall be medically fit and capable of fully participating.
Training providers shall have a procedure that requires Delegates 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.

Delegates’ signatures testifying to their medical fitness shall be collected prior to the start of the enhanced first aid course.

Furthermore, Delegates shall have created a personal Delegate profile in WINDA and provide their own WINDA ID prior to completing the EFA training.

5.8 EFA Refresher Training

The GWO EFA training is to be refreshed continuously and regularly within 24 months in a total duration of 2 days supported by relevant drills and exercises ref. Annex 3: EFA Guideline: Recommendations.

5.9 Physical demands

EFA Modules may potentially be physically demanding.

If there is any doubt regarding the medical fitness of any Delegate, the Training Provider shall stop training the 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 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 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 CRITERIA 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 practice e.g. a valid certificate for practicing a pre-hospital functions as medical technician or similar

5) 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 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 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 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 in the country where the training is taking place.

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 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 delegate name or recognize something, as oppose to have 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 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.
<table>
<thead>
<tr>
<th>Knowledge / Remembering</th>
<th>Skills</th>
<th>Attitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><strong>Perception</strong></td>
<td><strong>Receive</strong></td>
</tr>
<tr>
<td>Memory of facts, terminology, rules, sequences, procedures, etc.</td>
<td>Watch instructor and repeat action, process or activity.</td>
<td>Listening to discussions of controversial issues with an open mind.</td>
</tr>
<tr>
<td>Locating knowledge in long-term memory and retrieving relevant knowledge from long-term memory.</td>
<td>Recognizing sounds or pictures that indicate certain functionalities.</td>
<td>Respecting the rights of others.</td>
</tr>
<tr>
<td><strong>Action verbs</strong></td>
<td>Estimate the event of a certain function and be prepared for it.</td>
<td>Listen to others and remember their opinions.</td>
</tr>
<tr>
<td>Arrange, Define, Describe, Find, Identify, List, Name, Outline, Recognize, Relate, Recall, Retrieve.</td>
<td><strong>Action verbs</strong></td>
<td>Be positive and creative to what is being taught.</td>
</tr>
<tr>
<td><strong>Perception</strong></td>
<td>Attempt, Copy, Duplicate, Follow, Organize, Repeat, Sketch, Replicate, Reproduce.</td>
<td>Ask, Be open to, Concentrate, Discuss, Focus, Follow, Listen, Reply, Take part.</td>
</tr>
<tr>
<td><strong>Receive</strong></td>
<td></td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Knowledge / Understanding</th>
<th>Skills</th>
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</thead>
<tbody>
<tr>
<td>2</td>
<td><strong>Set</strong></td>
<td><strong>Respond</strong></td>
</tr>
<tr>
<td>Construct a meaning from instructional messages, including oral, written and graphic communication.</td>
<td>Awareness or knowledge of the ability needed to use the skill.</td>
<td>Completing work assignments with highly respect to the agreement.</td>
</tr>
<tr>
<td>Demonstrating basic understanding of facts and ideas.</td>
<td>Carry out tasks from verbal or written instructions.</td>
<td>Participating in team problem solving activities.</td>
</tr>
<tr>
<td>Explain in your own words the steps of performing a complex task.</td>
<td>Showing eagerness to assemble components to complete a task.</td>
<td>Questions new ideas and concepts in order to fully understand them.</td>
</tr>
<tr>
<td><strong>Action verbs</strong></td>
<td>Knows and acts upon a sequence of steps in a process.</td>
<td>Participate actively and respectful in discussions.</td>
</tr>
<tr>
<td>Classify, Distinguish, Estimate, Explain, Express, Give, Illustrate, Indicate, Locate, Predict, Summarize, Translate.</td>
<td><strong>Action verbs</strong></td>
<td>Showing enthusiasm.</td>
</tr>
<tr>
<td><strong>Set</strong></td>
<td>Access, Build, Complete, Conduct, Execute, Implement, Operate, Perform, Recreate.</td>
<td>Assist, Contribute, Discuss, Present, Question, Report, Respond, Tell, Write.</td>
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<tr>
<td><strong>Respond</strong></td>
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<th>Skills</th>
<th>Attitude</th>
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<tbody>
<tr>
<td>3</td>
<td><strong>Guided response</strong></td>
<td><strong>Value</strong></td>
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<tr>
<td>To use in a new situation.</td>
<td>Follows instructions to build a model. Using a tool after observing an expert demonstrate how to use it.</td>
<td>Demonstrates belief in the company described process. Shows the ability to solve problems.</td>
</tr>
<tr>
<td>Solving problems by applying acquired knowledge, facts, techniques and rules in a different way.</td>
<td>Be able to demonstrate an activity to other learners. Can complete the steps involved in the procedure as directed.</td>
<td>Informs management on matters that one feels strongly about.</td>
</tr>
<tr>
<td>Applying a procedure to a familiar or unfamiliar task.</td>
<td><strong>Action verbs</strong></td>
<td>Decide worth and relevance of ideas and tasks.</td>
</tr>
<tr>
<td><strong>Guided response</strong></td>
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<td></td>
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</tbody>
</table>

