

1.1.2 Manoeuvre unpowered vessels

Summary

What this standard is about

This standard covers the competence required to manoeuvre unpowered vessels in a marine environment.

Such vessels include those which are not powered by engine or sail, but might be manoeuvred by such as paddles or poles. They can include, for example, dumb-barges or lighters.

Who this standard is for

This standard applies to individuals at the operational level with responsibility for manoeuvring unpowered vessels in inland or coastal waters, and who work singly or in small crews.

1.1.2 Manoeuvre unpowered vessels

Outcomes of effective performance

You must be able to do the following:

- 1 Identify correctly and obtain the appropriate vessel, gear and equipment required to carry out the proposed operations, and confirm that it is in good working order before commencing the work
- 2 Prepare the vessel, checking that it is fit for purpose before commencing operations
- 3 Address and report correctly any difficulties and faults encountered, recording these where required
- 4 Ensure that all access to the vessel is undertaken safely and correctly
- 5 Brief all concerned clearly and correctly on the actions to be taken, ensuring that everyone understands their role and the emphasis upon safety
- 6 Manoeuvre the vessel safely using the correct techniques
- 7 Use the correct securing lines and methods
- 8 Confirm that the vessel is moored safely and securely

1.1.2 Manoeuvre unpowered vessels

Knowledge and understanding

You need to know and understand the following:

- 1 The impact upon you of relevant legislation, regulations and bye-laws relevant to manoeuvring unpowered vessels
- 2 How to interpret weather information and how different types of adverse weather can impact upon vessel movements
- 3 Techniques for manoeuvring unpowered vessels
- 4 The use of relevant aids to navigation when manoeuvring unpowered vessels
- 5 The appropriate use and display of lights and shapes
- 6 The functions of the various parts of the unpowered vessel
- 7 Local geography and water conditions, including navigable channels and tides, and their impact upon manoeuvring unpowered vessels
- 8 Procedures for dealing with emergencies on board your vessel

1.1.3 Operate vessel propulsion, ancillary, auxiliary and service machinery and systems

Summary

What this standard is about

This standard covers the competence required to operate vessel propulsion, ancillary, auxiliary and service machinery and systems, and to monitor and respond to any problems arising.

For brevity within the standard, the phrase 'machinery and systems' is used throughout to signify 'vessel propulsion, ancillary, auxiliary and service machinery and systems'.

Who this standard is for

This standard applies to individuals at the operational level involved in the operation and monitoring of marine propulsion, ancillary, auxiliary and service machinery and systems on vessels in inland or coastal waters, and who work singly or in small crews.

1.1.3 Operate vessel propulsion, ancillary, auxiliary and service machinery and systems

Outcomes of effective performance

You must be able to do the following:

- 1 Prepare and operate machinery and systems in accordance with established safety rules, regulations and operating instructions to prevent damage or pollution
- 2 Prepare the machinery and systems in the required sequence and time-scale
- 3 Start up or shut down machinery and systems safely and efficiently
- 4 Monitor and assess accurately the condition of the machinery and systems in accordance with schedules, operating requirements and instructions, and maintain operating conditions within given limits
- 5 Confirm that electrical protection devices are reset and enabled as appropriate
- 6 Monitor, record and maintain specified conditions, supplies and instrument readings within defined levels and manufacturers' recommendations for normal operations
- 7 Operate the machinery and systems in contingency situations, including the failure of remote control systems
- 8 Identify irregularities, defects or damage and take action promptly to maximise vessel, machinery and systems' safety
- 9 Carry out emergency shut down and isolating procedures and take multiple alarms in priority order to maximise vessel, machinery and systems' safety
- 10 Give sufficient notice of operations to enable other relevant personnel to carry out their responsibilities safely and efficiently
- 11 Report promptly and accurately to an appropriate authority any malfunction and irregularities

1.1.3 Operate vessel propulsion, ancillary, auxiliary and service machinery and systems

Knowledge and understanding

You need to know and understand the following:

- 1 The working principles and constructional details of machinery and systems
- 2 The operational checks and procedures to operate machinery and systems, and how to bring each individual system to a state of readiness
- 3 The preparation, starting, coupling and changeover of alternators or generators
- 4 The protection devices fitted to machinery and systems
- 5 The normal operating parameters for machinery and systems, the adjustments required to maintain conditions, and the consequences of deviations beyond specified operating parameters
- 6 The main duties and responsibilities of onboard personnel, delegation of responsibilities in the machinery space and the level of supervision required by individuals
- 7 The location, cause and effects of common faults in machinery and systems, and the action necessary to prevent damage
- 8 The operation of machinery and systems in the event of failure of remote control systems
- 9 The shutting down process of machinery and systems on completion of operations
- 10 The importance and use of records for commercial and legislative purposes
- 11 The application of statutory regulations and guidelines, organisational instructions and guidance and vessel contingency plans

1.1.6 Control the launch and recovery of vessels

Summary

What this standard is about

This standard covers the competence required in launching and/or recovering vessels. Such vessels might be those, for example, launched from another vessel, or from a beach or causeway.

