HSE Manual

Fred. Olsen Ocean
Fred. Olsen Windcarrier
Global Wind Service
Fred. Olsen Renewables

Revision F
15.12.2020

Fred. Olsen
HSE Manual

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B	13.10.2016	Fred. Olsen Marine Services removed	JFP	EVL
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F	15.12.2020	Changes are listed in paragraph 9.2	JFP	AK/IB/AB/MHO

Table of contents

Acronyms and abbreviations

The list below covers acronyms and abbreviations used in this document. Commonly used ones are not listed

ACOP	Approved Code of Practice
AODC	Ass. of Offshore Diving Contractors
CA-EBS	Compressed Air Emergency Breathing Syst.
CEO	Chief Executive Officer
COUF	Carbon monoxide
COO	Chief Operating Officer
COSHH	Control of Substances Haz. to Health
CTV	Crew Transfer Vessel
DPR	Daily Progress Report
ERP	Emergency Response Plan
FOO	Fred. Olsen Ocean
FOR	Fred. Olsen Renewables
FOWIC	Fred. Olsen Windcarrier
FRC	Fast Rescue Craft
GWO	Global Wind Organisation
GWS	Global Wind Service
HSE	Health, Safety and Environment
HSEQ	Health, Safety, Environment and Quality
ICC	Isolation Confirmation Certificate
IMCA	International Marine Contractors Ass.
IP	Injured Person
IP44	Ingress Protection level 44
IRATA	Industrial Rope Access Trade Association
ISM Code	International Safety Management Code
ISO	International Standardisation Org.
LOTO	Lock-Out-Tag-Out
LTI	Lost Time Injury
MARPOL	Maritime Prevention of Pollution
MEWP	Mobile Elevated Work Platform
MLC	Marine Labour Convention
MOB	Man Over Board
NOG	Norwegian Oil and Gas
OCM	Offshore Construction Manager
OGUK	Oil and Gas UK
OOW	Officer of the Watch
OWF	Offshore Wind Farm
PLB	Personal Locator Beacon
PPE	Personal Protective Equipment
PTW	Permit to Work
RA	Risk Assessment
SAFO	Safety Officer
SDS	Safety Data Sheet
SEEMP	Ship Energy Efficiency Management Plan
SJA	Safe Job Analysis
SOLAS	Safety of Life at Sea
SPRAT	Society of Professional Rope Access Techs.
SPS crew	Special Purpose Ship crew
TBT	Toolbox Talk
TP	Transition Piece
TRA	Task Risk Assessment
V AC	Volt Alternating Current
V DC	Volt Direct Current
WOC	Walk, Observe, Communicate
WTG	Wind Turbine Generator

HSE Manual

1 Introduction

1.1 Scope

This Health, Safety, and Environment (HSE) Manual, with its requirements, is governing document and applies to all Fred. Olsen companies, in this context defined as:

- Fred. Olsen Ocean (FOO), including:
  - Fred. Olsen Windcarrier (FOWIC) with its subsidiary companies
  - Global Wind Service (GWS)
- Fred. Olsen Renewables (FOR), with its subsidiary companies

The requirements in this HSE Manual apply to:

- Wind farms, onshore sites, offices, and vessels owned by or operated by a Fred. Olsen company
- Activities under safety management of a Fred. Olsen company
- Subcontractors working for a Fred. Olsen company
- Vessels chartered by a Fred. Olsen company

All employees shall read this HSE Manual and be familiar with its content.

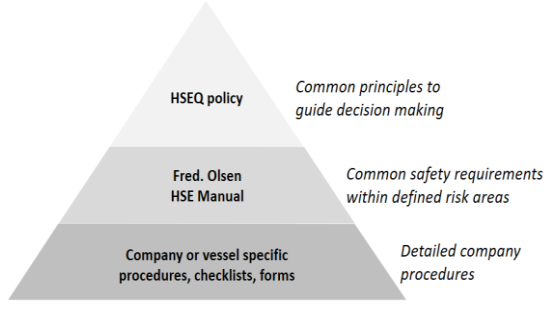
1.2 Document hierarcy

The HSEQ Policy (see Paragraph 1.7) provides the overall principles to guide decision making.

This HSE Manual defines the overall common safety requirements for activities within defined risk areas.

Based on these requirements, each company provides standards, procedures, checklists, and forms.

Requirements in the HSE Manual take precedence over company requirements.



1.3 Requirement terminology

In this HSE Manual, the following verbal forms are used:

- "Shall" indicates a mandatory requirement
- "Should" indicates a recommendation
- "May" indicates a permission
- "Can" indicates a possibility or a capability

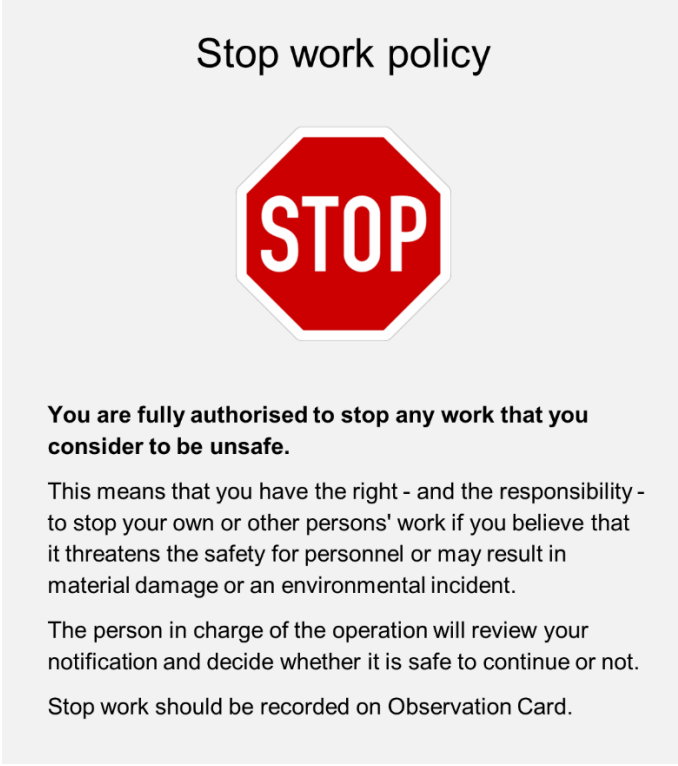
1.4 Authority to approve deviations

The CEO/COO (equivalent) of the company responsible for an activity, is authorised to approve deviation from the HSE Manual requirements on a case-by-case basis.

The deviation request/approval shall be in writing, and may be in the form of an e-mail, or in the form of a Management of Change (MOC) request. Deviation request shall be risk assessed.

1.5 Authority to stop work

All personnel are authorised to stop work:



1.6 Organisation, responsibilities and authorities

Organisation charts, responsibilities, and authorities are described in each company's HSEQ management system.

Vessels: The Master has the overriding authority and the responsibility to make decisions with respect to safety and pollution prevention (ISM Code, 5.2).

1.7 HSEQ policy and objectives

The policy for health, safety, environment, and quality (HSEQ) is:

HSEQ policy

We are committed to be recognised as a leading organisation for Health, Safety, Environment, and Quality (HSEQ) management.

We are committed to the protection of personnel, the environment, vessels, and equipment. In fulfilling this, we will establish and maintain a safe and healthy work environment.

We are committed to conduct our work in compliance with regulatory laws, rules and regulations, client requirements, and industry standards.

We are committed to eliminate hazards and reduce risks through the use of systematic risk assessments as an integrated part of our work.

Our aim is always:

- Meeting or exceeding customer requirements and expectations
- Zero injuries
- Zero environmental incidents
- Zero defects
- On time delivery
- Continuous improvement

We achieve these goals by conducting our work in compliance with our HSEQ Management and Safety Management Systems, and through consultation with and participation of our employees.

Each company has defined a specific HSEQ policy and objectives to suit its types of activities.
The HSEQ policy takes precedence over company policies.

2 General HSE requirements

The requirements in this chapter apply to activities both onshore and offshore.

2.1 Compliance statement

HSE req. 001 Compliance with applicable laws, rules, and regulations

All work shall be conducted in compliance with laws, rules, and regulations that apply for the activity.

2.2 Personal Protective Equipment

Regardless of type of activity and independent of the exposure to risks, a minimum set of Personal Protective Equipment (PPE) shall be used at all work sites.

HSE req. 002 Minimum Personal Protective Equipment

1) At worksites, in this context defined as onboard vessels, in or near wind turbines, fabrication workshops, onshore installation sites, load-out areas, etc., the following minimum PPE shall always be worn:
    a. Safety boots*
    b. High visibility work clothes covering bare skin**
    c. Gloves ***
    d. Helmet
    e. Eye protection ****
2) Depending on the type of work, and subject to risk assessments and local site regulations, additional PPE should be used as needed
3) A manager in charge of a work site can decide additional minimum PPE to be used, but cannot reduce the minimum PPE without approval from CEO

Remarks:

* Safety shoes are allowed for marine crew working inside the vessel and for day visitors and personnel doing temporary work on board in port.

** The vessel Master/onshore Site Manager may allow exemptions to work clothes covering bare skin on warm days. All exemptions are subject to a case specific risk assessment, taking into consideration work to be performed (e.g., physical work, hot works, lifting operations, etc.).

*** Types of gloves to be used dependent of type of work. Gloves may be removed temporarily if it is needed to work with bare hands.

**** During critical phases of a work operation, the eye protection may be removed temporarily if wearing it will result in considerably reduced visibility and safety.

