U.S. Department of Homeland Security

United States Coast Guard

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United States Coast Guard

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COMDTCHANGENOTE 16721
NVIC 03-18
December 15, 2021

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 03-18, CH-2

Subj: CHANGE 2 TO GUIDELINES ON QUALIFICATION FOR STCW ENDORSEMENTS AS MASTER OF VESSELS OF LESS THAN 500 GT, NVIC 03-18, COMDTPUB 16721

Ref: (a) Guidelines on Qualification for STCW Endorsements as Master of Vessels of Less Than 500 GT, NVIC 03-18, COMDTPUB 16721

1. PURPOSE. This Commandant Change Notice publishes CH-2 to NVIC 03-18.

2. ACTION. The Coast Guard will use NVIC 03-18 and 46 CFR Part 11 to establish whether mariners are qualified for STCW endorsements as Master of Vessels of Less Than 500 GT that are valid upon all waters (i.e., not limited to near-coastal waters).

3. DIRECTIVES AFFECTED. With the release of this Commandant Change Notice, NVIC 03-18 is updated.

4. DISCUSSION. The Coast Guard is aware that as a result of the limited number of approved QAs, there may be a hardship on mariners trying to complete STCW assessments after December 31, 2021. In consideration of this, the Coast Guard will continue to allow STCW assessments to be signed by an assessor who meets the requirements specified in NVIC 19-14 until December 31, 2023. These assessments must be submitted to the Coast Guard as part of a complete application no later than June 30, 2024. Qualified military personnel need not be approved QAs and may continue to sign assessments after December 31, 2023. This change notice revises NVIC 03-18 to reflect this extension.

5. DISCLAIMER. This guidance is not a substitute for applicable legal requirements, nor is it itself a regulation. It is not intended to, nor does it impose legally-binding requirements on any party. It represents the Coast Guard's current thinking on this topic and is issued for guidance purposes to outline methods of best practice for compliance with applicable law. You can use an alternative approach if the approach satisfies the requirements of the applicable statutes and regulations.

6. MAJOR CHANGES. This Commandant Change Notice revises NVIC 03-18 to extend the date for acceptance of assessments that were not signed by a Coast Guard approved Qualified Assessor.

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NON-STANDARD DISTRIBUTION:

7. ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS.

   a. The development of this Commandant Change Notice and the general policies contained within it have been thoroughly reviewed under Department of Homeland Security Directive 023-01 and Environmental Planning COMDTINST 5090.1 (series) by the originating office, and are categorically excluded (CE) from further environmental analysis under paragraph #A3 in Table 3-1 of U.S. Coast Guard Environmental Planning Implementing Procedures 5090.1. Because this Commandant Change Notice implements, without substantive change, the applicable Commandant Instruction or other federal agency regulations, procedures, manuals, and other guidance documents, Coast Guard categorical exclusion #A3 is appropriate.

   b. This Commandant Change Notice will not have any of the following: significant cumulative impacts on the human environment; substantial controversy or substantial change to existing environmental conditions; or inconsistencies with any Federal, State, or local laws or administrative determinations relating to the environment. All future specific actions resulting from the general policies in this Commandant Change Notice must be individually evaluated for compliance with the National Environmental Policy Act (NEPA), DHS and Coast Guard NEPA policy, and compliance with all other environmental mandates.

8. DISTRIBUTION. No paper distribution will be made of this Commandant Change Notice. An electronic version will be located at https://www.dco.uscg.mil/Our-Organization/NVIC/.

9. PROCEDURE. Remove and insert the following pages of NVIC 03-18:

| Remove | Insert |
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| Enclosure (2), Page 1 CH-1 | Enclosure (2), Page 1 CH-2 |
| Enclosure (3), Page 12 CH-1 | Enclosure (3), Page 12 CH-2 |

10. RECORDS MANAGEMENT CONSIDERATIONS. This Commandant Change Notice has been thoroughly reviewed during the directives clearance process, and it has been determined there are no further records scheduling requirements, in accordance with the Federal Records Act (44 U.S.C. 3101 et seq.), NARA requirements, and the Information and Life Cycle Management Manual, COMDTINST M5212.12 (series). This policy does not create significant or substantial change to existing records management requirements.

11. FORMS/REPORTS. None.

12. REQUEST FOR CHANGES. All requests for changes or questions regarding implementation of Reference (a) and this Commandant Change Notice should be directed to the Mariner Credentialing Program Policy Division (CG-MMC-2), at (202) 372-2357 or MMCPolicy@uscg.mil. To obtain approval for a course or training program, contact the NMC at (888) 427-5662 or IAskNMC@uscg.mil.

J. W. MAUGER
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Assistant Commandant for Prevention Policy

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COMDTCHANGENOTE 16721
NVIC 03-18
September 9, 2020

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 03-18, CH-1

Subj: CHANGE 1 TO GUIDELINES ON QUALIFICATION FOR STCW ENDORSEMENTS AS MASTER OF VESSELS OF LESS THAN 500 GT, NVIC 03-18, COMDTPUB 16721

Ref: (a) Guidelines on Qualification for STCW Endorsements as Master of Vessels of Less Than 500 GT, NVIC 03-18, COMDTPUB 16721

1. PURPOSE. This Commandant Change Notice publishes CH-1 to NVIC 03-18.

2. ACTION. The Coast Guard will use NVIC 03-18 and 46 CFR Part 11 to establish whether mariners are qualified for STCW endorsements as Master of Vessels of Less Than 500 GT that are valid upon all waters (i.e., not limited to near-coastal waters).

3. DIRECTIVES AFFECTED. With the release of this Commandant Change Notice, NVIC 02-18 is updated.

4. DISCUSSION. The Coast Guard has extended the date for acceptance of assessments of mariner competence that are not signed by a Coast Guard approved Qualified Assessor. This change notice revises NVIC 03-18 to reflect this extension.

5. DISCLAIMER. This guidance is not a substitute for applicable legal requirements, nor is it itself a regulation. It is not intended to, nor does it impose legally-binding requirements on any party. It represents the Coast Guard's current thinking on this topic and is issued for guidance purposes to outline methods of best practice for compliance with applicable law. You can use an alternative approach if the approach satisfies the requirements of the applicable statutes and regulations.

6. MAJOR CHANGES. This Commandant Change Notice revises NVIC 03-18 to extend the date for acceptance of assessments that were not signed by a Coast Guard approved Qualified Assessor.

7. ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS.

   a. The development of this Commandant Change Notice and the general policies contained within it have been thoroughly reviewed under Department of Homeland Security Directive 023-01 and Environmental Planning COMDTINST 5090.1 (series) by the originating office, and are

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categorically excluded (CE) from further environmental analysis under paragraph #A3 in Table 3-1 of U.S. Coast Guard Environmental Planning Implementing Procedures 5090.1. Because this Commandant Change Notice implements, without substantive change, the applicable Commandant Instruction or other federal agency regulations, procedures, manuals, and other guidance documents, Coast Guard categorical exclusion #A3 is appropriate.

b. This Commandant Change Notice will not have any of the following: significant cumulative impacts on the human environment; substantial controversy or substantial change to existing environmental conditions; or inconsistencies with any Federal, State, or local laws or administrative determinations relating to the environment. All future specific actions resulting from the general policies in this Commandant Change Notice must be individually evaluated for compliance with the National Environmental Policy Act (NEPA), DHS and Coast Guard NEPA policy, and compliance with all other environmental mandates.

8. DISTRIBUTION. No paper distribution will be made of this Commandant Change Notice. An electronic version will be located at https://www.dco.uscg.mil/Our-Organization/NVIC/.

9. PROCEDURE. Remove and insert the following pages of NVIC 03-18:

| Remove | Insert |
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| Enclosure (2), Page 1 | Enclosure (2), Page 1 CH-1 |
| Enclosure (3), Page 12 | Enclosure (3), Page 12 CH-1 |

10. RECORDS MANAGEMENT CONSIDERATIONS. This Commandant Change Notice has been thoroughly reviewed during the directives clearance process, and it has been determined there are no further records scheduling requirements, in accordance with the Federal Records Act (44 U.S.C. 3101 et seq.), NARA requirements, and the Information and Life Cycle Management Manual, COMDTINST M5212.12 (series). This policy does not create significant or substantial change to existing records management requirements.

11. FORMS/REPORTS. None.

12. REQUEST FOR CHANGES. All requests for changes or questions regarding implementation of Reference (a) and this Commandant Change Notice should be directed to the Mariner Credentialing Program Policy Division (CG-MMC-2), at (202) 372-2357 or MMCPolicy@uscg.mil. To obtain approval for a course or training program, contact the NMC at (888) 427-5662 or IAskNMC@uscg.mil.

/s/
R. V. TIMME
Rear Admiral, U. S. Coast Guard
Assistant Commandant for Prevention Policy

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COMDTPUB P16721
NVIC NO. 03-18
August 6, 2018

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 03-18

Subj: GUIDELINES ON QUALIFICATION FOR STCW ENDORSEMENTS AS MASTER OF VESSELS OF LESS THAN 500 GROSS TONS (GT)

Ref: (a) International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended (STCW), incorporated into regulations at 46 CFR 11.102

1. PURPOSE. This Navigation and Vessel Inspection Circular (NVIC) provides guidance on qualification for, and renewal of, endorsements under Table A-II/2 of the STCW Code for service as Master on vessels of less than 500 GT that are valid upon all waters.

2. ACTION. The Coast Guard will use this NVIC and 46 CFR Part 11.315 to establish whether mariners are qualified to hold STCW endorsements as Master of Vessels of Less Than 500 GT that are valid upon all waters (i.e., not limited to near-coastal voyages). Officers in Charge, Marine Inspection (OCMIs) should bring this NVIC to the attention of the maritime industry within their zones of responsibility.

3. DIRECTIVES AFFECTED. None.

4. BACKGROUND/DISCUSSION.

   a. The International Maritime Organization (IMO) amended the STCW Convention and STCW Code on June 25, 2010. These amendments entered into force for all ratifying countries, including the United States, on January 1, 2012.

   b. The Convention is not self-implementing; therefore, the U.S., as a signatory to the STCW Convention, initiated regulatory changes to ensure full implementation of the amendments to the STCW Convention and STCW Code. The U.S. implements these provisions under the Convention and under the authority of the United States Code, Titles 5, 14, 33, and 46. The Coast Guard published a final rule in the Federal Register on December 24, 2013 (78 FR 77796) that implements the STCW Convention and STCW Code, including the 2010 amendments. This rule became effective on March 24, 2014.

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NON-STANDARD DISTRIBUTION

The Coast Guard is publishing this NVIC to provide guidance on complying with these regulations.

5. DISCLAIMER. This guidance is not a substitute for applicable legal requirements, nor is it itself a regulation. It is not intended to, nor does it impose legally-binding requirements on any party. It represents the Coast Guard's current thinking on this topic and is issued for guidance purposes to outline methods of best practice for compliance to the applicable law. You can use an alternative approach if the approach satisfies the requirements of the applicable statutes and regulations.

6. ENVIRONMENTAL ASPECT AND IMPACT CONSIDERATIONS.

   a. The development of this NVIC and the general policies contained within it have been thoroughly reviewed by the originating office, and are categorically excluded (CE) under current USCG CE # 33 from further environmental analysis, in accordance with Section 2.B.2. and Figure 2-1 of the National Environmental Policy Act Implementing Procedures and Policy for Considering Environmental Impacts, COMDTINST M16475.1 (series). Because this NVIC implements, without substantive change, the applicable Commandant Instruction or other federal agency regulations, procedures, manuals, and other guidance documents, Coast Guard categorical exclusion #33 is appropriate.

   b. This NVIC will not have any of the following: significant cumulative impacts on the human environment; substantial controversy or substantial change to existing environmental conditions; or inconsistencies with any Federal, State, or local laws or administrative determinations relating to the environment. All future specific actions resulting from the general policies in this NVIC must be individually evaluated for compliance with the National Environmental Policy Act (NEPA), DHS and Coast Guard NEPA policy, and compliance with all other environmental mandates.

7. DISTRIBUTION. No paper distribution will be made of this NVIC. An electronic version will be located at https://www.dco.uscg.mil/Our-Organization/NVIC/.

8. RECORDS MANAGEMENT CONSIDERATIONS. This NVIC has been thoroughly reviewed during the directives clearance process, and it has been determined there are no further records scheduling requirements, in accordance with the Federal Records Act (44 U.S.C. 3101 et seq.), NARA requirements, and the Information and Life Cycle Management Manual, COMDTINST M5212.12 (series). This policy does not create significant or substantial change to existing records management requirements.

9. FORMS/REPORTS. None.

10. REQUEST FOR CHANGES. All requests for changes and questions regarding implementation of this NVIC and/or requests for changes should be directed to the Mariner Credentialing Program Policy Division (CG-MMC-2), at (202) 372-2357 or MMCPolicy@uscg.mil. To obtain approval for a training course or program, or for an alternative to the assessments described in Enclosure (2), please contact the NMC at IAskNMC@uscg.mil or (888) 427-5662.

J. P. NADEAU
Rear Admiral, U. S. Coast Guard
Assistant Commandant for Prevention Policy

Encl: (1) Qualification Requirements for STCW Endorsements as Master of Vessels of Less Than 500 GT
(2) Assessment Guidelines for STCW Endorsements as Master of Vessels of Less Than 500 GT
(3) Record of Assessment for STCW Endorsements as Master of Vessels of Less Than 500 GT

**QUALIFICATION REQUIREMENTS FOR STCW ENDORSEMENTS AS MASTER OF VESSELS OF LESS THAN 500 GT**

1. GENERAL. This enclosure provides guidance to qualify for STCW endorsements as Master of Vessels of Less Than 500 Gross Tons (GT) that are valid upon all waters (i.e., not limited to near-coastal waters) in accordance with Section A-II/2 of the STCW Code and 46 Code of Federal Regulations (CFR) 11.315.

   Although Section A-II/2 of the STCW Code is titled "Mandatory minimum requirements for certification of masters and chief mates on ships of 500 GT or more" [emphasis added], Regulation II/3, paragraph 2 of the STCW Convention specifies that masters on seagoing vessels of less than 500 GT that are not engaged on near coastal voyages must meet the competency standards for vessels of between 500 GT and 3,000 GT. Accordingly, the applicable standard for this endorsement is Section II/2 of the STCW Code, and not Section II/3 which is only applicable to vessels engaged on near-coastal voyages.

   As specified in 46 CFR 11.201(a), an applicant for any STCW endorsement must hold the appropriate national endorsement. To be eligible for an STCW endorsement as Master of Vessels of Less Than 500 GT, mariners must hold or qualify for any national endorsement authorizing service as Master valid for oceans routes, other than Operator of Uninspected Passenger Vessels (OUPV).

2. SEA SERVICE, TRAINING, AND STANDARD OF COMPETENCE

   a. Sea Service. As specified in 46 CFR 11.315(a)(1), an applicant for an STCW endorsement as Master of Vessels of Less Than 500 GT must provide evidence of at least 36 months as officer in charge of a navigational watch (OICNW) on vessels operating in oceans, near-coastal waters, and/or Great Lakes; however, this period may be reduced to not less than 24 months if not less than 12 months of such seagoing service has been served as chief mate.