Who this standard is for

This standard applies to individuals at the operational level with responsibility for controlling the launch and/or recovery of vessels operating in inland or coastal waters, and who work singly or in small crews.

1.1.6 Control the launch and recovery of vessels

Outcomes of effective performance

You must be able to do the following:

- 1 Plan the launch/recovery, taking into account correctly the nature of the launch/recovery, the weather and relevant marine conditions affecting the operation
- 2 Brief all concerned clearly and correctly on the actions to be taken, ensuring that everyone understands their role and the emphasis upon safety
- 3 Prepare correctly all necessary launch/recovery equipment, checking for damage and making good any faults before use
- 4 Prepare correctly the vessel to be launched/recovered
- 5 Deploy launch equipment correctly and safely
- 6 Monitor the launch/recovery and make any necessary adjustments correctly and safely
- 7 Ensure that launch/recovery equipment is secured and made safe following use
- 8 Follow appropriate procedures correctly

1.1.6 Control the launch and recovery of vessels

Knowledge and understanding

You need to know and understand the following:

- 1 The principal types of launch and recovery operations that you may encounter
- 2 Safe operating procedures for launching/recovering vessels, including the precautions to be taken to avoid damage to the vessel and others in the vicinity
- 3 The factors to take into account when planning to launch and/or recover a vessel, and their impact upon safe operating procedures
- 4 Principal risks associated with launching and/or recovering a vessel, and how these are addressed
- 5 Correct procedures for operating the launch and/or recovery equipment
- 6 The importance of ensuring that everyone involved in the launch/recovery understands their role

1.1.7 Handle lines and secure vessels

Summary

What this standard is about

This standard covers the competence required to handle lines when undertaking operations such as manoeuvring and the securing of vessels.

Who this standard is for

This standard applies to individuals at the operational level with responsibility for handling lines between vessels and their mooring points, and who work singly or in small crews.

1.1.7 Handle lines and secure vessels

Outcomes of effective performance

You must be able to do the following:

- 1 Clear all moveable obstructions and potential hazards from the area where lines are to be worked
- 2 Identify correctly and obtain the equipment required, and confirm that it is in good working order before commencing operations
- 3 Establish contact and agree operating arrangements with all of those involved ahead of the operations
- 4 Communicate clearly, concisely and accurately
- 5 Use materials and equipment correctly and safely
- 6 Handle lines correctly at all times
- 7 Take proper consideration of the prevailing weather and marine conditions when handling lines
- 8 Transfer lines safely using the line handling vessel
- 9 Use securing points correctly
- 10 Monitor all activities and the whereabouts of individuals within the vicinity of the operations, and take immediate and appropriate actions to address potential risks and dangerous situations

1.1.7 Handle lines and secure vessels

Knowledge and understanding

You need to know and understand the following:

- 1 Your own individual responsibility for maintaining the health and safety of yourself and others
- 2 How currents/tides and different types of adverse weather conditions can impact upon line handling
- 3 How to use line handling craft
- 4 The correct words and phrases used in describing vessels and their movements
- 5 The use of hand signals and other communications when handling lines
- 6 How to dip a rope's eye
- 7 Workplace procedures for dealing with incidents and emergency situations associated with handling lines

2.2.1 Plan and execute search and rescue operations in a marine environment

Summary

What this standard is about

This standard covers the competence required in planning and coordinating a marine search and rescue operation. It includes obtaining information, briefing those involved and directing search and rescue operations.

Who this standard is for

This standard applies to individuals at the operational level with responsibility for executing emergency search and rescue operations in a marine environment, which includes operations in inland and coastal waters.

2.2.1 Plan and execute search and rescue operations in a marine environment

Outcomes of effective performance

You must be able to do the following:

- 1 Obtain all available information regarding the incident and the nature of any casualties
- 2 Establish up to date weather, current and tidal conditions affecting the location of the incident
- 3 Establish the datum point for commencing the search
- 4 Liaise with all relevant parties promptly and correctly, providing them with the necessary details of the incident and any casualties
- 5 Identify and confirm the appropriate lines of authority when directing the search and rescue
- 6 Liaise with the information and establish the most appropriate type of search and rescue plan to be used
- 7 Determine correctly whether the incident may have associated hazards impacting upon the operation or other vessels in the vicinity, and where necessary, notify all relevant parties of the hazard promptly and accurately
- 8 Brief those involved in the search and rescue operation accurately and concisely, using language that is clear and unambiguous
- 9 Execute the search and rescue operation according to the plan
- 10 Maintain up to date and accurate records

2.2.1 Plan and execute search and rescue operations in a marine environment

Knowledge and understanding

You need to know and understand the following:

- 1 The types of incident that may occur requiring search and rescue operations
- 2 The importance of effective planning in search and rescue operations, and how to do this within your authority and responsibility, and what plans need to address
- 3 The importance of establishing an accurate datum point, how to do this and factors to be considered in its calculation
- 4 Sources and procedures to ensure that all available information is obtained regarding incidents and casualties, including methods for locating them
- 5 Sources of information for up to date weather forecasts, current and tidal information and how they are accessed
- 6 Principal types of potential hazards that may be encountered when undertaking search and rescue operations, and which may have been caused by the incident, and the actions appropriate to addressing such hazards, including who to notify
- 7 Methods for plotting information regarding an incident's location on a chart
- 8 Various types of search patterns, and the situations when these might be used and why
- 9 The importance of ensuring that instructions are clear and unambiguous
- 10 Those third parties who might be involved in search and rescue operations, and their roles and responsibilities

2.2.2 Locate, recover and transfer casualties in a marine environment

Summary

What this standard is about

This standard covers the competence of recovering and transferring a casualty in a marine environment. It includes assessing the condition of the casualty and determining a recovery plan, giving consideration to the hazards to the vessel and the casualty.

