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<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>GWO</td>
<td>Global Wind Organisation</td>
</tr>
<tr>
<td>ELT</td>
<td>Entry Level Technician</td>
</tr>
<tr>
<td>BTT</td>
<td>Basic Technical Training</td>
</tr>
<tr>
<td>BST</td>
<td>Basic Safety Training</td>
</tr>
<tr>
<td>ART</td>
<td>Advanced Rescue Training</td>
</tr>
<tr>
<td>PPE</td>
<td>Personal Protective Equipment</td>
</tr>
<tr>
<td>O&amp;M</td>
<td>Operations and Maintenance</td>
</tr>
<tr>
<td>WaH</td>
<td>Working at Heights</td>
</tr>
<tr>
<td>MH</td>
<td>Manual Handling</td>
</tr>
<tr>
<td>FA</td>
<td>First Aid</td>
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</tbody>
</table>

2. Terms and Definitions

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shall</td>
<td>Verbal form used to indicate requirements strictly to be followed in order to conform to this training standard and from which no deviation is permitted</td>
</tr>
<tr>
<td>Should</td>
<td>Verbal form used to indicate that among several possibilities one is recommended as particularly suitable, without mentioning or excluding others, or that a certain course of action is preferred but not necessarily required</td>
</tr>
<tr>
<td>Must</td>
<td>For clarity where the word must is used in this standard it shall have the same meaning as shall</td>
</tr>
<tr>
<td>Recommended</td>
<td>Advised or suggested as good or suitable</td>
</tr>
<tr>
<td>Task specific</td>
<td>Those abilities that allow a candidate for employment to excel in particular job</td>
</tr>
<tr>
<td>Company specific</td>
<td>Training that comes from a company’s operations and business environment.</td>
</tr>
<tr>
<td>Validity</td>
<td>States the length a course is valid for before a participant should renew</td>
</tr>
</tbody>
</table>
3. **SCOPE**

This framework has been developed in response to demand from GWO members to establish a transparent and valid set of knowledge, skills, and abilities for identified entry level technician job titles in the wind industry. This will also enable the industry to recognise already acquired knowledge, skills, and abilities of entry level technicians coming from similar industries and professions.

4. **PURPOSE**

The purpose of this document is to describe the framework for entry level technicians and describes the recommended training requirements for entry level technicians. This framework has been prepared in co-operation between the members of GWO.

As a collective body representing the world’s largest employers in wind, GWO has the necessary scale and insight to provide clear guidance to the industry with reference to identified roles that are carried out by technicians within three core components of the wind energy value chain.

Three entry level technician profiles are identified:

1. pre-assembly
2. installation
3. service (operations & maintenance)

5. **OBJECTIVE**

The goal of this framework is to provide clear routes into the wind industry that both recognises a person’s existing skills and guides them towards the appropriate training for the different job profiles of wind technicians. The GWO Entry Level Wind Technician Framework will establish a transparent and valid set of standardised skills for entry level technician roles in the wind industry.

6. **AIMS AND OBJECTIVES**

The GWO Entry Level Wind Technician Framework shall ensure a comprehensive understanding of entry level requirements. It shall alleviate the continued pressure on costs and resources, reduce bottlenecks in training and provide a stable, competent entry level workforce.

The GWO Entry Level Wind Technician Framework shall reduce recruitment constraints by providing fully pre-qualified entry level technicians. It will decrease training duplication and therefore reduce the pressure on both recruitment and training.

7. **FRAMEWORK OVERVIEW**

The standardised GWO Entry Level Technician Framework describes a set of recommended training that will be accepted by GWO members, with reference to three identified job profiles:
• wind technician; pre-assembly
• wind technician; installation
• wind technician; service (O&M)

Each of the job profiles is accompanied by a list of training standards and modules that GWO members have recommended as necessary. For detailed explanations of the training standard module contents themselves, please visit the GWO website www.globalwindsafety.org.