2.3 Working at heights

Definition:

> *You are working at heights when there is a risk of injuries if you fall.*

There is no specific limit for when to take measures against fall incidents.

Some work is performed using 'rope access'. This work requires trained and certified rope access climbers.

HSE req. 003 Working at heights

When work needs to be done at height, the following requirements apply:

1) Working at heights shall be planned carefully, including the need for tools, materials, and safety equipment
2) Alternatives should be assessed, i.e., use of scaffolding, Mobile Elevated Work Platforms (MEWPs), moveable work platforms/stepladders, use of rope access climbers, etc.
3) Risk Assessment (RA) or Task Risk Assessment (TRA) shall be provided for working at heights, covering all hazards influencing the activities
4) Working at heights shall be covered by Permit to Work (PTW)
5) Training requirements: See HSE req. 046
6) When working at heights, rescue shall be planned, and rescue equipment shall be available
7) Equipment used for securing personnel working at heights shall as a minimum be inspected and re-certified by a competent person at 12-month intervals, if not otherwise specified by local or national regulations
8) Red/white no-access barriers shall be established around the drop zone below (see HSE req. 004)
9) Ladders, scaffolds, and steps shall be checked before use and shall be approved according to applicable standards. Telescopic ladders are not allowed for use
10) Fall arrest equipment shall be checked before use
11) Prior to start, the operators shall check that tools, radios, and other loose objects are secured with lanyards, pockets are emptied, and safety helmets are secured with chin strap
12) Choose anchor points that minimise the fall factor (above head level)
13) Conduct Toolbox Talk (TBT)/Take2 before work starts

Requirements for rope access companies:

14) Rope access technicians shall be certified in accordance with Industrial Rope Access Trade Association (IRATA) or Society of Professional Rope Access Technicians (SPRAT) standards
15) 'IRATA International Code of Practice (ICOP)' or 'SPRAT Safe Practices for Rope Access Work' shall be followed

2.4 Dropped objects

The term 'dropped objects' equals the term 'falling objects', e.g., tools, fixed equipment, or loose items falling from height creating a risk for serious personnel incidents or material damage.

Dropped objects represent many of the reported incidents and near misses in the wind industry. A substantial amount of our activities take place aloft, often with high potential for dropped objects.

HSE req. 004 Dropped objects

In order to prevent dropped objects, the following requirements apply:

1) Working at a level under on-going work above is not allowed, working above people underneath is not allowed
2) Two independent safety barriers shall be in place whenever there is a risk for dropped objects
3) Tools and other loose objects shall be secured using lanyards or cords, suitable for stopping a fall. Tools with weight <2 kg should be secured with lanyard with weak-link and may be attached to operator. Tools >2 kg should be attached to the structure or anchor point
4) The drop zone shall be large enough to prevent people from being hit. The radius of the drop zone should be 1/3 of the potential fall height.
   Vessels: Red/white no-access barriers shall be established around the drop zone.
   Onshore sites: The work responsible shall ensure that people do not accidently enter the drop zone, i.e. by using signage, guards, blocking the access roads and paths, or by using red/white no-access barriers
5) Prior to lifting operations, the load shall be checked for any loose objects
6) Shackles for lifting shall be 4-part type (body, bolt, nut, locking pin). Cotter pins shall be used on all permanent lifting arrangements, locking clips may be used on temporary lifting arrangements
7) Minimum 2 m distance to the load when lifting. No direct contact between people and load. However, when the load is at 0.5 m from touch-down, contact may be made for final positioning
8) After finishing work at heights, the area shall be thoroughly inspected. No tools or equipment shall be left unsecured at height
9) Work platforms, scaffolding platforms, gangways, and edges around hatches shall be equipped with permanent or temporary kickboards of minimum 10 cm height
10) Fixed equipment at height should be fastened with secure bolt connections (castle nut, palnut, nylock, split top nut, or similar)
11) Conduct Toolbox Talk (TBT)/Take2 before work starts

2.5 Confined (enclosed) space work

A confined (enclosed) space is defined as a workplace that has:

1. Limited openings for entry and exit,
2. Inadequate ventilation, and
3. Is not designed for continuous worker occupancy

It is critical to test that the air has normal oxygen levels and is free of toxic gases before entry.

For vessels, high risk areas are tanks, void spaces, cofferdams, etc.

For onshore turbines, inadequate oxygen may occur in tower basements, hubs, and blades.

HSE req. 005 Confined (enclosed) space work

When conducting confined space work, the following requirements apply:

1) Confined space work should be avoided, if possible
2) Task Risk Assessment (TRA) and rescue plan shall be provided for each confined space work, covering all hazards influencing the activities
3) Confined space work shall be covered by Permit to Work (PTW).
   Vessels: Approved by the Master.
   Onshore sites: Approved by the Site Manager
4) Gas test shall be conducted before personnel enter the confined space
5) Procedures shall be provided, including details on appointment of a responsible person, authorised gas tester, training requirements for the personnel carrying out the work, isolation of equipment, cleaning before entry, ventilation, testing of air quality, preparing emergency arrangements, etc.
6) Entry watch shall be established to control access to confined space during work
7) Conduct Toolbox Talk (TBT)/Take2 before work starts

2.6 Lifting operations

Lifting operations involve risks related to personnel hit by dropped load, personnel hit by objects falling from loads, crushing by swinging loads, and material damages.

In certain cases, dropped objects may also result in environmental impact.

Possible failures may include cranes or lifting accessories breakage, incorrect use of shackles or slings, items left on load before lifting, operator errors/lack of training, communication errors/misunderstandings, or insufficient physical barriers.

HSE req. 006 Lifting operations

When conducting lifting operations, the following requirements apply:

1) All personnel involved in lifting operations shall be qualified, competent, and fit for duty
2) Cranes and lifting equipment shall be certified, maintained, and operated in accordance with applicable laws, rules, regulations, and client's requirements
3) Risk Assessment (RA) shall be provided prior to all lifting operations
4) Approved lift plan and PTW is required for lifts over 50 tons, man-riding operations, and afloat lifting zones
5) Lifting equipment shall as a minimum be inspected and re-certified by a competent person or authority at 12-month intervals, if not otherwise specified by local or national regulations
6) Prior to use, lifting equipment shall be subject to visual inspections, verification of certificates, and colour coded in accordance with local procedure
7) Special precautions shall be made to ensure:
    a. Sufficient number of personnel is present
    b. Pre-use inspection of all lifting equipment
    c. Weather conditions are within the defined safety margins
    d. Sufficient lighting in the lifting area
    e. Good radio communications and procedures
    f. Shackles for lifting shall be 4-part type (body, bolt, nut, locking pin). Cotter pins shall be used on all permanent lifting arrangements, locking clips may be used on temporary lifting arrangements
    g. Bolts are equipped with cotter pins or equivalent
    h. Lifting equipment and lifting points have Safe Working Load (SWL) clearly marked
    i. Suitable storage is provided to prevent physical damage or deterioration
8) Vessels: Red/white no-access barriers shall be established around the lifting zone.
   Onshore sites: The work responsible shall ensure that people do not accidently enter the lifting zone, i.e. by using signage, guards, blocking the access roads and paths, or by using red/white no-access barriers
9) Minimum 2 m distance to the load when lifting. No direct contact between people and load. However, when the load is at 0.5 m from touch-down, contact may be made for final positioning
10) The Lift Supervisor holds the responsibility of coordinating the lift with the lifting team and shall be able to communicate clearly with the team during all sequences of the lift
11) Conduct Toolbox Talk (TBT)/Take2 before work starts

2.7 Hot works

'Hot works' include welding, burning/flame cutting, metal grinding, heat shrinking, or other operations causing high temperatures.

Hot works include health hazards related to burns, respiration of toxic gases, noise, and injuries from flying particles and sparks.

Futher, hot works are a common cause for fires.

HSE req. 007 Hot works

When conducting hot works, the following requirements apply:

1) The hot work shall be covered by) Risk Assessment (RA) or Task Risk Assessment (TRA) and Permit to Work (PTW)
2) Vessels: Special PTW is required for hot works in Hazard Zones
3) Hot works in confined space shall follow local procedure
4) Acetylene and oxygen gas bottles:
    a. Acetylene and oxygen bottles shall be placed at safe distance from grinding, welding, or flame cutting work
    b. Acetylene and oxygen bottles shall be placed minimum 6 m apart
    c. Vessels: Bottles/bottle racks brought on deck shall be placed by the railing within reach of a crane, and shall be prepared with lifting arrangement (chains or wires) for rapid hoisting into water
    d. Gas bottles shall be stored in upright position, and secured from falling (gas racks or chain)
    e. The area around the bottles shall be fenced off
    f. The amount of gas at the work site should be limited to a minimum. Gas bottles not in use shall be removed to safe storage as soon as possible
5) Hose connections:
    a. Flashback arrester shall always be used
    b. A person deemed competent shall fit the flashback arresters to the gas bottles
    c. The hose shall be secured to the bottle or bottle rack
    d. The operator shall check the whole length of the hose for damages before use, and check that hose clamps are present and correctly tightened
    e. When connecting the hose to the gas bottle, a leakage test shall be conducted using leak test spray

Cont...

HSE req. 007 Hot works (cont.)