Who this standard is for

This standard applies to individuals at the operational level with responsibility for recovering and transferring casualties in a marine environment, which includes operations in inland and coastal waters.

2.2.2 Locate, recover and transfer casualties in a marine environment

Outcomes of effective performance

You must be able to do the following:

- 1 Identify the casualty, and their location and condition as fully as possible from the information available
- 2 Assess the condition of the casualty and determine a recovery plan, giving consideration to the hazards faced by your vessel and by the casualty
- 3 Brief all of those involved clearly and accurately
- 4 Prepare correctly any equipment to be used in the recovery
- 5 Identify and address any faults in the equipment promptly and correctly
- 6 Take all relevant steps to minimise any hazards to your crew, vessel and the casualty
- 7 Implement the agreed recovery plan correctly, deploying any rescue equipment safely and properly
- 8 Secure the casualty for safe transport
- 9 Review the casualty and make an accurate assessment of their condition
- 10 Alert relevant agencies of the casualty's condition, providing all necessary information clearly and accurately
- 11 Prepare your vessel correctly for transfer operations and brief those involved
- 12 Assist emergency service personnel to transfer the casualty safely, responding correctly and promptly to questions and instructions
- 13 Use language that is concise, accurate and unambiguous
- 14 Recover, stow and secure any rescue equipment used safely and correctly

2.2.2 Locate, recover and transfer casualties in a marine environment

Knowledge and understanding

You need to know and understand the following:

- 1 The types of incident that may occur requiring search and rescue operations
- 2 Sources and procedures for confirming the identify of a casualty and the nature of any injuries
- 3 Different types of recovery plan and the circumstances when these might be used and why
- 4 The factors to take into account when recovering casualties, and when preparing to deploy relevant rescue equipment, including the weather conditions and the condition of the casualty
- 5 The various parts of relevant rescue equipment and their purpose
- 6 Safe working practices in the deployment, use and recovery of relevant rescue equipment
- 7 Types of hazard that need to be considered when recovering casualties, including hazards affecting the vessel, crew, the casualty and the deployment of relevant rescue equipment, and methods of minimising the different hazards
- 8 Methods for assessing the condition of casualties when they have been recovered
- 9 Methods for securing casualties towards ensuring their safe transportation
- 10 The different agencies to which casualties can be transferred, and which are appropriate to different situations
- 11 Safe working practices and procedures when transferring casualties from your vessel to another agency
- 12 The information required by other agencies when transferring casualties, and how to provide this
- 13 The factors to take into account when transferring casualties, including the weather conditions and the condition of the casualty
- 14 Potential hazards that might occur when transferring casualties from your vessel, including those that might arise during transfers at night, and the actions appropriate to minimising or eliminating associated risks

2.3.1 Tow vessels

Summary

What this standard is about

This standard covers the competence required when moving another vessel, or object, in a controlled manner through towing and/or pushing that vessel.

For brevity, 'tow' is used throughout this standard. However, wherever the term tow, or towing, is used in this standard it should be taken to apply to pushing as well, such that the standard applies equally to towing and/or pushing.

The standard applies to towing/pushing in port, inland and coastal waters, and covers:

- pulling behind,
- pushing ahead,
- towing alongside,
- multiple tows.

Who this standard is for

This standard applies to individuals at the operational level with responsibility for towing and/or pushing other vessels or objects in inland or coastal waters, and who work singly or in small crews.

2.3.1 Tow vessels

Outcomes of effective performance

You must be able to do the following:

- 1 Inspect the vessel to be towed and establish correctly that it is safe to tow to the planned destination
- 2 Inform the relevant authority promptly where you assess the vessel to be unfit for towing, stating the reasons clearly
- 3 Where necessary, ensure that all statutory, regulatory and other requirements for the tow are identified and met, and comply with all navigational, reporting and warning requirements
- 4 Assess the circumstances affecting the requirement for a tow, and determine correctly any risks involved
- 5 Plan the tow, identifying correctly the actions required, taking into account the characteristics of the tow, and any relevant navigational restrictions, determining the best method for towing
- 6 Establish and maintain clear and appropriate communications between your vessel and that to be towed
- 7 Brief all concerned clearly and correctly on the actions to be taken, ensuring that everyone understands their role and the emphasis upon safety
- 8 Prepare correctly all necessary equipment for towing and rigging, checking for damage prior to taking a tow, making good and reporting any faults before use
- 9 Identify where the transfer of a crew member to the vessel to be towed would assist the towing operation, and where relevant, undertake such a transfer safely and correctly
- 10 Rig, secure and deploy the towing equipment correctly, taking necessary actions to protect both vessels and to minimise the effect of chafe
- 11 Ensure that the correct audible and visual signals indicate towing
- 12 Monitor the tow, and make any necessary adjustments correctly and safely
- 13 Establish communications with those receiving the tow and other relevant authorities, and ensure that preparations for receiving the tow on arrival are in place
- 14 Disengage the tow correctly and safely