**Table 7-3 - Taxonomy used by GWO**

**Note:** Higher taxonomy levels exist.
8 ADMINISTRATION AND CERTIFICATION OF ENHANCED FIRST AID MODULES

8.1 Administrative arrangements

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

8.2 Delegate performance assessment

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 Delegate Assessment Form (see annex 1) and adhere to it, accordingly, with a high focus on evaluating the Delegate’s practical skills.

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

The Delegate Assessment Form (or adaption) is a final evaluation tool for the instructors to assess 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 Delegate in guiding them to success and it also serves as supporting documentation if a Delegate passes or fails the Module. If a Delegate fails to meet the demands of the EFA module, they shall attend a new EFA Module.

Training Provider may adapt the Delegate Assessment Form to other media. Training Providers shall have a documented procedure in place for dealing with 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) Delegate’s WINDA ID
2) Course code (as shown in table 8-3)
3) Course completion date
8.4 Training Providers own Records and Certificates issue

The Training Provider shall in accordance with the criteria for Training Provider maintain own records of 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 delegate WINDA id.

9 MODULE - ENHANCED FIRST AID

9.1 Aims and objectives of the EFA Module

The aim of the module is to enable the 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 GWO EFA 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.

The EFA 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

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 European Resuscitation Council (ERC) and American Heart Association (AHA) guidelines

3) Identifying and explaining normal function, normal signs and symptoms of serious and minor injuries and illness related to the human body

4) Demonstrating understanding and correct order of management in an emergency situation in a Wind Turbine Generator (WTG) environment

5) Delivering immediate enhanced first aid to stabilise the casualty, to include but not limited to:

   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:

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:

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

9) Preparing the casualty for transfer to nominated evacuation/rescue point, including:

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

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
9.2 Duration of the EFA module

The total contact time for completing this first aid module is estimated to be 24 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 delegates with prior experience to share their experiences related to first aid in a way that is constructive for the entire class.

<table>
<thead>
<tr>
<th></th>
<th>Maximum duration per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact time</td>
<td>8 hours</td>
</tr>
<tr>
<td>Total training day</td>
<td>10 hours</td>
</tr>
</tbody>
</table>

*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).

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9.3 Equipment for the EFA 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.

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9.4 EFA Time Table

The order in which the elements of this EFA 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.
<table>
<thead>
<tr>
<th>Lesson</th>
<th>Element</th>
<th>Approx. Duration</th>
</tr>
</thead>
</table>
| 1      | Introduction | 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 (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  |         | 25 min.         |
| 3      | Anatomy | 3.1 Life conditions for the human body  
3.2 Structure, functions and signs - the human body  
3.3 Serious and minor illness - signs, symptoms, and function  
3.4 Understanding of personal hygiene |
| TOTAL  |         | 50 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  |         | 100 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": Critical bleeding  
5.4 A: Airway  
5.5 B: Breathing  
5.6 C: Circulation  
5.7 Secondary Survey  
5.8 D: Disability  
5.9 E: Environment/Exposure  
5.10 Psychological First Aid |
| TOTAL  |         | 450 min         |
| 6      | Pain management and further possible medication | 6.1 Application algorithm  
6.2 Further possible medication |
| TOTAL  |         | 45 min.         |
### 9.5 Detailed description of the EFA Module

The learning outcomes specified for EFA 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 Delegates the needed awareness of the course content and the facilities involved in order to ensure that all Delegates are aware of what to expect and what is expected of them during the course.