GWO training standards are clearly marked within the framework. In some cases, additional training, that is currently outside of the GWO standards portfolio, is recommended. For example, for job profiles such as wind technician; service (O&M) and wind technician; installation, employers recommend additional learning outside of GWO Basic Technical Training (BTT), such as bolt tightening and hand tool awareness. These courses are frequently available at existing GWO training centres or as part of employer onboarding packages. In future new GWO standards are expected to cover these generic gaps.

The Framework shows not only the recommended training, but informs the individual / educational establishment of the requirements; pre-requisites; learning objectives and length of each training module. Each job profile consists of recommended, task specific and company specific training. Individual profiles (largely depending on the task specific training) take between 8 and 20 days to complete.

8. TARGET GROUP

The GWO Entry Level Wind Technician Framework is intended for post-school training and educational institutions, and their students who are looking to start a career as wind technicians. The framework may also find use for recognising relevant skills and experience of workers wishing to transition into wind from other industries.

9. WHAT IS A WIND TURBINE TECHNICIAN?

A wind turbine technician, also known as a wind technician, is a broad term for professionals who carry out tasks ranging from assembling, installing, inspecting, servicing, maintaining, operating, and repairing wind turbines. The work is challenging and rewarding.

Working alongside more experienced technicians, many wind technicians are involved in building new wind turbines assisting with the pre-assembly and installation of towers, tower internals, nacelles, electrical systems, hubs and blades. Other entry level wind technicians are assigned to service and maintenance tasks which may include: repair of components and systems, and replacing worn out or malfunctioning components.

For all job tasks, a wind turbine technician must always follow manuals, specifications, bulletins and complete assigned tasks and ensure all work is performed in accordance with industry standards and associated policies/procedures.

Wind turbines are often installed in remote locations onshore and offshore and wind technicians are expected to work in varying temperatures and adverse weather conditions, often far from
home for extended periods of time. Wind technicians must therefore be able to use their skills in this unique environment. They must be capable of climbing ladder systems, often to heights above 80 metres, to reach the turbine nacelle, where the components that generate electricity are located and most tasks are required. Wind technicians must be able to ascend the turbine quickly, and in some territories, using climb assist equipment.

Owing to these factors, wind technicians must be comfortable working in small spaces and at height. Physical fitness is vital for a wind technician.

The main areas of knowledge, skill and ability often required for a wind turbine technician are:

- physical strength and stamina
- ability to climb and work at heights
- attention to detail
- collaboration and teamwork
- mechanical and/or electrical
- basic software, and computer

To perform their work safely, wind technicians use and must be familiar with a variety of personal protective equipment (PPE) such as safety harnesses, clothing, glasses, helmets, and shoes. They need to use a variety of hand and power tools to do their work.

Career pathways and other roles

With experience and further training, the wind technician may progress to carrying out more complex jobs depending on interests and abilities. These include job roles such as; lead technician (installation); lead technician (service); commissioning technician; trouble shooter, high voltage specialist and site supervisor.

There are other non-technician roles that may be granted access to the wind turbine. These will usually be trained to meet the risks using a limited access course or the GWO Basic Safety Training only.

10. WIND TECHNICIAN; PRE-ASSEMBLY

Job profiles, wind technician; pre-assembly

The wind technician: pre-assembly usually carries out a variety of tasks in connection with tower section assembly.

Common tasks for this job profile include working under supervision to:

- assist in the assembly of the tower section
- install cables inside the tower
• assist in the termination of cables inside the tower
• install turning gear
• prepare control systems for the offshore installation
• install component into the tower
• prepare nacelle, tower and blades for installation

Recommended training (entry level), wind technician; pre-assembly

Training has been divided into three distinct areas:
• recommended (advised training to meet the requirements of a wind technician)
• task specific (recommended dependent on the groups of tasks the technician has been recruited for)
• company specific (training provided by a specific company that holds the employment)
• see section 13 for a full overview of each course
11. WIND TECHNICIAN; INSTALLATION

Job profiles, wind technician; installation

The wind technician; installation participates in the installation and mechanical and electrical assembly of a turbine during execution of a project.