      Service on inland waters that are navigable waters of the United States may be substituted for up to 50 percent of the total required service. Experience gained in the engine department on vessels may be creditable for up to 3 months of the service requirements.

   b. Training. An applicant for an STCW endorsement as Master of Vessels of Less Than 500 GT must provide evidence of having satisfactorily completed Coast Guard approved training for:

      1) Search and Rescue (46 CFR 11.315(a)(3)(i));

      2) Management of Medical Care (an approved course for Medical Care Person in Charge will also meet this requirement) (46 CFR 11.315(a)(3)(ii));

      3) Leadership and Managerial Skills (46 CFR 11.315(a)(3)(iii));

      4) Electronic Chart Display Information Systems (ECDIS), to be valid for vessels with this equipment (46 CFR 11.315(a)(3)(iv));

5) Automatic Radar Plotting Aids (ARPA), to be valid for vessels with this equipment (46 CFR 11.315(a)(3)(v));

6) Global Maritime Distress and Safety System (GMDSS), to be valid for vessels with this equipment (46 CFR 11.315(a)(3)(vi));

7) Basic Training (46 CFR 11.302). If this training was completed more than 5 years before the date of application, the applicant must provide evidence of maintaining the standard of competence as specified in 46 CFR 11.302(b); and

8) Advanced Firefighting (46 CFR 11.303). If this training was completed more than 5 years before the date of application, the applicant must provide evidence of maintaining the standard of competence as specified in 46 CFR 11.303(b) and (c).

c. Standard of competence.

1) Regulation II/3.2 of the STCW Code provides that every Master serving on a vessel of less than 500 GT that is not engaged on near-coastal voyages should meet the same competency standards as Masters serving on vessels between 500 GT and 3,000 GT. As specified in 46 CFR 11.315(a)(2), an applicant for an STCW endorsement as Master of Vessels of Less Than 500 GT must provide evidence of meeting the standard of competence in Section A-II/2 of the STCW Code (incorporated by reference, see 46 CFR 11.102). The assessment guidelines in Enclosure (2) may be used for this purpose.

2) Operational-level training and assessments are not required if the mariner holds or has previously held any STCW endorsement as Officer in Charge of a Navigational Watch (OICNW) not limited to domestic, near-coastal voyages. (46 CFR 11.301(g)(4)). Mariners who have not previously held an STCW endorsement as OICNW for 500 GT or More issued after 1997 must also meet the requirements for qualification as OICNW Less Than 500 GT as specified in 46 CFR 11.319.

3. RENEWAL OF ENDORSEMENTS

a. To renew an STCW endorsement as Master of Vessels of Less Than 500 GT (not limited to near-coastal waters), mariners must meet the applicable requirements in 46 CFR 10.227 to renew their national endorsement and provide evidence of:

1) Completion of approved or accepted training for:

A) Leadership and Managerial Skills, unless met previously (46 CFR 11.315(b)(1)); and

B) ECDIS, to be valid on a vessel with this equipment (46 CFR 11.315(b)(2));

2) Maintaining the standard of competence in Basic Training (46 CFR 11.302(b)) and Advanced Firefighting (46 CFR 11.303(b)); and

3) Maintaining the standard of competence for Proficiency in Survival Craft (46 CFR 12.613) or Proficiency in Survival Craft-Limited (46 CFR 12.615), as appropriate, in order to serve as Lifeboatman or the person in charge of a survival craft.

# Assessment Guidelines for Master of Vessels of Less Than 500 GT

## Standard of Competence

Every candidate for an STCW endorsement as Master of Vessels of Less Than 500 GT valid upon all waters (i.e., not limited to near-coastal waters) must provide evidence of having achieved the required standard of competence as specified in Table A-II/2 of the STCW Code (46 CFR 11.315(a)(2)).

Although Section A-II/2 of the STCW Code is titled "Mandatory minimum requirements for certification of masters and chief mates on ships of 500 GT or more" [emphasis added], Regulation II/3, paragraph 2 of the STCW Convention specifies that masters on seagoing vessels of less than 500 GT that are not engaged on near coastal voyages must meet the competency standards for vessels of between 500 GT and 3,000 GT. Accordingly, the applicable standard for this endorsement is Section II/2 of the STCW Code, and not Section II/3 which is only applicable to vessels engaged on near-coastal voyages.

The table that follows is adopted from Table A-II/2 of the STCW Code to assist the candidate and assessor in the demonstration of competency.

## Practical Skill Demonstrations

These assessment guidelines establish the conditions under which assessments will occur, the performance or behavior the candidate is to accomplish, and the standards against which the performance is measured.

## Qualified Assessors

A shipboard Qualified Assessor (QA) who witnesses a practical demonstration may sign the appropriate blocks and pages in the Record of Assessment in Enclosure (3) or an equivalent record. All assessments must be signed by a QA approved by the Coast Guard in accordance with 46 CFR 10.405. In order to facilitate the transition to this new requirement, the Coast Guard will accept assessments that have been demonstrated in the presence of and signed by an assessor who has not been Coast Guard approved conducted before January 1, 2024, provided that the assessor meets the professional requirements in 46 CFR 10.405(a)(3) to assess competence for the specific endorsement. These assessments must be submitted to the Coast Guard as part of a complete application no later than June 30, 2024. Assessors must be in possession of the level of endorsement, or other professional credential, which provides proof that he or she has attained a level of experience and qualification equal or superior to the relevant level of knowledge, skills, and abilities to be assessed (46 CFR 10.405(a)(3)). In the interim, the Coast Guard will accept assessments signed by mariners who hold an appropriate national endorsement and have at least 1 year of experience as Master on seagoing vessels of at least 100 GRT. For assessments signed on a military vessel, the assessor should have experience as Commanding Officer (CO) on seagoing vessels of at least 100 GRT. Military assessors should only conduct assessments that are within their personal experience and are relevant to the vessel on which they are conducted. For example, assessments involving the carriage of cargo should not be performed on a vessel that does not carry cargo and/or by an assessor who lacks experience on cargo-carrying vessels. For assessments conducted after December 31, 2023, QAs must be approved by the National Maritime Center to conduct the assessment (46 CFR 10.405). Qualified military personnel authorized to conduct similar assessments for the U.S. Army, U.S. Navy, or U.S. Coast Guard PQS for OOD need not be approved QAs and may continue to sign assessments on military vessels after December 31, 2023.

*Successful completion of these guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-II/2 of the STCW Code as applicable to vessels of less than 500 GT. The use of these Guidelines is not mandatory and alternative means of having achieved the standards of competence in the STCW Code will be considered. In accordance with 46 CFR 11.301(a)(3), alternative Assessment Guidelines must be approved by the National Maritime Center before use.*

**Notes**

The following notes are used in the "Task No." column of the assessment table that follows:

*ARPA* The assessment is not required for mariners serving exclusively on vessels not fitted with an Automatic Radar Plotting Aid (ARPA); a limitation will be added to the endorsement indicating that it is not valid for service on vessels equipped with ARPA.

*ECDIS* The assessment is not required for mariners serving exclusively on vessels not fitted with an Electronic Chart Display and Information System (ECDIS); a limitation will be added to the endorsement indicating that it is not valid for service on vessels equipped with ECDIS.

*Course* The KUP is demonstrated by the successful completion of the specified Coast Guard approved or accepted course.

*Note 1* The assessment is not required for a mariner holding an STCW endorsement as Master of Less Than 500 GT that is limited to near-coastal voyages and is not limited to domestic voyages.

*Note 2* The assessment is the same as one for STCW endorsements as Master and Chief Mate of Vessels of Greater Than 500 GT and Less Than 3,000 GT. Mariners will not need to repeat the assessment when upgrading to those endorsements. When qualifying for an STCW endorsement as Master or Chief Mate of Vessels of Greater Than 500 GT and Less Than 3,000 GT, mariners may omit the similar assessment described in NVIC 11-14 for Master and Chief Mate of Vessels of Greater Than 500 GT and Less Than 3,000 GT.

Numbering gaps in the sequence of assessments are intentional to allow correlation to corresponding assessments for endorsements as Master or Chief Mate of Vessels of Greater Than 500 GT and Less Than 3,000 GT.

**Assessment Guidelines for Master of Vessels of Less Than 500 GT**

| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
|---|---|---|---|---|---|
| 1.1.A<br>Create a voyage plan<br>*Note 1*<br>*Note 2* | Plan a voyage and conduct navigation | Voyage planning and navigation for all conditions by acceptable methods of plotting ocean tracks | On a vessel or in a navigation laboratory, and provided with chart catalogs, charts, nautical publications, and vessel particulars, | the candidate creates a voyage plan for a coastwise voyage of at least 600 nautical miles, a segment of which must be at night and in restricted waters. | The candidate's plan:<br>1. Considers and utilizes:<br>a. The condition of the vessel, equipment, operational limitations, draft and maneuvering characteristics;<br>b. Any special characteristics of the cargo and its stowage;<br>c. Crew member competency and rest status;<br>d. Up-to-date vessel certificates and documents;<br>e. Up-to-date charts of proper scale, and the latest notices to mariners and radio navigational warnings;<br>f. Up-to-date coast pilots, sailing directions, and other information sources appropriate for the voyage;<br>g. Relevant routing guides;<br>h. Up-to-date tide and current tables and atlases;<br>i. Weather information;<br>j. Weather routing services;<br>k. Vessel reporting systems, VTS and environmental protection measures;<br>l. Vessel traffic density for the route;<br>m. Pilotage requirements and information exchange; and<br>n. Port information, including emergency response capability.<br>*Continued on next page* |

*Successful completion of these guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-II/2 of the STCW Code as applicable to vessels of less than 500 GT. The use of these Guidelines is not mandatory and alternative means of having achieved the standards of competence in the STCW Code will be considered. In accordance with 46 CFR 11.301(a)(3), alternative Assessment Guidelines must be approved by the National Maritime Center before use.*

| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 1.1.A<br>*Cont'd*<br>Create a voyage plan | | | | | *Continued from previous page*<br>2. Contains:<br>a. Courses plotted on the appropriately scaled charts noting the ETA at each way point, including the final way point;<br>b. Courses and distances between way points which were correctly calculated and indicated on the charts;<br>c. The most direct route that avoids all hazards to navigation by a margin of safety of 3.0 nm, where possible;<br>d. Areas of all required speed changes;<br>e. Minimum under keel clearances in critical areas;<br>f. Positions requiring a change of machinery status;<br>g. Waypoints of all course changes;<br>h. Methods and frequency of position fixing;<br>i. Positions and radio hailing frequencies or channels where port authorities, pilots and VTS services must be notified are noted on the relevant chart;<br>j. State of the tide and currents at the port of departure for the times of departure and transit were determined; and<br>k. A contingency plan for alternative actions in cases of emergency. |

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| 1.2.A<br>Great circle sailing<br>*Note 2* | Plan a voyage and conduct navigation | Voyage planning and navigation for all conditions by acceptable methods of plotting ocean tracks | On a vessel or in a navigation laboratory, given a latitude and longitude of departure and latitude and longitude of arrival at least 3,000 nm apart, and using a calculator (may be programmable), sight reduction tables and/or U.S. Pub. No. 9 Tables, | the candidate calculates the great circle route between the point of departure and the point of arrival. | The candidate's great circle route contains the:<br>1. Initial course, which is within ± 1.0° of the assessor's solution;<br>2. Total distance, which is within 1.0 nm of the assessor's solution;<br>3. Position of the vertex, which is within 1 nm of the assessor's position; and<br>4. Positions of points along the great circle at intervals of 5.0° (300 nm), which are within 1.0 nm of the assessor's solution. |
| 1.2.B<br>Mercator sailing initial course and total distance<br>*Note 2* | Plan a voyage and conduct navigation | Voyage planning and navigation for all conditions by acceptable methods of plotting ocean tracks | On a vessel or in a navigation laboratory, given the latitude and longitude of departure and arrival at least 1,000 nm apart, using a calculator (may be programmable), sight reduction tables and/or U.S. Pub. No. 9 Tables, | the candidate calculates the Mercator course and distance between the point of departure and the point of arrival. | The candidate's:<br>Initial course is within ± 0.5° of the assessor's solution; and<br>Total distance is within 1.0 nm of the assessor's solution. |

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| 1.2.C<br>Mercator sailing final position<br>*Note 2* | Plan a voyage and conduct navigation | Voyage planning and navigation for all conditions by acceptable methods of plotting ocean tracks | On a vessel or in a navigation laboratory, given a latitude and longitude of departure and a course and distance for a passage of at least 1,000 nm, using a calculator (may be programmable), and/or Publication Number 9 Tables, | the candidate calculates the final position using Mercator sailing. | The candidate's final position is within ± 1.0 nm of the assessor's solution. |
| 2.1.A<br>Meridian transit (other than sun)<br>*Note 2* | Determine position and the accuracy of resultant position fix by any means | Position determination in all conditions by celestial observations | On a vessel at sea, with a celestial body other than the sun at upper transit and a clear horizon, | the candidate measures the altitude of the body as it crosses the meridian of the observer and calculates the latitude of the vessel, | The candidate's latitude is calculated at meridian passage and must be within ± 1.0 nm of the assessor's solution.<br>**NOTE**: The assessor may permit the use of an Ex-Meridian to compensate for weather, cloud cover, or other reason that the assessor deems necessary. |

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|---|---|---|---|---|---|
| 2.1.B<br>Star identification<br>*Note 2* | Determine position and the accuracy of resultant position fix by any means | Position determination in all conditions by celestial observations | On a vessel or onshore with a suitable horizon, or in a navigational laboratory, using a star finder or navigational publication such as Pub. 249, and given the times of observation, altitudes and azimuths of three unknown stars, | the candidate identifies the three stars. | The candidate accurately identifies the three stars within 20 minutes. |
| 2.1.C<br>Star/planet selection<br>*Note 2* | Determine position and the accuracy of resultant position fix by any means | Position determination in all conditions by celestial observations | On a vessel or onshore with a suitable horizon, or in a navigational laboratory, given the time of observation, | the candidate identifies the best three stars or planets to obtain a fix. | The candidate's identification is completed within 20 minutes and the bodies identified by the candidate:<br>1. Are the three brightest available; and<br>2. Have the greatest crossing angles possible between each other when plotted |

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|---|---|---|---|---|---|
| 2.2.A<br>GPS routing<br>*Note 2* | Determine position and the accuracy of resultant position fix by any means | Position determination in all conditions using modern electronic aids | On a vessel, on a simulator, or in a navigation laboratory, using a GPS receiver meeting IMO standards, and given a port of departure and a port of arrival at least 2,000 nm apart in a generally east-west direction, with at least three legs, which include both rhumb line and great circle legs, | the candidate enters the waypoints and route for the voyage into the GPS. | The candidate's:<br>1. Way points are correctly determined entered, and saved;<br>2. Route is correctly entered and saved; and<br>3. Great circle or rhumb line legs are correctly designated. |
| 3.1.A<br>Amplitude of celestial body other than the sun<br>*Note 2* | Determine and allow for compass errors | Ability to determine and allow for errors of the magnetic and gyro-compasses | On a ship underway, with a celestial body other than the sun on either the visible horizon or the celestial horizon, | the candidate takes a compass bearing of the body. | The candidate takes the bearing when repeater is level and notes the:<br>1. Time of the reading;<br>2. Compass bearing (magnetic and/or gyrocompass);<br>3. Determined true bearing of the body;<br>4. Compass error as determined by comparing the true bearing to the compass bearing; and<br>5. Calculates a solution that is within ± 1.0° of the assessor's solution. |