After this lesson, Delegates will be aware of the following:

1) Safety instructions and emergency procedures
2) Facilities
3) Introduction
4) Scope and main learning objectives
5) On-going assessment (Delegate Assessment Form)
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 in the localities the Delegates can be expected to be located during the course
ELEMENT 1.2 - FACILITIES

The Instructor shall explain:

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

INTRODUCTION

The Instructor shall give:

1.2.2 A short introduction, including their backgrounds as instructors

Delegates shall give:

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

The Instructor shall explain:

1.2.4 The programme of the EFA Module, including breaks and meal times

ELEMENT 1.3 - SCOPE AND MAIN LEARNING OBJECTIVES

The Instructor shall explain:

1.3.1 Scope and main objectives of this EFA Module

ELEMENT 1.4 - ON-GOING ASSESSMENTS (DELEGATE ASSESSMENT FORM)

The Instructor shall explain:

1.4.1 1.5.1 The reasons for the on-going assessment
1.4.2 1.5.2 GWO 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 basic and enhanced First Aid
1.5.3 Chain of Survival
Lesson 2 - RISKS/HAZARDS/LEGISLATION

25 min.

The aim of this lesson is to give the Delegates the needed awareness and to inform them of the relevant risks/hazards/legislation and demands in order to ensure their responsibilities and rules that apply to EFA.

To successfully complete this lesson, Delegates shall be able to:

1) Distinguish and explain risks and hazards relating to remote areas with dangerous locations/tasks
2) Explain various First Aid guidelines (e.g. ERC and AHA) in the context of (Enhanced) First Aid in a WTG environment and emergency plans
3) Summarize national legislation relevant to (Enhanced) First Aid
4) Recognize global legislation relevant to (Enhanced) First Aid

ELEMENT 2.1 - RISKS AND HAZARDS

The Instructor shall:

2.1.1 Lead a group discussion about risks and hazards involved in an incident relevant for job functions within the wind industry: Difficulties in Management of accidents/emergencies/survival in remote areas
2.1.2 Lead a group discussion about dependency on site organisation, types of activity, work location and personnel
   a. Onshore
   b. Offshore
   c. Remote areas in general

ELEMENT 2.2 - FIRST AID GUIDELINES AND EMERGENCY PLANS

The Instructor shall:

2.2.1 Explain basic Life Support guidelines such as from ERC and AHA
2.2.2 Explain various emergency plans of companies, depending on national regulations

ELEMENT 2.3 - NATIONAL LEGISLATION

The Instructor shall:

2.3.1 Explain applicable legislation
2.3.2 Explain legislative requirements
2.3.3 Explain legal responsibilities
2.3.4 Explain the role of Enhanced First Aid in the industry
Note: These are dependent on planned activities/operation areas of the delegates

ELEMENT 2.4 - GLOBAL LEGISLATION

The Instructor shall explain:

2.4.1 Explain the differences in national regulations between countries
2.4.2 Explain applicable legislation
2.4.3 Explain legal responsibilities
2.4.4 Explain the responsibility of entrepreneur and employee for rescue and first aid
2.4.5 Explain the relevance of legislative and normative regulations

Lesson 3 - ANATOMY

50 min.

The aim of this lesson is to give the Delegates knowledge and skills regarding the human body. Delegates will be able to identify and explain normal signs and symptoms of major and minor injuries and illness related to the human body.

To successfully complete this lesson, Delegates will have the knowledge in the following areas and be able to:

1) Understand the life conditions for the human body
2) Understand the structure, functions and signs of the human body
3) Apply knowledge and skills to detect abnormal signs, symptoms and functions of serious and minor injuries
4) Apply knowledge and skills to detect abnormal signs and symptoms of serious and minor illness related to the human body
5) Recognize the importance of personal hygiene

ELEMENT 3.1 - LIFE CONDITIONS FOR THE HUMAN BODY

The Instructor shall:

3.1.1 Explain 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

ELEMENT 3.2 - STRUCTURE, FUNCTIONS AND SIGNS - THE HUMAN BODY
The Instructor shall:

3.2.1 Show examples of and explain vital systems of the human body:
   a. Nervous system
   b. Respiratory system
   c. Circulatory system
   d. Other systems

3.2.2 Nervous system
   a. Anatomy of the nervous system
   b. Structure, functions and normal signs
   c. Threats to the nervous system

3.2.3 Respiratory system
   a. Anatomy of the respiratory system
   b. Structure, functions and normal signs
   c. Threats to the respiratory system

3.2.4 Circulatory system
   a. Anatomy of the circulatory system
   b. Structure, functions and normal signs
   c. Threats to the circulatory system

3.2.5 Other systems and vital organs of the human body
   a. Anatomy of the vital organs
   b. Structure and functions
   c. Threats to the vital organs

ELEMENT 3.3 - SERIOUS AND MINOR INJURIES - SIGNS, SYMPTOMS, AND FUNCTION

The Instructor shall:

3.3.1 Explain and demonstrate serious injuries
   a. Nervous system
   b. Respiratory system
   c. Circulatory system
   d. Other systems and organs

3.3.2 Explain and demonstrate minor injuries
   a. Nervous system
   b. Respiratory system
   c. Circulatory system
d. Other systems

ELEMENT 3.4 - UNDERSTANDING OF PERSONAL HYGIENE

The Instructor shall:

3.4.1 Explain personal Hygiene
   a. As a first Aider
   b. Protection and use of barriers (e.g. masks, gloves) in emergency situations

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

100 min.

The aim of this lesson is to give the 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, 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
2) Perform skills to take FA-measures with regard for personal protection
3) Show knowledge about core aspects of psychological care in first aid situations
4) Demonstrate understanding and skills to approach and manage different emergency situations
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
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
7) Conduct proper emergency calls in a remote situation
8) Distinguish and use of the adequate measures given by the chain of survival
9) Transfer understanding of functions and support from Emergency Rescue Teams in WTG environments
10) Use clear communication in a team setting
11) Administer Enhanced First Aid via medical teleconsultation

ELEMENT 4.1 - SAFETY AWARENESS IN AN EMERGENCY SITUATION

The instructor shall lead a discussion on:
4.1.1 Appropriate safety behavior 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 emergency situations
4.1.4 Safety and personal protection for all persons involved in an accident
4.1.5 The core aspects of psychological care in first aid situations (e.g. colleagues, loneliness, unusual emergency situations)

**ELEMENT 4.2 - MANAGEMENT OF AN INCIDENT**

The Instructor shall:

4.2.1 Explain and demonstrate how to follow an efficient and correct First Aid structure
4.2.2 Explain and demonstrate the analysis and management of an incident
4.2.3 Explain and demonstrate different emergency situations in the wind industry
4.2.4 Explain and demonstrate call for help - challenges onshore
4.2.5 Explain and demonstrate call for help - challenges offshore
4.2.6 Explain and demonstrate moving or not moving a casualty in different emergency situations (risks of e.g. fire, water versus deteriorating injuries)
4.2.7 Explain and demonstrate how to move and place a casualty (depending on injuries)
4.2.8 Explain and demonstrate how to move and place a casualty in the recovery position

Delegates shall **explain** and **demonstrate**:

4.2.9 How to follow an efficient and correct First Aid structure
4.2.10 Explain and demonstrate the analysis and management of an incident
4.2.11 Explain and demonstrate different emergency situations in the wind industry
4.2.12 Explain and demonstrate call for help - challenges onshore
4.2.13 Explain and demonstrate call for help - challenges offshore
4.2.14 Explain and demonstrate how to move a casualty with two First Aiders
4.2.15 Explain and demonstrate how to move a casualty alone

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

The Instructor shall:

4.3.1 Explain functions of Emergency Rescue Teams (internal onsite or external as part of the chain of survival)
Lesson 5 - LIFESAVING AND ENHANCED FIRST AID USING PRIMARY AND SECONDARY SURVEY

450 min.