Common job tasks for this job profile include working under supervision to:

- solve basic mechanical tasks e.g. principles of bolted and welded connections
- carry out basic installation tasks e.g. main component preparation, pre-assembly and assembly
• use safe working procedures and appropriate personal protective equipment
• prepare and hand over for commissioning

Recommended training, entry level, wind technician; installation

Training has been divided into three distinct areas:
• recommended (advised training to meet the requirements of a wind technician)
• task specific (recommended dependent on the groups of tasks the technician has been recruited for)
• company specific (training provided by a specific company that holds the employment)
• see section 13 for a full overview of each course
### Wind Technician Installation

<table>
<thead>
<tr>
<th>Area</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recommended</td>
<td>BST Wood, Fire, FA, MH</td>
</tr>
<tr>
<td></td>
<td>BTT Mechanical</td>
</tr>
<tr>
<td></td>
<td>BTT Installation</td>
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<tr>
<td></td>
<td>Slinger Signaller</td>
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<td></td>
<td>Bolt Tightening</td>
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<td></td>
<td>Hand Tool Awareness</td>
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<tr>
<td>Task-Specific</td>
<td>Control of Hazardous Energies</td>
</tr>
<tr>
<td></td>
<td>BST Sea Survival</td>
</tr>
<tr>
<td></td>
<td>Lift (LU, LCI, LCIM)</td>
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<tr>
<td></td>
<td>ART (ART-N, ART-H, SART-N, SART-H)</td>
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<tr>
<td></td>
<td>Climb Assist</td>
</tr>
<tr>
<td>Company-Specific</td>
<td>Safe Systems of Work</td>
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<tr>
<td></td>
<td>Documentation Training</td>
</tr>
<tr>
<td></td>
<td>Safety Rules on Construction Sites</td>
</tr>
</tbody>
</table>

Fig 2, Wind technician; installation model
12. WIND TECHNICIAN; SERVICE

Job profiles, wind technician; service

The Wind Technician; Service performs planned (and unplanned) maintenance and replacement of parts, in a safe and professional manner on wind turbines. Detailed records, including of all parts used, must be completed for all work performed. Technicians report to site management communicating any needs and or safety issues that arise and perform preventive maintenance as required.

This role is responsible for maintaining and repairing, as directed, machinery or components used mainly in power generation applications, turbines, and generators. They are not certified to perform work inside any cabinet or on any controller without direct supervision by a certified Electrical Technician.

Common tasks for this job profile include working under supervision to:

• perform planned and unplanned maintenance in a safe and professional manner on wind turbines
• ensure areas in the wind turbines, switch room and O&M building are safe for use after analysing potential electrical or mechanical hazards
• report to site management and communicate needs and or safety issues that arise

Recommended training, entry level, wind technician; service

Training has been divided into three distinct areas:

• recommended (advised training to meet the requirements of a wind technician
• task specific (recommended dependent on the variety of tasks the technician has been recruited for)
• company specific (training provided by a specific company that holds the employment)
• see section 13 for a full overview of each course
Fig 3, Wind technician; service (O&M) model
13. OVERVIEW OF TRAINING COURSES

13.1 GWO BASIC SAFETY TRAINING (BST)

Course overview

Five recommended Global Wind Organisation (GWO) training modules come together to create an introductory standard for the wind industry and provides the initial certifications needed to get started. Durability and validity for these modules is given in the Annex 2.

The GWO Basic Safety Training (BST) Standard includes:

- GWO Fire Awareness
- GWO First Aid
- GWO Manual Handling
- GWO Sea Survival
- GWO Working at Height

Course objective

The BST training enables participants to support and care for themselves and others working in the industry by possessing the knowledge and skills of first aid, working at heights, manual handling, fire awareness, sea survival and in case of an emergency, to be able to evacuate, rescue and provide appropriate first aid to casualties.

