

Competency Framework for Master Vessel less than 500GT Near Coastal

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Function: Navigation at the Management Level

Competency	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Plan and conduct a passage and determine position</p>	<p>Navigation</p> <p>Ability to determine the ships position by the use of :</p> <ul style="list-style-type: none"> • landmarks • aids to navigation, including lighthouses, beacons and buoys • dead reckoning, taking into account winds, tides, currents and estimated speed <p>Thorough knowledge of and ability to use nautical charts and publications, sailing directions, tide tables, notices to mariners, radio navigational warnings and ship’s routeing information</p> <p>Reporting in accordance with General Principles for Ship Reporting Systems and with VTS procedures</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved in-service experience .2 approved training ship experience .3 approved simulator training where appropriate .4 approved laboratory equipment training <p>Using: chart catalogues, charts, nautical publications, radio navigational warnings, sextant, azimuth mirror, electronic navigation equipment, echo-sounding equipment, compass</p>	<p>Information obtained from nautical charts and publications is relevant, interpreted correctly and properly applied</p> <p>The primary method of fixing the ship’s position is the most appropriate to the prevailing circumstances and conditions</p> <p>The position is determined within the limits of acceptable instrument/system errors</p> <p>The reliability of the information obtained from the primary method of position fixing is checked at appropriate intervals</p> <p>Calculations and measurements of navigational information are accurate</p> <p>Charts and publications selected are the largest scale on board suitable for the area of navigation, and charts are corrected in accordance with the latest information available</p>

Competency	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Plan and conduct a passage and determine position (continued)</p>	<p><i>Voyage planning and navigation for all conditions by acceptable methods of plotting coastal tracks, by taking into account,</i> e.g.:</p> <ul style="list-style-type: none"> • restricted waters • meteorological conditions • ice • restricted visibility • traffic separation schemes • vessel traffic services (VTS) areas • areas of extensive tidal effects 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved simulator training where appropriate</p> <p>.3 approved laboratory equipment training using:</p> <p>Using: chart catalogues, charts, nautical publications and ship particulars</p>	<p>The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage</p> <p>The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications</p> <p>Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment</p> <p>All potential navigational hazards are accurately identified</p>
	<p>Passage Planning – <i>Appraisal and planning</i></p> <p>1. Identify Most Suitable Route – Consult all Relevant Documentation</p> <p>1.1 Pilot book information: shallow patches, restricted areas, conspicuous landmasses, offshore dangers etc</p> <p>1.2 Set courses on charts, berth to berth, between points of departure and destination</p>		

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<p>Plan and conduct a passage and determine position (continued)</p>	<p>1.3 Prevailing currents and tides (heights and directions) in relevant places</p> <p>1.4 Reporting areas, VTS and other communication requirements</p> <p>1.5 Pilotage area requirements</p> <p>1.6 Identify and highlight dangers on the charts</p> <p>1.7 Assess and allow suitable margins of safety from dangers</p> <p>1.8 Weather throughout route, winds, potential fog, ice and any other aspect including TRS storms that could restrict passage or require deviation</p> <p>2. Determine All Aspects Affecting Navigation</p> <p>2.1 Identify position fixing arrangements</p> <p>2.2 Identify bearings and other means of determining the compass error</p> <p>2.3 determine suitable parallel indexing and identify index ranges</p> <p>2.4 Define contingency arrangements</p> <p>2.5 Establish 'abort' position when approaching confined waters</p> <p>2.6 Identify Traffic Separation areas</p> <p>2.7 Identify any other special areas and restrictions,</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved simulator training where appropriate</p> <p>.3 approved laboratory equipment training using:</p> <p>Using: chart catalogues, charts, nautical publications and ship particulars</p>	<p>The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage</p> <p>The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications</p> <p>Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment</p> <p>All potential navigational hazards are accurately identified</p>

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<p>Plan and conduct a passage and determine position (continued)</p>	<p>which may affect the safe navigation</p> <p>2.8 Determine changes in compass errors by variation chart or similar</p> <p>3. Pre Sailing Brief</p> <p>3.1 Understand the importance of pre-sailing briefing</p> <p>3.2 Identify information to be discussed at pre-sailing briefing</p> <p>4. Use of ECDIS with Passage Planning</p> <p>4.1 Plan and save a route using ECDIS, adding text and warnings, where necessary</p> <p>4.2 Set appropriate alarm parameters, i.e. safety depth, safety contour, deviation limits</p> <p>4.3 Determine the availability of appropriate charts and their coverage</p> <p>5. Fuel Consumption and Range</p> <p>5.1 Determine total distance to travel and fuel consumption</p> <p>5.2 Determine a safe fuel reserve required</p> <p>5.3 Determine fuel required at departure port</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved simulator training where appropriate</p> <p>.3 approved laboratory equipment training using:</p> <p>Using: chart catalogues, charts, nautical publications and ship particulars</p>	<p>The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage</p> <p>The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications</p> <p>Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment</p> <p>All potential navigational hazards are accurately identified</p>

Competency	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Plan and conduct a passage and determine position (continued)</p>	<p style="text-align: center;">Execution and Monitoring</p> <p>6. Navigation Safety</p> <p>6.1 Determine course to steer to make good a desired course</p> <p>6.2 Fix vessel's position by visual and/or radar – cross check</p> <p>6.3 Fix vessel's position by electronic navigational aids – cross check</p> <p>6.4 Effectively monitor the vessels progress by ECDIS</p> <p>6.5 Monitor the vessel's position by parallel index with reference to the planned track in coastal estuarial waters and port approaches</p> <p>6.6 Maintain the vessel in a safe position</p> <p>6.7 Execute 'contingency arrangements' in the event of steering failure, engine breakdowns, blackouts etc</p> <p>6.8 Monitor other vessels by radar/ARPA</p> <p>6.9 Comply fully with the International Regulations for Preventing Collisions at Sea</p> <p>6.10 Utilise AIS information from an MKD unit or AIS/ARPA/ECDIS interface to enhance situation awareness</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved simulator training where appropriate</p> <p>.3 approved laboratory equipment training using:</p> <p>Using: chart catalogues, charts, nautical publications and ship particulars</p>	<p>The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage</p> <p>The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications</p> <p>Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment</p> <p>All potential navigational hazards are accurately identified</p>

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<p>Plan and conduct a passage and determine position (continued)</p>	<p>6.11 Conduct a pre-planned coastal passage in the simulator in clear and/or reduced visibility demonstrating seamanlike navigation and Chartwork skills</p> <p>7. Conduct Arrival Briefing</p> <p>7.1 Understand the importance of arrival briefings</p> <p>7.2 Identify the information to be discussed at an arrival briefing</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved simulator training where appropriate</p> <p>.3 approved laboratory equipment training using:</p> <p>Using: chart catalogues, charts, nautical publications and ship particulars</p>	<p>The equipment, charts and nautical publications required for the voyage are enumerated and appropriate to the safe conduct of the voyage</p> <p>The reasons for the planned route are supported by facts and statistical data obtained from relevant sources and publications</p> <p>Positions, courses, distances and time calculations are correct within accepted accuracy standards for navigational equipment</p> <p>All potential navigational hazards are accurately identified</p>
<p>Note training and assessment in the use of ECDIS is not required for those who serve exclusively on ships not fitted with ECDIS. This limitation shall be reflected in the</p>	<p>Thorough knowledge of and ability to use ECDIS</p> <p>Management of operational procedures, system files and data, including:</p> <ul style="list-style-type: none"> manage procurement, licensing and updating of chart data and system software to conform to the established procedures 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved training ship experience</p> <p>.2 approved ECDIS simulator training</p>	<p>Operational procedures for using ECDIS are established, applied and monitored</p> <p>Actions taken to minimise risk to safety of navigation</p>

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<p>endorsement issued to the seafarer concerned</p>	<ul style="list-style-type: none"> • system and information updating, including the ability to update ECDIS system version in accordance with vendor’s product development • create and maintain system configuration and backup files • create and maintain log files in accordance with established procedures • create and maintain route plan files in accordance with established procedures • use ECDIS log-book functions for inspection of system functions, alarm settings and user responses <p>Use ECDIS playback functionality for passage review, route planning and review of system functions</p> <p><i>ECDIS (Electronic Chart Display and Information Systems)</i></p> <p>Thorough knowledge of and ability to use ECDIS, particularly:</p> <ol style="list-style-type: none"> 1. Understand the operational difference between ECS and ECDIS 2. Understand the principal types of electronic charts available; 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved training ship experience</p> <p>.2 approved ECDIS simulator training</p>	<p>Operational procedures for using ECDIS are established, applied and monitored</p> <p>Actions taken to minimise risk to safety of navigation</p>