The aim of this lesson is to give the Delegates knowledge, skills and steps to follow a methodical sequence to identify and treat life threatening time critical injuries and illnesses. 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 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). 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, Delegates shall be able to:

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

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

The 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" CRITICAL BLEEDING

The Instructor shall explain and demonstrate:

5.3.1 Haemostasis of Critical/Catastrophic external hemorrhage:
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 hemorrhage 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 Adults and children
5.4.6 Placing of a casualty in the recovery position (lying) and use of the rescue blanket

The Delegates shall practise and demonstrate:

5.4.7 Checking airways
5.4.8 Response and slowdown of casualties
5.4.9 Removal of occluding objects
5.4.10 Recovery position - single First Aider
5.4.11 Recovery position - two First Aiders

ELEMENT 5.5 - B: BREATHING - CARDIOPULMONARY RESUSCITATION (CPR)
The Instructor shall **explain** and **demonstrate** facilitation of breathing:

5.5.1 Casualty position needed to facilitate breathing
5.5.2 Casualties not breathing, unresponsive
5.5.3 Cardiopulmonary Resuscitation (CPR) through the use of training dummies:
5.5.4 Reasons for being unresponsive and not breathing
5.5.5 Threats
5.5.6 Performing CPR on adults - single First Aider correct use of AED and ventilatory equipment
5.5.7 Performing CPR on adults - two First Aiders correct use of AED and ventilatory equipment
5.5.8 The capabilities and the different technical specifications of AEDs
5.5.9 AED safety procedures including environment conditions (wet, metallic)
5.5.10 Correct treatment of a casualty who requires ventilatory support including:
   a. Use of a pocket face mask
   b. Use of a bag valve mask
   c. Use of suction
5.5.11 Correct treatment of a casualty with an obstructed airway using the following national best practice airway management devices (according to country/company regulations):
   a. Oropharyngeal tube (Guedel) and/or
   b. Supraglottic airway and/or
   c. Laryngeal tubes (sizes 4/5)
   d. Bag valve mask resuscitation
   e. Mouth-mask resuscitation (pocket face mask)
   f. Placing the laryngeal tube and/or supraglottic airway

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
   b. Mouth-mask resuscitation (pocket face mask)
   c. Laryngeal tube and/or supraglottic airway
5.5.15 Reanimation with correct use of resuscitation equipment and help of medical teleconsultation, enhanced using an AED as well as inserting supraglottic airway and/or the laryngeal tube (2 care-giver method)

**Note:** Resuscitation According to the European Resuscitation Council Guidelines for Resuscitation

**ELEMENT 5.6 - C: CIRCULATION**

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

- 5.6.1 Circulation - Assessment techniques
- 5.6.2 Skin colour
- 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 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

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 Delegates shall **practice** and **demonstrate:**

- 5.6.17 First Aid when a casualty is bleeding internally
- 5.6.18 Recurring surveys
- 5.6.19 Identify and treat shock (see 5.5.6)

The Instructor shall **explain** and **demonstrate:**
5.6.20 Shock
5.6.21 Reasons for shock
5.6.22 Types of shock
5.6.23 Threats
5.6.24 Recurring surveys
5.6.25 Use of advanced First Aid equipment
5.6.26 First Aid to shock

The Delegates shall **practice** and **demonstrate**:

5.6.27 Use of advanced First Aid equipment
5.6.28 First aid treatment of shock

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

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

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

5.6.36 Taking care of the casualty / psychological FA-techniques
5.6.37 Contacting professional rescue personnel nearby
5.6.38 Using medical teleconsultation services for advice on pain management and medication (ref. lesson 6)

The Delegates shall **explain and practise**:

5.6.39 Assessment of stroke following FAST schema (see 5.6.7.4)
5.6.40 Continuous monitoring of casualty in cases of deteriorated disorders
5.6.41 Early use of medical teleconsultation services

**ELEMENT 5.7 - SECONDARY SURVEY**

The Instructor shall **explain**:
5.7.1  The general conditions of secondary survey using the A-B-C-D-E - principle without "C"

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

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

**ELEMENT 5.8 - D: DISABILITY**

**CONSCIOUSNESS**

The Instructor shall **explain** and **demonstrate** 3 stages of consciousness:

- 5.8.1  Conscious with adequate reactions to questions and situations, alert
- 5.8.2  Inappropriate behavior and reactions, but awake (e.g. after stroke, drugs etc.)
- 5.8.3  Unconscious without any reactions, unresponsive

The Delegates shall be able to:

- 5.8.4  Distinguish the 3 stadiums of Consciousness
- 5.8.5  Perform adequate FA measures