Course content

A GWO Basic Safety Training (BST) package includes:

1. GWO Fire Awareness. Covering possible hazards within the wind industry and how to control and mitigate these hazards
2. GWO First Aid. Covering administering safe and effective first aid in the wind turbine industry in accordance with GWO
3. GWO Manual Handling. Covering correctly performing manual handling activities in the wind industry/wind turbine environment
4. GWO Sea Survival. Covering demonstrating sea survival techniques and safe transfer between vessels and installations
5. GWO Working at Height. Covering performing safe and comprehensive basic rescue from height in a remote turbine environment while meeting emergency response requirements for personnel new to the global wind industry
Prerequisites

In order to complete a GWO Basic Safety Training (BST) Package, participants shall be:

- WINDA registered before arriving for the course
- medically fit and capable of fully participating.

Course validity

The validity period is 24 months

13.2 GWO BASIC TECHNICAL TRAINING (BTT) COMBINED

Course overview

GWO BTT is an entry level course that enables participants to perform basic hydraulic, mechanical and electrical tasks in a wind turbine environment under the supervision of an experienced technician. Durability and validity for these modules is given in the Annex 2

Participants completing a GWO Basic Technical Training (BTT) course include the following technical elements.

**Mechanical**

- introduction to mechanical systems
- principle of bolted and welded connections
- use of manual tightening and measuring tools
- hydraulic torque and tension
- gearbox
- braking system
- yaw system
- cooling systems
- lubrications systems

**Electrical**

- introduction to electricity
- electrical components
- sensors
- electrical circuits
- electrical measuring instruments
Hydraulics

- hydraulic introduction
- pumps
- actuators
- valves
- accumulators
- sensors
- pipes, hoses, and connections
- oil and filters
- hydraulic diagrams
- pressure measuring tools

Installation

- introduction to installation
- general procedures for working onsite with installation
- installation environments
- handling and storage
- lifting operations
- main component preparation, pre-assembly and assembly
- principles of mechanical completion
- principles of electrical completion including cable work
- principles of hydraulic completion
- principles of mechanical completion
- principles of operation with external generators
- introduction to handover to commissioning

Course objective

This BTT Training shall enable participants to be able to perform basic hydraulic, mechanical, electrical and installation tasks under the supervision of an experienced technician.

This course will not make the participant a trained person who is allowed to perform hydraulic, mechanical, electrical or installation work without supervision.
Course content

A GWO Basic Technical Training (BTT) course includes;
- GWO BTT – Electrical
- GWO BTT – Mechanical
- GWO BTT – Hydraulics
- GWO BTT - Installation

Prerequisites

In order to complete a GWO Basic Technical Training (BTT) course, participants shall be:
- WINDA registered before arriving for the course
- medically fit and capable of fully participating

Course validity

Validity period does not apply.

13.3 GWO SLINGER SIGNALLER TRAINING

Slinger and signaller personnel have the responsibility of ensuring the safety of all lifting crew members throughout crane and slinging operations. Durability and validity for these modules is given in the Annex 2.

Course overview

Slinger signaller training courses provide participants with the knowledge and skills to safely carry out basic signaller and slinger operations. Participants will become competent in the role of a slinger signaller.

Course objective

Training in accordance with this standard will enable participants to take responsibility to support and care for themselves and others while working with slinger and signalling operations in the wind industry by possessing the required knowledge, skills, and ability to conduct assigned tasks safely and efficiently.

Course content

Participants completing a GWO Slinger Signaller (SS) course are trained in the following:
• introduction to the training
• general theory on slinger signaller
• practical elements

Prerequisites

In order to complete a GWO slinger signaller course, participants shall be:
• WINDA registered before arriving for the course
• medically fit and capable of fully participating.

Course validity

Validity period does not apply.