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	<ul style="list-style-type: none"> • Raster charts • Vector charts <ol style="list-style-type: none"> 3. Be aware of S-52 and S-57 IHO performance standards 4. Understand the significance of ENC's and their use with ECDIS 5. Create a voyage plan 6. Apply appropriate safety settings 7. Execute a safety check on the voyage plan 8. Control of navigational functions and settings <ul style="list-style-type: none"> • Manage specific functions of route monitoring 9. Understand status indications, indicators and alarms 10. Manage Radar, ARPA and AIS overlays 11. Monitor integrity of the system 12. Understand the dangers of over reliance on ECDIS 13. Knowledge of procurement and licensing and updating procedures 14. Knowledge of the voyage log requirements and procedures 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved training ship experience .2 approved ECDIS simulator training 	<p>Operational procedures for using ECDIS are established, applied and monitored</p> <p>Actions taken to minimise risk to safety of navigation</p>
Plan and conduct	<i>Navigational aids and equipment</i>	Assessment of evidence from	Performance checks and tests of

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a passage and determine position (continued)	<p>Ability to operate safely and determine the ship's position by use of all navigational aids and equipment commonly fitted on board the ships concerned</p> <p>Radar</p> <p>Radar Display</p> <p>1. Understand modes of operation</p> <p>1.1 Understand and utilise the advantages of the different display orientations</p> <p>1.2 Understand and utilise the advantages of the different modes of display</p> <p>1.3 Understand and utilise the advantages of sea and ground stabilization</p> <p>1.4 Appreciate and utilise target trails</p> <p>2. Use of Radar in Navigation</p> <p>2.1 Operate ARPA interfaced with an ECDIS</p> <p>2.2 Understand advantages and limitations of ARPA and tracked target overlay on ECDIS display</p> <p>2.3 Understand advantages and limitations of overlaying radar picture onto ECDIS</p> <p>Practical Radar Plotting</p>	<p>approved Radar simulator</p>	<p>navigation systems comply with manufacturers recommendations, good navigational practice and IMO resolutions on performance standards for navigational equipment</p> <p>Interpretation and analysis of information obtained from Radar is in accordance with accepted navigational practice and takes account of the limits and accuracy of Radar</p>

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<p>Plan and conduct a passage and determine position (continued)</p>	<p>1. Perform paper and real-time simulator plotting of more than one target</p> <p>2. Determine effect of own ship alteration of course on CPAs of other targets</p> <p>ARPA and Target Tracking Radar</p> <p>1. IMO Performance Standards for ARPA</p> <p>1.1 An appreciation of the performance standards in particular the standards relating to accuracy</p> <p>2. Factors Affecting System Performance and Accuracy</p> <p>2.1 Knowledge of ARPA sensor input parameters – radar, compass and speed inputs and the effects of sensor malfunction on the accuracy of ARPA data</p> <p>2.2 Knowledge of:</p> <ul style="list-style-type: none"> • The effects of the limitations of radar range and bearing discrimination and accuracy and the limitations of compass and speed input accuracies on the accuracy of ARPA data • Factors which influence vector accuracy <p>3. Tracking Capabilities and Limitations</p> <p>3.1 Knowledge of:</p> <ul style="list-style-type: none"> • The criteria for the selection of targets by automatic acquisition • The factors leading to the correct choice of targets for manual acquisition 		<p>Performance checks and tests of navigation systems comply with manufacturers recommendations, good navigational practice and IMO resolutions on performance standards for navigational equipment</p> <p>Interpretation and analysis of information obtained from Radar is in accordance with accepted navigational practice and takes account of the limits and accuracy of Radar</p>

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<p>Plan and conduct a passage and determine position (continued)</p>	<ul style="list-style-type: none"> • The effects on tracking of lost targets and target fading • The circumstances causing ‘target swap’ and its effects on displayed data • The limits imposed on both types of acquisition in multi-target scenarios <p>4. Processing Delays</p> <p>4.1 Knowledge of:</p> <ul style="list-style-type: none"> • The delays inherent in the display of processed ARPA information, particularly on acquisition and reacquisition or when a tracked target, or own ship, manoeuvres <p>5. Operational Warnings</p> <p>5.1 Appreciation of:</p> <ul style="list-style-type: none"> • The uses, benefits and limitations of ARPA operational warnings and their correct setting, where applicable, to avoid spurious alarms and distraction <p>6. True and Relative Vectors and Typical Graphic Representation of Target Information and Danger Areas</p> <p>6.1 Thorough knowledge of true and relative vectors, derivation of targets’ true courses and speeds including:</p> <ul style="list-style-type: none"> • Threat assessment, derivation of predicted 		<p>Performance checks and tests of navigation systems comply with manufacturers recommendations, good navigational practice and IMO resolutions on performance standards for navigational equipment</p> <p>Interpretation and analysis of information obtained from Radar is in accordance with accepted navigational practice and takes account of the limits and accuracy of Radar</p>

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<p>Plan and conduct a passage and determine position (continued)</p>	<p>closest point of approach and predicted time to closest point of approach from forward extrapolation of vectors, the use of graphic representation of danger areas</p> <ul style="list-style-type: none"> • The effects of alteration of course and/or speed of own ship and/or targets on predicted closest point of approach and predicted time to closest point of approach and danger areas • The effects of incorrect vectors and danger areas • The benefits of switching between true and relative vectors <p>7. Information on past positions being tracked</p> <p>7.1 Knowledge of :</p> <ul style="list-style-type: none"> • The derivation of past positions of targets being tracked • Recognition of historic data as a means of indicating recent manoeuvring of targets and as a method of checking the validity of the ARPA's tracking <p>8. Setting Up and Maintaining Displays</p> <p>8.1. Ability to demonstrate:</p> <ul style="list-style-type: none"> • The selection of display presentation; stabilised relative motion displays and true motion displays • The correct adjustment of all variable radar display controls for optimum display of data 		<p>Performance checks and tests of navigation systems comply with manufacturers recommendations, good navigational practice and IMO resolutions on performance standards for navigational equipment</p> <p>Interpretation and analysis of information obtained from Radar is in accordance with accepted navigational practice and takes account of the limits and accuracy of Radar</p>

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<p>Plan and conduct a passage and determine position (continued)</p>	<ul style="list-style-type: none"> • The selection as appropriate of required speed input • The selection of ARPA tracking controls, manual automatic acquisition, vector/graphic display of data • The selection of the time scales of vectors/graphics • The use of exclusion areas when automatic acquisition is utilised • Performance checks of radar, compass and speed input sensors and ARPA <p>9. Obtaining Information from the ARPA Display</p> <p>9.1. Ability to obtain information in both relative and true modes of display, including:</p> <ul style="list-style-type: none"> • The identification of critical echoes • The speed and direction of target’s relative movement • The time to and predicted range at target’s closest point of approach • The courses and speeds of targets • Detecting changes of target’s courses and speeds and the limitations of such information • The effect of changes in own ship’s course or speed or both • The operation of the trial manoeuvre 		<p>Performance checks and tests of navigation systems comply with manufacturers recommendations, good navigational practice and IMO resolutions on performance standards for navigational equipment</p> <p>Interpretation and analysis of information obtained from Radar is in accordance with accepted navigational practice and takes account of the limits and accuracy of Radar</p>

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<p>Plan and conduct a passage and determine position (continued)</p>	<p>10. Application of the International Regulations for Preventing Collision at Sea</p> <p>10.1. Analysis of potential collision situations from displayed information, determination and execution of action to avoid close quarters situations in accordance with the International Regulations for Preventing Collisions at Sea</p> <p>11. Interfacing ARPA With Other Systems</p> <p>Understands the ability to integrate data between navigational aids and their limitations, i.e. ARPA to ECDIS, GPS to ARPA and ECDIS</p> <p>Appreciates the dangers and limitations of data transfer between equipment</p> <p><i>AIS (Automatic Identification System)</i></p> <p>AIS</p> <p>11.1. Is aware of the AIS concepts</p> <ul style="list-style-type: none"> • Understands the objectives of AIS • Aware of the system concepts of AIS • Aware of the SOTDMA concept • Describes the major constituents of a shipborne system <p>11.2 Understands the elements of AIS data:</p>		<p>Performance checks and tests of navigation systems comply with manufacturers recommendations, good navigational practice and IMO resolutions on performance standards for navigational equipment</p> <p>Interpretation and analysis of information obtained from Radar is in accordance with accepted navigational practice and takes account of the limits and accuracy of Radar</p>