6) Fire prevention:
    a. Fire extinguishers shall be easily accessible at the work site. As a norm, each person conducting hot work should have a fire extinguisher within 5 m reach
    b. Vessels: Fire hoses shall be taken out of their cabinets, connected, and prepared for immediate use. All persons at the work site shall be made aware of where the fire hoses are and how to use them
    c. If there is a risk of sparks or flames reaching combustible objects, these shall be covered with fire retardant material (welding mat or similar)
    d. A fire watch shall be appointed at the work site. Additional fire watch(es) shall be appointed if it is not possible to overlook the site by one person
    e. Vessels: If hot works on steel plate may result in heat build-up on the opposite side of the plate, fire watch shall be present, e.g. under deck, in adjacent rooms, etc.
    f. When working in confined spaces e.g. in tanks, foundations, etc., consider oxygen depletion and the presence or formation of combustible gases before and during the work
7) Fence off the work area with yellow/black hazard zone barriers
8) Welding or cutting is not permitted in or near rooms containing flammable or combustible liquids, vapours, or combustible dusts. Ensure that the area is well ventilated. If possible, relocate the work from the work site to a safe place, e.g. to a workshop
9) Only use approved equipment in good condition and follow the manufacturer's instructions
10) All personnel involved in any type of hot works shall be competent and have received the appropriate training
11) Conduct Toolbox Talk (TBT)/Take2 before work starts

2.8 Slips/trips/falls, finger injuries, and manual handling

Most incidents occur doing normal work in low hazard situations.

Slips, trips, falls, together with finger injuries, are our most frequent incident types.

On a vessel or at a remote site, even a minor injury may lead to need for evacuation to hospital and stop in operations.

Preventing slips, trips, falls, and finger injuries is done by good housekeeping, using the right PPE, and identifying and removing potential hazards.

HSE req. 008 Slips/trips/falls, finger injuries, and manual handling

2) Safety rules to avoid slips, trips, and falls:
    a. Maintain good housekeeping during work. Clean up the site when work is finished
    b. Remove or mark trip hazards on site/deck
    c. Walkways:
        i. Plan and establish suitable walkways on site/deck
        ii. Mark walkways with barriers, signs and/or paint
        iii. Keep walkways free of obstacles
        iv. Take measures against ice in walkways when needed
    d. Cables:
        i. Plan and establish suitable routing of cables on site/deck
        ii. Use cable trays or other measures to reduce trip hazards
        iii. Work areas with multiple cables, e.g. hot works areas, should be fenced off
    e. Never run on site or on deck
    f. Don't walk in stairs carrying things in both hands. Hold one hand to the railing
    g. Clean up oil spills immediately
    h. Conduct frequent 'Hazard Hunts' to identify and remove hazards

3) Safety rules to avoid cuts and finger injuries:
    a. Use gloves suitable for the work to be performed
    b. Consider the risk for cuts and squeezed fingers when planning the work
    c. Only use knives with proper grip stop

4) Safety rules to prevent manual handling injuries:
    a. Consider getting assistance or mechanical means to lift
    b. Reduce carrying distance
    c. Push rather than pull
    d. Consider upper limb disorder risks, avoid repetitive handling
    e. Avoid twisting your torso and sideways bending
    f. Carry loads close to your body

5) Conduct Toolbox Talk (TBT)/Take2 before work starts

2.9 Use of MEWPs, telehandlers, forklifts, and mobile cranes

Mobile Elevated Work Platforms (MEWPs) are cherry pickers, scissor lifts, or boom lifts that may be in use to enable access at heights. They are one-barrier devices, their use shall be minimised as much as possible.

Telehandlers (telescopic handlers), forklifts, and mobile cranes are used at onshore sites, on board vessels and at fabrication sites for various purposes.

Considerable risks are involved when using the machines:

- Tipping over
- Hitting roof or structures
- Personnel falling from MEWP
- Dropped load
- Technical failure

HSE req. 009 Use of MEWPs, telehandlers, forklifts, and mobile cranes

When using machines, the following requirements apply:

1) The machine shall be certified, maintained and in full working order
2) The operator(s) shall have documented theoretical and practical competence in the use of the actual type of machine, and have adequate familiarisation training in use, maintenance, and inspection of the specific equipment, and applicable regulations
3) Risk Assessment (RA) or Task Risk Assessment (TRA) shall be completed prior to start of work
4) Banksman shall be present when the machine is moved on the work site or on deck
5) MEWPs specific requirements:
    a. Prior to start using a MEWP, the emergency override system shall be tested. One dedicated and trained person shall be on the ground, prepared to operate the emergency override system. Procedures shall be established, and personnel trained at sufficient intervals
    b. Climbing out of the MEWP basket is not allowed
    c. Wind speed limitations in accordance with the MEWPs user manual/certificate
    d. In addition to minimum PPE (see HSE req. 002), the following shall be used:
        i. Each person in the MEWP basket shall wear safety harness and shall be attached, individually, by lanyard to the basket
        ii. When working over water: Life jacket (always), immersion suit (work offshore if water temperature is <12°C), and PLB (for work offshore only). Decision to require personnel to be secured to the basket is subject to risk assessment locally
6) Telehandler, forklift, and mobile crane specific requirements:
    a. Prior to lifting and placing/retrieving materials at heights: Study and apply load charts carefully. Do not exceed maximum capacity within each respective load range
    b. Use outriggers if needed
7) Conduct Toolbox Talk (TBT)/Take2 before work starts

2.10 Use of portable generators

Portable generators are internal combustion engines used to generate electricity.

Hazards related to use of generators are:

- Shocks and electrocution from improper use of power or accidentally energising other electrical systems
- Fires from improperly refuelling a generator or inappropriately storing the fuel for a generator
- Noise and vibration
- Carbon monoxide (CO) poisoning

HSE req. 010 Use of portable generators

When using portable generators, the following requirements apply:

1) Electrical shock and electrocution:
    a. Make sure the generator is properly grounded and that the grounding connections are tight
    b. Never use frayed or damaged extension cords
    c. Keep the generator dry, do not use it in the rain or wet conditions. If needed, protect the generator with a canopy. Never manipulate the generator's electrical components if you are wet or standing in water
    d. Do not use electrical equipment that has been submerged in water. Equipment shall be thoroughly dried out and properly evaluated before use. Power off and do not use any electrical equipment that has strange odours or begins smoking
2) Fire:
    a. Before refuelling, shut down the generator and allow it to cool.
    Vessels: Follow local refuelling procedure
    b. Gasoline and other generator fuels should be stored in a vented place and transported in approved containers that are properly designed and marked
    c. Keep fuel containers away from flame producing and heat generating devices
3) Preventing carbon monoxide (CO) poisoning:
    a. Never use a generator indoors or in confined spaces such as garages, crawl spaces, or basements. NOTE: Open windows and doors may not prevent CO from building up when a generator is located in a confined space
    b. Make sure the generator has clear space on all sides and above it to ensure adequate ventilation
    c. If you or others show symptoms of CO poisoning (dizziness, headaches, nausea, tiredness) get to fresh air immediately and seek medical attention. Do not re-enter the area until it is determined to be safe by trained and properly equipped personnel
4) Conduct Toolbox Talk (TBT)/Take2 before work starts

2.11 Use of man-baskets

By its nature, a man-riding crane device is a one-barrier solution and involves considerable risks.

Crane failure or operator failure may lead to fatal incidents. Uncontrolled swinging may lead to severe crushing injuries.

In order to reduce risks for incidents, it is the general policy that man-basket operations are to be avoided.

HSE req. 011 Use of man-baskets

When using man-baskets, the following requirements apply:

1) Man-baskets shall only be used when scaffolding, ladders, mobile elevated work platforms (cherry pickers/scissor lifts), or other conventional means of access are more hazardous or not possible because of structural design or worksite conditions. Employee safety, not convenience, shall determine which method is to be used
2) Man-baskets may be used for emergency evacuation of injured persons
3) Man-baskets shall not be used for personnel transfer
4) Vessels: Man-basket operations require a Special PTW to be approved by the Master. Onshore sites: Man-basket operations require approval from Site Manager
5) The man-basket, crane, and lifting accessories shall be designed for purpose, certified, maintained and operated in accordance with the equipment's user manuals and applicable rules and regulations
6) In addition to minimum PPE (see HSE req. 002), the following shall be used:
    a. Each person in the man-basket shall wear safety harness and shall be attached individually by lanyard or inertia reel directly to the crane hook above
    b. When working over water: Life jacket (always), immersion suit (work offshore if water temperature is <12°C), and PLB (for work offshore only)
7) Environmental requirements:
    a. Max 8 m/s (for UK: 7 m/s). The wind speed shall be measured with the crane at max elevation of the lifting path of the man-basket
    b. Waves: Max 2 m Hs. Sea conditions shall allow for safe launch and retrieval of Man Over Board (MOB) boat
    c. Visibility: Full visibility in the whole lift area
    d. Light conditions: Daylight, or in darkness if the area has sufficient artificial lighting. Man-basket operations over water in darkness are not allowed
8) Personnel in the man-basket shall bring equipment to enable emergency rescue
9) Before hoisting personnel, a trial lift with load equivalent to the actual man-basket lift shall be conducted. The Crane Operator shall move the unmanned man-basket through all anticipated crane movements and basket paths during the trial lift
10) Conduct Toolbox Talk (TBT)/Take2 before work starts

2.12 Chemicals handling

Almost all work involves handling various chemical products, e.g., oil, grease, cleaners, lubricants, paint, glue, etc.

Many of these products may be hazardous to health. Some have the potential of causing eczema and allergic reactions upon repeated skin contact. Other products are hazardous to the health when breathing the fumes, or are incompatible when mixed. Some products have no immediate symptoms and the effect of exposure may be evident after time has passed.