13.4 GWO CONTROL OF HAZARDOUS ENERGY (CoHE) TRAINING

Course overview

The CoHE training describes training that complements company, turbine, regional and equipment specific CoHE trainings by providing a common basis for CoHE trainings that are recommended by the members of GWO but does not automatically qualify the participants. These nominations can only be granted according to company specific trainings, rules and procedures along with national and regional legislation. Durability and validity for these modules is given in the Annex 2.

Course objective

The GWO CoHE Standard training will enable participants to manage the risks related to hazardous energies in the wind industry and act safely when in the vicinity of hazardous energies or when working on systems and equipment containing hazardous energies.

• basic safety: including Lock out-Tag out, ordinary person, mechanical safety
• electrical safety: including PPE, safe working practices, testing and isolation, stored energy
• pressure fluid safety: including requirements and roles, hazards, PPE, safe working practices, response to incidents

Course content

The standard comprises of three modules:
• Basic Safety CoHE.
• Electrical Safety.
• Pressure Fluid Safety.

Prerequisites

In order to complete a CoHE course, participants shall be:

• WINDA registered before arriving for the course
• medically fit and capable of fully participating.

Course validity

Validity period does not apply.

13.5 GWO LIFT TRAINING

The GWO Lift Standard is a generic training standard comprised of three modules that covers all types of lifts in wind turbines. Its generic nature emphasises the need to applying relevant specific manuals and guides when using and working on lifts. Durability and validity for these modules is given in the Annex 2.

Course overview

1. The Lift Standard’s modules are a mix of theoretical and practical elements focusing on developing the needed knowledge, skills, and abilities for a wind employee to operate, commission, inspect, install, maintain, and evacuate a lift in a WTG.

2. The Lift Standard modules have a generic focus in relation to different lift types and systems. It is the training participants’ responsibility to follow guidance in specific relevant manuals is emphasised as a basic part of the learning objectives in these modules.

Course objective

Training in accordance with the Lift Standard will enable participants to take responsibility to support and care for themselves and others while operating and working on a lift in the wind industry.

The Lift User Module training is aimed at users of lifts in the wind industry.

The Lift Commission and Inspection Module training is aimed at inspection and testing of lifts in the wind industry after pre-assembly in the WTG.

The Lift Commission, Inspection, Installation and Maintenance Module is aimed at doing commissioning, inspection, installing, and maintaining work on a lift in a WTG.
These aims and objectives are fulfilled when the participants possess the required knowledge, skills, and abilities to conduct assigned tasks and operations in a lift safely and efficiently.

Course content

The Lift Standard contains the three modules:

- Lift User Module (LU)
- Commission and Inspection Module (LCI)
- Commission, Inspection, Installation and Maintenance Module (LCIIM)

Prerequisites

All participants participating in the Lift Standard training shall be:

- WINDA registered before arriving for the course
- medically fit and capable of fully participating

Course validity

Validity period does not apply.

13.6 GWO ADVANCED RESCUE (ART) TRAINING

Course overview

The GWO Advanced Rescue Training (ART) Standard elevates the self-reliance of wind personnel and provides the skills and knowledge to successfully transport a colleague who cannot self-evacuate to an assembly point until professional emergency responders arrive.

The training is 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.

GWO ART aims to control the risks associated with rescue operations conducted in and from wind turbines to ensure more efficiency in the industry.

This training is the GWO ART Combined which includes all four modules covering rescue and single rescuer in the hub, spinner, inside blades, nacelle, tower and basement sections of a wind turbine. Durability and validity for these modules is given in the Annex 2.