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|---|---|---|---|---|---|
| 3.2.A<br>Write a standing order for compasses<br>*Note 2* | Determine and allow for compass errors | Knowledge of the principles of magnetic and gyro-compasses | On a vessel, or in a navigational laboratory, when asked to write a standing order regarding onboard compasses, | the candidate writes a standing order regarding the onboard compasses. | The candidate's standing order includes:<br>Comparison of magnetic and gyrocompasses;<br>Frequency of comparisons and error determination are increased when near navigational hazards;<br>Comparison of master gyro and slaves;<br>Listing all slave compasses to be checked including the emergency steering stand; and<br>Effect of magnetic objects near magnetic compass. |
| 3.3.A<br>Operation and care of gyrocompass<br>*Note 2* | Determine and allow for compass errors | Understanding of systems under the control of the master gyro and a knowledge of the operation and care of the main types of gyro-compasses | On a vessel, or in a navigational laboratory, when asked to write an instruction regarding onboard compasses, | the candidate writes an instruction for the watch standing officers regarding the onboard compasses. | The candidate's instruction includes:<br>1. Systems affected by a malfunction of the master gyrocompass;<br>2. How a malfunction of the master gyrocompass manifests itself in each system;<br>3. Location of instructions for starting the master gyrocompass and simulating the procedure;<br>4. Location of instructions for shutting down the master gyrocompass and simulating the procedure;<br>5. Procedures to follow in the event of a master gyrocompass malfunction;<br>6. Procedures to follow in the event of a disconnect of system requiring input from the master gyrocompass; and<br>7. Routine maintenance procedures including replacement of the sensitive element and any lubrication needed. |

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|---|---|---|---|---|---|
| 4.1<br>Search and Rescue<br>*Course* | Co-ordinate search and rescue operations | A thorough knowledge of and ability to apply the procedures in the International Aeronautical and Maritime Search and Rescue (IAMSAR) Manual | This KUP is demonstrated by successful completion of the approved *Search and Rescue* course specified in 46 CFR 11.315(a)(3)(i). | | |
| 5.1<br>Operate ARPA Controls and functions<br>*ARPA Course* | Maintain safe navigation through the use of information from navigation equipment and systems to assist command decision making | An appreciation of system errors and thorough understanding of the operational aspects of navigational systems<br>Evaluation of navigational information derived from all sources, including radar and ARPA, in order to make and implement command decisions for collision avoidance and for directing the safe navigation of the ship. | These KUPs are demonstrated by successful completion of the approved ARPA course specified in 46 CFR 11.315(a)(3)(v). | | |

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|---|---|---|---|---|---|
| 5.2.A<br>Blind pilotage planning<br>*Note 2* | Maintain safe navigation through the use of information from navigation equipment and systems to assist command decision making | Blind pilotage planning<br>Evaluation of navigational information derived from all available sources, including radar and ARPA, in order to make and implement command decisions for collision avoidance and for directing the safe navigation of the ship | On a vessel, or in a navigational laboratory, | the candidate writes a standing order regarding navigation in restricted visibility, | The candidate's standing order includes:<br>1. Conditions constituting restricted visibility;<br>2. Informing the Master;<br>3. Traffic considerations;<br>4. Following the appropriate rules of the road;<br>5. Safe speeds;<br>6. Engine room alert level (SBE, etc.);<br>7. Appropriate signals being used;<br>8. Posting of lookouts; and<br>9. Positioning of vessel in the seaway. |
| 5.3.A<br>Plan and execute a passage<br>*Note 2* | Maintain safe navigation through the use of information from navigation equipment and systems to assist command decision making | The interrelationship and optimum use of all navigational data available for conducting navigation | On a vessel or a simulator, in congested coastal waters with reduced visibility, while transiting a traffic separation scheme, in the presence of current, and with a course change of not less than 30° in the route, | the candidate plans and executes a passage through the area of transit, using the principles of bridge resource management (BRM). | The candidate's plan and passage includes:<br>1. Assigning BRM roles;<br>2. Monitoring the vessel's progress;<br>3. Communicating clearly and effectively;<br>4. Controlling passage for safe navigation and collision avoidance; and<br>5. Ensuring that all team members use all relevant navigational data. |

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|---|---|---|---|---|---|
| 6.1<br>ECDIS licensing and updating<br>*ECDIS Course* | Maintain the safety of navigation through the use of ECDIS and associated navigation systems to assist command decision making | Management of operational procedures, system files and data, including manage the procurement, licensing and updating of chart data and system software to conform to established procedures | This KUP is demonstrated by successful completion of the approved ECDIS course specified in 46 CFR 11.315(a)(3)(iv) | | |
| 6.2<br>Update ECDIS system version<br>*ECDIS Course* | Maintain the safety of navigation through use of ECDIS and associated navigation systems to assist command decision making | Management of operational procedures, system files and data, including system and information updating, including the ability to update ECDIS system version in accordance with vendor's product development | This KUP is demonstrated by successful completion of the approved ECDIS course specified in 46 CFR 11.315(a)(3)(iv) | | |

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|---|---|---|---|---|---|
| 6.3<br>ECDIS system configure and backup<br>*ECDIS Course* | Maintain the safety of navigation through the use of ECDIS and associated navigation systems to assist command decision making | Management of operational procedures, system files and data, including create and maintain system configuration and backup files | This KUP is demonstrated by successful completion of the approved ECDIS course specified in 46 CFR 11.315(a)(3)(iv) | | |
| 6.4<br>Create and maintain ECDIS log files<br>*ECDIS Course* | Maintain the safety of navigation through the use of ECDIS and associated navigation systems to assist command decision making | Management of operational procedures, system files and data, including create and maintain log files in accordance with established procedures | This KUP is demonstrated by successful completion of the approved ECDIS course specified in 46 CFR 11.315(a)(3)(iv) | | |

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|---|---|---|---|---|---|
| 6.5<br>Maintain ECDIS route plan files<br>*ECDIS Course* | Maintain the safety of navigation through the use of ECDIS and associated navigation systems to assist command decision making | Management of operational procedures, system files and data, including create and maintain route plan files in accordance with established procedures | This KUP is demonstrated by successful completion of the approved ECDIS course specified in 46 CFR 11.315(a)(3)(iv). | | |
| 6.6<br>ECDIS track history and alarms<br>*ECDIS Course* | Maintain the safety of navigation through the use of ECDIS and associated navigation systems to assist command decision making | Management of operational procedures, system files and data, including use ECDIS log-book and track history functions for inspection of system functions, alarm settings and user responses | This KUP is demonstrated by successful completion of the approved ECDIS course specified in 46 CFR 11.315(a)(3)(iv). | | |

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|---|---|---|---|---|---|
| 6.7<br>ECDIS playback and route planning<br>*ECDIS Course* | Maintain the safety of navigation through the use of ECDIS and associated navigation systems to assist command decision making | Use ECDIS playback functionality for passage review, route planning and review of system functions | This KUP is demonstrated by successful completion of the approved ECDIS course specified in 46 CFR 11.315(a)(3)(iv). | | |
| 7.1.A<br>Forecast weather for next 24 hours | Forecast weather and oceanographic conditions | Ability to understand and interpret a synoptic chart and to forecast area weather, taking into account local weather conditions and information received by weather fax | On a vessel, or in a laboratory, given synoptic surface and 500 mb weather charts for the previous 24-hour period, and temperature, pressure and wind readings for the previous 8 hours, | the candidate determines the weather to be encountered during the next 24-hour period. | The candidate's determinations of expected wind, sea, and weather conditions (e.g. types and amount of cloud cover, rain, and fog) are correct when compared with the movement of the systems and fronts during subsequent 24-hour period. |
| 7.2.A<br>Identify fronts | Forecast weather and oceanographic conditions | Knowledge of characteristics of weather systems, including tropical revolving storms and avoidance of storm centers and the dangerous quadrants | On a vessel, or in a laboratory, when asked to describe the characteristics of tropical storms, | the candidate describes the characteristics of tropical storms. | The candidate correctly describes tropical storms of differing magnitudes and actions to maintain the safety of navigation and minimize any risks to the vessel. |

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|---|---|---|---|---|---|
| 7.3.A<br>Ocean currents | Forecast weather and oceanographic conditions | Knowledge of ocean current systems | On a vessel, or in a laboratory when asked to describe the anticipated effects of set and drift, | the candidate describes the anticipated effects of set and drift in regards to leeway, increased or decreased fuel consumption, voyage (or voyage leg) duration and potential traffic. | The candidate's description includes:<br>1. Long distance voyages where large current systems will affect the navigation and operation of the vessel; and<br>2. Short distance voyages or voyage legs where small current systems will affect the navigation and operation of the vessel. |
| 7.4.A<br>Calculate height of tide<br>*Note 2* | Forecast weather and oceanographic conditions | Ability to calculate tidal conditions<br>Use all appropriate nautical publications on tides and currents | On a vessel, or in a laboratory, given a zone time at a subordinate location, and using an appropriate nautical publication, | the candidate correctly calculates the height of the tide. | The candidate's calculation is within ±0.5 feet of the assessor's solution. |
| 7.4.B<br>Calculate tidal current<br>*Note 2* | Forecast weather and oceanographic conditions | Ability to calculate tidal conditions<br>Use all appropriate nautical publications on tides and currents | On a vessel or in a laboratory, given a zone time at a subordinate location, and using an appropriate nautical publication, | the candidate correctly calculates the tidal current. | The candidate's calculation is within ±0.5 knots and ±5° of the assessor's solution. |

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|---|---|---|---|---|---|
| 7.4.C<br>Calculate time for desired height of tide<br>*Note 2* | Forecast weather and oceanographic conditions | Ability to calculate tidal conditions<br>Use all appropriate nautical publications on tides and currents | On a vessel or in a laboratory, given a desired height of the tide at a subordinate location, and using an appropriate nautical publication, | the candidate correctly calculates the time period when the tidal rise creates a temporary situation where there is sufficient depth of water for the vessel to safely transit a given area where the chart datum indicates insufficient depth of water for the transit. | The candidate's calculation is within ± 5 minutes of the assessor's solution.<br>**NOTE:** At the assessor's discretion, the candidate may calculate the time period when the tidal drop creates a temporary situation where there is insufficient depth of water for the vessel to safely transit a given area where the chart datum indicates sufficient depth of water for the transit. |
| 8.1.A<br>Beaching a vessel | Respond to navigational emergencies | Precautions when beaching a ship | On a vessel or in a laboratory, when asked to identify the precautions to be observed when beaching a vessel, | the candidate describes the precautions to be observed. | The candidate's description includes:<br>1. Ideal conditions, including:<br>a. Weather;<br>b. Material of which the beach is made;<br>c. Slope of the beach; and<br>d. Trim of the vessel;<br>2. Effects of weather and current after beaching; and<br>3. Precautions to take after beaching such as:<br>a. Preparations to keep from being driven further ashore;<br>b. Preparations for refloating;<br>c. Damage assessment;<br>d. Effects of ballast; and<br>e. Vessel Soundings. |

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|---|---|---|---|---|---|
| 8.2.A<br>Grounding a vessel | Respond to navigational emergencies | Action to be taken if grounding is imminent, and after grounding | On a vessel, or in a laboratory, when asked to identify the precautions to be observed to minimize grounding damage, | the candidate describes the appropriate steps to minimize grounding damage. | The candidate's description includes:<br>1. Closing all watertight doors be closed, checking the hull, sounding the bilges and tanks, and visually inspecting all spaces below the waterline, if possible;<br>2. Anchoring the vessel in order to hold it until the grounding force is calculated and the float plan is completed;<br>3. Transfer of ballast and fuel, as necessary;<br>4. Notifying the radio room or GMDSS station, satellite terminals, and other automatic distress transmitters of the vessel position, as necessary;<br>5. Determining the type of bottom on which the vessel grounded; and<br>6. Determining the threat of oil pollution. |

| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
|---|---|---|---|---|---|
| 8.3.A<br>Refloating a grounded vessel | Respond to navigational emergencies | Refloating a grounded ship with and without assistance | On a vessel or in a laboratory, when asked to describe the precautions to be observed when refloating a grounded vessel, with and without assistance, | the candidate describes the appropriate steps to prepare for refloating a grounded vessel. | The candidate's description includes;<br>1. Determining the:<br>a. Depth of water around the vessel;<br>b. Effects of tide and current;<br>c. Time and height of the next high tide;<br>d. Best placement of assist boats (if available);<br>e. Structural integrity of the hull;<br>f. Vessel stability, stress, and grounding forces; and<br>g. Effect of de-ballasting or cargo removal;<br>2. Maintaining constant radio communications with assist boats;<br>3. Displaying proper day and night signals;<br>4. Obtaining continuous update of weather forecasts;<br>5. Determining the effectiveness of assist boats; and<br>6. The crew remains away from towing lines before pulling starts. |
| 8.4.A<br>Prepare for a collision | Respond to navigational emergencies | Action to be taken if collision is imminent and following a collision or impairment of the watertight integrity of the hull by any cause | On a vessel or in a laboratory, when asked to describe actions to prepare for a collision or on a simulator during a simulation of an imminent collision, | the candidate gives or describes the proper commands to prepare for a collision. | The commands described or given include:<br>1. Closing all watertight doors;<br>2. Broadcasting appropriate radio messages;<br>3. Sounding of danger, maneuvering, and vessel emergency signals, as required;<br>4. Alerting the engine room; and<br>5. Directing the vessel crew to take appropriate steps to lessen the force of impact. |

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|---|---|---|---|---|---|
| 8.5.A<br>Damage control<br>*Note 2* | Respond to navigational emergencies | Assessment of damage control | On a vessel of at least 50 GRT at sea, on a simulator, or in a laboratory, during a simulation of a vessel casualty resulting in structural damage | the candidate correctly identifies the type and scale of the presented vessel casualty damage and promptly identifies and takes proper action to safely minimize the effects of the damage | The candidate's actions ensure that:<br>1. Communications are effective and comply with established procedures; and<br>2. Decisions and actions maximize safety of persons. |
| 8.6.A<br>Emergency steering<br>*Note 1*<br>*Note 2* | Respond to navigational emergencies | Emergency steering | On a vessel of at least 50 GRT underway, on a simulator, or in a laboratory, during a simulation of the vessel suffering a steering casualty that cannot be corrected by switching steering motors, | the candidate gives the proper commands to operate the emergency steering system. | The commands given by the candidate include:<br>1. Having crew man the aft steering room;<br>2. Establishing communications with the steering engine room;<br>3. Switching steering control from the bridge to the steering engine room; and<br>4. Appropriate helm orders to be followed and courses to be steered. |

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|---|---|---|---|---|---|
| 8.7.A<br>Emergency towing<br>*Note 2* | Respond to navigational emergencies | Emergency towing arrangements and towing procedure | On a vessel, or in a laboratory, when asked to describe emergency towing arrangements and towing procedures, | the candidate describes the proper decisions to be made and steps to be taken to prepare the vessel for emergency towing. | The candidate's description includes:<br>1. Preparing to receive a towing line; or<br>2. Deploying the emergency towing gear; or<br>3. Ordering that the anchor and chain be lowered to the water (or into the water as directed by the towing vessel) and:<br>a. Ensuring the chain will not pay out until the towing vessel requests additional chain; and<br>b. Lowering a messenger to the water line in case it is needed. |
| 9.1.A<br>Maneuver alongside another vessel<br>*Note 2* | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including maneuvers when approaching pilot stations and embarking or disembarking pilots, with due regard to weather, tide, head reach and stopping distances | On a vessel of at least 50 GRT or on a simulator using the model of a vessel of at least 50 GRT, when approaching a smaller vessel that will come alongside, | the candidate maneuvers to bring the other vessel alongside. | The candidate:<br>1. Determines:<br>a. The direction and force of wind and sea;<br>b. Which side the boat will come alongside;<br>c. The heading needed to make a lee; and<br>d. How the presence of other traffic affects the vessel's safe approach;<br>2. Maneuvers and slows the vessel to make a lee and allow the boat to safely come alongside; and<br>3. Ensures that the boat is away before resuming normal maneuvering. |