HSE req. 012 Chemicals handling

Precautions and use of PPE:

11) The use of chemicals shall follow the Substitution Principle (environmental or hazardous chemicals shall be replaced with less hazardous ones, if possible)
12) The policy for use of chemicals shall follow the Caution Principle (uncertainty shall not prevent measures, when there is a potential health risk or risk of environmental impact)
13) Risk Assessment shall be conducted prior to using a chemical – reference to Safety Data Sheet (SDS)
14) Personnel may not purchase chemical products without first receiving approval from the Local Manager or Master on board vessels
15) Appropriate PPE, as described in the SDS and according to risk analysis, is mandatory
16) Eye wash shall be available where chemicals are stored and used
17) Personnel with assigned medical duties shall receive information regarding poisonous and other harmful effects, and shall be qualified to give first aid if injuries or poisonings occur
18) Conduct Toolbox Talk (TBT)/Take2 before work starts

Storage and transportation:

19) Chemicals shall be stored in marked original or special containers. Storing chemicals in drinking bottles or food containers is not allowed
20) Chemical storage facilities shall be well ventilated, marked with signs, and possible to lock
21) Arrangements shall be made for spill collection where chemicals are used and stored
22) Chemicals shall be stored well protected against fire
23) Transportation shall be conducted in accordance with applicable rules and regulations

Disposal:

24) Chemical residues and clothes with oil or grease shall be disposed of in accordance with the instructions in the SDS

Safety Data Sheets (SDS) are made for each individual chemical product and contain structured information about the hazards.

They also provide information about first aid, handling, disposal, and the specific PPE required.

HSE req. 013 Safety Data Sheets

1) SDS shall be available for all chemical products used
2) SDS shall be well organised, indexed, updated, and made easily accessible for the user
3) SDS shall be available at the storage point
4) Vessels: SDS shall be available in English and should be available in the local language. Onshore sites: SDS shall be available in the local language
5) SDS may be in electronic version

2.13 Noise and vibration

Noise:
Damage to hearing can occur when exposed to constant noise > 80 dB(A) or impact noise > 130 dB(C). Exposure to high levels of noise may cause permanent hearing loss. Short term exposure to loud noise can also cause a temporary change in hearing (your ears may feel stuffed up), or ringing in your ears (tinnitus).

Hand arm vibration:
Use of hand-held power tools like grinders, hammer drills, torque tools, impact drivers, etc., for more than a few hours a day may lead to Hand Arm Vibration Syndrome or Carpal Tunnel Syndrome.
More information is available at http://www.hse.gov.uk/vibration/.

HSE req. 014
Noise and vibration

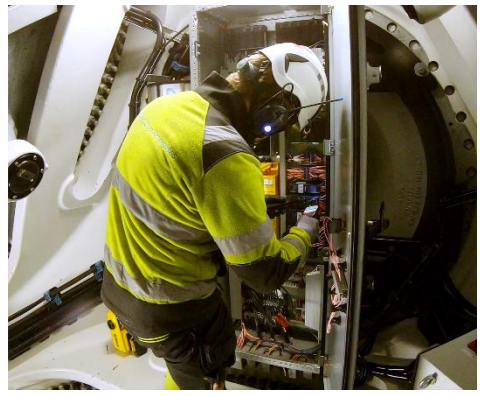
Noise:

1) Areas where the noise levels exceed 80 dB(A) shall be marked with warning sign(s)
2) Ear protection (plugs, muffs) shall be worn when the noise is > 80 dB(A) or if there is a risk for impact noise of > 130 dB(C), or if the noise level is suspected to be above these limits
3) When presuming noise levels at 80 dB or above, noise measurements shall be conducted

Vibration:

4) Risks from vibration shall be controlled
5) Daily Exposure Action Value of over 2.5 m/s^2 requires risk treatment actions
6) Exposure Limit Value shall not exceed 5 m/s^2

2.14 Electrical work



The effect of an electrical shock depends on the voltage and the resistance of the path if it follows through the body. For one second contact, the symptoms are:

- 5 mA - 1 V: Threshold of feeling, tingling sensation, max harmless current
- 10-20 mA - 10 V*: 'Cannot let go' current, sustained muscular contraction
- 100-300 mA - 100 V*: Ventricular fibrillation, fatal if continued

*The amount of voltage needed to produce the current is highly dependent on the body resistance.

'High voltage' in this context is defined as >1000 V AC or >1500 V DC. Voltages below these values are 'low voltage'.

HSE req. 015 Electrical work

The following requirements apply to electrical work on live or potentially live electrical installations that may involve hazards to person performing the work:

1) Electrical work shall only be performed by approved/certified personnel responsible for ensuring that any electrical system is installed to a suitable standard
2) Risk Assessment (RA) or Task Risk Assessment (TRA) shall be provided prior to high voltage electrical work.
3) Before work begins, if possible, the electrical equipment shall be disconnected, protected from reclosing, and tested for zero energy. Lock-Out-Tag-Out (LOTO) or Isolation Confirmation Certificate (ICC) procedure shall be implemented
4) The following additional PPE shall be worn during electrical work where there is a risk for electrocution:
    e. Approved special isolated gloves
    f. Isolated safety footwear
    g. Safety glasses
5) Isolation mats and arc protection should be used for high voltage work
6) Electrical equipment for use on deck or for use outside (i.e., cable connections, portable and temporary installed lights, temporary junction boxes, portable power distribution boxes, etc.), shall be protected against potential water ingress. Connectors shall be IP44 class as a minimum. If it is not possible or practicable to avoid potential for water ingress, IP67 connectors shall be used
7) Vessels: All containers, junction boxes, and distribution boxes connected to power shall be grounded
8) Conduct Toolbox Talk (TBT)/Take2 before work starts

2.15 Environmental

Our commitment to protecting the environment means continuously working towards reducing our environmental footprint to air, land, and sea.

Pollution protection means establishing and implementing a system for handling waste, implementing measures to reduce emission to air, measures to protect the ocean from alien species, and measures to eliminate risks for environmental spills to sea or ground.

HSE req. 016 Waste management

1) General:
   a. Waste (garbage) management plans shall include principles of source reduction, recycling, and disposal
   b. Avoid supplies that are packed in plastic
   c. Avoid the use of disposable cups, utensils, and dishes
   d. Suppliers shall be instructed to reduce packing material, when possible
   e. All receptacles and storage containers shall be marked with garbage category

2) Vessels:
   a. A waste handling system shall be implemented in accordance with MARPOL regulation concerning handling of waste
   b. Subcontractors should collect, separate, and dispose of their own garbage
   c. Disposal of garbage to sea is prohibited
   d. Ensure the provision of facilities at ports and terminals for the reception of garbage, without causing undue delays to vessel. When such facilities are available, it shall be employed. Cost considerations shall not prevail and shall not influence waste handling

3) Onshore sites:
   a. Waste shall be collected in adequate labelled bins or containers. Hazardous waste shall be stored with spill containment to ensure that contamination of surface or air is avoided
   b. Only a local approved waste management company is to dispose of the waste produced at site
   c. Waste shall be separated in at least two categories: Combustible/flammable waste, and other hazardous waste
   d. Burning of waste or other materials is forbidden

WTG installation and operations are conducted in sensitive environmental areas on land or at sea with strict applicable laws, rules, and regulations to prevent pollution.

'Environmental incidents', in this context, are spills or discharge to sea or ground, unintentional emissions to air, harm caused to animals and birds, or other impacts to the environment.

HSE req. 017 Environmental incidents

1) Risk Assessment (RA) or Task Risk Assessment (TRA) shall be provided for work or use of equipment that may result in environmental incidents
2) All necessary actions shall be implemented to reduce the risks for spills. Before starting any work with chemicals, the ground surface shall be protected by a layer of absorbent material, a spill tray, or other sufficient protection (e.g., deck drain system)
3) Drums and canisters containing fuel, oil, or other chemicals should be protected by two barriers to prevent spillage, e.g., with double skinned fuel cells. Single skinned canisters/fuel cells shall be stored in a bonded/sealed reservoir with the capacity of holding 110 % of the stored substances. Vessels shall be equipped with sufficient oil spill kits according to MARPOL regulations
4) All environmental incidents shall be reported to the Master or Site Manager regardless of type of substance
5) Master and Site Manager is responsible for reporting incidents to the authorities in accordance with applicable maritime, national, and local laws and regulations
6) Vessels: Material and equipment shall be secured from falling into sea. Objects dropped to the sea shall be reported to the Master
7) Conduct Toolbox Talk (TBT)/Take2 before work starts

HSE req. 018 Energy efficiency

Applies to vessels:

1) Ship Energy Efficiency Management Plans (SEEMP) shall be established on all vessels
2) Fuel energy management systems shall follow the principles of planning, implementing, monitoring, and evaluation
3) Fuel consumption shall be monitored daily
4) Should the vessel operate with a higher consumption than the baseline in the SEEMP, the causes shall be assessed

2.16 (Void)

Previously "Travel".

2.17 Traffic safety

Driving or being passenger in a vehicle represents one of the highest work-related safety concerns.

Although driving means exposure to potentially hazardous traffic situations generated by others, your own behaviour greatly influences the risk picture.

A good safety culture and defensive driving attitude reduces the risk of accidents significantly.