Course objective

Participants completing a GWO Advanced Rescue Training (ART) Combined course will be able to;
• safely access the hub, spinner, inside blade, nacelle, tower and basement section of a wind turbine to get to an injured person
• perform entry-type casualty rescue operations in a wind turbine generator
• correctly use industry standards rescue equipment and methods
• understand and demonstrate rescue techniques that exceed those of GWO Working at Height

Course content

A GWO Advanced Rescue Training (ART) Combined course includes the following four modules:
• Hub, Spinner and Inside Blade Rescue (HSIBR)
• Nacelle, Tower and Basement Rescue (NTBR)
• Single Rescuer: Hub, Spinner and Inside Blade Rescue (SR:HSIBR)
• Single Rescuer: Nacelle, Tower and Basement Rescue (SR:NTBR)

Prerequisites

In order to complete a GWO Advanced Rescue Training (ART) Combined course, participants must:
• hold valid and in-date GWO Working at Height, GWO First Aid and GWO Manual Handling certificates
• be WINDA registered before arriving for the course
• be medically fit and capable of fully participating.

Course validity

Validity period 24 months.

13.7 CLIMB ASSIST

Note. The climb assist course is currently being scheduled for future release by GWO

Course overview

The objective of the course is to educate participants on fall protection standards and techniques, as well as the risks associated with working at height. The goal of a climb assist course is to provide participants with the necessary knowledge and skills to be competent and confident tower technicians. As climb assist technology is used in specific territories,
such as the USA, applicability of this training to a territory should be checked before commencement.

13.8 CRANE, CHAIN AND HOIST

Note. The Crane, Chain and Hoist course is currently being scheduled for future release by GWO.

Course overview

The aim of this training is to ensure that the wind industry personal can safely operate common types of fixed cranes and hoist in the wind industry up to a load moment of 8 Tm (ton metres). This course follows on from manufacturers and other relevant manuals.

13.9 BOLT TIGHTENING

Note. The Bolt Tightening course is currently being developed by GWO and will be released in 2023.

Course overview

The overall purpose of the course is to provide practical training in bolt tightening and shimming techniques and tools. Through the use of different types of exercises performed individually and/or in small groups the ability to safely and competently perform torquing and tensioning of bolts as well as shimming are achieved.

13.10 HAND TOOL AWARENESS

Note. The Hand Tool Awareness course is currently being scheduled for future release by GWO.

Course overview

The overall purpose of the course is to provide practical training for the hand tools. Through the use of different types of exercises (performed as individuals and/or in small groups) the ability to safely and competently inspect, prepare, use and maintain different types of tools are achieved.
13.11 COMPANY SPECIFIC

Employees entering into the wind industry will often be expected to complete company specific courses. Common courses include (but are not limited to):

- safety rules on construction sites
- documentation training
- safe systems of work

14 COMPARISON TO OTHER RELEVANT INDUSTRIES

Wind industry manufacturers recognise that similar industries provide applicants with similar roles knowledge, skills, and abilities to succeed within the wind industry. Similar industries identified include (but are not limited to):

- marine industries
- mining industries
- military industries
- electrical substations
- oil & gas industry
- chemical, industrial, power plants

15 COLLEGE, TECHNICAL COLLEGE AND UNIVERSITY

Many colleges and educational institutes now provide courses within the wind industry. This framework provides these establishments with a direction (advised by the leading manufacturers) to assist them in ensuring their students are fully informed, prepared and trained to enter the industry within their chosen roles.

16 MERIT SYSTEM

GWO’s merit system is designed for employers who wish to gain merit for groups of technicians with prior, similar training. Through a gap analysis framework employers may document prior training against the GWO training standards and award merited training records.

See here for more on merit system globalwindsafety.org/trainingstandards/existing-training
## ANNEX 1, TRAINING MODEL OVERVIEW

### Wind Technician Pre-assembly
- **BST**: WaH, FA, FAW, MH
- **BTT**: Mechanical
- **BTT**: Installation
- **Slinger Signaller**
- **BST Sea Survival**
- **Lift (LU)**
- **ART (ART-N, ART-H, SART-N, SART-H)**
- **Climb Assist**

### Wind Technician Installation
- **BST**: WaH, FA, Fire, MH
- **BTT**: Mechanical
- **BTT**: Installation
- **Slinger Signaller**
- **Bolt Tightening**
- **Hand Tool Awareness**
- **Control of Hazardous Energies**
- **BST Sea Survival**
- **Lift (LU, LCI, LCIIM)**
- **ART (ART-N, ART-H, SART-N, SART-H)**
- **Climb Assist**