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<p>Plan and conduct a passage and determine position (continued)</p>	<ul style="list-style-type: none"> • Understands the information included in static data • Understands the information included in dynamic data • Understands the information included in voyage related data • Understands the associated transmission intervals for each group of data • Understands the use of safety and security related messages • Aware of the use of AIS as aids to navigation <p>11.3 AIS Ship Installations</p> <ul style="list-style-type: none"> • Understands carriage requirements • Understands the MKD configuration • Understands the Radar/ECDIS configuration <p>11.4 Use of AIS at Sea</p> <ul style="list-style-type: none"> • Understands the need for checks of own ship input data • Understands the use of AIS data on a radar or ECDIS display • Aware of caution when making decisions based on AIS target data • Understands the advantages and disadvantages of AIS compared with radar <p>Understands the principles and use of target association</p>		<p>Performance checks and tests of navigation systems comply with manufacturers recommendations, good navigational practice and IMO resolutions on performance standards for navigational equipment</p> <p>Interpretation and analysis of information obtained from Radar is in accordance with accepted navigational practice and takes account of the limits and accuracy of Radar</p>

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Plan and conduct a passage and determine position (continued)	<p>Compasses</p> <p>Knowledge of the errors and corrections of the magnetic and gyro- compass</p> <p>Ability to determine errors of the compass, using terrestrial means, and to allow for such errors</p> <p>Ability to determine errors of the compass by celestial means, and to all for such errors</p> <p>An understanding of systems under the control of the master gyro and a knowledge of the operation and care of the main types of gyro-compass</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>Errors in magnetic and Gyro compasses are determined and applied correctly to courses and bearings</p>
	<p>Automatic pilot</p> <p>Knowledge of automatic pilot systems and procedures</p> <p>Change-over from manual to automatic control and vice-versa, adjustment of controls for optimum performance</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>Selection of the mode of steering is the most suitable for the prevailing weather, sea and traffic conditions and the intended manoeuvres</p>

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<p>Plan and conduct a passage (continued)</p>	<p>Meteorology</p> <p>Ability to use and interpret information from shipborne meteorological instruments</p> <p>Knowledge of the characteristics of the various weather systems, reporting procedures and recording systems</p> <p>Ability to apply the meteorological information available</p> <ol style="list-style-type: none"> 1. Can demonstrate an elementary knowledge of lapse rates and atmospheric stability 2. Can explain the process of cloud formation and understands the classification of clouds 3. Can explain local and regional effects of heating and cooling 4. Can explain the formation of permanent and semi-permanent high and low pressure areas 5. Can state the relationship between pressure distribution and wind 6. Can demonstrate a basic understanding of air masses and their properties 7. Can discuss the weather associated with rising and falling pressure 8. Can demonstrate an understanding of the terms 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved in-service experience .2 approved training ship experience .3 approved simulator training where appropriate .4 approved laboratory equipment training 	<p>Measurements and observations of weather conditions are accurate and appropriate to the passage</p> <p>Meteorological information is evaluated and applied to maintain the safe passage of the vessel</p>

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Plan and conduct a passage (continued)	<p>pressure tendency and pressure gradient</p> <p>9. Can demonstrate an ability to interpret simple marine weather forecasts</p> <p>10. Can demonstrate an understanding of the dangers of navigating in or near ice</p> <p>11. Can explain the formation of ice accretion on vessels and the associated dangers</p> <p>12. Can demonstrate an understanding of the formation of tropical revolving storms and where they are likely to occur</p> <p>13. Can explain using diagrams the probable path of a tropical revolving storm in the southern and northern hemisphere and the strategies for the avoidance of these storms as contained in the Mariners Handbook</p> <p>14. Can demonstrate a knowledge of the types of weather messages including surface analysis and forecast charts and common weather chart symbols</p> <p>15. Can demonstrate knowledge of the organisations providing meteorological information to shipping</p> <p>16. Can describe the reliability of weather forecasts with respect to interval and forecast duration</p> <p>17. Can describe the use of weather messages to deduce the probable weather and changes in the weather</p> <p>18. Knowledge of ocean current systems in the</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>Measurements and observations of weather conditions are accurate and appropriate to the passage</p> <p>Meteorological information is evaluated and applied to maintain the safe passage of the vessel</p>

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	<p>Australasian area</p> <p>19. Ability to calculate tidal conditions</p> <p>20. Use all appropriate nautical publications on tides and currents</p>		
<p>Maintain a safe navigational watch</p>	<p>Watchkeeping</p> <p>1. .A thorough knowledge of content, application and intent of the International Regulations for the Preventing Collisions at Sea, 1972, as amended</p> <p>Application of the International Regulations for the Preventing Collisions at Sea, 1972, as amended</p> <p>1.1 Appreciate the need for early and substantial action and dangers of assumptions made on inadequate information</p> <p>1.2 Take suitable action in compliance with the Rules to avoid close quarter situations with vessels in sight of one another</p> <p>1.3 Take suitable action in compliance with the Rules to avoid close quarter situations with vessels detected by Radar alone, but not observed visually</p> <p>1.4 Determine a safe speed taking account all prevailing conditions</p> <p>1.5 Whilst conducting a simulated passage, analyse</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>The conduct, handover and relief of the watch conforms with accepted principles and procedures</p> <p>A proper lookout is maintained at all times and in conformity with accepted principles and procedures</p> <p>Lights, shapes and sound signals conform with the requirements contained in the International Regulations for Preventing Collisions at Sea, 1972 as amended and are correctly recognised</p> <p>The frequency and extent of monitoring of traffic, the ship and the environment conform with accepted principles and procedures</p> <p>Action to avoid close encounters and collision with other vessels is in accordance with the International Regulations for Preventing Collisions at Sea 1972, as amended</p>

Competency	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Maintain a safe navigational watch (continued)</p>	<p>potential collision risks when in a potential multi-vessel encounter, determine and execute best action to avoid a close quarter situation</p> <p>2. Knowledge of the content of the Principles to be observed in keeping a navigational watch</p> <p>2.1 Can explain the procedures for the keeping of a safe navigational watch</p> <p>2.2 Can explain the procedures for establishing a navigational policy, including Watchkeeping arrangements and hours of work</p> <p>2.3 Can demonstrate an understanding of the importance of handing over, relieving and maintaining a watch in accordance with established principles and procedures</p> <p>2.4 Can discuss the watch-keeper's role and responsibilities with particular reference to maintaining a lookout, monitoring traffic, the vessel and environment</p> <p>2.5 Can explain the responsibilities and duties of lookouts</p> <p>2.6 Can demonstrate an understanding of the precautions necessary when changing over from hand to automatic steering and vice-versa</p> <p>2.7 Can explain the possible dangers in the use of VHF in collision avoidance</p> <p>2.8 Can demonstrate an understanding of practical</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>Decisions to adjust course and/or speed are both timely and in accordance with accepted navigation procedures</p> <p>A proper record is maintained of movements and activities relating to the navigation of the ship</p> <p>Responsibility for safe navigation is clearly defined at all times, including periods when under pilotage</p>

Competency	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Maintain a safe navigational watch (continued)	<p>application of the International Regulations for Preventing Collisions at Sea</p> <p>2.9 Can state the importance of correct logbook entries and other record maintenance activities</p> <p>2.10 Can state the necessity for clear bridge communication between the various members of the bridge team including a pilot when onboard</p> <p>2.11 Can demonstrate an understanding of the importance of Master's standing instructions, standing order and night orders</p> <p>3. Use of routeing in accordance with General Provisions on Ship's Routeing</p> <p>4. Use of reporting in accordance with the General Principles for Ship Reporting Systems and with VTS procedures</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	
Respond to emergencies	<p><i>Emergency procedures, including:</i></p> <p>1. Precautions for the protection and safety of passengers in emergency situations</p> <p>2. Initial assessment of damage and damage control and measures to preserve stability and trim in the event of damage</p> <p>3. Action to be taken if a collision is imminent</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p>	<p>The type and scale of the emergency is promptly identified</p> <p>Initial actions and, if appropriate, manoeuvring are in accordance with contingency plans and are appropriate to the urgency of the situation and the nature of the emergency</p>