HSE req. 019 Traffic safety

When using vehicles at work, the following requirements and advice shall be observed:

1) Check the vehicle prior to start:
    a. Visual inspection inside and outside. Record any issues (e.g., by photo)
    b. Lights: Check that all lights are working
    c. Tyres: Check that they are in good condition and the right type for the season
    d. Fuel: Check fuel type and quantity
    e. Oil: Check oil if you are unsure about the level

2) Drive safely:
    a. Obey the speed limits. Speeding ticket will be charged directly to the driver
    b. Wear your seat belt. Always
    c. Avoid distractions
    d. Be extra careful in bad weather (fog, heavy rain, snow, icy roads, etc.)
    e. Keep safe distance to the car ahead
    f. Don't drive when drowsy
    g. Practise defensive driving

3) Using mobile phones when driving:
    a. Avoid making or answering calls. Suspend conversations in challenging situations
    b. Only use hands-free
    c. Do not engage in stressful or emotional conversations

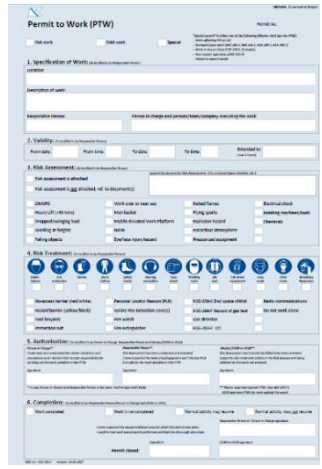
4) Damages:
    a. The driver shall notify his/her manager about any damages or incidents the same working day, with descriptions of WHO, WHEN, WHERE, WHAT, and photos of the incident
    b. Record and report details of the incident as required by national law and insurance company
    c. Damage repairs arising from reckless driving or abuse will be charged directly to the driver of the vehicle

2.18 Permit to Work system

A permit to work (PTW) or "Work permit" system serves two main purposes:

- Coordination of simultaneous operations (SIMOPS) to handle potential conflicts and interfaces between on-going parallel work
- To ensure that activities are prepared and properly risk assessed prior to starting hazardous work

All vessels and onshore sites have established and implemented detailed procedures for PTW, covering requirements for risk assessments, types of work needing PTW or not, and detailed work procedures.



HSE req. 020 Permit to Work system

A PTW system shall be implemented for controlling hazardous work, and meet the following requirements:

1) Responsibility and authority to issue PTWs:
    a. Vessels: Master (for all work on board)
    b. Work off the vessel: Offshore Construction Manager (OCM) or equivalent (for WTGs, met masts, foundations, Transition Pieces (TP), oil & gas installations, etc.)
    c. Onshore sites: Site Manager

2) A PTW shall as a minimum include:
    a. Specification of work, including location, description of work, and responsible person/person in charge
    b. Validity
    c. Risk assessment
    d. Risk treatment
    e. Authorisation (approval signatures)
    f. Completion (sign-out)

Risk Assessment (RA), PTW (when needed), Toolbox Talk (TBT) and 'Take2' last minute risk assessment are the four basic safety tools:

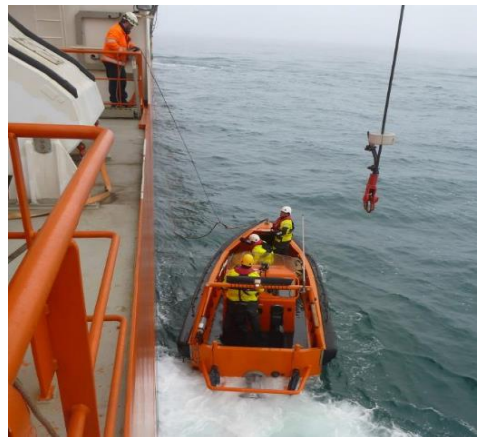
3 Offshore specific HSE requirements

This chapter lists HSE requirements specific to offshore operations.

3.1 Use of FRC, RIBs, and small boats

Fast Rescue Craft (FRC), Rigid Inflatable Boat (RIBs), or small boats (e.g., rubber boats) may be used for access to turbine foundations or to conduct tasks away from the vessel.

The vessels have established and implemented procedures for use of FRC, RIBs, and small boats.



HSE req. 021 Use of FRC, RIBs, and small boats

When using FRC, RIBs, and small boats, the following requirements apply:

1) Risk Assessment (RA) or Task Risk Assessment (TRA) shall be provided prior to the use of FRC, RIBs, and small boats
2) A second standby boat or other vessels shall be available for rescue. The vessel's Man Over Board (MOB) boat shall be prepared and ready for operations. It shall be possible to have it launched and seaborne in less than 10 minutes
3) FRC, RIBs, and small boats shall always be manned by minimum two persons
4) Radio communications shall be ensured between the vessel and the FRC, RIBs, or small boats
5) In addition to standard PPE (see HSE req. 002), the following shall be used:
    a. Immersion suits (regardless of water temperature)
    b. Life jacket
    c. PLB (not required in port)
6) FRC, RIBs, and small boats shall be equipped with rescue equipment in accordance with applicable SOLAS regulations, as a minimum with drinking water, flashlight, torch, emergency signalling materials, and ropes
7) Conduct Toolbox Talk (TBT)/Take2 before work starts

3.2 Personnel transfer offshore

Personnel transfer from jack-up vessels offshore is normally conducted by using either the vessel's Hydraulic Boat Landing or the Transition Piece (TP) boat landing.

Climbing boat landings includes hazards related to slips/trips/falls, fall from height, dropped objects, crushing/squeezing, hypothermia, and drowning. However, when procedures are followed rigorously, it is a safe way to transfer personnel.

It is critical that all personnel are trained and fully aware of the procedures to be used for the specific boat landing, and Crew Transfer Vessel (CTV) to be used.

HSE req. 022 Personnel transfer with man-basket or pilot ladder

1) Man-baskets shall not be used for personnel transfer
2) Pilot ladder may be used by pilots, but shall not be used for transfer of other personnel

HSE req. 023 Personnel transfer via boat landing

When conducting personnel transfer via boat landing, the following requirements apply:

1) During personnel transfer via Hydraulic Boat Landing or via TP, minimum one rescue person shall be on standby on the boat landing for immediate assistance to transferring personnel
2) Environmental requirements:
    a. Wind and waves: As specified in procedures for the CTV and/or the wind farm
    b. Visibility: Full visibility in the whole area around the CTV
    c. Light conditions: Daylight, or in darkness if the area has sufficient artificial lighting
3) A Man Over Board (MOB) boat shall be operational and ready for launch. It shall be possible to have it seaborne in less than 10 minutes
4) The CTV's or wind farm's procedure for connecting/disconnecting fall arrest equipment when stepping on/off the CTV shall be followed
5) When climbing the boat landing ladder, no extra weight/bags/backpacks shall be carried
6) In addition to standard PPE (see HSE req. 002), the following shall be used:
    a. Immersion suits (exemption: not required in daylight when water temperature is >12°C. Other limits specified by the wind farm may apply)
    b. Life jacket
    c. Personal Locator Beacon (PLB)
    d. Safety harness
    e. Inertia reel (yoyo), alternatively two safety lanyards w/hooks
7) Training requirements: See HSE req. 046
8) Conduct Toolbox Talk (TBT)/Take2 before work starts

3.3 Helicopter operations

When using helicopters for crew transfer, the highest standards should be employed to ensure safety for our personnel.

Helicopters should be equipped and operated for extended overwater flights with floating gear, two manual releasable life rafts, emergency locator transmitter, individual pop-out evacuation hatches, PA system, rescue equipment, flight surveillance system, flight data monitoring system, ground proximity warning system, traffic avoidance system, etc.

Helicopter operators should only be amongst well recognised companies with extended experience from the offshore oil & gas or offshore wind industry.

HSE req. 024 Personnel transfer with helicopter

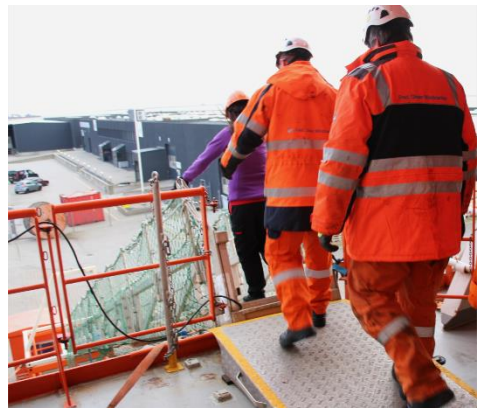
When conducting personnel transfer with helicopter, the following requirements apply:

1) Helicopters used for personnel transfer under Fred. Olsen responsibility shall:
    a. Be equipped and operated for commercial overwater air traffic in accordance with '*European Aviation Safety Agency (EASA) – Part CAT*'
    b. Be of 'Performance Class 1' or 'Performance Class 2 Enhanced' type

    Helicopters not meeting these requirements cannot be used without explicit approval from CEO
2) Personnel transfer flights for Fred. Olsen personnel shall only take place in daylight
3) Helicopter operations, other than in emergencies, shall not be conducted if the environmental conditions exceed WMO Sea State Code 6
4) Training requirements: See HSE req. 046
5) The following PPE shall be used:
    a. Immersion suit (compulsory 3-layer winter, 2-layer summer under the suit)
    b. Compressed Air Emergency Breathing Device (CA-EBS)
    c. Life jacket
    d. Personal Locator Beacon (PLB)
    e. Hearing protection
6) Applicable vessel, offshore wind farm, and helicopter company procedures shall be followed
7) Conduct Toolbox Talk (TBT) in the form of helicopter safety brief/Take2 before flight

3.4 Personnel movement on/off vessels

For security reasons, and for ensuring efficient on-signing/ off-signing, the vessel needs to be informed in due time of all visitors.