2.3.1 Tow vessels

Knowledge and understanding

You need to know and understand the following:

- 1 Statutory, regulatory and other requirements affecting towing within your area of responsibility, including their requirements regarding the correct audio and visual signals to indicate towing, including navigational, reporting and warning requirements upon towing operations and their impact on your own operations
- 2 Factors to consider when assessing whether a vessel is fit for towing
- 3 The factors to take into consideration when planning to take a vessel under tow, their impact upon the towing method, and how to make contingencies in addressing any uncertainties when planning the tow
- 4 Navigational restrictions which may affect a towing operation
- 5 Different methods of towing, and their relative advantages and disadvantages
- 6 Principal risks associated with towing, and how these are addressed, including the actions to take in an emergency
- 7 Safety procedures relating to crew operations when working with lines on deck
- 8 Circumstances where it is beneficial to transfer a crew member to the vessel to be towed, and how to do this safely
- 9 Securing arrangements, including where and how to secure the towing equipment to your vessel and the vessel to be towed, and how different conditions affect the securing operation
- 10 The importance of checking the towing equipment for chafe and damage, the causes of chafe and how to minimise its affect
- 11 Techniques for throwing a heaving line/bolas, and the safety precautions to be taken when passing a line
- 12 The precautions to be taken to avoid damage to either vessel
- 13 The process of disengaging the tow in both normal conditions and also in emergency conditions

2.4.1 Plan and carry out dredging operations from a vessel

Summary

What this standard is about

This standard covers planning for and carrying out dredging operations from a vessel within inland and/or coastal waters.

Dredging operations can include those involving any form of dredging, including for example, cutting, dragging, hopper suction, jetting and ploughing operations.

Who this standard is for

This standard applies to individuals at the operational level with responsibility for planning and carrying out dredging from a vessel in inland or coastal waters, and who work singly or in small crews.

2.4.1 Plan and carry out dredging operations from a vessel

Outcomes of effective performance

You must be able to do the following:

- 1 Establish correctly the area to be dredged, the material likely to be removed including its quantity, and identify and assess any related potential hazards
- 2 Use the appropriate vessel, gear and equipment required to carry out dredging operations
- 3 Plan the dredging operation, taking account of the characteristics of the vessel, gear and equipment, the nature of the material to be dredged, and the environment
- 4 Identify any potential areas of uncertainty, and prepare relevant contingencies to address these
- 5 Confirm the destination of the waste materials, that this is adequate and appropriate for the safe and correct disposal of the materials, and that all necessary permissions have been obtained
- 6 Brief all concerned clearly and correctly on the actions to be taken, ensuring that everyone understand their role and the emphasis upon safety
- 7 Notify all relevant persons promptly and correctly of the dredging operation, where relevant
- 8 Confirm that the vessel, gear and equipment is in good working order before use
- 9 Operate vessel and dredging equipment correctly and safely, ensuring that dredging occurs at, and to, the required level
- 10 Dispose of items and dredged materials removed from the water correctly and safely
- 11 Report any suspicious items promptly and accurately to the relevant person
- 12 Maintain a look out and radio watch for other individuals and vessels within the vicinity of the dredging operation and take the necessary action to maximise safe working operations
- 13 Ensure that those working areas above water are clean, tidy and free from obstructions, upon completion of operations

2.4.1 Plan and carry out dredging operations from a vessel

Knowledge and understanding

You need to know and understand the following

- 1 The operation of the principal types of dredging vessels, gear and equipment used in your area of operations
- 2 How to plan dredging operations and the factors to take into account
- 3 How to interpret weather and sea state information and how these can impact upon dredging operations and craft movements
- 4 How a craft's stability may be affected by dredging operations
- 5 The importance and impact of Department for Environment and Rural Affairs' (DEFRA) dredging licence, United Kingdom Hydrographic Office's (UKHO) Hydrographic Standards, and other regulations upon dredging operations
- 6 Your organisation's and local navigation authorities' requirements for dealing with reports of hazards and obstructions within navigable channels
- 7 Local geography, including advertised water depths, and water conditions, and their impact upon the movement of craft, obstructions and hazards
- 8 Your organisation's inspection regime for dredging equipment
- 9 The importance of following safe working practice when dredging, and how to do this
- 10 Methods for minimising environmental damage during work and in the disposal of dredged materials
- 11 The importance of clear communications on board and with other vessels, and how to do this
- 12 Relevant persons to be notified of dredging operations, and how to do this
- 13 Procedures for dealing with emergencies when dredging

2.4.2 Position and maintain moorings, buoys and beacons within a marine environment

Summary

What this unit is about

This standard covers the assembly, positioning and retrieving of navigation buoys and beacons within a marine environment, as well as moorings for ship tiers and general moorings including those for yachts and other small craft.