Competency	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>4. Action to be taken following a collision or impairment of the watertight integrity of the hull by any means</p> <p>5. Action to be taken if grounding is imminent, and following a grounding</p> <p>6. Discuss refloating a grounded vessel with or without assistance</p> <p>7. Emergency steering</p> <p>8. Arrangements for towing and being taken in tow</p> <p>9. Rescuing persons from the sea and an understanding of man-over-board manoeuvres</p> <p>10. Awareness of the actions to be taken in a drifting vessel</p> <p>11. Assisting a vessel in distress</p> <p>12. Appreciation of the actions to be taken when emergencies arise in port</p> <p>13. Explain the necessity to keep records and make reports to meet statutory and organizational requirements</p>	.4 approved laboratory equipment training	
<p>Respond to a distress signal at sea</p>	<p><i>Search and rescue</i></p> <p><i>Knowledge of the contents of the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual</i></p>	Examination and assessment of evidence obtained from practical instruction or approved simulator training, where appropriate	<p>The distress or emergency signal is immediately recognised</p> <p>Contingency plans and instructions in standing orders are implemented</p>

Competency	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>Principles of search and rescue – practical application of search and rescue</p> <ol style="list-style-type: none"> 1. Understand the basic contents and use of the International Aeronautical and Marine Search and Rescue (IAMSAR) Manual 2. Conduct a simulated multiple ship SAR exercise to include at least three ships 3. Establish an OSC for exercise clear of coastal control 4. Delegate responsibilities 5. Establish a datum 6. Conduct full communications and instructions 7. Initiate multiple ship search patterns 8. Establish inter-ship communications to prepare recovery 9. Understand how the use of ECDIS can aid search patterns 10. The exercise should reflect the implications of GMDSS and other additional facilities available to SAR 11. Make own ship ready for SAR operations and casualty recovery 12. Manoeuvre to recover survivors 		<p>and complied with</p>

Competency	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Manoeuvre the ship and operate small ship power plant	<p>Ship manoeuvring and handling</p> <p>1. Manoeuvres when approaching pilot stations and embarking or disembarking pilots, with due regard to weather, tide, headreach and stopping distances</p> <p>1.1 Can explain the procedures and precaution necessary when embarking and disembarking a pilot</p> <p>1.2 Can demonstrate an awareness of the effects of weather, tide headreach, stopping distance and currents</p> <p>2. Handling ship in rivers, estuaries and restricted waters, having regard to the effects of current, wind and restricted water on helm response</p> <p>2.1 Can discuss methods of handling a vessel in rivers, estuaries, restricted waters, and in harbours</p> <p>3. Manoeuvring in shallow water, including the reduction in under-keel clearance caused by squat, rolling and pitching</p> <p>3.1 Can demonstrate an understanding of the effects experienced when manoeuvring in shallow waters, including reduction of underkeel clearance by squat, rolling and pitching</p> <p>3.2 Can demonstrate an awareness of dangers likely to be encountered in shallow waters</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p>	<p>Safe operating limits of ship propulsion, steering and power systems are not exceeded in normal manoeuvres</p> <p>Adjustments made to the ship's course and speed maintain safety of navigation</p>

Competency	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Manoeuvre the ship and operate small ship power plant (continued)	<p>3.3 Can demonstrate an awareness of dangers likely to be encountered in and near reefs</p> <p>4. Interaction between passing ships and between own ship and nearby banks (canal effect)</p> <p>4.1 Can demonstrate an understanding of interaction between passing vessels</p> <p>5. <i>Berthing and unberthing under various conditions of wind, tide and current with and without tugs</i></p> <p>5.1 Can discuss the considerations when approaching a dock or berth</p> <p>6. Ship and tug interaction</p> <p>7. Use of propulsion manoeuvring systems</p> <p>7.1 Can demonstrate an understanding of the use and limitations of manoeuvring and propulsion systems</p> <p>8. Choice of anchorage with one or two anchors in limited anchorages and factors involved in determining the length of anchor cable to be used</p> <p>8.1 Procedures for bringing a vessel to anchor:-</p> <ul style="list-style-type: none"> • Can explain the factors that effect the choice of anchorage, including the expected weather and the quality of the holding ground • Can demonstrate an understanding of methods of anchoring using one or two anchors • Can explain how to achieve a running moor, 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p>	<p>Safe operating limits of ship propulsion, steering and power systems are not exceeded in normal manoeuvres</p> <p>Adjustments made to the ship's course and speed maintain safety of navigation</p>

Competency	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Manoeuvre the ship and operate small ship power plant (continued)</p>	<p>standing moor and Mediterranean moor</p> <ul style="list-style-type: none"> • Can explain actions when anchoring in deep water • Can explain actions when anchoring in heavy weather <p>9. Dragging anchor; clearing fouled anchor</p> <p>9.1 Can explain the requirements for an anchor watch</p> <p>9.2 Can explain actions when dragging anchor</p> <p>9.3 Can discuss procedures for clearing a fouled anchor</p> <p>10. Dry-docking, both with and without damage</p> <p>11. Management and handling of ships in heavy weather;</p> <p>11.1 Can explain the precautions necessary when heavy weather is forecast</p> <p>11.2 Can explain the dangers of synchronous rolling</p> <p>11.3 Can describe the dangers to the vessel and crew of heavy rolling and pitching with particular reference to structural damage and injury to personnel</p> <p>11.4 Can demonstrate an awareness of the dangers of running before a following sea</p> <p>11.5 Is able to demonstrate an appreciation of the dangers of excessive speed in adverse conditions</p> <p>11.6 Can describe the procedure for heaving to, bow and</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p>	<p>Safe operating limits of ship propulsion, steering and power systems are not exceeded in normal manoeuvres</p> <p>Adjustments made to the ship's course and speed maintain safety of navigation</p>

Competency	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Manoeuvre the ship and operate small ship power plant (continued)</p>	<p>stern to the sea</p> <p>11.7 Can explain the dangers of squalls in smaller vessels</p> <p>11.8 Can discuss the handling of a disabled vessel in heavy weather and methods that can be used to prevent the vessel broaching too in a heavy sea</p> <p>11.9 Towing operations;</p> <ul style="list-style-type: none"> • Can explain the selection of suitable towing points • Can outline the procedure for preparing to tow or to be towed including the selection of suitable gear • Can discuss the various methods of passing and securing a tow • Can explain the methods of steering a vessel under tow and when being towed • Can explain the procedure of letting go a tow <p>11.10 Assisting a ship or aircraft in distress</p> <p>11.11 Can explain actions to assist a ship or aircraft in distress</p> <p>11.12 Means of keeping an unmanageable ship out of the trough of the sea</p> <p>11.13 Lessening drift</p> <p>11.14 Use of oil</p> <p>11.15 Precautionary measures for maintaining buoyancy;</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p>	<p>Safe operating limits of ship propulsion, steering and power systems are not exceeded in normal manoeuvres</p> <p>Adjustments made to the ship's course and speed maintain safety of navigation</p>

Competency	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Manoeuvre the ship and operate small ship power plant (continued)</p>	<ul style="list-style-type: none"> • Can explain the importance of ensuring water freeing arrangements are maintained with particular reference to deck drains and scuppers • Can demonstrate an awareness of the importance of securing anchors and chains with reference to closing the hawse and spurling pipes • Can demonstrate an awareness of the dangers of side openings and shell doors • Can demonstrate an awareness of the importance of securing large and heavy items of cargo and deck machinery and instructions to the crew and routine checks • Can demonstrate an awareness of the practical aspect of keeping records regarding watertight integrity <p>12. Precautions in manoeuvring to launch rescue boats or survival craft in bad weather</p> <p>12.1 Can describe the precautions when launching and manoeuvring a rescue boat or survival craft in heavy weather</p> <p>13. Methods of taking on board survivors from rescue or survival craft</p> <p>13.1 Can describe the method of taking on survivors from rescue or survival craft</p> <p>14. Ability to determine the manoeuvring and propulsion characteristics of common types of ships, with special reference to stopping distances and turning</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p>	<p>Safe operating limits of ship propulsion, steering and power systems are not exceeded in normal manoeuvres</p> <p>Adjustments made to the ship's course and speed maintain safety of navigation</p>

Competency	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Manoeuvre the ship and operate small ship power plant (continued)	<p>circles at various draughts and speeds</p> <p>14.1 Can demonstrate awareness of sources of manoeuvring data</p> <p>15. Importance of navigation at reduced speed to avoid damage caused by ship's bow wave and stern wave</p> <p>16. Practical measures to be taken when navigating in or near ice or in conditions of ice accumulation on board</p> <p>17. Use of, and manoeuvring in and near, traffic separation schemes and in vessel traffic service (VTS) areas</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p>	<p>Safe operating limits of ship propulsion, steering and power systems are not exceeded in normal manoeuvres</p> <p>Adjustments made to the ship's course and speed maintain safety of navigation</p>
	<p>The operation of small ship power plants and auxiliaries</p> <p>1 Operating principles of Marine power plants including:</p> <ul style="list-style-type: none"> • Diesel engines • Propeller and propeller shaft • Bridge control • <p>2 Ship's auxiliary machinery including:</p> <ul style="list-style-type: none"> • Boilers • Pumps and pumping systems 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p>	<p>Plant, auxiliary machinery and equipment is operated in accordance with technical specifications and within safe operating limits at all times</p>