HSE req. 025 Personnel movement on/off vessels

Minimum 24 hours prior to joining vessels owned by or operated by a Fred. Olsen company:

1) Send request for visit with the following information:
    - Name (as written in passport)
    - Role
    - Company
    - 24/7 contact number in case of emergencies
    - Vessel name
    - Purpose of visit
    - Estimated time of arrival (ETA) at vessel
    - Estimated time of departure (ETD) from vessel
    - Need for accommodation (cabin)

    The request shall be sent to the e-mail address specified in the vessel's personnel movement procedure.

    Each visitor is individually responsible for providing evidence that certificates required for working offshore are valid, e.g., HUET, GWO, and medical certificates.

    The vessel will record the personnel data listed in the request for visit e-mail, allocate cabin (if applicable), and send confirmation back to the requester.

When arriving at the vessel:

2) If in port, report to the gangway watch (documentation of ID to be presented)
3) Proceed to the Bridge for registration, issuing of vessel ID card, and receiving induction (if needed)
4) Officer of the Watch (OOW) is responsible for checking original passport and verifying that certificates are valid for personnel working offshore

When signing off the vessel:

5) Notify vessel of any changes to planned departure date as soon as possible
6) Hand in vessel ID card

3.5 Diving

Diving operations are necessary for underwater inspections and work on the vessel.

The subcontracted diving company is certified and follows special rules and guidelines for the work. The Master has the overall responsibility for ensuring that the subcontractor is competent and that safety regulations are adhered to.

Normally, diving operations will not be part of WTG or foundation installation work.

HSE req. 026 Diving operations

When there is a need for diving operations, the following requirements apply:

1) A Diving Plan and Diving Risk Assessment shall be produced
2) The name of competent person and specific responsibilities shall be documented
3) The diving work shall be conducted in compliance with the following documents:
    a. Code of Practices for Offshore Diving (IMCA D014)
    b. Code of Practices on the initial and periodic examination (IMCA D018)
    c. Design for surface oriented diving systems (IMCA D023)
    d. Diving where there is poor visibility (AODC 034)
    e. Effects of underwater currents on divers (AODC 047)
    f. UK: Diving at work regulation, Commercial diving projects offshore (ACOP 1997 L103)
    g. Other applicable laws, rules, and regulations
4) All diving work offshore shall be approved by the offshore wind farm. For oil & gas industry, separate procedures apply
5) Conduct Toolbox Talk (TBT)/Take2 before work starts

3.6 (Void)

Previously “ROV operations”.

HSE req. 027 (void)

4 HSE management requirements

In this context, 'HSE management' covers meeting structure, language, management system certifications, audits and inspections, and safety delegates.

4.1 Shift meetings

This paragraph describes the regular and ad-hoc meetings related to safety during normal installation and service work. In periods of low intensity, meetings may be held when needed.

'Shift meetings' are held at start of the shift to exchange information related to the work.

When operating 24 hours a day, the shift meeting also functions as handover meeting between the previous and upcoming shift.

HSE req. 028 Shift meetings

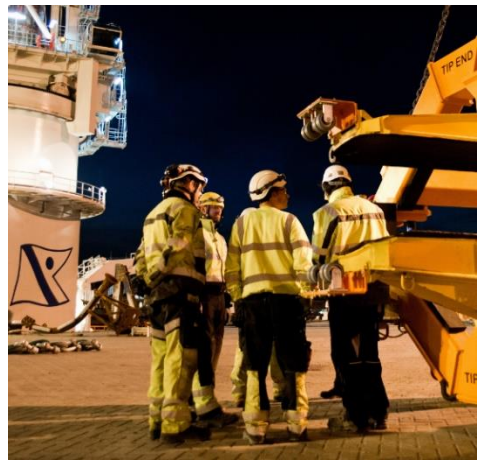
The shift leaders/supervisors/managers should conduct a short, to-the-point meeting to exchange information on planned tasks for the upcoming shift. Safety issues shall be covered as needed. The shift meeting may be held together with Toolbox Talk(s).

4.2 Toolbox Talks

Toolbox Talks (TBT) are job specific meetings covering health and safety regarding forthcoming work.

TBT is normally a brief meeting with all personnel participating in the upcoming work to discuss potential hazards and safety issues. The purpose is to ensure that everyone knows what they are supposed to be doing.

A good TBT is an open communication session involving all parties and includes review of the risk assessment, method statement, and the permit to work.



HSE req. 029 Toolbox Talks

1) Toolbox Talks (TBT) shall as a minimum be conducted at the start of every shift or when needed prior to start of hazardous work during a shift
2) The TBT is mandatory for all personnel who are going to participate in the work
3) If the work requires a PTW, TBT shall always be conducted prior to start of work
4) TBTs shall be recorded, as a minimum with date, time, name of person heading the meeting, and names of participants

4.3 Safety meetings

'Safety meetings', in this context, are plenary meetings to exchange information and review health and safety aspects. On board vessels, meetings with the marine crew and project team members may be held separately.

HSE req. 030 Safety meetings

1) Safety meetings with all employees should be held at weekly intervals, as a minimum monthly
2) Safety meetings shall be recorded in writing, as a minimum with date and time. Name of person(s) heading the meeting and names of participants should be recorded.

4.4 Language

English is the corporate language in all Fred. Olsen related companies. If people speak or read limited English, extra care should be taken to ensure that they fully understand the message being delivered.

HSE req. 031 Language

The English language shall be used in all written material and formal correspondence.

Vessels: Radio communications shall be in English.

Onshore sites: Radio communications may be in local language.

4.5 Management system certifications

The supplier selection and evaluation processes ensure that they can provide products and services that meet our health, safety, and environmental requirements, provide the specified quality, and is financially robust.

It is expected that suppliers and subcontractors have developed and implemented management systems in accordance with recognised standards, subject to 3rd party verification audits.

HSE req. 032 Management system certification

Suppliers of goods and services should be ISO 9001, ISO 14001, and ISO 45001 certified.

Each Fred. Olsen company shall establish, implement, and maintain processes to control the procurement of products and services to ensure conformity with these standards.

4.6 HSE audits

Audits are systematic, independent, and documented processes for obtaining evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled. Audits are formal in its nature and conducted in accordance with an audit plan.

HSE req. 033 HSE audits

1) The Fred. Olsen company has the right to audit a subcontractor on related processes and procedures
2) The Fred. Olsen company has the right to participate in a 3rd party audit related to the work as an observer
3) On request, copies of previous relevant audit reports shall be provided
4) The subcontractor shall take corrective action on findings and keep the Fred. Olsen company informed about the progress on these items

4.7 HSE follow-up and verifications

'Safety Walks', also called 'Walk Observe Communicate (WOC)', are conducted periodically by the management to communicate with the workforce and demonstrate commitment to safety.

'Hazard hunts' are walk-throughs of the work sites conducted by the workforce to identify hazards and suggest corrective actions.

'HSE inspections' are conducted by the management or HSE professionals to formally verify that the safety management system is implemented and in compliance with the requirements.

HSE req. 034 Safety Walks, Hazard Hunts, and HSE inspections

1) Each Fred. Olsen company shall implement routines for verification of its HSE management
2) 'Safety Walks' should be undertaken by the management periodically
3) 'Hazard hunts' should be conducted weekly
4) 'HSE inspections' should be conducted weekly

Verification of sub-contractor's HSE management:

HSE req. 035 HSE follow-up and verification of subcontractors

1) The Fred. Olsen company has the right to conduct HSE inspections on sites/vessels
2) Safety inspections may be done with or without prior notice
3) The subcontractor shall take corrective action on findings and keep the Fred. Olsen company informed about the progress on these items
4) The Fred. Olsen company shall have the right to locate its representatives at fabrication facilities, on vessels, onshore sites, and all other locations involved in the work

4.8 HSE incident reporting and investigation

HSE Incident Report is used for the following types of incidents:

- Personnel incident (a work-related occurrence that results in injury or ill health)
- Environmental incident (an occurrence that causes pollution to sea, air, and/or ground)
- Material damage (an occurrence that causes damage to property or equipment, resulting in loss of value or the impairment of usefulness)
- Near miss (an event or chain of events that under slightly different circumstances could have resulted in an incident)

Reporting is divided in three levels:

1. Accident notification
2. HSE Incident Report
3. Investigation Report

The contracts may specify time requirements for notification of incidents. By default, the following time limits apply:

HSE req. 036 Time limits for notification of incidents

As a general rule, incidents shall be reported as soon as possible. Time limits depend on the severity of the occurrence:

Severity:		Type of incident:			Time limit:	
		Personnel incident	Environmental incident	Material damage	<1 hour	<24 hours
Very high	**5**	Fatality	> 1000 litres	> 1million €	**x**	**x**
High	**4**	Permanent disability case	100 - 1000 litres	500 000 - 1 million €	**x**	**x**
Medium	**3**	Lost time injury (LTI)	50 - 100 litres	100 000 - 500 000 €	**x**	**x**
Low	**2**	Medical treatment case	10 - 50 litres	10 000 - 100 000 €		**x**
Very low	**1**	First aid case	1 - 10 litres	0 - 10 000 €		**x**

For incidents with 'Medium' to 'Very high' severity, notification shall be given by phone and by sending e-mail.