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| 9.2.A<br>Counter set and drift<br>*Note 2* | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all representative conditions, including handling ship in rivers, estuaries and restricted waters, having regard to the effects of current, wind and restricted water on helm response | On a vessel of at least 50 GRT or on a simulator using the model of a vessel of at least 50 GRT, while transiting restricted waters for at least 30 minutes, | the candidate pilots the vessel. | The candidate:<br>1. Determines the intended track of the vessel;<br>2. Determines the force and direction of the wind and current;<br>3. Sets courses to counter the effect of wind and current to maintain the ship on the intended track; and<br>4. Uses the proper speed and rudder orders to maintain the ship on the intended track (in the deepest water) during turns around points and bends in the river. |
| 9.3.A<br>Constant radius turn<br>*Note 2* | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including application of constant-rate-of-turn techniques | On a vessel of at least 50 GRT or on a simulator using the model of a vessel of at least 50 GRT, in an exercise with a turn of at least 50°, | the candidate completes the turn while maintaining a constant radius of turn throughout the maneuver. | The candidate:<br>1. Determines the radius of the turn; and<br>2. Applies the correct amount of rudder to maintain the constant radius of turn with no more than two adjustments of less than 5.0° each. |

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| 9.4.A<br>Maneuver in shallow water<br>*Note 2* | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including maneuvering in shallow water, including the reduction in under-keel clearance caused by squat, rolling and pitching | On a vessel of at least 50 GRT or on a simulator using the model of a vessel of at least 50 GRT, | the candidate sets the speed to prevent the vessel from touching bottom. | The candidate:<br>1. Determines the under keel clearance:<br>2. Determines the maximum speed allowable to keep the vessel from squatting and touching bottom; and<br>3. Sets the speed of the vessel to keep the vessel on an even trim while on straight courses and during turns. |
| 9.5.A<br>Canal effect<br>*Note 2* | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in representative conditions, including interaction between passing vessels and between own vessel and nearby banks (canal effect) | On a vessel of at least 50 GRT or on a simulator using the model of a vessel at least 50 GRT, in a channel no more than three times the vessel's beam, with under keel clearance of no more than 110% of draft and meeting a vessel on the opposite course, | the candidate passes the other vessel close aboard. | The candidate:<br>1. Agrees on a passing arrangement with the approaching vessel; and<br>2. Applies appropriate rudder direction and amount to:<br>a. Anticipate and react to the pressure of interacting bow waves and bank effect;<br>b. Anticipate and react to the pressure of the interacting stern suction and bank effect; and<br>c. Remain in the channel |

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| 9.6.A<br>Dock vessel<br>*Note 1* | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including berthing and unberthing under various conditions of wind, tide and current with and without tugs<br>Use of propulsion and maneuvering systems | On a vessel or on a simulator, in clear visibility, with a wind speed of less than 15 knots and a current of less than 3 knots, | the candidate demonstrates docking a vessel without tug assistance or the use of dynamic positioning. | The candidate demonstrates docking a vessel to a pier under the supervision of the Master. Actions include:<br>1. Planning: Determining the:<br>a. Depth of water at the berth for the state of the tide;<br>b. Strength and direction of the current for the route to the berth and at berth;<br>c. Direction and speed of the wind;<br>d. Appropriate side to berth on; and<br>e. Appropriate courses and maneuvers for the approach to the berth;<br>2. Approaching: Approaching the dock at the angle required by the wind and current, and at a speed that allows the vessel to maintain its heading and allows it to be stopped before allusion;<br>3. Docking:<br>a. Using the engines and lines, as necessary, to stop the vessel or move it into final position;<br>b. Properly running out the mooring lines; and<br>c. Taking in all slack lines until the vessel lies secure alongside. |
| 9.7.A<br>Turn vessel short around | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including ship and tug interaction | On a vessel or on a simulator, | the candidate turns the vessel short around. | The candidate completes a 180° turn in two lengths of the vessel. |

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| 9.8.A Anchoring | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including choice of anchorage; anchoring with one or two anchors in limited anchorages and factors involved in determining the length of anchor cable to be used | On a vessel or in a laboratory, when asked to describe how to anchor a vessel, | the candidate describes anchoring a vessel. | The candidate's description includes:<br>1. Planning:<br>a. Depth of water;<br>b. Type of bottom;<br>c. Wind and current;<br>d. Bottom obstructions;<br>e. Room to swing;<br>f. Place to anchor;<br>g. Courses and maneuvers to the anchor site;<br>h. Desired final heading;<br>i. Expected weather for the time at anchor; and<br>j. Whether tug assistance will be required.<br>2. Approach: the vessel does not pass windward of or up-current of any anchored ship or hazard to navigation.<br>3. Placement:<br>a. Approach anchor site at a safe speed;<br>b. Check the vessel position using multiple sources;<br>c. Ensure the engines are used appropriately to stop the vessel off the ground and then gain minimum sternway;<br>d. Drop the anchor as the vessel begins to gain sternway; and<br>e. Slowly pay out a length of chain 5-7 times the water depth.<br>4. Fetching up: allow the vessel to fetch up on the chain, within the desired area and at the appropriate distance from other vessels. |

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| 9.9.A<br>Dragging anchor<br>*Note 2* | Maneuver and handle a vessel in all conditions | Maneuvering and handling a ship in all conditions, including dragging anchor; clearing fouled anchors | On a vessel or in a laboratory, when asked how to determine if a vessel is dragging anchor, | the candidate describes all precautions to determine if the vessel is dragging anchor. | The candidate's description includes:<br>1. Setting the GPS anchor watch function;<br>2. Setting the VRM and EBL of the ARPA or radar on prominent fixed objects;<br>3. Taking frequent visual bearings on fixed objects approximately 90° apart; and<br>4. Constructing a swing circle on a chart. |
| 9.9.B<br>Clearing a fouled anchor<br>*Note 2* | Maneuver and handle a vessel in all conditions | Maneuvering and handling a ship in all conditions, including dragging anchor; clearing fouled anchors | On a vessel or in a laboratory, when asked how to clear a fouled anchor, | the candidate describes procedures and maneuvers to clear a fouled anchor. | The candidate's description includes procedures for clearing an anchor:<br>1. Fouled on an obstruction;<br>2. That is heavily buried;<br>3. When there is an anchor winch malfunction; and<br>4. Under a heavy strain. |
| 9.10.A<br>Drydocking | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including dry-docking, both with and without damage | On a vessel or in a laboratory, given damage to one compartment so that it is open to the sea below the critical draft, | the candidate identifies critical equipment that should not be covered and/or damaged when drydocking the vessel. | The candidate identifies:<br>1. The damaged area;<br>2. Fathometer transponders;<br>3. Speed log transponders;<br>4. Plugs;<br>5. Sea suctions; and<br>6. Discharges. |

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| 9.11.A<br>Emergency vessel handling | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including:<br>Management and handling of ships in heavy weather<br>Means of keeping an unmanageable ship out of trough of the sea<br>Lessening drift and use of oil | On a vessel or in a laboratory, when asked to describe handling a vessel in heavy weather, | the candidate describes handling a vessel under heavy weather conditions | The candidate's description includes:<br>1. Defining the following and, as appropriate, suggesting methods to prevent or minimize damage:<br>a. Weather routing;<br>b. Wavelength;<br>c. Wave period;<br>d. Period of encounter;<br>e. Roll period;<br>f. Synchronous rolling;<br>g. Synchronous pitching;<br>h. Panting;<br>i. Slamming;<br>j. Heavy pitching;<br>k. Pooping; and<br>l. Broaching;<br>2. Describing how to:<br>a. Turn in heavy seas;<br>b. Detect heavy slamming;<br>c. Turn a disabled vessel to avoid broaching or reduce drifting;<br>d. Use oil to break seas;<br>e. Avoid heavy longitudinal stresses when pitching; and<br>f. Avoid racing the propeller;<br>*Continued on next page* |

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| 9.11.A *Cont'd*<br>Emergency vessel handling | | | | | *Continued from previous page*<br>3. Describing the characteristics of vessels in heavy weather, including:<br>a. Speed of drift;<br>b. Angle of drift; and<br>c. When hove to with the seas on the bow or quarter. |
| 9.11.B<br>Assisting a ship or aircraft in distress<br>*Note 1* | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including:<br>Assisting a ship or aircraft in distress | On a vessel or in a laboratory, when asked to describe actions to be taken when assisting a ship or aircraft in distress, | the candidate describes the possible actions to be taken when assisting a ship or aircraft in distress. | The candidate's description includes:<br>1. Reporting systems, such as AMVER:<br>a. Preparing departure, arrival, and daily reports;<br>b. Actions to be taken when instructed to assist; and<br>c. Actions to be taken to request assistance;<br>2. Emergency towing to prevent a ship from grounding on a lee shore by other than a salvage tug;<br>3. Medical emergency communications;<br>4. Contacting contracted doctors ashore;<br>5. Medical assistance from nearby ships with doctors aboard;<br>6. Taking aboard survivors of ship and aircraft casualties;<br>7. Relaying sea and weather conditions to aircraft needing assistance; and<br>8. Relaying navigational information to aircraft and ships needing assistance. |

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| 9.11.C<br>Towing operations | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including towing operations | On a vessel or in a laboratory, when asked to describe towing operations, | the candidate describes onboard towing arrangements. | The candidate's description includes:<br>1. Required notifications and permissions, and arrangements for:<br>a. Vessel owners;<br>b. Cargo owners;<br>c. Charterers;<br>d. Coastal states; and<br>e. Flag states;<br>2. Preparations:<br>a. Required emergency towing arrangements of tankers equal or greater than 20,000 DWT;<br>b. Onboard vessel to be towed;<br>c. Onboard vessel to do towing; and<br>d. Communications between towed and towing vessels; and<br>*Continued on next page* |

| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
|---|---|---|---|---|---|
| 9.11.C *Cont'd*<br>Towing operations | | | | | *Continued from previous page*<br>3. Procedures:<br>a. Towing vessel's approach to disabled vessel;<br>b. Passing messengers;<br>c. Paying out towing cable;<br>d. Securing towing wire to towing vessel;<br>e. Securing towing wire to disabled vessel's anchor chain;<br>f. Prevention of kinking and chafing;<br>g. Taking on weight of tow;<br>h. Determination of speed of tow;<br>i. Emergency slipping of the tow; and<br>j. Termination of tow at destination. |

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| 9.12.A<br>Maneuver to launch rescue boats | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including precautions in maneuvering to launch rescue boats or survival craft in bad weather | On a vessel or in a laboratory, when asked to describe maneuvering to launch rescue boats or survival craft in bad weather, | the candidate describes the precautions in maneuvering to launch rescue boats or survival craft in bad weather. | The candidate's description includes:<br>1. Methods to provide a calm area for the launch of survival craft and rescue boat in adverse conditions, including:<br>a. Creating a lee;<br>b. Round turns to knock down adverse wave conditions; and<br>c. Use of light oil;<br>2. The procedures for launching a rescue boat; and<br>3. The limitations that may make the launching of rescue boats unduly hazardous to the ship's crew and/or the survivors such as:<br>a. Sea height;<br>b. Own ship's movements;<br>c. Potential piracy;<br>d. Limitations of equipment available; and<br>e. Limitations of personnel available. |

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| 9.13.A<br>Taking on survivors from rescue craft | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including methods of taking on board survivors from rescue boats and survival craft | On a vessel or in a laboratory, when asked to describe taking on board survivors from rescue boats and survival craft, | the candidate describes the methods of taking on board survivors from rescue boats and survival craft. | The description includes:<br>1. Methods to provide a calm area for the recovery of survival craft and rescue boat in adverse conditions, and the procedures to bring survivors aboard from survival craft, including:<br>a. Creating a lee ;<br>b. Round turns to knock down adverse wave conditions; and<br>c. Use of light oil;<br>2. The limitations that may make the launching of rescue boats unduly hazardous to the ship's crew and/or the survivors such as:<br>a. Sea height;<br>b. Own vessel's movements;<br>c. Potential piracy;<br>d. Limitations of equipment available;<br>e. Limitations of personnel available;<br>f. The use of gangways, cargo nets, and other rescue devices available to the candidate; and<br>g. Concerns about contents of baggage being brought aboard;<br>*Continued on next page* |

| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
|---|---|---|---|---|---|
| 9.13.A<br>*Cont'd*<br>Taking on survivors from rescue craft | | | | | *Continued from previous page*<br>3. Care of survivors including:<br>a. Hypothermia;<br>b. Dehydration;<br>c. Exposure to sun, salt, water for extended periods;<br>d. Starvation;<br>e. First aid; and<br>f. Preparations for disembarkation; and<br>4. Reporting procedures, including:<br>a. Notifications to company;<br>b. Notifications to regulatory agencies;<br>c. Nav alerts about drifting vessels and other possible survivors; and<br>d. Preparation and submission of reports. |
| 9.14.A<br>Maneuvering and propulsion characteristics | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including ability to determine the maneuvering and propulsion characteristics of common types of ships, with special reference to stopping distances and turning circles at various draughts and speeds | On a vessel or in a laboratory, when asked to describe the maneuvering and propulsion characteristics of common types of vessels, | the candidate correctly describes the maneuvering and propulsion characteristics of common types of vessels. | The candidate describes the maneuvering characteristics of vessel propulsion systems, including:<br>1. Slow-speed diesels;<br>2. Medium-speed diesels;<br>3. High-speed diesels;<br>4. Gas turbines; and<br>5. Stopping distances and turning circles at various drafts and speeds for different vessel types. |

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| 9.15.A<br>Reducing wake damage | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including importance of navigating at reduced speed to avoid damage caused by own ship's bow wave and stern wave | On a vessel or in a laboratory, when asked to describe avoiding damage caused by own bow and stern waves, | the candidate describes navigating at reduced speed to avoid damage caused by own bow and stern waves. | The candidate's description includes:<br>1. Generation of bow and stern waves;<br>2. Effects that bow and stern waves have on:<br>a. The open ocean;<br>b. Man-made structures such as piers and breakwaters that are close to or in the water;<br>c. Banks, mud flats, and other geologic structures;<br>d. People onshore or in the water;<br>e. Vessels moored alongside piers; and<br>f. Vessels at anchor or moving in a channel;<br>3. How to moderate bow and stern waves to minimize or eliminate injury or damage; and<br>4. Precautions to take to eliminate or minimize damage to the candidate's ship, at anchor or tied up alongside to a pier or jetty from another vessel's bow or stern wave. |
| 9.16.A<br>Ice navigation<br>*Note 2* | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including practical measures to be taken when navigating in or near ice | On a vessel or in a laboratory, when asked to describe navigating in or near ice, | the candidate describes appropriate ice navigation procedures. | The candidate's description includes:<br>1. Where to obtain information about ice that may be located on or in the vicinity of the intended track;<br>2. Precautions to follow when navigating near ice; and<br>3. Precautions when navigating in thick ice. |

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| 9.16.B<br>Ice accumulation<br>*Note 2* | Maneuver and handle a vessel in all conditions | Maneuvering and handling a vessel in all conditions, including practical measures to be taken when in conditions of ice accumulation on board | On a vessel or in a laboratory, when asked to describe the practical measures to be taken when in conditions of ice accumulation on board, | the candidate describes appropriate procedures. | The candidate's description includes:<br>1. Master's obligation to report conditions that are causing severe ice accumulations;<br>2. Danger of reduced stability;<br>3. Other dangers of ice accumulation;<br>4. Damage to exposed surfaces and equipment conditions that cause ice accumulation to the ship's topside, superstructure, and rigging; and<br>5. Precautions to be followed. |
| 9.17.A<br>Traffic separation schemes<br>*Note 2* | Maneuver and handle a ship in all conditions | Maneuvering and handling a ship in all conditions, including use of, and maneuvering in and near, traffic separation schemes and in vessel traffic service (VTS) areas | On a vessel or in a laboratory, when asked to describe the use of traffic separation schemes and VTS areas and maneuvering in and near them, | the candidate describes procedures for operating in VTS areas. | The candidate's description includes:<br>1. Expected behavior of vessels entering, transiting, and exiting a traffic separation scheme by quoting Rule 10 of the current COLREGS;<br>2. Relevance of the remaining rules of the road when transiting a traffic separation scheme; and<br>3. Reporting requirements of a VTS, including:<br>a. Information required to be initially reported;<br>b. Location and/or times where the reports must be made; and<br>c. Information reported when exiting the VTS. |