Competency	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<ul style="list-style-type: none"> • Generators, alternators and electrical distribution • Stabilisers • Hydraulic systems • Engineering terms 		

Function: Cargo Handling and Stowage at the Management Level

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor the loading, stowage, securing and unloading of cargoes and their care during the voyage</p>	<p>Cargo handling, stowage and securing</p> <p>Knowledge of safe handling, stowage and securing of cargoes, including dangerous, hazardous and harmful cargoes, and their effect on the safety of life and of the ship</p> <p>Use of the International Maritime Dangerous Goods (IMDG) Code</p> <p>1. Dry cargo operations:</p> <p>1.1 Organise the onboard preparation to ensure that cargo operations comply with respective legislation and codes, in particular with regards to;</p> <ul style="list-style-type: none"> • Solid bulk including grain • General cargo • Deck cargo • Untitised cargo • Live cargo <p>1.2 State the information that must be given by the shipper for the following:</p> <ul style="list-style-type: none"> • General cargoes • Bulk cargoes • Dangerous goods 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p>	<p>Cargo operations are carried out in accordance with the cargo plan or other documents and established safety rules/regulations, equipment operating instructions and shipboard stowage limitations</p> <p>The handling of dangerous, hazardous and harmful cargoes complies with international regulations and recognised standards and codes of safe practice</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor the loading, stowage, securing and unloading of cargoes and their care during the voyage (continued)</p>	<p>1.3 State the hazards associated with the following:</p> <ul style="list-style-type: none"> • Solid bulk cargoes • Timber deck cargoes • Heavy lifts • Dangerous goods <p>1.4 Explain procedures that may be adopted to deal with the following:</p> <ul style="list-style-type: none"> • Fire/spill or medical emergency involving dangerous goods • Damaged cargo <p>1.5 State the requirements to ensure cargo is effectively secured for the following:</p> <ul style="list-style-type: none"> • Grain cargoes • Timber deck cargoes <p>1.6 Basic knowledge of the cargo securing manual</p> <p>1.7 Basic knowledge of procedures to ensure that cargo handling equipment is maintained in compliance with current legislation</p> <p>2. Bulk liquid cargoes</p> <p>2.1 Organise the onboard preparation to ensure that cargo operations comply with respective legislation and codes, in particular with regards to;</p> <ul style="list-style-type: none"> • Petroleum cargoes • Bulk liquid chemical cargoes <p>2.2 Manage the cargo operations to minimise the effect of hazard on the vessel, environment and personnel for:</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p>	<p>Cargo operations are carried out in accordance with the cargo plan or other documents and established safety rules/regulations, equipment operating instructions and shipboard stowage limitations</p> <p>The handling of dangerous, hazardous and harmful cargoes complies with international regulations and recognised standards and codes of safe practice</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor the loading, stowage, securing and unloading of cargoes and their care during the voyage (continued)</p>	<ul style="list-style-type: none"> • petroleum cargo • Bulk liquid chemical cargo <p>3. Passenger operations</p> <p>3.1 evaluate the boarding arrangements (including security measures) used in passenger operations</p> <p>3.2 outline the emergency information for passengers</p> <p>3.3 explain the requirements for crew safety drills and training</p> <p>3.4 explain the procedure if a passenger is injured or takes ill onboard the vessel</p> <p>4. Cargo calculations</p> <p>4.1 Be able to carry out cargo calculations(relevant to vessel under 500GT) for the following:</p> <ul style="list-style-type: none"> • Bulk dry cargoes • Bulk liquid cargoes • General cargo • Deck cargo • Heavy lift <p>5. Carriage of dangerous goods</p> <p>5.1 International regulations, standards, codes and recommendations on the carriage of dangerous cargoes, including:</p> <ul style="list-style-type: none"> • International Maritime Dangerous Goods (IMDG) Code • International Maritime Safe Handling of Solid 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p>	<p>Cargo operations are carried out in accordance with the cargo plan or other documents and established safety rules/regulations, equipment operating instructions and shipboard stowage limitations</p> <p>The handling of dangerous, hazardous and harmful cargoes complies with international regulations and recognised standards and codes of safe practice</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	Bulk Cargoes (IMSBC) Code 5.2 Precautions to be taken during loading, passage and discharge for dangerous, hazardous and harmful cargoes		

Function: Controlling the operation of the ship and care for persons on board at Management Level