For 'Low' and 'Very low' severity, notification may be done by e-mail.

All incidents and near misses are to be recorded in the Fred. Olsen company's HSE incident database.

Incident reports will be transmitted to relevant stakeholders as needed/as required by contract.

In order to provide systematic reporting and statistics, key data about the incident is collected in an HSE Incident Report.

HSE req. 037 HSE Incident Report

1) All incidents shall be recorded as an HSE Incident Report
2) The HSE Incident Report shall be sent within 24 hours after the incident occurred, and shall as a minimum include the following information:
    a. Title
    b. Type of incident
    c. WHO
    d. WHEN
    e. WHERE
    f. WHAT
    g. WHY*
    h. Recommended actions*
    i. Reported by
    j. Actual severity
    k. Potential severity
3) Photos, detailed descriptions, relevant documents, etc. should be attached to the report
4) A person's name shall not be listed in an HSE Incident Report. Role names are to be used instead, and any injured persons should be describes as 'IP'. Personal data of the IP shall be sent separately

* In complex cases, 'WHY' and 'Recommended actions' may be provided as updates to the first release of the report

Investigations are used in order to clarify what happened in detail, to find out why it happened (direct cause and root causes), and to recommend corrective and preventive measures to be taken.

HSE req. 038 Investigations

1) Incidents and near misses with potential severity level 3 or higher should be investigated
2) Depending on the severity of the occurrence, investigations are divided in two levels:
    a. 'Local Investigations' (vessels and onshore sites) when it is necessary or advantageous to conduct a more comprehensive analysis of the occurrence than what is done when completing the HSE Incident Report
    b. 'Company Investigations' for major personnel incidents, environmental incidents, material damages, or for incidents that are significantly influencing the company's reputation or relationship with key stakeholders
3) The manager or organisation responsible for the incident shall initiate the investigation and appoint the investigation team in accordance with the Fred. Olsen company's procedures
4) The investigation team shall consist of at least one person not directly involved in the incident, preferably a person holding an HSE role in the organisation
5) An investigation report shall be sent as soon as it is finalised, no later than seven days after the incident. If the investigation is delayed, a preliminary report shall be issued within seven days
6) Name of involved persons shall not be listed in an investigation report. Role names are to be used instead, and any injured persons should be describes as 'IP'

4.9 Periodic HSE reporting

The contracts will specify the types of reports to be forwarded to a client, and the content and frequency may vary from project to project.

This paragraph describes the HSE related content in standard reports to be issued:

HSE req. 039 Daily Progress Reports

Vessels: During offshore operations, including mobilisations and load-outs, the project shall provide a Daily Progress Report (DPR) with the following HSE related information as a minimum:

1) HSE incidents
2) Observation Cards
3) Other issues related to safety

During off-project periods, the Master shall provide the DPR.

HSE req. 040 Monthly report

Vessels, projects, and contracted management companies shall provide a monthly HSE report, as a minimum including the following HSE related information:

1) HSE incidents (reference to submitted HSE Incident Reports):
    a. Personnel incidents
    b. Environmental incidents
    c. Material damages
    d. Near misses
    e. Number of RIDDOR incidents reported (UK only)
    f. Security violations
    g. Work related illness

2) HSE management statistics:
    h. Number of Observation Cards
    i. Safety meetings
    j. Audits
    k. HSE inspections

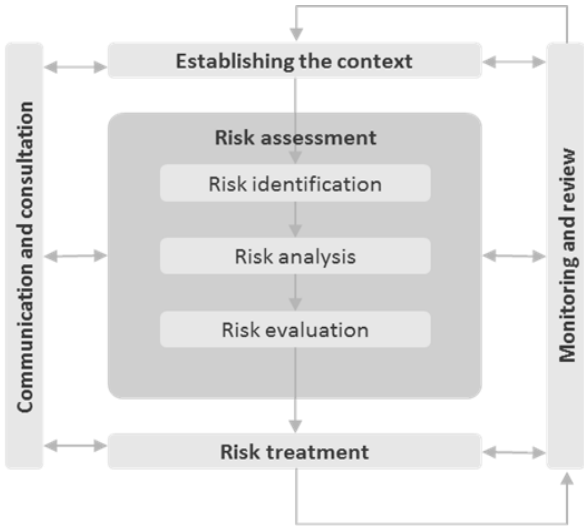
3) Emergency response
    l. Emergency exercises/drills conducted

4) Exposed hours
    m. Number of exposed or worked hours

5 Risk management requirements

5.1 Risk management approach

Risk management follows the principles in the ISO 31000 standard and is an integrated part of all activities.



Procedures have been implemented for how to conduct risk management.

Overall risk assessments have been made at the company levels, to be used as baseline for further risk assessment in projects and for other activities.

5.2 Risk Assessment, Task Risk Assessment, and 'Take2'

Risk Assessments (RA) include risk identification, risk analysis and risk evaluation in order to list actions to be taken in order to minimise, eliminate, reduce, or mitigate risks.

Task Risk Assessments (TRA), also known as Safe Job Analysis (SJA), may be used in situations with time constraints, an existing RA does not cover the work operation, a written procedure does not exist or cannot be followed, or for non-complex work operations that include hazards.

To ensure that all risks are identified, 'Take2' last minute risk assessment is conducted by the person or persons to conduct the work, at the workplace, immediately prior to start work. It covers 'What is the task?', 'What can go wrong?', 'How can we protect ourselves?', and 'Is it safe to start?'

HSE req. 041 Risk Assessment

1) Risk Assessment (RA) or Task Risk Assessment (TRA) shall be written prior to starting all work that includes hazards
2) 'Take2' last minute risk assessment should be conducted at the point-of-work before start of hazardous work

5.3 Risk criteria and risk factors

Risk criteria are terms of reference against which the significance of a risk is evaluated.

In order to have a consistent and comparable risk assessment, common risk criteria and acceptance criteria should be used for all activities.

HSE req. 042 Common risk criteria

Consequence and likelihood shall be rated from 1 to 5, using these standardised criteria:

Severity:		Consequence					Likelihood		
		Personnel incident	Environmental incident	Material damage	Revenue loss	Reputation loss	Mean time between occurrences	Repetitions	Percentage
Very High	**5**	Fatality	> 1000 litres	> 1million €	> 5 million €	Neg. reputation with society and public	< 1 month	< 5th time	>50% Almost certain, it is expected to occur
High	**4**	Permanent disability case	100 - 1000 litres	500 000 - 1 million €	1 million € - 5 million €	Neg. reputation within industry	< 3 months	< 25th time	25-50% Likely, there is a strong possibility that it will occur
Medium	**3**	Lost time injury case	50 - 100 litres	100 000 - 500 000 €	500 000 € - 1 million €	Neg. reputation with key stakeholders' management	< 6 months	< 100th time	5-25% Possible, there is a history of occurrences
Low	**2**	Medical treatment case	10 - 50 litres	10 000 - 100 000 €	100 000 € - 500 000 €	Neg. reputation with client's project mgmt.	< 2 years	< 500th time	1-5% Not expected, but it may occur at some time
Very Low	**1**	First aid case	1 - 10 litres	0 - 10 000 €	0 - 100 000 €	Neg. reputation with local client personnel	> 2 Years	< 1.000th time	0-1% Unlikely, but it may occur exceptionally

To visualise levels of the risks, colour codes may be used. In order to avoid confusion, the coding should be standardised.

HSE req. 043 Common risk acceptance criteria

Acceptance of risks is dependent on the degree of severity, expressed as the "risk factor":

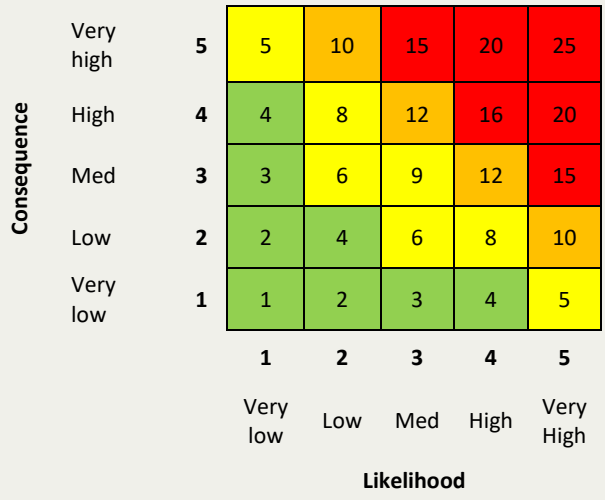
Risk factor = consequence x likelihood

The acceptance criteria in Fred. Olsen are as follows:

- Risk factor 15-25 Red Stop, or do not start activity, reduce risk before continuing
- Risk factor 10-12 Orange Activity may be conducted, subject to approval from CEO
- Risk factor 5-9 Yellow Activity may be conducted, take actions to further reduce risk
- Risk factor 1-4 Green Acceptable risk, monitor

The fact that a risk has been rated as "orange", "yellow" or "green" does not automatically mean that it is acceptable. Colour codes in risk matrices or risk registers shall be used as guidelines only and are not to be viewed as absolutes for taking or not taking actions. All risks shall be addressed on a case-by-case basis.

Risks may be presented in 5 x 5 matrices. The colouring of the cells in the matrix depicts the risk acceptance criteria.



6 Training requirements

6.1 General training requirements

HSE req. 044 General competence requirement

All personnel shall be trained and competent for the work they do.

Both the person conducting the work and his/her manager are responsible for ensuring that he/she has the necessary training and certifications to perform the work.