**DAMAGES AND POISONING THROUGH CONTACT WITH CHEMICAL / BIOLOGICAL AGENTS**

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

- 5.8.6  Assessment of different reactions of the body
- 5.8.7  Immediate first aid measures
- 5.8.8  The need of medical teleconsultation for further treatment

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

- 5.8.9  Align with emergency / company physician because of removal/antidote
- 5.8.10 Application of bandages and the use of an eyewash bottle
- 5.8.11 The Delegates shall **perform**:
- 5.8.12 Washing/removal procedure and sterile dressing
- 5.8.13 Application of bandages and the use of an eyewash bottle

**BONE FRACTURES AND INJURIES TO JOINTS/MUSCLES**

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

- 5.8.14  Body check: Examination of the casualty from head to toe (skull, thorax, upper extremities, abdomen, spinal column, hips, lower extremities)
5.8.15 How to take measures to immobilize and perform proper axial, pain-relieving positioning

5.8.16 Rest - Ice - Compression - Elevation (R - I - C - E) method

5.8.17 Serious chest injuries and their management, including the use of chest seals

The Delegates shall recognize and assist:

5.8.18 The use of splints, spineboard and other immobilization/stabilization materials (e.g. pelvic sling)

5.8.19 Positioning with head injuries

ELEMENT 5.9 - E: ENVIRONMENT/EXPOSURE

HYPOTHERMIA/HYPERTERMIA AND HEAT STROKE

The Instructor shall explain:

5.9.1 The stages of hypothermia and hyperthermia and the appropriate measures

5.9.2 The difference between heat exhaustion/heat stroke

5.9.3 The use of active warming blankets

5.9.4 Cooling measures for heat exhaustion/heat stroke

The Delegates shall explain and recognize:

5.9.5 The dangers of hypothermia and how to take appropriate measures

5.9.6 The difference between heat exhaustion and heat stroke

5.9.7 The use of active warming blankets

5.9.8 Drowning and water immersion

The Instructor shall explain:

5.9.9 Stages and threats of water immersion:
   a. Cold shock
   b. Physical incapacitation
   c. Hypothermia
   d. Collapse: just before, during, or just after rescue

5.9.10 First aid depending on the symptoms of the casualty: Continuous monitoring of the casualty with the support of teleconsultation because of possible deteriorating stages

The Delegates shall explain and describe:

5.9.11 Correct actions for those recovered from water immersion
5.9.12 Threats and necessity of medical teleconsultation support

BURNS

The Instructor shall explain and demonstrate:

5.9.13 Cooling measures
5.9.14 Application of a burn dressing

The Delegates shall perform:

5.9.15 Application of a burn dressing

BITE WOUNDS

The Instructor shall explain and demonstrate:

5.9.16 Severe, possible secondary infected bite wounds, e. g. by dogs
5.9.17 Bites for example of bats or raccoons possibly transmitting viral diseases like rabies
5.9.18 Snake bites with toxins

The Delegates shall be able to:

5.9.19 Distinguish different forms / threats of bites
5.9.20 Know importance of companies OHS strategy depending on assessment on site
5.9.21 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
5.10.3 To the surroundings and next of kin

Lesson 6 - PAIN MANAGEMENT AND FURTHER POSSIBLE MEDICATION

45 min.

The overall aim of this lesson is to give the Delegates an understanding of the complexity and restrictions of medical pain relief and the role of clinical governance in the control of medication. Depending on enhanced FA-Equipment (especially drugs for medication on site after release through the emergency-call-physician) EFA can apply
knowledge of legal medication in casualties and administering appropriate medication to the victims.

**Note:** Practical content of equipment for EFA should be supplemented at the request of the company physician, especially application of other medication according to national regulations.