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|---|---|---|---|---|---|
| 10.1.A<br>Diesel engines<br>*Note 2* | Operate remote controls of propulsion plant and engineering systems and services | Operating principles of marine power plants | On a vessel, or in a laboratory, when asked to describe the operating principles of diesel engines, | the candidate describes diesel engine operation. | The candidate's description includes the general properties of diesel engines in generally accepted engineering terms, including:<br>1. General diesel engines operating properties;<br>2. Two and four-stroke diesel cycles;<br>3. High-speed diesel engines; and<br>4. Medium-speed diesels. |
| 10.1.B<br>Remote operation<br>*Note 2* | Operate remote controls of propulsion plant and engineering systems and services | Operating principles of marine power plants | On a vessel of at least 50 GRT at sea, | the candidate demonstrates remote operation within safe limits. | The candidate's demonstration includes remote start-up and shut-down procedures, response to alarms, and adherence to manufacturer's operating manual. |

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| 10.1.C<br>Propeller and propeller shaft<br>*Note 2* | Operate remote controls of propulsion plant and engineering systems and services | Operating principles of marine power plants | On a vessel or in a laboratory, when asked to describe propellers and propeller shafts, | the candidate describes the operating principles of propellers and propeller shafts. | The candidate's description includes:<br>1. Propellers and propeller shafts, including;<br>a. Types of propellers, including variable pitch;<br>b. Parts of a propeller;<br>c. Attachment to propeller shaft;<br>d. Pitch;<br>e. Slip;<br>f. Efficiency;<br>g. RPM vs. ship's speed; and<br>h. Operational precautions for variable pitch propellers;<br>2. Calculating slip and ship's speed given RPM, slip, and pitch; and<br>3. Propeller shafts, including:<br>a. Supporting arrangement;<br>b. Transmission of propeller thrust to the hull;<br>c. Transmission of rotational energy to propeller; and<br>d. Stern tube bearing. |

| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
|---|---|---|---|---|---|
| 10.1.D<br>Bridge control<br>*Note 2* | Operate remote controls of propulsion plant and engineering systems and services | Operating principles of marine power plants | On a vessel or in a laboratory, when asked to describe the operating principles of bridge control, | the candidate describes operating principles of bridge control. | The candidate's description includes the general properties of bridge control, in generally accepted engineering terms for:<br>1. Control of the main engine from:<br>a. The bridge;<br>b. Machinery space;<br>c. Local control; and<br>d. Change-over of control station procedures;<br>2. Control of variable-pitch propellers;<br>3. Control-system indicators and alarms:<br>a. In the engine-room;<br>b. On the bridge; and<br>c. Locally; and<br>4. Bow and stern thrusters:<br>a. Operation;<br>b. Indicators and alarms;<br>c. Bridge control; and<br>d. Local control. |

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| 10.2.B<br>Pumps and pumping systems | Operate remote controls of propulsion plant and engineering systems and services | Ships' auxiliary machinery | On a vessel, or in a laboratory, when asked to describe pumps and pumping systems, | the candidate describes operating principles of pumps and pumping systems. | The candidate's description includes:<br>1. Applications and characteristics of centrifugal pumps;<br>2. Head, including:<br>a. Defining head;<br>b. Defining suction head and its significance;<br>c. Defining discharge head and its significance; and<br>d. Head losses and their significance;<br>3. Bilge and ballast systems; and<br>4. Cross connections such as the engine room emergency bilge system and the main circulating pump. |
| 10.2.C<br>Steering gear<br>*Note 2* | Operate remote controls of propulsion plant and engineering systems and services | Ships' auxiliary machinery | On a vessel or in a laboratory, when asked to describe steering gear, | the candidate describes operating principles of steering gear. | The candidate's description includes the general design and operation of different systems, including:<br>1. Variable delivery hydraulic pumps;<br>2. Hydraulic ram-type steering gear;<br>3. Rotary-vane type steering gear;<br>4. Control systems including;<br>a. Telemotor control systems;<br>b. Electric control systems; and<br>c. Emergency control; and<br>5. Testing steering gear. |

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| 10.2.D<br>Remotely operate steering gear<br>*Note 2* | Operate remote controls of propulsion plant and engineering systems and services | Ships' auxiliary machinery | On a vessel of at least 50 GRT at sea, | the candidate remotely operates the steering gear. | The candidate's demonstration includes remote start-up and shut-down procedures, switching over, response to alarms, and adherence to manufacturer's operating manual. |
| 10.2.E<br>Generators, alternators, and electrical distribution<br>*Note 2* | Operate remote controls of propulsion plant and engineering systems and services | Ships' auxiliary machinery | On a vessel or in a laboratory, when asked to describe generators, alternators, and electrical distribution, | the candidate describes operating principles of generators, alternators, and electrical distribution. | The candidate's description includes:<br>1. Direct-current (D.C.) and alternating current (A.C.) systems, including:<br>a. Advantages and disadvantages;<br>b. Operation of generators;<br>c. Purpose and use of inverters and rectifiers;<br>d. Functioning of motors; and<br>e. Distribution systems;<br>2. Safety precautions, including;<br>a. Circuit breakers and fuses; and<br>b. Lock out, tagging procedures;<br>3. Batteries, including:<br>a. Characteristics of lead-acid and alkaline batteries;<br>b. Safety precautions; and<br>c. Battery maintenance;<br>4. Emergency generators and lighting systems; and<br>5. Reading a navigational-light circuit. |

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| 10.2.F<br>Air conditioning and ventilation<br>*Note 2* | Operate remote controls of propulsion plant and engineering systems and services | Ships' auxiliary machinery | On a vessel, or in a laboratory, when asked to describe air conditioning and ventilation, | the candidate describes operating principles and controls of air conditioning and ventilation systems. | The candidate's description includes operating principles and controls of refrigeration and ventilation systems. |
| 10.2.G<br>Sewage treatment plants<br>*Note 2* | Operate remote controls of propulsion plant and engineering systems and services | Ships' auxiliary machinery | On a vessel or in a laboratory, when asked to describe sewage treatment plants, | the candidate describes operating principles of sewage treatment plants. | The candidate's description includes:<br>1. U. S. regulations and International Conventions: and<br>2. Operation of a chemical and biological sewage treatment plant |
| 10.2.H<br>Oily water separators and oil filtering equipment<br>*Note 2* | Operate remote controls of propulsion plant and engineering systems and services | Ships' auxiliary machinery | On a vessel or in a laboratory, when asked to describe oily water separators and oil filtering equipment, | the candidate describes the operating principles of oily water separators and oil filtering equipment. | The candidate's description includes:<br>1. U. S. regulations and International Conventions; and<br>2. Construction, operation, and limitations of:<br>a. Oily-water separators;<br>b. Oil filtering equipment;<br>c. Metering equipment; and<br>d. Monitoring and control. |

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| 10.2.I<br>Deck machinery | Operate remote controls of propulsion plant and engineering systems and services | Ships' auxiliary machinery | On a vessel, or in a laboratory, when asked to describe deck machinery, | the candidate describes operation and limits of the deck machinery. | The candidate's description includes the operation and limits of:<br>1. Anchor windlasses;<br>2. Mooring winches;<br>3. Cargo and crane winches; and<br>4. Lubrication of deck machinery. |
| 10.2.J<br>Hydraulic systems<br>*Note 2* | Operate remote controls of propulsion plant and engineering systems and services | Ships' auxiliary machinery | On a vessel, or in a laboratory, when asked to describe hydraulic systems, | the candidate describes basic operating principles of hydraulic systems. | The candidate's description includes basic principles of hydraulic system(s):<br>1. Identifying and describing the main parts of a hydraulic system;<br>2. Cleanliness of the hydraulic fluid; and<br>3. Effects of air in the hydraulic system. |

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| 10.3.A<br>Engineering terms<br>*Note 2* | Operate remote controls of propulsion plant and engineering systems and services | General knowledge of marine engineering terms | On a vessel, or in a laboratory, when asked to define engineering terms, | the candidate defines the specified terms. | The candidate correctly defines:<br>1. *Mass*;<br>2. *Force*;<br>3. *Work*;<br>4. *Power*;<br>5. *Energy*;<br>6. *Pressure*;<br>7. *Stress*;<br>8. *Strain*;<br>9. *Heat*;<br>10. *Indicated power*;<br>11. *Shaft power*; and<br>12. *Thrust*. |
| 10.3.B<br>Fuel consumption<br>*Note 1*<br>*Note 2* | Operate remote controls of propulsion plant and engineering systems and services | General knowledge of marine engineering terms | On a vessel, or in a laboratory, when asked to describe fuel consumption, | the candidate describes factors affecting fuel consumption. | The candidate's description includes defining fuel consumption as a function of:<br>1. Displacement;<br>2. Distance;<br>3. Speed;<br>4. Sea state;<br>5. Hull condition;<br>6. Propeller condition;<br>7. Calculating daily consumption at service speed;<br>8. Fuel required for a voyage; and<br>9. Speed for a specific consumption on a daily and voyage consumption basis. |

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| 11.1.A<br>International regulations for cargo operations<br>*Note 2* | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Knowledge of and ability to apply relevant international regulations, codes and standards concerning the safe handling, stowage, securing and transport of cargoes | On a vessel, or in a laboratory, when asked to describe international regulations, codes and standards for the safe handling, stowage, securing and transport of cargoes, | the candidate describes international regulations, codes and standards applicable vessels less than 500 GT. | The candidate's description includes the general obligations of the vessel owner and the vessel Master, regarding the carriage of goods by sea, including:<br>1. Load line Convention;<br>2. Code of Safe Practice for Cargo Stowage and Securing;<br>3. Company guides and instructions regarding cargo stowage;<br>4. Information provided in the shipboard cargo securing manual; and<br>5. Certificates required for inspection by a port state control officer. |
| 11.2.A<br>Effect of cargo on trim and stability | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Knowledge of the effect on trim and stability of cargoes and cargo operations | On a vessel or in a laboratory, when asked to describe the effect on trim and stability of cargoes and cargo operations, | the candidate describes the effect on trim and stability of cargoes and cargo operations. | The candidate's description includes:<br>1. Effect of the ship's rolling and pitching on cargo;<br>2. Effects due to movement of cargo:<br>a. Free-surface effect;<br>b. Change in GM;<br>c. Change in CG; and<br>d. Damage to ship's structure; and<br>3. Deck cargo stowage:<br>a. Increased wracking stresses;<br>b. Salt-water damage;<br>c. Rain damage; and<br>d. Heat damage. |

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| 11.3.A<br>Stability calculations | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Use of stability and trim diagrams and stress calculating equipment, including automatic data-based (ADB) equipment, and knowledge of loading cargoes and ballasting in order to keep hull stress within acceptable limits | On a vessel, or in a laboratory, and given stability, trim and stress tables, and diagrams, and asked to determine stability data for various conditions of loading, | the candidate determines stability data for the vessel. | The stability conditions comply with the IMO intact stability criteria under all conditions of loading. |
| 11.4.A<br>Container stowage and securing<br>*Note 2* | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Stowage and securing of cargoes on board ships, including cargo handling gear and securing and lashing equipment | On a vessel, or in a laboratory, when asked to describe stowage and securing of containers, | the candidate describes proper stowage and securing of containers. | The candidate's description includes:<br>1. General stowage;<br>2. General lashing and securing;<br>3. Lashing and securing safety; and<br>4. The consequences of improper lashing and/or securing. |
| 11.4.B<br>Deck cargo stowage and securing | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Stowage and securing of cargoes on board ships, including cargo handling gear and securing and lashing equipment | On a vessel, or in a laboratory, when asked to describe the stowage and securing of deck cargoes, | the candidate describes proper stowage and securing of deck cargoes. | The candidate's description includes:<br>1. General stowage instructions;<br>2. General lashing and securing;<br>3. Lashing and securing safety; and<br>4. The consequences of improper lashing and/or securing |

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| 11.5.A<br>Care of cargo during carriage<br>*Note 2* | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Loading and unloading operations, with special regard to the transport of cargoes identified in the Code of Safe Practice for Cargo Stowage and Securing | On a vessel or in a laboratory, when asked to describe care of cargo, | the candidate describes care of cargo during carriage. | The candidate's description includes preventing damage to and contamination of cargo. |
| 11.5.B<br>Safe use of cargo handling gear<br>*Note 2* | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Loading and unloading operations, with special regard to the transport of cargoes identified in the Code of Safe Practice for Cargo Stowage and Securing | On a vessel or in a laboratory, when asked to describe the safe use of cargo handling gear, | the candidate describes safe use of cargo handling gear. | The candidate's description includes the:<br>1. Applicable national laws and regulations, and other requirements;<br>2. Procedures for protecting personnel from accidents;<br>3. Locating elements of the ship's rigging plan; and<br>4. Hazards of fumigation. |

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| 11.5.C<br>Develop a loading plan | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Loading and unloading operations, with special regard to the transport of cargoes identified in the Code of Safe Practice for Cargo Stowage and Securing | On a vessel or in a laboratory, when given a list of cargo to be loaded and discharged and given vessel stability data and/or software, | the candidate develops a loading plan for the vessel. | The candidate's plan takes into account the following:<br>1. Carriage requirements of each cargo loaded;<br>2. Potential damage that may occur to each cargo that is loaded or unloaded and how to prevent that damage;<br>3. Precautions to prevent and/or contain leakage of liquid cargo;<br>4. Precautions to prevent pilferage and/or contamination of cargo; and<br>5. Minimizing the risk of injury or death to:<br>a. Vessel personnel;<br>b. Maritime workers;<br>c. Visitors; and<br>d. Other personnel expected to attend the transfer. |
| 11.5.D<br>Inspect cargo running gear<br>*Note 2* | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Loading and unloading operations, with special regard to the transport of cargoes identified in the Code of Safe Practice for Cargo Stowage and Securing | On a vessel or in a laboratory, when given a sampling of loose gear, line and wire rope, | the candidate examines the gear provided and reports the results to the assessor. | The candidate examines the gear and reports to the assessor on the use, safe working load, condition and maintenance of:<br>1. Wire rope;<br>2. Fiber line;<br>3. Cargo blocks;<br>4. Shackles; and<br>5. Chain. |

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|---|---|---|---|---|---|
| 11.6.A<br>Properties of oil and chemical cargoes<br>*Note 2* | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | General knowledge of tankers and tanker operations | On a vessel or in a laboratory, when asked to describe oil and chemical cargo | the candidate describes, in general terms, the basic properties of oil and chemical cargo. | The candidate's description includes defining general terms and concepts such as:<br>1. *Reid Vapor Pressure (RVP)*;<br>2. *Flashpoint*;<br>3. *Flammable*;<br>4. *Upper flammable limit*;<br>5. *Lower flammable limit*; and<br>6. *Auto-ignition temperature* |
| 11.6.B<br>ISGOTT contents and application<br>*Note 2* | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | General knowledge of tankers and tanker operations | On a vessel or in a laboratory, when asked to describe the contents and application of the International Safety Guide for Oil Tankers and Terminals (ISGOTT), | the candidate describes the purpose, contents, and use of ISGOTT. | The candidate describes, in general terms, the purpose, contents, and use of ISGOTT. |
| 11.6.C<br>Oil and chemical tanker operations<br>*Note 2* | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | General knowledge of tankers and tanker operations | On a vessel or in a laboratory, when asked to describe oil and chemical tanker operations, | the candidate describes, in general terms, tanker operations. | The candidate's description includes:<br>1. Ballasting;<br>2. Inert gas systems;<br>3. Tank cleaning;<br>4. Discharge of oil and chemical cargo; and<br>5. Gas freeing. |