HSE req. 045 Competence matrix

The employer shall specify the training requirements for each role in the organisation and shall keep records of each person's training and relevant certification.

The employer shall present upon request:

1) List of training requirements for each position
2) Training matrix, showing the current status for training
3) Curriculum Vitae or other type of summary of education, training, and experience for each employee

6.2 Basic safety training

HSE req. 046 Basic safety training requirements

Offshore:

Personnel that are performing work offshore shall have the following basic safety training certificates (for medical fitness requirements, see HSE req. 048):

1) Marine crew:

   STCW Basic Training, *in addition to either:*
   GWO Sea Survival *or* GWO Working at Heights*

2) SPS crew:

   GWO Sea Survival

3) Marine crew and SPS crew that work at height or supervise work at height (see HSE req. 003):

   GWO Working at Heights*

4) Personnel performing work in offshore wind turbines:

   GWO Sea Survival
   GWO Working at Heights*
   GWO First Aid
   GWO Manual Handling
   GWO Fire Awareness

5) Rescue person for personnel transfer via boat landing (see HSE req. 023):

   GWO Working at Heights*

6) Personnel conducting transfer with helicopter (see HSE req. 024):

   Helicopter Underwater Egress Training (HUET) certificate
   Compressed Air – Emergency Breathing System (CA-EBS)
   Shoulder measurement (Bi-Deltoid) certificate if required by national regulations

Onshore:

7) Personnel performing work in or entering onshore wind turbines shall have the following basic safety training certificates (for medical fitness requirements, see HSE req. 048):

   GWO Working at Heights*
   GWO First Aid
   GWO Manual Handling
   GWO Fire Awareness

* For Germany, GWO Working at Heights shall be refreshed yearly.

Additional training may be required, subject to HSE bridging agreement with client or wind farm owner.

Equivalent training certificates may be accepted, subject to deviation approval. The Fred. Olsen company's HSEQ Manager (or equivalent) is authorised to approve deviations from training requirements on a case-by-case basis.

6.3 Safety inductions

Inductions are provided before work starts on an onshore site or vessel to inform joining personnel on the safety rules that apply.

HSE req. 047 Safety inductions

1) All personnel shall receive an induction when signing on to a vessel or an onshore site
2) The induction should include sufficient relevant safety information, as a minimum:
    a. General safety and security rules
    b. Responsibilities
    c. Minimum PPE requirements
    d. Emergency plans and phone numbers
    e. Hazards related to the onshore site/vessel
    f. Environment
    g. PTW system
    h. HSE incident reporting and Observation Cards (or equivalent)
3) Records of attendance to inductions shall be kept
4) Visitors and personnel that have not been inducted should be escorted at all times on the onshore site or on board the vessel

7 Health related requirements

7.1 Medical fitness

The following apply to ensure that personnel meet the minimum health requirements:

HSE req. 048 Medical fitness

1) All personnel shall be fit for the work they are set to perform
2) All personnel shall have medical certificates in accordance with applicable regulations

Offshore:

3) Personnel that shall work offshore (SPS crew) shall hold a valid OGUK or NOG medical certificate
4) Marine crew shall hold a valid medical certificate in accordance STCW Code, Section A-I/9

Onshore:

5) All personnel performing work in onshore wind turbines shall have medical certificate as required by national regulations
6) Where no such regulations exist, OGUK/NOG medical certificate or equivalent is required

Equivalent medical certificates may be accepted, subject to deviation approval. The Fred. Olsen company's HSEQ Manager (or equivalent) is authorised to approve deviations from medical certificate requirements on a case-by-case basis.

7.2 Drugs and alcohol

Fred. Olsen has zero tolerance for drugs and alcohol while at work.

HSE req. 049 Drugs and alcohol

Offshore:

1) The following drugs and alcohol policy applies for offshore work:

   The only acceptable level of drugs and alcohol content while on board vessels is zero.

   It is prohibited to bring on board or to be in the possession of drugs or alcohol, except prescription drugs which shall be reported immediately upon arrival on board.

   This drugs and alcohol policy applies to all crew members as well as any other person on board the vessels.

   It is the responsibility of the Master to ensure that the use of medically prescribed drugs does not impact safety.

Onshore:

2) The following drugs and alcohol policy applies for onshore work:

   The only acceptable level of drugs and alcohol while working onshore is zero.

   It is prohibited to be in possession of illegal drugs and alcohol on site.

7.3 Welfare facilities and work environment

In order to ensure satisfactory work conditions, basic welfare facilities need to be provided at all work sites onshore and offshore.

HSE req. 050 Work environment and welfare facilities

1) Onshore sites/offices/vessels shall conduct assessments of physical work environment, i.e., ergonomics, lighting, air quality, etc., as required by local laws and regulations
2) Annual personnel assessment shall be carried out for all employees
3) Onshore sites/offices/vessels shall implement a system with safety delegates and work environment committees/safety committees as required by local laws and regulations
4) Any onshore site or vessel shall be provided with adequate welfare facilities in accordance with applicable laws, rules, and regulations, including:
   a. Toilet facilities
   b. Washing facilities
   c. Place to eat
   d. Place to store clothing
   e. Rest area with proper heating, lighting and ventilation
   f. Maintenance routines for the welfare facilities

7.4 Fatigue and hours of work and rest

Physical fatigue, or muscle fatigue, is the temporary physical inability of muscles to perform optimally. Mental fatigue is a temporary inability to maintain optimal cognitive performance, e.g., reaction time, awareness to hazards, and attention. Fatigue may be sudden or gradual in onset. Both types are reversed by rest.

Providing undisturbed sleep or recovery periods is an operational priority. Adequate rest is imperative to keeping a high safety level. It is a clear management responsibility to ensure that the hours of work and rest limitations are adhered to.

'Hours of work' in this context means time during which an employee is required to do work on account of the employer at an onshore site or onboard a vessel.

'Hours of rest' in this context means time outside hours of work. This term does not include short breaks.

HSE req. 051 Hours of work and rest

1) Line managers are responsible for ensuring that physical and mental fatigue is prevented by providing adequate sleep and recovery periods
2) Hours of work and rest shall be in compliance with applicable maritime and local national laws and regulations
3) Maximum hours of work shall not exceed 14 hours in a 24-hour period
4) Minimum hours of rest shall not be less than 10 hours in a 24-hour period. The rest period may be divided into two periods, of which one shall be at least six hours
5) Marine crew shall follow the rest hours regulations as specified in the Marine Labour Convention (MLC)

8 Emergency Response requirements

Fred. Olsen companies establish generic or project specific Emergency Response Plans for handling incidents, emergencies, and crises.

For each offshore installation project, an Emergency Response bridging document will be provided as documented agreement between client, project, and vessel.

HSE req. 052 Emergency Response Plans

1) Each onshore site and vessel shall establish an Emergency Response Plan
2) Each project shall provide an Emergency Response bridging document, incorporating and bridging the requirements specified by the client
3) Subcontractors shall provide Emergency Response Plans as needed

9 Document revision history

9.1 Revision A - E

See paragraph 9 in the previous revisions.

9.2 Revision F

Para.	Req.	Title	Changes
-	-	Whole document	Adjusted text several places to increase clarity.
-	-	Acronyms and abbreviations	Updated.
1.1	-	Scope	Updated the text. Removed Universal Foundation.
1.6	-	Added Master's authorities	Added Master's authorities and responsibilities (ISM Code 5.2).
1.7	-	HSEQ Policy	Changed statement to "Zero environmental incidents".
2.2	002	Minimum PPE	Eye protection may be removed temporarily during critical work.
2.3	003	Working at heights	Working at heights shall be covered by PTW both offshore and onshore.
2.3	003	Working at heights	Subcontracted rope access technician to be IRATA or SPRAT compliant.
2.4	004	Dropped objects	New rules for barriers around drop zones at onshore sites.
2.5	006	Lifting operations	Updated categories to >50 t, man-riding operations, afloat lifting zones.
2.7	007	Hot works	Changed text to reflect difference between vessels and onshore sites.
2.9	009	Use of MEWPs, etc.	Removed requirement for wearing immersion suit over water.
2.11	011	Use of man-baskets	Removed requirement for wearing immersion suit over water.
2.12	013	Safety Data Sheets	Onshore sites: SDS shall be available in the local language.
2.14	015	Electrical work	Changed high voltage definition to >1000 V AC or >1500 V DC.
2.15	016	Waste management	Expanded requirements.
2.15	018	Energy efficiency	New requirement.
2.16	-	(Void)	Removed the previous paragraph (Travel). Ref to company procedures.
2.17	019	Traffic safety	Changed from "Company vehicles and rental cars". Reformulated.
2.18	020	Permit to Work system	Applies fully for onshore sites as well.
3.1	021	Use of FRCs, etc.	PLB not required in port.
3.5	026	Diving operations	Reformulated to reflect the vessel's use of divers in port.
3.6	027	(Void)	Removed the previous paragraph (ROV). Not considered relevant.
4.1	028	Shift meetings	Changed from "Shift hand-over meetings".
4.4	031	Language	Onshore sites: Radio communications may be in local language.
4.5	032	Mgmt system certifications	Reformulated requirement.
4.9	040	Monthly report	Updated list of items.
6.2	046	Basic safety training	Restructured. New training requirements for onshore work.
7.1	048	Medical fitness	New medical certificate requirements for onshore work.
7.3	050	Welfare facilities	Updated to cover "Work environment and welfare facilities".