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

1) Master the application algorithm for pain management
2) Administer safe and correct further possible medication via medical teleconsultation

**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

Delegates shall be able to **demonstrate**:

- **6.1.4** Correct management of a casualty in pain including:
  a. Assessment of pain using numerical rating scale for pain
  b. Performance of non-medicinal treatment according to the step-scheme of pain relief
  c. Clarification of prerequisites for the application of medicinal pain relief through the emergency-call physician
  d. Correctly perform the administering of appropriate analgesia via medical teleconsultation (integrated in a WTG-related scenario by using a telecommunication system)

**ELEMENT 6.2 - FURTHER POSSIBLE MEDICATION**

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

- **6.2.1** The general requirements for application of medications in casualties
- **6.2.2** The knowledge of the action and side-effects of medication, as far as available for EFA, e.g. analgesia, and if necessary as well as legal, further possible medications via medical teleconsultation
- **6.2.3** Clarification of prerequisites for the application of medication after release through the emergency-call physician (according to national legislation)
Delegates shall be able to **demonstrate:**

6.2.4 Correct management of medication administering through the use of medical teleconsultation

**Lesson 7 - SCENARIO-BASED TRAINING**

450 min.

The aim of this lesson is to give the Delegates the knowledge and skills to be able to assess, assist and provide the correct Enhanced First Aid in an incident.

To successfully complete this lesson, Delegates shall, through different scenarios, be able to demonstrate:

1) Managing incidents - approach and assessments
2) Correctly assessing, assisting and providing the necessary First Aid in an incident
3) Correct use of First Aid equipment
4) Act as a leader in first aid situations
5) 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

**ELEMENT 7.1 - PRACTICE FIRST AID TECHNIQUES**

The Instructor shall **explain:**

Safety procedures in the training area

Delegates shall **practice** and **demonstrate:**

7.1.1 Safe life - saving First Aid techniques through relevant scenarios according to the Delegate Assessment Form

The Instructor shall ensure that the following topics are covered during scenario-based training:

1) Managing incidents using medical teleconsultation
2) Providing necessary lifesaving First Aid
3) Correct use of First Aid and advanced emergency equipment
4) Knowledge of and skills for AED safety procedures
5) Correct use of an AED and airway management devices

This scenario-based training shall be conducted as group work with one or more Delegates as Enhanced First Aiders, while the other Delegates act as Casualty /
Casualties or Observer / s. Each Delegate shall, as a minimum, act as Enhanced 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.

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

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

ELEMENT 7.2 - DEBRIEFING

The Instructor shall facilitate debriefing - First Aid situations:

7.2.1 Review positive actions observed during exercise
7.2.2 Suggest points for improvement
7.2.3 The Instructor shall facilitate debriefing - complex incidents with several (2-5) casualties in wind turbine working environments
7.2.4 Review positive actions observed during exercise
7.2.5 Suggest points for improvement
Lesson 8 - EVALUATION

15 min.

The aim of this lesson is to enable the Delegates to reflect on and process their learning outcome and key takeaways from the module, aiming to achieve a high learning transfer from the module to his/her way of work. Additionally, the aim is to give the Delegates the opportunity to conduct an open-minded written and oral formative evaluation of the training.

To successfully complete this EFA Module, Delegates must:

1) Show commitment to avoid incidents requiring a rescue operation/First Aid assistance
2) Show commitment to act out this value by demonstrating a pro-active approach and role model behaviour
3) Participate in the formative evaluation of the module in a constructive manner

ELEMENT 8.1 - REFLECTION SESSION

The Instructor shall:

8.1.1 Give the Delegates final feedback on the formal Delegate performance assessment and inform them whether they have passed (failed Delegates must be informed individually prior to the reflection session)
8.1.2 Help the Delegate to do a summative self-evaluation, i.e. mentally overview and assort what is learned, identify key takeaways and bridge the gap between what is learned during the module and applying it in his/her way of work. This can be achieved e.g. by an individual reflection session, question session and/or class discussion
8.1.3 Re-present the overall aims and objectives of the course for the Delegates' comparison on their learning outcome and meeting of their previously stated expectations of the course
8.1.4 Give an overall feedback and feed forward on the Delegates' learning outcome
8.1.5 Motivate the Delegates to avoid incidents requiring rescue/first aid efforts during daily work and demonstrating a pro-active approach and role model behavior

Delegates shall:

8.1.6 Conduct an online or written formative evaluation of the module, as a minimum.

The Instructor shall:

8.1.7 Respond on relevant elements of any oral feedback from the Delegates.

ELEMENT 8.2 - TRAINING RECORDS
The Instructor shall:

8.2.1 Ensure that all Delegates are registered with a personal Delegate profile in WINDA and have provided their WINDA ID to the Training Provider prior to completing the training course.