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Ensure compliance with pollution prevention requirements</p>	<p>Prevention of pollution of the marine environment and anti-pollution procedures</p> <p>Knowledge of the precautions to be taken to prevent pollution of the marine environment</p> <p>1. Responsibilities under the International Convention for the Prevention of Pollution from Ships, as amended</p> <p>1.1 Can demonstrate an understanding of the IMO convention concerning protection of the environment</p> <p>1.2 Can demonstrate a knowledge of the Oil Record Book and the contents, including record keeping</p> <p>1.3 Can discuss the Garbage Management Plan, including the requirement for record keeping</p> <p>1.4 Can explain the requirements and limitations associated with at sea garbage disposal areas</p> <p>1.5 Can explain the problems associated with garbage segregation, onboard storage and landing garbage in port</p> <p>2. Can demonstrate anti-pollution procedures and all</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p>	<p>Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Ensure compliance with pollution prevention requirements (continued)</p>	<p>associated equipment</p> <p>2.1 Can discuss the precautions required necessary to protect the marine environment</p> <p>2.2 Can explain the practical prevention of oil spills with particular reference to bunkering operations</p> <p>2.3 Can demonstrate an understanding of the action to be taken in the event of an accidental oil spillage</p> <p>3. Demonstrates an understanding of the principle constraints of the MARPOL convention, specifically:</p> <p>3.1 As it applies to vessels under 500 GT</p> <p>3.2 is able to identify the Annexes in force and particular pollutants covered by each of these Annexes as relevant to vessels under 500 GT</p> <p>3.3 can state that MARPOL prohibits discharge of Annex 1 substances into any sea area</p> <p>3.4 can explain the circumstances in which certain discharges of Annex 1 substances may be permitted</p> <p>3.5 an understanding of which vessels under 500 GT must be constructed and equipped so as to prevent pollution by Annex 1 substances and that certain vessels under 500 GT must carry certificates to prove this</p> <p>3.6 can identify which vessels under 500 GT must carry an International Oil Pollution Prevention Certificate and a SOPEP</p> <p>3.7 can state the structure and function of the SOPEP</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p>	<p>Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Ensure compliance with pollution prevention requirements (continued)</p>	<p>3.8 can state which vessels under 500 GT must maintain an Oil Record Book in an approved form and describe its content</p> <p>3.9 can describe an Annex IV substance</p> <p>3.10 can describe an Annex V substance</p> <p>3.11 can explain the rules governing the disposal of Annex V substances</p> <p>3.12 can state which vessels under 500 GT must maintain a Garbage Record Book and have a Garbage Management Plan</p> <p>3.13 can describe an Annex VI substance and have a knowledge of certificates to be held and the equipment carried</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p>	<p>Procedures for monitoring shipboard operations and ensuring compliance with MARPOL requirements are fully observed</p>
<p>Maintain seaworthiness of the ship</p>	<p>Ship Stability</p> <p>Working knowledge and application of stability, trim and stress tables, diagrams and stress-calculating equipment</p> <p>Understanding of fundamental actions to be taken in the event of partial loss of intact stability</p> <p>Understanding of the fundamentals of watertight integrity</p> <p><i>Working knowledge of Basic Principles</i></p> <p>1. Basic principles of hydrostatics and related terms</p> <p>1.1 Can calculate the draught and freeboard for a box shaped vessel given the displacement and relative</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>The stability conditions comply with the IMO intact stability criteria under all conditions of loading</p> <p>Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Maintain seaworthiness of the ship (continued)</p>	<p>density</p> <p>1.2 Can calculate the displacement of a vessel given the length, breadth, draught, relative density and block coefficient</p> <p>2. Fineness of hull form and resistance to forward motion</p> <p>2.1 Can define block coefficient and appreciates its influence with regards to resistance to forward motion</p> <p>3. Concept of Statical Stability</p> <p>3.1 Can draw a sketch of a vessel in stable equilibrium showing the positions of G, M, Z and B when heeled to an angle up to deck edge immersion</p> <p>3.2 Can explain, with reference to the sketch in a above, how forces through G and B create a righting lever and righting moment and how the magnitude of GZ is influenced by the vessels beam</p> <p>4. Concept of Stability</p> <p>4.1 Can define the transverse metacenter (M) and initial metacentric height (GM)</p> <p>4.2 Can demonstrate an understanding that KM is influenced by the beam of a vessel</p> <p>4.3 Can demonstrate an understanding that the vessel will have a restoring moment if G is below M and an capsizing moment if G is above M using diagrams</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>The stability conditions comply with the IMO intact stability criteria under all conditions of loading</p> <p>Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Maintain seaworthiness of the ship (continued)</p>	<p>4.4 Can demonstrate an appreciation of the magnitude of GM with regards to safety and stiff and tender motion</p> <p>5. Problems involving loading, discharging and shifting weights</p> <p>5.1 Can demonstrate the ability to solve problems regarding the effect of the C of G when loading, discharging and transferring weights</p> <p>5.2 Can calculate, by taking moments about the keel, the final position of KG when loading and discharging weights and obtains GM</p> <p>5.3 Can demonstrate an understanding of the effects of moving weights off the centerline</p> <p><i>List and Related Problems</i></p> <p>1. List</p> <p>1.1 Can draw a diagram to show that the force lines through G and B lie in the same vertical line when at an angle of list and that the ship oscillates about this equilibrium angle</p> <p>1.2 Can show that an angle of list is influenced by the magnitude of GM</p> <p>1.3 Can calculate an angle of list using $\tan\theta = GG_1/GM$ (Data sheet giving Natural Function of Angles 0° to</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>The stability conditions comply with the IMO intact stability criteria under all conditions of loading</p> <p>Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Maintain seaworthiness of the ship (continued)</p>	<p>60° to be supplied.)</p> <p>1.4 Can explain how to correct list by adding, removing transferring weights</p> <p>2. The inclining experiment</p> <p>2.1 Can state the reasons for conducting an inclining experiment</p> <p>2.2 Can give an elementary explanation of the procedures involved in conducting an inclining experiment</p> <p>2.3 Can prepare a check list of precautions to be observed before and during an inclining experiment in order to ensure an accurate result</p> <p>3. The effect of slack tanks on the centre of gravity</p> <p>3.1 Can demonstrate an understanding that a slack tank causes in GZ and can explain that this can be considered as a free surface correction resulting in an increased KG and virtual loss of GM</p> <p>3.2 Can explain the factors affecting free surface effect with reference to FSM, RD, displacement, position of tank in vessel, depth of liquid in the tank and the effect of longitudinal sub-division</p> <p>3.3 Can state that the Virtual GM= Solid GM minus Free Surface Correction</p> <p>3.4 Can state that Free Surface Correction:</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>The stability conditions comply with the IMO intact stability criteria under all conditions of loading</p> <p>Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Maintain seaworthiness of the ship (continued)</p>	<p>= Free Surface Moment x Relative Density</p> <p>3.5 Can obtain Free Surface Moment from stability data book and calculates correction and virtual GM</p> <p><i>Curves of Statical Stability</i></p> <p>1. Curves of statical stability</p> <p>1.1 Can sketch a GZ curve for a vessel in stable equilibrium and identifies the following information on the curve:</p> <ul style="list-style-type: none"> • Range of positive stability • Maximum GZ and angle at which it occurs • Angle of vanishing stability • Approximate angle of deck edge immersion • Dynamical stability • Approximate initial GM <p>1.2 Can sketch a curve for a vessel in stable equilibrium given initial GM, maximum GZ and angle at which it occurs, range and angle of vanishing stability</p> <p>1.3 Can distinguish between curves for stiff and tender vessels</p> <p>1.4 Can explain how a change in KG (with reference to comparison between departure and arrival conditions) affects the shape and main features of</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>The stability conditions comply with the IMO intact stability criteria under all conditions of loading</p> <p>Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Maintain seaworthiness of the ship (continued)</p>	<p>the curve</p> <p>1.5 Can explain how a change in freeboard affects the shape and main features of the GZ curve</p> <p>1.6 Can state the criteria for minimum stability identified in the code with regards to GM, maximum GZ and angle at which it occurs</p> <p>1.7 Can define and describe dynamical stability</p> <p>1.8 Can state that a simplified stability curve or table of maximum KG's can be provided to ensure that the minimum stability criteria are met</p> <p>1.9 Can use simplified stability information in conjunction with simple loading/discharging problems including an allowance for free surface effect</p> <p>1.10 Can explain the effect of a steady and gusting beam wind on a vessel and how the angle of heel can be assessed from the GZ curve using a constant wind-heeling lever</p> <p>2. Stability data supplied to vessels under 500 GT</p> <p>2.1 Can demonstrate awareness of the stability data supplied to vessels under 500GT</p> <p>2.2 Can use a typical stability booklet to determine stability in various load conditions</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>The stability conditions comply with the IMO intact stability criteria under all conditions of loading</p> <p>Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Maintain seaworthiness of the ship (continued)</p>	<p><i>Angle of Loll, Dry Docking and Longitudinal Stability</i></p> <p>1. Angle of Loll</p> <p>1.1 Can show that when GM is negative an upsetting moment is created and, provided the negative GM is not too large, the vessel will attain stable equilibrium at an angle of loll</p> <p>1.2 Can compare the dangers that can arise to a vessel when lying at an anchor at an angle of loll in still water and at sea</p> <p>1.3 Can explain that the loll is corrected by achieving a positive GM and that this must be achieved under a controlled manner</p> <p>1.4 Can state that loll can be corrected by removing weights from the high side first and adding to the low side first and explains the danger of reversing the procedures</p> <p>1.5 Can explain the procedure and the response of the vessel if loll is corrected by filling a sub divided centerline tank</p> <p>1.6 Can distinguish between list and loll</p> <p>2. Dry Docking</p> <p>2.1 Can demonstrate an understanding of dry-docking, slipping and lifting</p> <p>2.2 Can explain the use of a docking plan</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>The stability conditions comply with the IMO intact stability criteria under all conditions of loading</p> <p>Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Maintain seaworthiness of the ship (continued)</p>	<p>2.3 Can explain the preparation of a vessel under 500 GT and dry dock prior to dry-docking</p> <p>2.4 Can explain the need for an acceptable trim and adequate GM with reference to the buoyancy lost at the waterline being transferred to the point of contact at the keel and that the rise in KG (loss of GM) can be considered as a weight removed from the keel</p> <p>2.5 Can explain the importance of aligning the support structure and lifting equipment with the vessel's main strength members</p> <p>2.6 Can explain the importance of Block Soundings</p> <p>3. Longitudinal Stability</p> <p>3.1 Can define forward perpendicular, after perpendicular, length between perpendiculars, and length overall</p> <p>3.2 Can define trim, change of trim, longitudinal centre of floatation and MCTC</p> <p>Knowledge of the effect on trim and stability of a ship in the event of damage to and consequent flooding of a compartment and countermeasures to be taken</p> <p>Knowledge of IMO recommendations concerning ship stability</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	<p>The stability conditions comply with the IMO intact stability criteria under all conditions of loading</p> <p>Actions to ensure and maintain the watertight integrity of the ship are in accordance with accepted practice</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Maintain seaworthiness of the ship (continued)</p>	<p>Ship construction</p> <p>General knowledge of the principal structural members of a ship and the proper names for the various parts</p> <p>1. .Basic knowledge of the structural requirements and features of a vessel including;</p> <ul style="list-style-type: none"> • Structural requirements for vessels with respect to assignment of loadlines • Ship construction features and systems that may be used to limit damage • Fire protection, detection and extinction on ships <p>2. Basic knowledge of maintenance requirements, methods and procedures;</p> <ul style="list-style-type: none"> • Properties of materials • Steelwork processes • Corrosion and material failure • Planned maintenance • Safe use of maintenance equipment and materials <p>3. Basic knowledge of how to prepare for dry dock and the survey of hull, fittings and equipment including;</p> <ul style="list-style-type: none"> • Ship plans • Ship dry-docking requirements • Survey requirements 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <p>.1 approved in-service experience</p> <p>.2 approved training ship experience</p> <p>.3 approved simulator training where appropriate</p> <p>.4 approved laboratory equipment training</p>	