### Wind Technician Service (O&M)
- **BST**: WaH, FA, FAW, MH
- **BTT**: Mechanical, Hydraulic, Electrical
- **Bolt Tightening**
- **Hand Tool Awareness**
- **Control of Hazardous Energies**
- **Lift (LU, LCI, LCIIM)**
- **Slinger Signaller**
- **BST Sea Survival**
- **ART (ART-N, ART-H, SART-N, SART-H)**
- **Climb Assist**

### Company Specific
- **Safe Systems of Work**
- **Documentation Training**
- **Safety Rules on Construction Sites**
# ANNEX 2 STANDARDS & MODULES DURATION & VALIDITY

## BASIC SAFETY TRAINING (BST)

<table>
<thead>
<tr>
<th>Modules</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Aid</td>
<td>7 hours</td>
</tr>
<tr>
<td>Manual Handling</td>
<td>3 hours 35 minutes</td>
</tr>
<tr>
<td>Fire Awareness</td>
<td>3 hours 20 minutes</td>
</tr>
<tr>
<td>Working at Heights</td>
<td>13 hours 25 minutes</td>
</tr>
<tr>
<td>Sea Survival</td>
<td>6 hours 30 minutes</td>
</tr>
<tr>
<td>Working at Heights &amp; Manual Handling Combined</td>
<td>14 hours 50 minutes</td>
</tr>
</tbody>
</table>

### Validity

<table>
<thead>
<tr>
<th>Modules</th>
<th>Certificate Validity (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Aid</td>
<td>24</td>
</tr>
<tr>
<td>Manual Handling</td>
<td>24</td>
</tr>
<tr>
<td>Fire Awareness</td>
<td>24</td>
</tr>
<tr>
<td>Working at Heights</td>
<td>24</td>
</tr>
<tr>
<td>Sea Survival</td>
<td>24</td>
</tr>
<tr>
<td>Working at Heights &amp; Manual Handling Combined</td>
<td>24</td>
</tr>
</tbody>
</table>

## BASIC TECHNICAL TRAINING (BTT)

<table>
<thead>
<tr>
<th>Modules</th>
<th>Duration (*effective time) As stand-alone training</th>
<th>Duration (*effective time) As part of combined training</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanical</td>
<td>13 hours and 10 minutes</td>
<td>13 hours and 10 minutes</td>
</tr>
<tr>
<td>Electrical</td>
<td>8 hours and 45 minutes</td>
<td>8 hours and 20 minutes</td>
</tr>
<tr>
<td>Hydraulic</td>
<td>7 hours and 55 minutes</td>
<td>7 hours and 30 minutes</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td><strong>29 hours</strong></td>
</tr>
<tr>
<td>Modules</td>
<td>Duration (*Effective time) As stand-alone training</td>
<td>Duration (*Effective time) As part of combined training</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>---------------------------------------------------</td>
<td>--------------------------------------------------------</td>
</tr>
<tr>
<td>Mechanical</td>
<td>13 hours and 10 minutes</td>
<td>13 hours and 10 minutes</td>
</tr>
<tr>
<td>Installation</td>
<td>17 hours and 40 minutes</td>
<td>17 hours and 15 minutes</td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>30 hours and 25 minutes</td>
</tr>
</tbody>
</table>

Validity period does not apply to this training

**ADVANCED RESCUE TRAINING (ART)**

<table>
<thead>
<tr>
<th>Modules</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hub, Spinner and Inside Blade Rescue (HSIBR)</td>
<td>7 hours</td>
</tr>
<tr>
<td>Nacelle, Tower, and Basement Rescue (NTBR)</td>
<td>14 hours</td>
</tr>
<tr>
<td>Single Rescuer: Hub, Spinner and Inside Blade Rescue (SR:HSIBR)</td>
<td>4 hours</td>
</tr>
<tr>
<td>Single Rescuer: Nacelle, Tower and Basement Rescue (SR:NTBR)</td>
<td>4 hours</td>
</tr>
</tbody>
</table>