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| 11.6.D<br>Basic concepts of carriage of liquefied gases<br>*Note 2* | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | General knowledge of tankers and tanker operations | On a vessel, or in a laboratory, when asked to describe the carriage of liquefied gases, | the candidate describes, in general terms, basic concepts of the carriage of liquefied gases. | The candidate:<br>1. Defines:<br>a. *Liquefied gas*; and<br>b. *Boiling point*; and<br>2. Describes the loading, carriage, and discharging of liquefied gases. |
| 11.7.A<br>Basic concepts of bulk carriers<br>*Note 2* | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Knowledge of operational and design limitations of bulk carriers<br>Ability to use all available shipboard data related to loading, care and unloading of bulk cargoes | On a vessel or in a laboratory, when asked to describe the loading, care and unloading of bulk cargoes, | the candidate describes, in general terms, loading, care and unloading of bulk cargoes. | The candidate's description includes:<br>1. Trimming cargo;<br>2. Explosiveness of grain dust;<br>3. Ventilation to prevent spoilage;<br>4. Proper preparation of holds;<br>5. Hull stresses and vessel stability;<br>6. Damage to ship's structure;<br>7. Avoiding overloading of the vessel; and<br>8. Leakage of water into the hold. |

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| 11.8.A<br>Develop garbage plan<br>*Note 2* | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Ability to establish procedures for safe cargo handling in accordance with the provisions of the relevant instruments such as IMDG Code, IMSBC Code, MARPOL 73/78 Annexes III and V and other relevant information | On a vessel or in a laboratory using particulars and information of a specific vessel, | the candidate develops a garbage plan for the vessel. | The candidate's plan includes:<br>1. Identification of garbage types and segregation of garbage by type; and<br>2. Detailed instructions for:<br>a. Collection of garbage;<br>b. Discharge of garbage;<br>c. Accidental discharge of garbage;<br>d. Recording of the collection and discharge of garbage; and<br>e. Reporting collection and discharge of garbage. |
| 11.8.B<br>Loading of packaged dangerous goods<br>*Note 2* | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Ability to establish procedures for safe cargo handling with the provisions of the relevant instruments such as IMDG Code, IMSBC Code, MARPOL 73/78 Annexes III and V and other relevant information | On a vessel or in a laboratory, when asked to describe safe cargo handling in accordance with the provisions of the relevant regulations, conventions and good practice, | the candidate identifies and describes general concepts of the loading of packaged dangerous goods. | The candidate's description includes basic concepts of the loading of packaged dangerous goods:<br>1. Defining the following from the IMDG Code:<br>a. *Dangerous goods*; and<br>b. *Packaged form*;<br>2. Reporting of incidents involving dangerous goods; and<br>3. Stowage requirements for three items from Chapter 7.1 of the IMDG Code specified by the assessor. |

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|---|---|---|---|---|---|
| 11.9.A<br>Conduct cargo transfer meeting<br>*Note 2* | Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Ability to explain the basic principles for establishing effective communications and improving working relationship between ship and terminal personnel | On a vessel or in a laboratory, during an actual or simulated cargo transfer meeting with terminal personnel, under the supervision of the Chief Mate or Master, | the candidate conducts the meeting and demonstrates effective communications. | The candidate:<br>1. Uses standard phrases;<br>2. Asks questions and repeating the answers in the candidate's terms;<br>3. Answers questions and confirming that the answer was properly understood;<br>4. Assigns personnel as needed for inspections and other pre-cargo transfer procedures;<br>5. Politely objects to procedures requested from terminal personnel that would be counter to the proper discharge of the vessel or applicable rules and regulations; and<br>6. Acts in a manner that is not culturally offensive to the terminal personnel. |
| 12.1 | Assess reported defects and damage to cargo spaces, hatch covers and ballast tanks and take appropriate action | Ability to explain how to avoid the detrimental effects on bulk carriers of corrosion, fatigue and inadequate cargo handling | This KUP is demonstrated by successful completion of assessment 11.7.A, above. | | |

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| 13.1.A<br>Carriage of dangerous goods<br>*Note 1*<br>*Note 2* | Carriage of dangerous goods | International regulations, standards, codes and recommendations on the carriage of dangerous cargoes, including the International Maritime Dangerous Goods (IMDG) Code and the International Maritime Solid Bulk Cargoes (IMSBC) Code | On a vessel, or in a laboratory, when asked to describe the proper stowage and carriage of dangerous cargoes, | the candidate describes basic concepts for stowage and carriage of dangerous goods. | The candidate's description includes:<br>1. Basic concepts used in the stowage and carriage of dangerous goods; and<br>2. Reporting of incidents involving dangerous goods. |
| 14.1.A<br>Vessel construction<br>*Note 1* | Control trim, stability and stress | Understanding of fundamental principles of ship construction and the theories and factors affecting trim and stability and measures necessary to preserve trim and stability | On a vessel, or in a laboratory, when asked to describe the principal structural members of a vessel, | the candidate describes the principal structure members of a vessel and the proper names for the various parts. | The candidate correctly identifies and describes the vessel structural members. |

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|---|---|---|---|---|---|
| 14.2.A<br>Effect of flooding | Control trim, stability and stress | 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 | On a vessel, or in a laboratory, when asked to describe the actions to be taken for a partial loss of intact buoyancy, | the candidate describes actions to take for a partial loss of intact buoyancy. | The candidate describes appropriate actions to ensure and maintain the watertight integrity of the vessel that are in accordance with accepted practices. |
| 14.3.A<br>IMO recommendation for ship stability | Control trim, stability and stress | Knowledge of IMO recommendations concerning ship stability | On a vessel, or in a laboratory, when asked to describe recommendations for ship stability, | the candidate describes the recommendations of the IMO for ship stability. | The candidate correctly describes appropriate actions and recommendations for maintaining stability and stress conditions within safe limits at all times. |
| 15.1.A<br>Certificates required by international conventions<br>*Note 2* | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law embodied in international agreements and conventions Certificates and other documents required to be carried on board by international conventions, how they may be obtained and their period of validity | On a vessel, or in a laboratory, when asked to identify the certificates required to be carried on board vessels by international conventions, | the candidate identifies certificates that must be carried. | The candidate's description includes the obligation to carry:<br>1. Certificate of Nationality (Ship's Registry);<br>2. International Tonnage Certificate;<br>3. Panama and/or Suez Canal Tonnage Certificates;<br>4. International Load Line Certificate;<br>5. International Oil Pollution Prevention Certificate;<br>6. International Sewage Pollution Prevention;<br>7. License(s) for the ship radio station; and<br>8. INMARSAT access authorization certificate |

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|---|---|---|---|---|---|
| 15.1.B<br>Documents required to be carried<br>*Note 2* | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Certificates and other documents required to be carried on board vessels by international conventions, how they may be obtained and their period of validity | On a vessel, or in a laboratory, when asked to identify the documents required to be carried on board vessels, | the candidate identifies the documents that must be carried. | The candidate identifies:<br>1. Classification Society Certificates for Hull and Machinery, Refrigerating Machinery and Cargo Handling Appliances;<br>2. Anchor and Chain Cable Certificate;<br>3. Inflatable Liferaft Inspection Certificates;<br>4. Stability, Loading, and Ballasting Information;<br>5. Damage Control Plan and Booklets;<br>6. Oil Record Book;<br>7. Official Log Book; Deck, Engine-room and Radio Logbooks;<br>8. Articles of Agreement with the Crew;<br>9. Certificates for Competency of Officers and Ratings;<br>10. Minimum Safe Manning Document;<br>11. Safety Management Certificate; and<br>12. Copy of the Document of Compliance. |

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|---|---|---|---|---|---|
| 15.1.C<br>Documents required at arrival and departure<br>*Note 2* | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law in international agreements and conventions<br>Certificates and other documents required to be carried on board ships by international conventions, how they may be obtained and their period of validity | On a vessel or in a laboratory, when asked to describe the documents required at arrival or departure, | the candidate describes the documents required. | The candidate's description includes the obligation to carry the following documents required at arrival or departure:<br>1. General declaration;<br>2. Cargo declaration;<br>3. Dangerous goods manifest or plan;<br>4. Ship's stores declaration;<br>5. Crew list;<br>6. Passenger list;<br>7. Ship Sanitation Control Exemption Certificate/Ship Sanitation Control Certificate; and<br>8. Maritime Declaration of Health. |

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| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 15.2.A<br>International Convention on Load Lines<br>*Note 2* | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law embodied in international agreements and conventions<br>International Convention on Load Lines, 1966, as amended | On a vessel or in a laboratory, when asked to describe the International Convention on Load Lines, 1966, as amended, | the candidate describes important provisions of the Convention. | The candidate's description includes:<br>1. Safety function of load lines;<br>2. Requirements for a valid International Load Line Certificate;<br>3. Defining the load line marks that may be marked on each side of the vessel; and<br>4. Relationship of vessel draft to its operations under the International Convention of Load Lines in the following operational situations:<br>a. A vessel must comply with the requirements for the zones and areas it is or will be sailing in;<br>b. Applicable load line must never be submerged when the vessel is at sea;<br>c. Determination of the applicable load line when a vessel departs from a port on the boundary between two zones or areas;<br>d. Determination of the applicable load line when a vessel arrives at a port on the boundary between two zones or areas;<br>e. Calculation of fresh water allowance to determine how far the applicable load line may be submerged; and<br>f. Calculation of allowance for fuel and stores from sailing to departure to determine how far the load line may be submerged. |

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| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 15.3.A<br>International Convention for the Safety of Life at Sea<br>*Note 2* | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law embodied in international agreements and conventions<br>International Convention for the Safety of Life at Sea, 1974, as amended | On a vessel or in a laboratory, when asked to describe the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS), | the candidate describes important provisions of SOLAS. | The candidate's description includes the obligations of the Master under SOLAS, including:<br>1. Sending danger messages relating to ice, dangerous derelicts, dangers to navigation, tropical storms, ice accretion, unreported wind force 10 or above;<br>2. Sailing at moderate speed when in the area of ice;<br>3. When receiving any signal that a vessel or aircraft is in distress;<br>4. The carriage of navigation equipment and publications;<br>5. Proper manning;<br>6. Testing of steering gear before sailing;<br>7. Placing a placard indicating the changeover of steering gear and use of remote steering;<br>8. Emergency steering gear drills and logging of steering gear tests;<br>9. Logging of steering gear tests;<br>10. The normal obligation of a ship's Master is waived when receiving a distress signal;<br>11. Rights of the Master to requisition a ship which has answered a call for assistance;<br>12. Information required in danger messages; and<br>13. Non-emergency use of international distress signals is prohibited. |

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| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 15.4.A<br>MARPOL 73/78<br>*Note 2* | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law embodied in international agreements and conventions<br>International Convention for the Prevention of Pollution from Ships, as amended | On a vessel, or in a laboratory, when asked to describe the International Convention for the Prevention of Pollution from Ships, as amended, | the candidate describes important provisions of MARPOL. | The candidate's description includes:<br>1. The following points concerning the general construction of MARPOL 73/78 and its 6 annexes for:<br>a. Oil;<br>b. Bulk noxious liquid substances;<br>c. Packaged harmful substances;<br>d. Sewage;<br>e. Garbage; and<br>f. Air pollution;<br>2. Obligation of the countries who are signatory to this convention to apply it to all vessels, even if the vessel is flagged in a country that is not a signatory;<br>3. Which annexes are mandatory when a country becomes a signatory to the convention;<br>4. Which annexes are only mandatory if the country chooses to become signatory to that particular annex;<br>5. Which annexes the United States is signatory to and what replaces any annexes the United States is not signatory to; and<br>6. Exceptions to each annex. |

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| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 15.4.B<br>MARPOL Annex I<br>*Note 2* | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law embodied in international agreements and conventions<br>International Convention for the Prevention of Pollution from Ships, As amended | On a vessel or in a laboratory, when asked to describe the International Convention for the Prevention of Pollution from Ships, Annex I (Oil), | the candidate describes important provisions of MARPOL Annex I. | The candidate's description includes:<br>1. No changes should be made to the vessel, except for direct replacement of equipment without the approval of the flag state;<br>2. Master's duty to report an accident or defect that affects the integrity of the vessel;<br>3. International Oil Pollution Prevention (IOPP) certificate:<br>a. Dates of intermediate and annual surveys;<br>b. Record of construction and equipment;<br>c. Duration of validity; and<br>d. What will invalidate IOPP;<br>4. Oil record book;<br>5. Master must be provided information regarding cargo loading and distribution to ensure subdivision and stability criteria compliance; and<br>6. All ships over 400 GT and tankers over 150 GT must carry an approved Shipboard Oil Pollution Emergency Plan (SOPEP) detailing the following:<br>a. General information;<br>b. Preamble;<br>c. Reporting requirements;<br>d. Information required;<br>e. Required contacts;<br>f. Steps to control discharge; and<br>g. Non-mandatory provisions. |

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| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 15.4.C<br>MARPOL Annex II<br>*Note 2* | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law embodied in international agreements and conventions<br>International Convention for the Prevention of Pollution from Ships, as amended | On a vessel or in a laboratory, when asked to describe the International Convention for the Prevention of Pollution from Ships, Annex II (Noxious Liquid Substances in Bulk), | the candidate describes important provisions of MARPOL Annex II. | The candidate's description includes:<br>1. MARPOL 73/78 Annex II (Noxious Liquid Substances in Bulk);<br>2. International Pollution Prevention Certificate for the Carriage of Noxious Liquid Substances in Bulk;<br>3. Categorization of noxious liquid substances;<br>4. Procedures and Arrangements Manual;<br>5. Cargo Record Book;<br>6. Master must be provided information regarding cargo loading and distribution to ensure subdivision and stability criteria compliance; and<br>7. All ships over 150 GT must carry an approved Shipboard Oil Pollution Emergency Plan (SOPEP). |
| 15.4.D<br>MARPOL Annex III<br>*Note 2* | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law embodied in international agreements and conventions<br>International Convention for the Prevention of Pollution from Ships, as amended | On a vessel, or in a laboratory, when asked to describe the International Convention for the Prevention of Pollution from Ships, Annex III, | the candidate describes important provisions of MARPOL Annex III. | The candidate's description includes the important points of MARPOL 73/78 Annex III (Packaged Harmful Substances). |

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| 15.4.E<br>MARPOL Annex IV<br>*Note 2* | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law embodied in international agreements and conventions<br>International Convention for the Prevention of Pollution from Ships, as amended | On a vessel, or in a laboratory, when asked to describe the International Convention for the Prevention of Pollution from Ships, Annex IV, | the candidate describes important provisions of MARPOL Annex IV. | The candidate's description includes that the United States is not signatory to this Annex, however the following U.S. laws, regulations, and policies apply:<br>1. Federal Water Pollution Act;<br>2. U.S. requirements found in 33 CFR Part 159; and<br>3. Applicable U. S. Coast Guard policy. |
| 15.4.F<br>MARPOL Annex V<br>*Note 2* | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law embodied in international agreements and conventions<br>International Convention for the Prevention of Pollution from Ships, as amended | On a vessel, or in a laboratory, when asked to describe the International Convention for the Prevention of Pollution from Ships, Annex V, | the candidate describes important provisions of MARPOL Annex V. | The candidate's description includes the following points of MARPOL 73/78 Annex V (Garbage):<br>1. Applicable requirement when garbage is mixed with other discharges;<br>2. Provisions for the disposal of garbage, including:<br>a. In special areas; and<br>b. From and within 500 meters of offshore platforms;<br>3. Use of grinders and comminutors;<br>4. Special areas and Gulf of Mexico Area limits;<br>5. Record keeping; and<br>6. Port state control inspections. |