For brevity within the standard, the phrase 'position and maintain' is used throughout to signify the positioning, retrieving, assembly and maintaining of moorings, buoys and beacons.

Who this standard is for

This standard applies to individuals at the operational level with responsibility for the positioning and maintaining of moorings, buoys and beacons in inland or coastal waters.

2.4.2 Position and maintain moorings, buoys and beacons within a marine environment

Outcomes of effective performance

You must be able to do the following:

- 1 Identify correctly the location and water depth where the moorings, buoys and beacons are to be positioned
- 2 Plan the approach to the positioning and maintaining of moorings, buoys and beacons, taking into account all relevant factors
- 3 Identify and select the vessel required for operations, ensuring that it is fit for purpose
- 4 Obtain correctly all the equipment necessary for positioning and maintenance operations, and confirm that it is fit for purpose, in good working order and safe to use
- 5 Ensure that all lifting equipment is certificated correctly
- 6 Brief all concerned clearly and correctly on the actions to be taken, ensuring that everyone understands their role and the emphasis upon safety
- 7 Assemble moorings, buoys and beacons safely and correctly
- 8 Handle materials and equipment correctly and with care, avoiding undue wear and tear
- 9 Undertake operations correctly and safely
- 10 Maintain clear and appropriate communications between all relevant parties throughout the operations
- 11 Maintain all necessary records accurately and up to date, and inform relevant authorities of the actions undertaken

2.4.2 Position and maintain moorings, buoys and beacons within a marine environment

Knowledge and understanding

You need to know and understand the following:

- 1 Requirements of relevant regulations and codes of practice relating to the positioning and maintenance of moorings, buoys and beacons
- 2 The purpose and limitations of the components of the mooring gear, navigation buoys and beacons
- 3 How to inspect and maintain mooring gear correctly
- 4 The importance of effective planning when preparing to position and maintain moorings, buoys and beacons, how to do this and the factors to take into account in the planning process
- 5 The factors to take into account when identifying the appropriate vessel for the proposed operations
- 6 The impact of weather, environmental and tidal aspects upon the positioning and maintaining of moorings, buoys and beacons
- 7 The capabilities of the vessel being used
- 8 A basic understanding of how a craft's stability may be affected by lifting operations
- 9 The operation and limitations of the principal types of relevant lifting and hauling gear
- 10 The safe working limits of the equipment used in positioning and maintaining moorings, buoys and beacons within your organisation

2.5.3 Contribute to vessel loading and discharge

Summary

What this standard is about

This standard covers the competence required to contribute to the loading and discharge of vessels. The loading and discharge can be of non-liquid and/or bulk liquid cargo.

Who this standard is for

This standard applies to individuals at the support level with responsibility for supporting the loading and discharging vessels in inland waters, and who work singly or in small crews.

2.5.3 Contribute to vessel loading and discharge

Outcomes of effective performance

You must be able to do the following:

- 1 Identify the load to be moved, and agree the method for loading/discharging the vessel
- 2 Identify and prepare relevant equipment correctly, in line with appropriate operating and safety procedures
- 3 Confirm that all relevant equipment is in working order, reporting promptly any faults to the relevant person
- 4 Operate loading, discharge and associated lifting equipment safely and according to operating instructions
- 5 Undertake any required signalling and slinging correctly and safely
- 6 Carry out the loading/discharge operations according to the agreed procedures
- 7 Adjust vessel moorings during loading and discharge when appropriate
- 8 Shut down and secure correctly all equipment upon completion
- 9 Follow safe working practices at all times

2.5.3 Contribute to vessel loading and discharge

Knowledge and understanding

You need to know and understand the following:

- 1 The requirements appropriate to your operations arising from legislation and codes of practice relevant to the loading and discharge of vessels
- 2 Safe working practices to be observed when loading and discharging vessels, including relevant lifting operations and the adjustments of moorings
- 3 How to operate deck and other equipment involved in loading/discharging operations
- 4 Load handling and slinging methods
- 5 The different classifications of dangerous goods
- 6 The importance of clear communications, and how to do this
- 7 Your vessel construction and operational characteristics relevant to loading and discharge operations
- 8 The correct terminology and use of instructions when loading and discharging vessels
- 9 Procedures for dealing with emergencies when loading and discharging vessels

2.5.4 Plan and carry out vessel loading and discharge of cargo other than bulk liquid

Summary

What this standard is about

This standard covers the competence required when planning and carrying out the loading and discharge of cargo other than bulk liquid.

Who this standard is for

This standard applies to individuals at the operational level with responsibility for planning and carrying out the loading and discharging of non-liquid cargo in inland or coastal waters, and who work singly or in small crews.