**Validity**

<table>
<thead>
<tr>
<th>Module</th>
<th>Certificate Validity (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hub, Spinner and Inside Blade Rescue (HSIBR)</td>
<td>24</td>
</tr>
<tr>
<td>Nacelle, Tower and Basement Rescue (NTBR)</td>
<td>24</td>
</tr>
<tr>
<td>Single Rescuer: Hub, Spinner and Inside Blade Rescue (SR:HSIBR)</td>
<td>No Expiry</td>
</tr>
<tr>
<td>Single Rescuer: Nacelle, Tower and Basement Rescue (SR:NTBR)</td>
<td>No Expiry</td>
</tr>
</tbody>
</table>

**CONTROL OF HAZARDOUS ENERGIES (CoHE)**

<table>
<thead>
<tr>
<th>Modules</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Safety CoHE Module</td>
<td>4 hours</td>
</tr>
<tr>
<td>Electrical Safety Module</td>
<td>10 hours and 45 minutes</td>
</tr>
<tr>
<td>Pressure Fluid Safety Module</td>
<td>7 hours</td>
</tr>
</tbody>
</table>

**Validity**

<table>
<thead>
<tr>
<th>Course/Modules</th>
<th>Certificate Validity (Months)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Safety CoHE Refresher</td>
<td>24</td>
</tr>
</tbody>
</table>
Electrical Safety for Qualified Person Refresher 24
Pressure Fluid Safety Refresher 24

SLINGER SIGNALLER (SS)

<table>
<thead>
<tr>
<th>Course</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slinger Signaller</td>
<td>13 hours 40 mins</td>
</tr>
</tbody>
</table>

A validity period does not apply to this training

Lift

<table>
<thead>
<tr>
<th>Modules</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lift User Module</td>
<td>4 hours</td>
</tr>
<tr>
<td>Lift Commission and Inspection Module</td>
<td>7 hours</td>
</tr>
<tr>
<td>Lift Commission, Inspection, Installation and Maintenance Module</td>
<td>14 hours (2 days)</td>
</tr>
</tbody>
</table>

A validity period does not apply to this training

Refresher Course Duration

ART Refresher

<table>
<thead>
<tr>
<th>Module</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hub, Spinner and Inside Blade Refresher</td>
<td>As per ART</td>
</tr>
<tr>
<td>Nacelle, Tower, and Basement Rescue Refresher</td>
<td>14 hours</td>
</tr>
</tbody>
</table>

BST Refresher

<table>
<thead>
<tr>
<th>Modules</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Aid Refresher</td>
<td>4 hours 00 minutes</td>
</tr>
<tr>
<td>Manual Handling Refresher</td>
<td>3 hours 35 minutes</td>
</tr>
<tr>
<td>Fire Awareness Refresher</td>
<td>3 hours 20 minutes</td>
</tr>
<tr>
<td>Working at Heights Refresher</td>
<td>8 hours 00 minutes</td>
</tr>
<tr>
<td>Working at Heights &amp; Manual handling Refresher</td>
<td>8 hours 00 minutes</td>
</tr>
<tr>
<td>Sea Survival Refresher</td>
<td>6 hours 30 minutes</td>
</tr>
</tbody>
</table>

CoHE Refresher
<table>
<thead>
<tr>
<th>Modules</th>
<th>Approximate Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Safety CoHE Refresher Module</td>
<td>1 hour 10 minutes</td>
</tr>
<tr>
<td>Electrical Safety Refresher Module</td>
<td>4 hours</td>
</tr>
<tr>
<td>Pressure Fluid Safety Refresher Module</td>
<td>2 hours 20 minutes</td>
</tr>
</tbody>
</table>