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| 15.4.G<br>MARPOL Annex VI<br>*Note 2* | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law embodied in international agreements and conventions<br>International Convention for the Prevention of Pollution from Ships, as amended | On a vessel, or in a laboratory, when asked to describe the International Convention for the Prevention of Pollution from Ships, Annex VI, | the candidate describes important provisions of MARPOL Annex VI. | The candidate's description includes the following points of MARPOL 73/78 Annex VI (Air Pollution):<br>1. No changes should be made to the vessel, except for direct replacement of equipment without the approval of the flag state;<br>2. Master's duty to report an accident or defect that affects the integrity of the vessel; and<br>3. International Air Pollution Prevention (IAPP) certificate, including:<br>a. Dates of intermediate and annual surveys;<br>b. Record of construction and equipment;<br>c. Duration of validity; and<br>d. What will invalidate an IAPP. |

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| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 15.5.A<br>International Health Regulations<br>*Note 2* | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law embodied in international agreements and conventions<br>Maritime declarations of health and the requirements of the International Health Regulations | On a vessel, or in a laboratory, when asked to describe the requirements of the International Health Regulations, | the candidate identifies and describes major provisions of relevant health regulations including the information and procedures that port health officials require to prevent the transmission of diseases. | The candidate's description includes:<br>1. Defining:<br>a. *Maritime Declaration of Health*;<br>b. *Diseases subject to the regulations*;<br>c. *Disinfecting*;<br>d. *Free pratique*;<br>e. *Infected person*;<br>f. *Quarantine*;<br>g. *International voyage*;<br>h. *Isolation*;<br>i. *Medical examination;* and<br>j. *Suspect*;<br>2. Master's obligation to inform port authorities of real or suspected illnesses;<br>3. Process of requesting "free pratique"; and<br>4. Health procedures involving:<br>a. Transiting through a country's waters; and<br>b. Denial of entry due to health reasons. |

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| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 15.6.A<br>International Agreements and Conventions | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law embodied in international agreements and conventions<br>international instruments affecting the safety of the ship, passengers, crew and cargo | On a vessel, or in a laboratory, when asked to describe international agreements and conventions applicable to vessels of less than 500 GT, | the candidate identifies and describes major provisions of the international agreements and conventions applicable to vessels of less than 500 GT | The candidate's description includes underlying principles, content and application of the following:<br>1. International Convention for the Unification of Certain Rules of Law with Respect to Collision Between Vessels;<br>2. International Convention on Salvage;<br>3. STCW Convention; and<br>4. ISM Code. |
| 15.6.B<br>International instruments affecting the safety of the ship, passengers, crew and cargo | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law embodied in international agreements and conventions<br>international instruments affecting the safety of the ship, passengers, crew and cargo | On a vessel, or in a laboratory, when asked to describe international instruments affecting the safety of the vessel, passengers, crew and cargo, | the candidate identifies and describes the major provisions of the international instruments applicable to vessels of less than 500 GT. | The candidate's identifies and describes the important provisions of the following:<br>1. Marine Note of Protest;<br>2. Lloyd's Standard Form of Salvage Agreement;<br>3. Charter parties;<br>4. Marine insurance; and<br>5. P&I Associations. |

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| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 15.7.A<br>Pollution prevention<br>*Note 1* | Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of international maritime law embodied in international agreements and conventions<br>methods and aids to prevent pollution of the marine environment by ships | On a vessel or in a laboratory, when asked to describe the provisions of international environmental conventions, | the candidate describes the major provisions of relevant international environmental conventions. | The candidate's description includes the contents of the following relevant international environmental conventions:<br>1. Convention of the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Dumping Convention);<br>2. International Convention on Civil Liability for Oil Pollution Damage, 1969;<br>3. International Convention for the Control and Management of Ships' Ballast Water and Sediments;<br>4. International Convention on Oil Pollution Preparedness; and<br>5. International Convention for the Safety of Life at Sea, 1974. |
| 16.1.A<br>Life-saving appliance regulations<br>*Note 2* | Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems | Thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea) | On a vessel or in a laboratory, when asked to describe lifesaving appliance regulations applicable to the vessel on which the assessment is performed, | the candidate identifies and describes requirements for specific equipment designated by the assessor. | The candidate correctly describes equipment requirements, including type and quantity that must be carried or frequency of the activity. The assessor should query the candidate on specific SOLAS requirements. |

| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 16.2.A<br>Plan fire or emergency drill | Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems | Organization of fire drills and abandon ship drills | On a vessel, or in a laboratory, when given a muster list and particulars for a vessel, | the candidate plans a fire or abandon vessel drill. | The candidate:<br>1. Determines the:<br>a. Drill to be conducted;<br>b. Location of the simulated casualty; and<br>c. The portion of the station bill that applies;<br>2. Explains the need to examine the location of the simulated casualty to determine the:<br>a. Suitability for the drill;<br>b. Manpower required;<br>c. Potential hazards; and<br>d. Usability of the onboard emergency plans;<br>3. Uses the onboard emergency plan for the simulated casualty and space to be used to develop:<br>a. A script to use during the drill; and<br>b. Initial corrections to the emergency plan based upon the examination of the location; and<br>4. Explains the need to consult with and obtain concurrence with the plan from the Master and other officers. |

| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 16.3.A<br>Develop a maintenance plan for lifesaving and firefighting equipment<br>*Note 2* | Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems | Maintenance of operational condition of life-saving, fire-fighting and other safety systems | On board a vessel of at least 50 GRT or in a laboratory using the particulars for a vessel of at least 50 GRT, | the candidate develops a preventive maintenance plan for the vessel's lifesaving and firefighting equipment. | The candidate's plan includes:<br>1. The following ship's lifesaving and firefighting equipment:<br>a. Survival craft;<br>b. Portable firefighting equipment;<br>c. Fixed firefighting equipment;<br>d. Life rings; and<br>e. Personal flotation devices; and<br>2. For each type of equipment, the plan describes:<br>a. Safety procedures for inspecting and simulating operation;<br>b. Number on board;<br>c. Storage equipment condition;<br>d. Exercising of equipment;<br>e. Required inspections; and<br>f. Required maintenance. |

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| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 16.4.A<br>Procedures to rescue persons from a vessel in distress<br>*Note 2* | Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems | Actions to be taken to protect and safeguard all persons on board in emergencies | On a vessel or in a laboratory, when asked to describe rescuing persons from a vessel in distress, | the candidate describes the general procedures to rescue persons from a vessel in distress. | The candidate's description includes:<br>1. Waiting for daylight when possible;<br>2. Establishing communications between vessels;<br>3. Replacing unneeded equipment in rescue boats with additional life jackets, lifebuoys, blankets, and portable radios;<br>4. Checking the area for debris and other hazards to the rescue boats;<br>5. Providing a lee and using of oil to calm sea, if needed;<br>6. Rigging equipment to board survivors from boats or in the water;<br>7. Recovering the rescue boat; and<br>8. Alternatives that may be used if the seas are too rough to use rescue boats. |

| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 16.4.B<br>Man overboard procedures<br>*Note 2* | Maintain safety and security of the vessel crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems | Actions to be taken to protect and safeguard all persons on board in emergencies | On a vessel or in a laboratory, when asked to describe the general procedures to be performed on board when a person falls overboard, | the candidate describes general man overboard procedures. | The candidate's description includes:<br>1. Sounding the man overboard signal;<br>2. Visual signals to be used to indicate that the vessel is recovering a person overboard;<br>3. Importance of man overboard drills;<br>4. Use of recovery equipment to rescue a person overboard; and<br>5. Actions to take when a person is reported missing at sea including, but not limited to:<br>a. Search of the vessel;<br>b. Use of the Williamson turn;<br>c. Investigation of when person was last seen; and<br>d. Posting of lookouts. |
| 16.5.A<br>Actions following fire, explosion, collision or grounding<br>*Note 2* | Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems | Actions to limit damage and salve the ship following a fire, explosion, collision or grounding | On a vessel or in a laboratory, when asked to describe actions following a fire, explosion, collision or grounding, | the candidate describes general procedures to limit damage and save the vessel. | The candidate's description includes:<br>1. Inspection to determine the extent of damage;<br>2. Shoring weakened areas;<br>3. Plugging holes;<br>4. Electrical damage;<br>5. Piping damage;<br>6. Temporary repairs; and<br>7. Adjusting speed and course to minimize stresses and water entry. |

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| 16.5.B<br>Abandon ship procedures<br>*Note 2* | Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems | Actions to limit damage and salve the ship following a fire, explosion, collision or grounding | On a vessel or in a laboratory, when asked to describe abandoning the vessel, | the candidate describes general procedures to abandon the vessel. | The candidate's description includes:<br>1. Determining if the vessel is in imminent danger from:<br>a. Sinking;<br>b. Breaking up;<br>c. Exploding; and<br>d. Other conditions that make remaining on board impossible;<br>2. Distress messages and signals:<br>a. To attract attention;<br>b. By all means available; and<br>c. Information to insert in the message; and<br>3. Launching of survival craft:<br>a. When the ship is listing heavily;<br>b. In heavy weather conditions; and<br>c. Use of oil. |
| 17.1.A<br>Plan fire and emergency drill | Develop emergency and damage control plans and handle emergency situations | Preparation of contingency plans for response to emergencies | This KUP is demonstrated by successful completion of task 16.2.A. | | |

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| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 17.2.A<br>Prepare a damage control plan | Develop emergency and damage control plans and handle emergency situations | Vessel construction, including damage control | On a vessel, or in a laboratory, | the candidate prepares a damage control plan dealing with the flooding of compartments. | The candidate's plan:<br>1. Describes the following:<br>a. Margin line;<br>b. Permeability of a space; and<br>c. Subdivision;<br>2. Determines, for a starboard or port compartment specified by the assessor:<br>a. Stability if this compartment is flooded;<br>b. Effect of asymmetrical flooding on the vessel;<br>c. If the vessel can counter the asymmetrical flooding of the specified compartment; and<br>d. Effect on the vessel's stability if the damage occurred in a Beaufort Scale 6 storm; and<br>3. Describes additional effects when flooding may occur due to the following:<br>a. Insufficient reserve buoyancy;<br>b. Progressive flooding; and<br>c. Added stresses. |

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| Task No./Name | STCW Competence | STCW Knowledge, Understanding, and Proficiency | Performance Condition | Performance Behavior | Performance Standard |
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| 17.3<br>Fire prevention, detection and extinction<br>*Course* | Develop emergency and damage control plans and handle emergency situations | Methods and aids for fire prevention, detection and extinction | This KUP is demonstrated by successful completion of an approved or accepted *Advanced Firefighting* course or if the candidate has maintained the standard of competence for Advanced Fire Fighting described in 46 CFR 11.303(b). | | |
| 17.4<br>Functions and use of lifesaving appliances<br>*Course* | Develop emergency and damage control plans and handle emergency situations | Functions and use of lifesaving appliances | This KUP is demonstrated by successful completion of an approved or accepted *Proficiency in Survival Craft* or *Proficiency in Survival Craft Limited* course or if the mariner holds an endorsement for PSC or PSC-Limited. | | |
| 18.1<br>Shipboard management<br>International conventions and national legislation<br>*Course* | Use of leadership and managerial skill | Knowledge of shipboard personnel management and training<br>A knowledge of related international maritime conventions and recommendations, and national legislation<br>A knowledge of related national legislation | These KUPs are demonstrated by successful completion of the approved *Leadership and Managerial Skills* course specified in 46 CFR 11.315(a)(3)(iii). | | |

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| 18.2<br>Use of Leadership and managerial skill<br>*Course* | Use of leadership and managerial skill | Ability to apply task and workload management…<br>Knowledge and ability to apply effective resource management allocation, assignment, and prioritization of resources<br>Knowledge and ability to apply effective resource management effective communication on board and ashore<br>Knowledge and ability to apply effective resource management...<br>Knowledge and ability to apply decision-making techniques... | These KUPs are demonstrated by successful completion of the approved *Leadership and Managerial Skills* course specified in 46 CFR 11.315(a)(3)(iii). | | |

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|---|---|---|---|---|---|
| 19.1<br>International Medical Guide for Ships<br>*Note 2* | Organize and manage the provision of medical care on board | A thorough knowledge of the use and contents of the International Medical Guide for Ships or equivalent national publications | This KUP is demonstrated by successful completion of the approved or accepted *Management of Medical Care* course specified in 46 CFR 11.315(a)(3)(ii). | | |
| 19.2<br>International Code of Signals – medical section<br>*Course* | Organize and manage the provision of medical care on board | A thorough knowledge of the use and contents of the medical section of the International Code of Signals | This KUP is demonstrated by successful completion of the approved or accepted *Management of Medical Care* course specified in 46 CFR 11.315(a)(3)(ii). | | |
| 19.3<br>Medical First Aid Guide<br>*Course* | Organize and manage the provision of medical care on board | A thorough knowledge of the use and contents of the Medical First Aid Guide for Use in Accidents Involving Dangerous Goods | This KUP is demonstrated by successful completion of the approved or accepted *Management of Medical Care* course specified in 46 CFR 11.315(a)(3)(ii). | | |

*Successful completion of these guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-II/2 of the STCW Code as applicable to vessels of less than 500 GT. The use of these Guidelines is not mandatory and alternative means of having achieved the standards of competence in the STCW Code will be considered. In accordance with 46 CFR 11.301(a)(3), alternative Assessment Guidelines must be approved by the National Maritime Center before use.*

# Record of Assessment

# for

# STCW Endorsements as Master of Vessels of Less Than 500 GT Not Limited to Near-Coastal Voyages

| *Print Name of Candidate* | *Candidate's Signature* | *Candidate's Mariner Reference Number* |
|---|---|---|

**ASSESSMENT GUIDELINES FOR STCW ENDORSEMENTS AS MASTER OF VESSELS OF LESS THAN 500 GT NOT LIMITED TO NEAR-COASTAL VOYAGES**

NOTE TO QUALIFIED ASSESSOR(S): In performing your function as a qualified assessor (QA), you may use your initials only to indicate you have personally witnessed the demonstration of skill or ability by the person being assessed. The Assessment Guidelines in Enclosure (2) will provide satisfactory evidence of meeting the standard of competence specified in Section A-II/2 of the STCW Code. The use of these Assessment Guidelines is not mandatory and an alternative means of having achieved the standards of competence in the STCW Code will be considered. In accordance with 46 CFR 11.301(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

| STCW Competence | STCW Knowledge, Understanding, and Proficiency | Task No. | Task Name | Assessor's Initials | Date |
|---|---|---|---|---|---|
| Plan a voyage and conduct navigation | Voyage planning and navigation for all conditions by acceptable methods of plotting ocean tracks | 1.1.A *Notes 1,2* | Create a voyage plan | | |
| | | 1.2.A *Note 2* | Great circle sailing | | |
| | | 1.2.B *Note 2* | Mercator sailing initial course and total distance | | |
| | | 1.2.C *Note 2* | Mercator sailing final position | | |
| Determine position and the accuracy of resultant position fix by any means | Position determination in all conditions by celestial observations | 2.1.A *Note 2* | Meridian transit (other than sun) | | |
| | | 2.1.B *Note 2* | Star identification | | |
| | | 2.1.C *Note 2* | Star selection | | |
| | Position determination in all conditions using modern electronic aids | 2.2.A *Note 2* | GPS Routing | | |

**Notes:**

*Note 1* The assessment is not required for a mariner holding an STCW endorsement as Master of Less Than 500 GT that is limited to near-coastal voyages and is not limited to domestic voyages.