2.5.4 Plan and carry out vessel loading and discharge of cargo other than bulk liquid

Outcomes of effective performance

You must be able to do the following:

- 1 Identify and assess the characteristics of the load to be moved, and determine correctly the relevant methods of loading/discharging the vessel
- 2 Plan the loading/discharging operation, taking into account the characteristics of the vessel, berth and the load, including where relevant, the presence of any dangerous goods, the resources available, and the need to protect the local environment from potential pollution
- 3 Identify any potential areas of uncertainty and prepare relevant contingencies to address these
- 4 Identify the equipment required for loading/discharging the vessel
- 5 Brief all concerned clearly and correctly on the actions to be taken, ensuring that everyone understands their role and the emphasis upon safety
- 6 Communicate clearly, concisely and unambiguously
- 7 Prepare correctly all necessary equipment, checking for damage and making good any faults before use
- 8 Ensure that the vessel is positioned securely, with appropriate moorings which allow for any necessary adjustments during loading and discharge
- 9 Operate equipment safely and according to operating instructions
- 10 Ensure that required signalling and slinging are undertaken correctly and safely
- 11 Carry out the loading/discharge operations according to the plan
- 12 Monitor and maintain vessel stability throughout the loading/discharging operations
- 13 Ensure that safe access to the vessel and cargo areas is maintained during loading and discharge
- 14 Keep working areas free of all obstructions and hazards
- 15 Shut down and secure correctly all equipment upon completion
- 16 Notify relevant authorities of any damaged cargo
- 17 Follow safe working procedures at all times

2.5.4 Plan and carry out vessel loading and discharge of cargo other than bulk liquid

Knowledge and understanding

You need to know and understand the following:

- 1 Your organisation's procedures relating to the meeting of legislative and codes of practice requirements regarding the loading and discharge of cargo, other than bulk liquid, and you are aware of the relevant sections of this legislation and codes of practice
- 2 The factors to take into account when planning the loading and discharging of loads to/from vessels, including safe mooring practices, and the need to protect the local environment from potential pollution
- 3 The importance of maintaining vessel stability when loading and discharging, including the typical problems associated with the movement of weight on a vessel, and how to address these
- 4 Load handling and slinging methods, including the use of deck and other relevant equipment
- 5 The different classifications of dangerous goods
- 6 The importance of clear communications, and how to do this
- 7 Your vessel construction and operational characteristics relevant to loading and discharge operations
- 8 The correct terminology and use of instructions when loading and discharging vessels
- 9 Procedures for reporting damaged cargo
- 10 Procedures for dealing with emergencies when loading and discharging vessels

2.5.5 Plan and carry out vessel loading and discharge of bulk liquid cargo

Summary

What this standard is about

This standard covers the competence required when planning, and then carrying out the loading and discharge of bulk liquid cargo vessels.

Who this standard is for

This standard applies to individuals at the operational level with responsibility for planning and carrying out the loading and discharging of bulk liquid cargo vessels, in inland or coastal waters, and who work singly or in small crews.

2.5.5 Plan and carry out vessel loading and discharge of bulk liquid cargo

Outcomes of effective performance

You must be able to do the following:

- 1 Establish the exact nature of the cargo to be handled, identify and assess all potential hazards, and determine the correct safety and emergency shutdown procedures
- 2 Determine the communication protocols with the receiver/supplier of the cargo
- 3 Plan the loading/discharging operation, taking into account the characteristics of the vessel, berth and load, including procedures to avoid the overfilling of any tanks, and the need to protect the local environment from potential pollution
- 4 Identify any potential areas of uncertainty, and prepare relevant contingencies and precautions to address these
- 5 Identify the equipment required for loading/discharging the vessel, including that required for personal protection
- 6 Brief all concerned clearly and correctly on the actions to be taken, ensuring that everyone understands their role and the emphasis upon safety
- 7 Confirm the destination of the cargo and that there is adequate storage capacity available for the cargo expected, before beginning handling operations
- 8 Ensure that the vessel is positioned securely, with appropriate moorings which allow for any necessary adjustments during loading/discharge
- 9 Confirm that all connections are leak-free before transfer begins
- 10 Operate equipment safely and according to operating instructions
- 11 Monitor pipelines for leaks at all times, identifying and addressing any difficulties promptly and correctly
- 12 Ensure that all pipelines and connecting hoses are empty before disconnecting and cleaning pipelines safely and correctly
- 13 Shut down and secure correctly all equipment upon completion
- 14 Deal with any residues and spillages promptly and correctly
- 15 Keep working areas free of all obstructions and hazards
- 16 Maintain accurate and up to date records of cargo transferred, where required
- 17 Follow safe working procedures at all times