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Prevent, control and fight fires on board</p> <p>Operate life-saving appliances</p>	<p>Thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea)</p> <ol style="list-style-type: none"> 1. Organisation of fire drills and abandon ship drills <ol style="list-style-type: none"> 1.1 Can define and plan strategic procedures in event of an emergency 1.2 Can explain the organisation and benefits of drills, musters and other emergency training 1.3 Can explain the actions necessary when preparing to abandon ship, and when abandoning ship 2. Maintenance of operational condition of life-saving, fire-fighting and other systems 3. Actions to be taken to protect and safeguard all persons on board in emergencies <ol style="list-style-type: none"> 3.1 Can discuss crowd control and the handling of passengers and personnel 3.2 Can explain the risk of precipitated abandoning of the vessel 4. Actions to limit damage and save the ship following a fire, explosion collision or grounding <ol style="list-style-type: none"> 4.1 Can discuss the possible effect of emergency action on the external environment 5. Preparation of contingency plans for response to emergencies 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> .1 approved training .2 approved in-service training experience .3 approved simulator training 	<p>Procedures for monitoring fire-detection and safety system ensure that all alarms are detected promptly and acted upon in accordance with established emergency procedures</p> <p>Emergency procedures are in accordance with the established plans for emergency situations</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<p>5.1 Can explain the practical use of contingency plans</p> <p>5.2 Can discuss the allocation of resources, and emergency duties to teams and individual</p> <p>6. Ship construction' including damage control</p> <p>7. Methods and aids for fire prevention, detection and extinction</p> <p>7.1 Functions and use of life-saving appliances</p>		
<p>Apply medical first aid on board ship</p>	<p>Medical aid</p> <p>Organise and manage the provision of medical care on board including a thorough knowledge of the use and contents of the following publications:</p> <ol style="list-style-type: none"> 1. .International Medical Guide for Ships or equivalent national publication 2. .Medical section of the International Code of Signals 3. .Medical First Aid Guide for use in accidents involving Dangerous Goods 	<p>Assessment of evidence obtained from approved training as set out in section A-VI/4, paragraphs 4 to 6</p>	<p>Actions taken and procedures followed correctly apply and make full use of advice available</p>
<p>Monitor compliance with legislative requirements</p>	<p>Safety Certificates and Documentation</p> <ol style="list-style-type: none"> 1. Safety Certificates and Documentation <ol style="list-style-type: none"> 1.1 Can describe the certificates listed below that may 	<p>Assessment of evidence obtained from examination or approved training</p>	<p>Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor compliance with legislative requirements (continued)</p>	<p>be issued to vessels under 500 GT</p> <ul style="list-style-type: none"> • period of validity • timing of required surveys • general subject matter of the surveys • purpose of the issuing authority 'conditions of assignment' (where applicable) <p>1.2 Certificates</p> <ul style="list-style-type: none"> • International Tonnage certificate for vessels of 24 meters or over • International Load Line certificate for vessels of 24 meters or over • International Safety Radio certificate for vessels of 300 GT or over • International Oil Pollution Prevention certificate for vessels of 400 GT or over • Certificate of Compliance for vessels of 24 meters or over • SOLAS combined safety certificate <p>1.3 Can summarise the content of any associated documents such as;</p> <ul style="list-style-type: none"> • SOLAS training manual • Load Line conditions of assignment 	<p>Assessment of evidence obtained from examination or approved training</p>	<p>Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor compliance with legislative requirements (continued)</p>	<p>1.4 Demonstrates an understanding of the requirements to implement a safety management system on vessels of less than 500 GT</p> <p>1.5 Demonstrates an understanding of the difference between a 'pleasure vessel' and a 'vessel engaged in trade'</p> <p>2. Responsibilities under the relevant requirements of the international Convention on Load Lines, 1966, as amended</p> <p>3. Responsibilities under the relevant requirements of the international Convention for the Safety of Life at sea, 1974, as amended</p> <p>3.1 Can demonstrate an understanding of the IMO convention concerning Safety of Life at Sea (SOLAS)</p> <p>4. Maritime declarations of health and the requirements of the International Health regulations</p> <p>4.1 Arrival and departure</p> <ul style="list-style-type: none"> • Demonstrates an understanding of the documentation required for arrival in port. E.g. Customs Declaration, Crew List, Clearance Documents • Demonstrates an understanding of the circumstances giving rise to a mandatory health report, and the procedure to be followed before arrival, on arrival and until health clearance is obtained • Demonstrates an understanding of the role of the 	<p>Assessment of evidence obtained from examination or approved training</p>	<p>Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor compliance with legislative requirements (continued)</p>	<p>International Maritime Declaration of Health</p> <p>5. Responsibilities under international instruments affecting the safety of the ship, passengers, crew and cargo</p> <p>5.1 Statutory Safety Duties</p> <ul style="list-style-type: none"> • Demonstrates an understanding of the duty of the Master to respond to signals of distress, and the circumstances when a Master is released from his obligation to respond • Demonstrates an understanding of the Master's statutory obligations following a collision • Demonstrates an understanding of the actions to be taken in the event of a vessel under 500 GT sustaining material damage, with regard to possible consequences for statutory certificates and insurance • Can state when the master has a duty to report dangers to navigation and can list the six categories and describe the action to be taken • Can distinguish between compulsory and non-compulsory pilotage and understands the responsibilities between Master, Pilot and owner <p>•</p> <p>5.2 Safety Organisation</p> <ul style="list-style-type: none"> • demonstrates an understanding of the role of Master, 	<p>Assessment of evidence obtained from examination or approved training</p>	<p>Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor compliance with legislative requirements (continued)</p>	<p>safety officer and safety representative</p> <ul style="list-style-type: none"> • Can describe the role of the safety committee • Can summarise, in general terms, the duties of employer and employee under the current Merchant Shipping (Health and Safety) Regulations • Demonstrates an understanding of, in general terms, the role of and the importance of the ISM code • Can describe the purpose of risk assessment • Can describe the objectives and content of a Safety Management System • Demonstrates an understanding of the purpose of the Code of Safe Working Practices for Merchant Seamen and describes its use in the management of safety on board <p>5.3 Seaworthiness and Safe Manning</p> <ul style="list-style-type: none"> • Demonstrates an understanding of the Master's responsibility to ensure the seaworthiness of the vessel at the commencement of each voyage and the consequence of attempting to proceed to sea in an unsafe and unseaworthy condition • Can show an appreciation of the fact that the possession of valid statutory certificates does not, in itself, prove seaworthiness • Demonstrates an understanding of the concept of 	<p>Assessment of evidence obtained from examination or approved training</p>	<p>Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor compliance with legislative requirements (continued)</p>	<p>‘seaworthiness’ can have a much broader definition in civil courts</p> <ul style="list-style-type: none"> • Can demonstrate an understanding of the principles by which a vessel may be deemed to be safely manned in accordance with the STCW convention • Can demonstrate an understanding of the Marine Labour Convention 2006 (or as amended) • Can state the duties of Master and chief engineer under New Zealand legislation as they relate to the organising and maintenance of safe navigational and engineering watches • Can explain the use of standing orders as part of the process of safe delegation and supervision of delegated responsibilities and understands the Master’s responsibilities to ensure that the navigation bridge is manned by an adequate number of suitably qualified people to deal with prevailing circumstances <p>6. National legislation for implementing international agreements and conventions</p> <p>6.1 Legal Framework</p> <ul style="list-style-type: none"> • Demonstrates an understanding of, in simple terms, the difference between civil and criminal law can give examples of civil wrongs and criminal offences • Can describe in general terms the concepts of ‘negligence’, duty of care’, (and specifically 	<p>Assessment of evidence obtained from examination or approved training</p>	<p>Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor compliance with legislative requirements (continued)</p>	<p>‘reasonable care’) ‘non delegable responsibility’ and ‘vicarious liability’</p> <ul style="list-style-type: none"> • Demonstrates an understanding of the basic criminal law procedure • Can describe the roles of MNZ and TAIC and recognise their separate functions. • Able to demonstrate an understanding of the importance of the Maritime Transport Act, Maritime Rules, Marine Protection Rules and Advisory circulars <p>6.2 International Law</p> <ul style="list-style-type: none"> • Can define territorial waters, inland waters and high seas as defined in UNCLOS • Can describe what is meant by ‘freedom of the high seas’ • Demonstrates an understanding of the rights and obligations of Flag State and Port State • Demonstrates an understanding of the importance of the geographical position of the vessel, the nationality of the crew and of the flag of the vessel in determining criminal jurisdiction • Demonstrates an understanding of the way international conventions can be policed, the nature of ‘innocent passage’ and when this may be denied • Can describe in general terms the role of Port State Control organisations 	<p>Assessment of evidence obtained from examination or approved training</p>	<p>Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor compliance with legislative requirements (continued)</p>	<p>7. Security</p> <p>7.1 demonstrates an understanding of and can explain the objectives of the ISPS code</p> <p>7.2 Can demonstrate a general understanding of the possible consequences of carrying stowaways and knows the action to be taken to prevent stowaways and action upon the discovery of stowaways</p> <p>8. Contracts and Marine insurance</p> <p>8.1 Contracts of salvage</p> <ul style="list-style-type: none"> • Demonstrates an understanding, in broad terms, of the definitions contained in the International Convention on Salvage (Articles 13 and 14) including SCOPIC • Can explain the practical use of Lloyds Open Form of salvage contract, and its advantages to both parties • Can define and explain the elements of a valid claim for Salvage in Admiralty Law, in the absence of any contractual obligation to pay for the services involved • Can explain the interpretation of the expression ‘a place of safety’ as used in Lloyds Open Form of salvage agreement and the need, wherever possible, to agree a ‘place of safety’ • Can explain who has the legal right to control the 	<p>Assessment of evidence obtained from examination or approved training</p>	<p>Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor compliance with legislative requirements (continued)</p>	<p>acceptance or rejection of assistance to vessels</p> <ul style="list-style-type: none"> • Demonstrates an understanding of the legal definition of the word 'derelict' • Demonstrates an understanding of the 'Duties of the Salvor' and the 'Duties of the Master/Owner' • Can distinguish between contracts for assistance based on salvage principles (Lloyds Open Form) and contracts of hire (towage) • Can explain the advantages and disadvantages to both parties in the use of the above forms of contract with reference to the practicality of negotiating and using such contracts at sea <p>8.2 Contracts of Employment</p> <ul style="list-style-type: none"> • Demonstrates an understanding of the legal obligations of a Master as they relate to the maintenance of crew lists • Can define, with regards to vessels under 500 GT, those persons on board who are passengers as opposed to crew • Demonstrates an understanding of the statutory obligations of an employer as they relate to the maintenance and repatriation of seamen • Can describe the procedure to be followed so as to 	<p>Assessment of evidence obtained from examination or approved training</p>	<p>Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor compliance with legislative requirements (continued)</p>	<p>comply with all New Zealand legislation relevant to a crew member who:</p> <ul style="list-style-type: none"> ○ dies at sea ○ is injured at sea onboard a yacht ○ is incapacitated due to illness and discharged to hospital <p>8.3 Marine Insurance</p> <ul style="list-style-type: none"> • Can explain the following insurance principles: <ul style="list-style-type: none"> ○ indemnity, subrogation and contribution ○ actual total loss ○ constructive total loss ○ particular average (partial loss) ○ deductibles • Recognises the change/loss of a Certificate of Class, change of flag or ownership and demise chartering, could all result in automatic termination of hull insurance • Can explain why underwriters may prefer assistance to vessels at sea to be negotiated on the basis of Lloyds Open Form • Can describe the function of organisations known as P & I clubs • Can state the type of risks that yacht owners usually insure with P & I Clubs • Can describe, in general terms, the likely sequence 	<p>Assessment of evidence obtained from examination or approved training</p>	<p>Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor compliance with legislative requirements (continued)</p>	<p>of events after a major claim. Can describe what must be done immediately after an incident and subsequently, in order to act in the Owner's best interests</p> <p>9. Masters responsibilities under the Health and safety in Employment act including:</p> <ul style="list-style-type: none"> • all practicable steps • hazard management • training and supervision • emergency response • review • accident investigation • employee participation <p>10. Familiarity with the Code of Safe Working Practices for Merchant Seamen including:</p> <p>10.1. Personal hygiene and safety</p> <ul style="list-style-type: none"> • Can demonstrate an understanding of the importance of complying with health and hygiene requirements • Can discuss the importance of personal care in hot climates • Can demonstrate an understanding of the importance of regular inspections of accommodation <p>10.2 Code of Safe Working Practices for Merchant Seamen</p>	<p>Assessment of evidence obtained from examination or approved training</p>	<p>Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor compliance with legislative requirements (continued)</p>	<ul style="list-style-type: none"> • Can explain the purpose and carriage requirements of the Code of Safe Working Practices for Merchant Seamen • Can describe the advice concerning the maintenance and use of Personal Protective Equipment (PPE) • Can discuss the regulatory status of the Code of Safe Working Practices for Merchant Seamen • Can state the importance of personal responsibility for ensuring safe working practices, safe work area and following safety procedures • Can demonstrate an understanding of the principles of risk assessment and permit to work systems • Can demonstrate an understanding of the precautions necessary and the dangers involved in the following; <ul style="list-style-type: none"> ○ Enclosed space entry ○ Working aloft ○ Working over the side ○ Working at height ○ Launching and recovering tenders ○ Using chemicals ○ Using power tools • Can demonstrate knowledge of the sources of information available for chemicals that are potentially hazardous when used or carried onboard • Can explain the importance of safety briefings 	<p>Assessment of evidence obtained from examination or approved training</p>	<p>Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
<p>Monitor compliance with legislative requirements (continued)</p>	<ul style="list-style-type: none"> • Can explain the importance of fire prevention on board and the content and completion of fire fighting training exercises <p>10.3 Role and responsibility of the Safety Officer</p> <ul style="list-style-type: none"> • Can explain the requirement for and importance of safety meetings • Can discuss the requirements for practical aspects of safety inspections • Can explain the importance of keeping records • Can explain the duties and powers of the Safety Officer <p>10.4 Reporting of unsafe practices and incidents</p> <ul style="list-style-type: none"> • Can explain the requirement for near miss reporting • Can demonstrate an understanding of accident investigation • Can explain the action required on encountering an unsafe operation • Can explain the importance of rectifying and eliminating unsafe conditions and potential hazards <p>10.5 Principles of planning work activities, setting objectives and priorities to ensure requirements are met</p> <ul style="list-style-type: none"> • Can discuss the importance of onboard working relationships 	<p>Assessment of evidence obtained from examination or approved training</p>	<p>Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<ul style="list-style-type: none"> • Can explain the importance of crew resource management • Can explain the strategies for encouraging effective working relationships 	<p>Assessment of evidence obtained from examination or approved training</p>	<p>Legislative requirements relating to safety of life at sea, security and protection of the marine environment are correctly identified</p>
<p>Contribute to the safety of personnel and ship</p>	<p>A basic knowledge of the use and contents of the following publications:</p> <ol style="list-style-type: none"> 1. International Medical Guide for Ships or equivalent national publications 2. Medical section of the International Code of Signals 3. Medical first Aid Guide for Use in accident Involving Dangerous Goods 	<p>Examination and assessment of evidence obtained from approved training</p>	<p>Actions taken and procedures followed correctly apply and make full use of advice available</p>
<p>Use of leadership and managerial skill</p>	<p>Leadership and managerial skills</p> <p>Knowledge of shipboard management and training knowledge of related international maritime conventions and recommendations, and national legislation</p> <ol style="list-style-type: none"> 1. Ability to apply task and workload management, including: <ul style="list-style-type: none"> • planning and co-ordination • personnel assignment 	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ol style="list-style-type: none"> .1 approved training .2 approved in-service training experience .3 approved simulator training 	<p>The crew are allocated duties and informed of expected standards of work and behaviour in a manner appropriate to the individuals concerned</p> <p>Training objectives and activities are based on current competence and capabilities and operational requirements</p> <p>Operations are demonstrated to be</p>

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
	<ul style="list-style-type: none"> • time and resource constraints • prioritization <p>2. Knowledge and ability to apply effective resource management:</p> <ul style="list-style-type: none"> • allocation, assignment and prioritisation of resources • effective communication on board and ashore • decisions reflect consideration of team experiences • assertiveness and leadership, including motivation • obtaining and maintaining awareness <p>3. Knowledge and ability to apply decision-making techniques</p> <ul style="list-style-type: none"> • situation and risk assessment • identify and generate options • selecting course of action <p>evaluation of outcome effectiveness</p> <p>4. Development, implementation, and oversight of standard operating procedures</p>	<p>Examination and assessment of evidence obtained from one or more of the following:</p> <ul style="list-style-type: none"> .1 approved training .2 approved in-service training experience .3 approved simulator training 	<p>in accordance with applicable rules</p> <p>Operations are planned and resources are allocated as needed in correct priority to perform necessary tasks</p> <p>Communication is clearly and unambiguously given and received</p> <p>Effective leadership behaviours are demonstrated</p> <p>Necessary team member(s) share accurate understanding of current and predicted vessel state and operational status and external environment</p> <p>Decisions are most effective for the situation</p> <p>Operations are demonstrated to be effective and in accordance with applicable rules</p>