*Note 2* The assessment is the same as one for STCW endorsements as Master and Chief Mate of Vessels of Greater Than 500 GT and Less Than 3,000 GT. Mariners will not need to repeat the assessment when raising grade to those endorsements. When qualifying for an STCW endorsement as Master or Chief Mate of Vessels of Greater Than 500 GT and Less Than 3,000 GT, mariners may omit the similar assessment described in NVIC 11-14 for Master and Chief Mate of Vessels of Greater Than 500 GT and Less Than 3,000 GT.

*Print Name of Candidate* *Candidate's Mariner Reference No*

| STCW Competence | STCW Knowledge, Understanding, and Proficiency | Task No. | Task Name | Assessor's Initials | Date |
|---|---|---|---|---|---|
| Determine and allow for compass errors | Ability to determine and allow for errors of the magnetic and gyrocompasses | 3.1.A *Note 2* | Amplitude of celestial body other than the sun | | |
| | Knowledge of the principles of magnetic and gyrocompasses | 3.2.A *Note 2* | Write a standing order for compasses | | |
| | Understanding of systems under the control of the master gyro and a knowledge of the operation and care of the main types of gyrocompasses | 3.3.A *Note 2* | Operation and care of gyrocompass | | |
| Maintain safe navigation through the use of information from navigation equipment and systems to assist command decision making | Blind pilotage planning<br>Evaluation of navigational information derived from all available sources, including radar and ARPA | 5.2.A *Note 2* | Blind pilotage planning | | |
| | The interrelationship and optimum use of all navigational data available | 5.3.A *Note 2* | Plan and execute a passage | | |
| Forecast weather and oceanographic conditions | Ability to understand and interpret a synoptic chart and to forecast area weather, taking into account local weather conditions and information received by weather fax | 7.1.A | Forecast weather for next 24 hours | | |
| | Knowledge of characteristics of weather systems, including tropical revolving storms and avoidance of storm centers and the dangerous quadrants | 7.2.A | Identify fronts | | |
| | Knowledge of ocean current systems | 7.3.A | Ocean currents | | |
| | Ability to calculate tidal conditions<br>Use all appropriate nautical publications on tides and currents | 7.4.A *Note 2* | Calculate height of tide | | |
| | | 7.4.B *Note 2* | Calculate tidal current | | |
| | | 7.4.C *Note 2* | Calculate time for desired height of tide | | |

*Print Name of Candidate*

*Candidate's Mariner Reference No*

| STCW Competence | STCW Knowledge, Understanding, and Proficiency | Task No. | Task Name | Assessor's Initials | Date |
|---|---|---|---|---|---|
| Respond to navigational emergencies | Precautions when beaching a ship | 8.1.A | Beaching a vessel | | |
| | Action to be taken if grounding is imminent, and after grounding | 8.2.A | Grounding a vessel | | |
| | Refloating a grounded ship with and without assistance | 8.3.A | Refloating a grounded vessel | | |
| | Action to be taken if collision is imminent and following a collision or impairment of the watertight integrity of the hull | 8.4.A | Prepare for a collision | | |
| | Assessment of damage control | 8.5.A *Note 2* | Damage control | | |
| | Emergency steering | 8.6.A *Notes 1,2* | Emergency steering | | |
| | Emergency towing arrangements and towing procedure | 8.7.A *Note 2* | Emergency towing | | |
| Maneuver and handle a ship in all conditions | Maneuvers when approaching pilot stations and embarking or disembarking pilots | 9.1.A *Note 2* | Maneuver alongside another vessel | | |
| | Handling ship in rivers, estuaries and restricted waters, having regard to the effects of current, wind and restricted water | 9.2.A *Note 2* | Counter set and drift | | |
| | Application of constant-rate-of-turn techniques | 9.3.A *Note 2* | Constant radius turn | | |
| | Maneuvering in shallow water, including the reduction in under-keel clearance caused by squat, rolling and pitching | 9.4.A *Note 2* | Maneuver in shallow water | | |
| | Interaction between passing vessels and between own vessel and nearby banks (canal effect) | 9.5.A *Note 2* | Canal effect | | |
| | Berthing and unberthing under various conditions of wind, tide and current with and without tugs<br>Use of propulsion and maneuvering systems | 9.6.A *Note 1* | Dock vessel | | |

| STCW Competence | STCW Knowledge, Understanding, and Proficiency | Task No. | Task Name | Assessor's Initials | Date |
|---|---|---|---|---|---|
| Maneuver and handle a ship in all conditions | Ship and tug interaction | 9.7.A | Turn vessel short around | | |
| | Choice of anchorage; anchoring with one or two anchors in limited anchorages and factors involved in determining the length of anchor cable to be used | 9.8.A | Anchoring | | |
| | Dragging anchor and clearing fouled anchors | 9.9.A *Note 2* | Dragging anchor | | |
| | | 9.9.B *Note 2* | Clearing a fouled anchor | | |
| | Dry-docking, both with and without damage | 9.10.A | Drydocking | | |
| | Management and handling of ships in heavy weather<br>Means of keeping an unmanageable ship out of trough of the sea<br>Lessening drift and use of oil | 9.11.A | Emergency vessel handling | | |
| | Assisting a ship or aircraft in distress | 9.11.B *Note 1* | Assisting a ship or aircraft in distress | | |
| | Towing operations | 9.11.C | Towing operations | | |
| | Precautions in maneuvering to launch rescue boats or survival craft in bad weather | 9.12.A | Maneuver to launch rescue boats | | |
| | Methods of taking on board survivors from rescue boats and survival craft | 9.13.A | Taking on survivors from rescue craft | | |
| | Ability to determine the maneuvering and propulsion characteristics of common types of ships | 9.14.A | Maneuvering and propulsion characteristics | | |
| | Importance of navigating at reduced speed to avoid damage caused by own ship's bow wave and stern wave | 9.15.A | Reducing wake damage | | |

| STCW Competence | STCW Knowledge, Understanding, and Proficiency | Task No. | Task Name | Assessor's Initials | Date |
|---|---|---|---|---|---|
| Maneuver and handle a ship in all conditions | Practical measures to be taken when navigating in or near ice | 9.16.A *Note 2* | Ice navigation | | |
| | Practical measures to be taken when in conditions of ice accumulation on board | 9.16.B *Note 2* | Ice accumulation | | |
| | Maneuvering in and near, traffic separation schemes and in vessel traffic service (VTS) areas | 9.17.A *Note 2* | Traffic separation schemes | | |
| Operate remote controls of propulsion plant and engineering systems and services | Operating principles of marine power plants | 10.1.A *Note 2* | Diesel engines | | |
| | | 10.1.B *Note 2* | Remote operation | | |
| | | 10.1.C *Note 2* | Propeller and propeller shaft | | |
| | | 10.1.D *Note 2* | Bridge control | | |
| | Ships' auxiliary machinery | 10.2.B | Pumps and pumping systems | | |
| | | 10.2.C *Note 2* | Steering gear | | |
| | | 10.2.D *Note 2* | Remotely operate steering gear | | |
| | | 10.2.E *Note 2* | Generators, alternators, and electrical distribution | | |
| | | 10.2.F *Note 2* | Air conditioning and ventilation | | |
| | | 10.2.G *Note 2* | Sewage treatment plants | | |
| | | 10.2.H *Note 2* | Oily water separators and oil filtering equipment | | |
| | | 10.2.I | Deck machinery | | |
| | | 10.2.J *Note 2* | Hydraulic systems | | |

| STCW Competence | STCW Knowledge, Understanding, and Proficiency | Task No. | Task Name | Assessor's Initials | Date |
|---|---|---|---|---|---|
| Operate remote controls of propulsion plant and engineering systems and services | General knowledge of marine engineering terms | 10.3.A *Note 2* | Engineering terms | | |
| | | 10.3.B *Notes 1,2* | Fuel consumption | | |
| Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Knowledge of and ability to apply relevant international regulations, codes and standards concerning the safe handling, stowage, securing and transport of cargoes | 11.1.A *Note 2* | International regulations for cargo operations | | |
| | Knowledge of the effect on trim and stability of cargoes and cargo operations | 11.2.A | Effect of cargo on trim and stability | | |
| | Use of stability and trim diagrams and stress calculating equipment, including automatic data-based (ADB) equipment, and knowledge of loading cargoes and ballasting in order to keep hull stress within acceptable limits | 11.3.A | Stability calculations | | |
| | Stowage and securing of cargoes on board ships, including cargo handling gear and securing and lashing equipment | 11.4.A *Note 2* | Container stowage and securing | | |
| | | 11.4.B | Deck cargo stowage and securing | | |
| | Loading and unloading operations, with special regard to the transport of cargoes identified in the Code of Safe Practice for Cargo Stowage and Securing | 11.5.A *Note 2* | Care of cargo during carriage | | |
| | | 11.5.B *Note 2* | Safe use of cargo handling gear | | |
| | | 11.5.C | Develop a loading plan | | |
| | | 11.5.D *Note 2* | Inspect cargo running gear | | |

| STCW Competence | STCW Knowledge, Understanding, and Proficiency | Task No. | Task Name | Assessor's Initials | Date |
|---|---|---|---|---|---|
| | General knowledge of tankers and tanker operations | 11.6.A *Note 2* | Properties of oil and chemical cargoes | | |
| | | 11.6.B *Note 2* | ISGOTT contents and application | | |
| | | 11.6.C *Note 2* | Oil and chemical tanker operations | | |
| | | 11.6.D *Note 2* | Basic concepts of carriage of liquefied gases | | |
| Plan and ensure safe loading, stowage, securing, care during the voyage and unloading of cargoes | Knowledge of operational and design limitations of bulk carriers<br>Ability to use all available shipboard data related to loading, care and unloading of bulk cargoes | 11.7.A *Note 2* | Basic concepts of bulk carriers | | |
| | Ability to establish procedures for safe cargo handling in accordance with the provisions of the relevant instruments such as IMDG Code, IMSBC Code, MARPOL 73/78 Annexes III and V and other relevant information | 11.8.A *Note 2* | Develop garbage plan | | |
| | | 11.8.B *Note 2* | Loading of packaged dangerous goods | | |
| | Ability to explain the basic principles for establishing effective communications and improving working relationship between ship and terminal personnel | 11.9.A *Note 2* | Conduct cargo transfer meeting | | |
| Carriage of dangerous goods | International regulations, standards, codes and recommendations on the carriage of dangerous cargoes, including the International Maritime Dangerous Goods (IMDG) Code and the International Maritime Solid Bulk Cargoes (IMSBC) Code | 13.1.A *Notes 1,2* | Carriage of dangerous goods | | |

| STCW Competence | STCW Knowledge, Understanding, and Proficiency | Task No. | Task Name | Assessor's Initials | Date |
|---|---|---|---|---|---|
| Control trim, stability and stress | Understanding of fundamental principles of ship construction and the theories and factors affecting trim and stability and measures necessary to preserve trim and stability | 14.1.A *Note 1* | Vessel construction | | |
| | 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 | 14.2.A | Effect of flooding | | |
| | Knowledge of IMO recommendations concerning ship stability | 14.3.A | IMO recommendation for ship stability | | |
| Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Certificates and other documents required to be carried on board by international conventions, how they may be obtained and their period of validity | 15.1.A *Note 2* | Certificates required by international conventions | | |
| | | 15.1.B *Note 2* | Documents required to be carried | | |
| | | 15.1.C *Note 2* | Documents required at arrival and departure | | |
| | International Convention on Load Lines, 1966, as amended | 15.2.A *Note 2* | International Convention on Load Lines | | |
| | Knowledge of International Convention for the Safety of Life at Sea, 1974, as amended | 15.3.A *Note 2* | International Convention for the Safety of Life at Sea | | |

| STCW Competence | STCW Knowledge, Understanding, and Proficiency | Task No. | Task Name | Assessor's Initials | Date |
|---|---|---|---|---|---|
| Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of International Convention for the Prevention of Pollution from Ships, as amended | 15.4.A *Note 2* | MARPOL 73/78 | | |
| | | 15.4.B *Note 2* | MARPOL Annex I | | |
| | | 15.4.C *Note 2* | MARPOL Annex II | | |
| | | 15.4.D *Note 2* | MARPOL Annex III | | |
| | | 15.4.E *Note 2* | MARPOL Annex IV | | |
| | | 15.4.F *Note 2* | MARPOL Annex V | | |
| | | 15.4.G *Note 2* | MARPOL Annex VI | | |
| | Knowledge of maritime declarations of health and the requirements of the International Health Regulations | 15.5.A *Note 2* | International Health Regulations | | |
| | Knowledge of international instruments affecting the safety of the ship, passengers, crew and cargo | 15.6.A | International Agreements and Conventions | | |
| | | 15.6.B | International instruments affecting the safety of the ship, passengers, crew and cargo | | |

| STCW Competence | STCW Knowledge, Understanding, and Proficiency | Task No. | Task Name | Assessor's Initials | Date |
|---|---|---|---|---|---|
| Monitor and control compliance with legislative requirements and measures to ensure safety of life at sea, security and the protection of the marine environment | Knowledge of methods and aids to prevent pollution of the marine environment by ships | 15.7.A *Note 1* | Pollution prevention | | |
| Maintain safety and security of the ship's crew and passengers and the operational condition of life-saving, fire-fighting and other safety systems | Thorough knowledge of life-saving appliance regulations (International Convention for the Safety of Life at Sea) | 16.1.A *Note 2* | Life-saving appliance regulations | | |
| | Organization of fire drills and abandon ship drills | 16.2.A | Plan fire or emergency drill | | |
| | Maintenance of operational condition of life-saving, fire-fighting and other safety systems | 16.3.A *Note 2* | Develop a maintenance plan for lifesaving and firefighting equipment | | |
| | Actions to be taken to protect and safeguard all persons on board in emergencies | 16.4.A *Note 2* | Procedures to rescue persons from a vessel in distress | | |
| | | 16.4.B *Note 2* | Man overboard procedures | | |
| | Actions to limit damage and salve the ship following a fire, explosion, collision or grounding | 16.5.A *Note 2* | Actions following fire, explosion, collision or grounding | | |
| | | 16.5.B *Note 2* | Abandon ship procedures | | |
| Develop emergency and damage control plans and handle emergency situations | Vessel construction, including damage control | 17.2.A | Prepare a damage control plan | | |

*Print Name of Candidate*

*Candidate's Mariner Reference No*

**ASSESSOR AND VESSEL INFORMATION**

Qualified Assessors (QAs) witnessing the successful demonstrations noted in this record should provide the information below relative to their service with the candidate. Prospective QAs should have a minimum of at least 1 year of experience as Master on vessels of at least 100 GRT. For assessments performed on a military vessel, the assessor should have experience as Commanding Officer (CO) on seagoing vessels of at least 100 GRT. Military assessors should only conduct assessments that are within their personal experience and are relevant to the vessel on which they are conducted. For example, assessments involving the carriage of cargo should not be performed on a vessel that does not carry cargo and/or by an assessor who lacks experience on cargo-carrying vessels. After December 31, 2023, QAs must be approved by the National Maritime Center (46 CFR 10.107). Qualified military personnel authorized to conduct similar assessments for the U.S. Army, U.S. Navy, or U.S. Coast Guard PQS for OOD will not need to be approved as QAs and may continue to sign assessments on military vessels after December 31, 2023.

| Vessel Name | Gross Tonnage | Dates of Service | | Assessor Name | Assessor Signature | Sample Assessor Initials | Assessor Mariner Reference No. | Assessor Shipboard Position |
|---|---|---|---|---|---|---|---|---|
| | | From | To | | | | | |
| M/V Tornapa | 234 GT | 4/12/2018 | 8/8/2018 | Ignatius J. Reilly | Ignatius J. Reilly | IJR | 567890 | Master |
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*Print Name of Candidate* *Candidate's Mariner Reference No.*