2.5.5 Plan and carry out vessel loading and discharge of bulk liquid cargo

Knowledge and understanding

You need to know and understand the following

- 1 Your organisation's procedures relating to the meeting of legislative and codes of practice requirements regarding the loading and discharge of bulk liquid cargo, and you are aware of the relevant sections of this legislation
- 2 Relevant national and international regulations and codes of practice relating to the carriage of dangerous cargo
- 3 The principal types of handling equipment for bulk liquid cargo, their operating capabilities and specific characteristics and restrictions
- 4 The factors to take into account when planning the loading and discharge of loads to/from vessels, including safe mooring practices, and the need to protect the local environment from potential pollution
- 5 The importance of maintaining vessel stability when loading and discharging, its relevance to ensuring the complete discharge of cargo, including the typical problems associated with the movement of weight on a vessel, and how to address these
- 6 The implications of back pressure and its significance in relation to pipeline systems
- 7 Emergency shut down systems and procedures
- 8 Procedures for flushing and pigging lines
- 9 The principal characteristics of the main types of bulk liquid cargo, including their nature and weight, and whether they are hazardous or non-hazardous
- 10 The correct terminology and use of instructions when loading and discharging vessels
- 11 The importance of clear communications both on the vessel and also with the receiver/supplier, and how to do this
- 12 Your vessel construction and operational characteristics relevant to loading and discharging bulk liquid cargo
- 13 Procedures for dealing with emergencies when loading and discharging vessels

2.6.1 Carry passengers on board vessels

What this standard is about

This standard covers the carrying of passengers on board vessels. It includes ensuring that safe operating procedures are followed.

Who this standard is for

This standard applies to individuals at the operational level with responsibility for carrying passengers on board vessels.

2.6.1 Carry passengers on board vessels

Outcomes of effective performance

You must be able to do the following:

- 1 Ensure that passenger areas are clean, tidy and free from obstructions and hazards
- 2 Ensure that passengers are informed correctly of any particular requirements regarding footwear and clothing in sufficient time ahead of the voyage
- 3 Carry out embarkation checks correctly
- 4 Brief crew members clearly, ensuring that they understand their roles and responsibilities, with particular reference to those relating to emergency and evacuation procedures
- 5 Ensure that passenger safety announcements are made correctly
- 6 Provide safe passenger access to the vessel and in all public areas, meeting correctly safe operating procedures
- 7 Respond to passenger queries courteously, providing relevant information clearly, demonstrating behaviour that shows respect, helpfulness and cooperation
- 8 Ensure that passengers are guided to the correct locations on board the vessel
- 9 Identify and record accurately the number of passengers on board, where required, reporting this to the relevant authority
- 10 Wear appropriate clothing to assist passenger identification of crew members
- 11 Carry out fire, safety and security patrols as required, taking appropriate action in response to any irregularities or occurrences arising
- 12 Deal correctly with any incidents or accidents to passengers, reporting these promptly and accurately, where necessary

2.6.1 Carry passengers on board vessels

Knowledge and understanding

You need to know and understand

- 1 Relevant statutory, regulatory and other requirements relating to your area of operations
- 2 The purpose and limitations of personal protective equipment and life saving gear for use on or near water
- 3 The importance of crew pre-voyage briefings and passenger safety announcements and how to conduct these
- 4 The principal methods for communicating with vessels
- 5 Your organisation's procedures for carrying passengers
- 6 Your organisation's procedures for dealing with difficult or unruly passengers, and techniques for minimising the potential for conflict in difficult situations
- 7 The importance of identifying crew members clearly, and how to do this in both routine and emergency situations
- 8 How to deal with extreme weather conditions when managing the safety of personnel and the vessel
- 9 Procedures for identifying and dealing with safety risks, incidents, evacuation and emergencies, including the location of, and how to use, first-aid, safety and emergency equipment
- 10 The importance of safety instructions and mandatory information signs, their location and how to maintain these
- 11 The importance of fire prevention, and of maintaining designated no-smoking areas
- 12 The importance of fire, safety and security patrols, and the actions to take in response to irregularities and occurrences arising
- 13 The importance of controlling personnel in emergency situations, and techniques for dealing with reactions such as stress and fear, towards avoiding the potential for panic
- 14 Procedures for dealing with man overboard and the recovery of personnel from the water

3.1.1 Transfer personnel to/from and between vessels

What this standard is about

This standards covers ensuring the safe transfer of personnel to/from and between vessels.

Who this standard is for

This standard applies to individuals at the operational level with responsibility for ensuring the safe transfer of personnel to/from and between vessels.

3.1.1 Transfer personnel to/from and between vessels

Outcomes of effective performance

You must be able to do the following:

- 1 Ensure that areas used when transferring personnel are clean, tidy and free from obstructions and hazards
- 2 Identify correctly and obtain the equipment required for transferring personnel, and confirm that it is in good working order before commencing operations
- 3 Ensure that personnel are provided with relevant life saving gear, where required
- 4 Establish and maintain clear communications with relevant individuals whilst transferring personnel
- 5 Respond to queries from personnel courteously, providing relevant information clearly and accurately
- 6 Transfer personnel correctly and safely, following safe and proper procedures, ensuring that vessels are positioned securely prior to the transfer, and taking proper consideration of the prevailing weather and tidal conditions
- 7 Deal correctly with any incidents or accidents to personnel, reporting these promptly and accurately, to the relevant authority

3.1.1 Transfer personnel to/from and between vessels

Knowledge and understanding

You need to know and understand

- 1 The purpose and limitations of personal protective equipment and life saving gear for use on or near water
- 2 Vessel communication methods with regard to transferring individuals
- 3 Safe procedures for transferring personnel
- 4 Procedures for identifying and dealing with safety risks, incidents and emergencies associated with transferring personnel
- 5 The location of and use of first-aid, safety and emergency equipment

3.2.1 Transfer fuel, oil and lubricants to and from vessels

Summary

What this standard is about

This standard covers the competence required to transfer fuel, oil and lubricants to and from vessels, where the fuel, oil and lubricants are for use by the vessels rather than being part of any cargo.