9.6 Delegate Performance Assessment

Assessment of learning outcomes:

Delegates will be assessed according to the learning outcomes stated in the detailed module description by means of direct observation and supplementary oral questions, where appropriate.

The assessment shall be conducted by practical scenarios based on the WTG environment.

Each 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 Delegate Assessment Form (template provided as Annex 1). The Trainer keeps the Delegate Assessments Forms until the completion/evaluation of the EFA Module.

Training Providers shall have a documented procedure in place for dealing with persons not meeting the stated learning outcomes. If a Delegate fails to meet the demands, they shall attend a new Enhanced First Aid Module.
## ANNEX 1 - DELEGATE ASSESSMENT FORM

<table>
<thead>
<tr>
<th>Topics</th>
<th>Violation of Assessment Measures</th>
<th>0-2 passed 3 failed</th>
<th>Instructor Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scenario Organisation</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aware of personal and group safety at all times</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organises and utilises correct equipment for given scenario</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organises individuals and groups as required</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Scenario Management</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Establishes and maintains control of the exercise scenario at all times</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fully participates in the exercise scenario</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Follows instructions when required</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrates correct and safe First Aid exercise scenario</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Knowledge, skills and understanding</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applies subject knowledge correctly in given scenario</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrates understanding of subject</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivers appropriate first aid measures</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Marks**

<table>
<thead>
<tr>
<th>0-9 Pass</th>
<th>10-27 Fail</th>
</tr>
</thead>
<tbody>
<tr>
<td>PASS: ☐</td>
<td>FAIL: ☐</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Name as in passport</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Delegate WINDA ID</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Course module</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Signature and date</th>
</tr>
</thead>
</table>

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 the training to meet the needs of the EFA module:

1) Torso anatomy dummy
2) Airway model
3) Resuscitation dummies - adult and child (e.g. for ventilation, laryngeal tubes, AED use, immobilisation)
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 practise
8) Bag valve mask incl. accessories, national best practise airway devices e.g. laryngeal tubes (sizes. 4/5), supraglottic airway device, oropharyngeal tube, 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)
18) Stretcher/spineboard

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 assisters 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**

<table>
<thead>
<tr>
<th>Normal/basic First Aider</th>
<th>Enhanced First Aider</th>
<th>Rescue or Medical service Professional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple first aid, no medication</td>
<td>Enhanced first aid, possible use of analgesics / drugs as instructed by the Emergency-call physician</td>
<td>Professional first aid or emergency assistance In an emergency: The use of medication following Emergency-call physician approval</td>
</tr>
</tbody>
</table>

by the Emergency-Call Physician with approval for the use of emergency medication after diagnosis and indication of treatment
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 considered:

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.

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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.

<table>
<thead>
<tr>
<th>Level of risk depending on type of activity and work location</th>
<th>Number or ratio of personnel with EFA-training</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High</strong></td>
<td></td>
</tr>
<tr>
<td>• (De)commissioning work</td>
<td>2 EFA</td>
</tr>
<tr>
<td>• Large component replacement</td>
<td><strong>2:10 ratio</strong> EFA</td>
</tr>
<tr>
<td>• New installation work</td>
<td><strong>2:10 ratio</strong> EFA</td>
</tr>
<tr>
<td>• Replacing rotors</td>
<td></td>
</tr>
<tr>
<td>• Working with cranes</td>
<td></td>
</tr>
<tr>
<td>• Working under stress</td>
<td></td>
</tr>
<tr>
<td><strong>Medium</strong></td>
<td></td>
</tr>
<tr>
<td>• Scheduled work</td>
<td>1 EFA</td>
</tr>
<tr>
<td>• Maintenance work</td>
<td>2 EFA</td>
</tr>
<tr>
<td>• Minor installation work</td>
<td><strong>2:10 ratio</strong> EFA</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td></td>
</tr>
<tr>
<td>• Normal inspection work</td>
<td>0 EFA</td>
</tr>
<tr>
<td>• Operation monitoring</td>
<td>1 EFA</td>
</tr>
<tr>
<td></td>
<td>2 EFA</td>
</tr>
</tbody>
</table>

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 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 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.