Who this standard is for

This standard applies to individuals at the operational level with responsibility for transferring fuel, oil and lubricants to and from vessels in inland or coastal waters for the vessels' use, and who work singly or in small crews.

3.2.1 Transfer fuel, oil and lubricants to and from vessels

Outcomes of effective performance

You must be able to do the following:

- 1 Prepare the working area correctly, ensuring that all obstructions and hazards are removed, and that relevant safety systems and equipment are available and operating correctly
- 2 Cordon off the area and place warning signs correctly, establishing and maintaining a safety boundary in line with best practice and regulatory requirements
- 3 Deploy spill prevention systems correctly
- 4 Ensure that all equipment required for an emergency response is immediately available
- 5 Establish and maintain clear contact with all others involved in the operation, agreeing the protocol for transferring materials prior to beginning operations
- 6 Identify the equipment required and confirm that it is operating correctly before beginning the operation
- 7 Connect pipelines properly, assembling flanges and gaskets, and lining up valves correctly
- 8 Confirm that all connections are leak free before commencing operations, and monitor the pipelines for leaks at all times
- 9 Calculate correctly the amount and positioning of the materials to be transferred to the vessel
- 10 Upon completion confirm that it is safe to disconnect pipelines
- 11 Disconnect and clean pipelines correctly and only when it is safe to do so
- 12 Deal with any residues and spillages promptly and correctly
- 13 Maintain accurate and up to date records of fuel, oil and lubricants that have been transferred, where required
- 14 Ensure that all relevant regulatory requirements and codes of practice are met

3.2.1 Transfer fuel, oil and lubricants to and from vessels

Knowledge and understanding

You need to know and understand the following:

- 1 The principal types of equipment used to transfer fuel, oil and lubricants to/from vessels
- 2 The implications of back pressure and its significance in relation to pipeline systems
- 3 The potential hazards and related safety precautions applicable during the transfer of fuel, oil and lubricants to/from vessels
- 4 Basic environmental protection measures to be applied during the transfer of fuel, oil and lubricants to/from vessels
- 5 Your organisation's procedures relating to transferring fuel, oil and lubricants to/from vessels
- 6 Your organisation's procedures relating to meeting legislative requirements regarding the transfer of fuel, oil and lubricants to/from vessels, with an awareness of the relevant sections of this legislation
- 7 The location of, and how to use, emergency and safety relevant equipment, including procedures for addressing oil-based fires

4.2.3 Maintain vessel machinery and systems

Summary

What this standard is about

This standard covers the competence required to undertake basic maintenance, restoration and repair of vessel machinery and systems whilst on board. It includes the basic maintenance of mechanical, electrical, telecommunication and navigation systems.

Who this standard is for

This standard applies to individuals at the operational level with responsibility for the basic maintenance of mechanical, electrical, telecommunications and navigation systems on vessels operating in inland or coastal waters, and who work singly or in small crews.

4.2.3 Maintain vessel machinery and systems

Outcomes of effective performance

You must be able to do the following:

- 1 Prepare a work schedule to maintain machinery and systems and their components in accordance with a maintenance plan, established regulations, procedures, guidelines, safety practice, and environmental protection
- 2 Carry out isolation and earthing procedures correctly, in accordance with the type and nature of the specific equipment
- 3 Confirm that work areas, machinery and equipment are safe for work to proceed, and comply with legislative requirements, codes of practice, isolation procedures, permit to work procedures and environmental concerns
- 4 Carry out the maintenance, checks and tests in accordance with established safety rules and regulations, manufacturers' instructions and good practice
- 5 Identify details for further action where equipment and parts fail to meet required performance after maintenance
- 6 Restore the equipment or system to the correct settings and specification using the appropriate method
- 7 Recognise variances to specification, plans and schedules and implement effective corrective action
- 8 Bring machinery and systems back into service, according to correct procedures which meet vessel standards, operational requirements and specifications
- 9 Complete documentation and records accurately and to meet future requirements

4.2.3 Maintain vessel machinery and systems

Knowledge and understanding

You need to know and understand the following:

- 1 The working principles and constructional details of marine machinery and systems
- 2 The possible hazards associated with the work area, equipment and machinery in the work area
- 3 The requirements and procedures for isolating and de-isolating machinery and systems
- 4 Your organisation's requirements for Permits to work
- 5 The use of tools and equipment for maintenance and repair of equipment
- 6 Routine test procedures and technical requirements of tests
- 7 The correct settings for telecommunications and navigation equipment and systems
- 8 The correct settings for mechanical and electrical machinery and systems
- 9 The adjustments required to maintain correct performance
- 10 The application of statutory regulations and guidelines, organisational instructions and guidance, and vessel contingency plans