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United States Coast Guard

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COMDTCHANGENOTE 16721
NVIC 18-14
August 3, 2018

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 18-14, CH 1

Subj: CH-1 TO GUIDELINES ON QUALIFICATION FOR STCW ENDORSEMENTS AS ABLE SEAFARER-ENGINE, NVIC 18-14, COMDTPUB 16721

Ref: (a) Guidelines on Qualification for STCW Endorsements as Able Seafarer-Engine, NVIC 18-14, COMDTPUB 16721

1. PURPOSE. This Commandant Change Notice publishes CH-1 to reference (a).

2. ACTION. The Coast Guard will use reference (a) and 46 CFR 12.607 when establishing whether candidates are qualified to hold STCW endorsements as Able Seafarer-Engine (AS-E). Officers in Charge, Marine Inspection (OCMIs) should also bring this notice to the attention of the maritime industry within their zones of responsibility.

3. DIRECTIVES AFFECTED. With the release of this Commandant Change Notice, reference (a) is updated.

4. DISCUSSION. Reference (a) included transition or "grandfathering" provisions by which mariners could qualify for an endorsement as AS-E before January 1, 2017. This CH-1 removes the now expired transitional provisions.

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:

   a. Removes expired grandfathering provisions for mariners to qualify for the AS-E endorsement before January 1, 2017;

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NON-STANDARD DISTRIBUTION:

b. Adds in Enclosure (1) an explanation of the requirement in 46 CFR 12.201(a)(1) that mariners must hold an appropriate national endorsement to qualify for an STCW endorsement; and

c. Revises Enclosures (2), and (3) to reflect previously published policy extending the date for acceptance of assessments that were not signed by a Coast Guard approved Qualified Assessor, and to add additional information concerning assessments that are performed on military vessels.

7. 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.

8. DISTRIBUTION. No paper distribution will be made of this Commandant Change Notice. An electronic version will be located at http://www.uscg.mil/hq/cg5/nvic.

9. PROCEDURE. Remove and insert the following pages:

Remove	Insert
Enclosure (1)	Enclosure (1) CH-1
Enclsoure (2), Page 1	Enclosure (2), Page 1 CH-1
Enclsoure (3), Page 7	Enclosure (3), Page 7 CH-1

10. 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.

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

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COMDTPUB P16721
NVIC 18-14
April 28, 2014

NAVIGATION AND VESSEL INSPECTION CIRCULAR NO. 18-14

Subj: GUIDELINES FOR QUALIFICATION FOR STCW ENDORSEMENTS AS ABLE SEAFARER-ENGINE

Ref: (a) International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, (STCW), as amended, Regulation III/5 and Section A-III/5 of the STCW Code, incorporated into regulations at 46 Code of Federal Regulations (CFR) 12.103

1. PURPOSE. This Navigation and Vessel Inspection Circular (NVIC) provides guidance on qualification for and revalidation of STCW endorsements as Able Seafarer-Engine (AS-E).

2. ACTION. The Coast Guard will use this NVIC and 46 CFR 12.607 when establishing whether candidates are qualified to hold STCW endorsements as AS-E. OCMIs should also bring this NVIC to the attention of the maritime industry within their zones. This NVIC is available on the World Wide Web at http://www.uscg.mil/hq/cg5/nvic/. The Coast Guard will distribute it by electronic means only.

3. DIRECTIVES AFFECTED. Section II of Enclosure (1) to CG-CVC Policy Letter 12-07, *Guidance on Issuance of Endorsements and Approval of Training to Meet the 2010 Amendments to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as Amended (STCW)*, is cancelled.

4. BACKGROUND.

   a. The STCW Convention and STCW Code sets forth standards for training and certification for merchant mariners. The International Maritime Organization (IMO)

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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, and include the establishment of certain new endorsements, including Able Seafarer-Engine.

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 United States Code, Titles 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. The final rule became effective on March 24, 2014. The Coast Guard is publishing this NVIC to provide guidance on complying with the new regulations. Accordingly, this NVIC cancels Section II of Enclosure (1) of CG-CVC Policy Letter 12-07.

5. DISCUSSION.

a. Policy regarding endorsement as AS-E is located in this NVIC. Enclosure (1) discusses specific requirements found in the regulations for this endorsement. Enclosure (2) contains the national assessment guidelines for this endorsement. Enclosure (3) may be used as to record completion of assessments. Enclosure (4) provides relevant excerpts from the STCW Convention and STCW Code.

b. When assessing demonstrations of skills, Qualified Assessors (QAs) are encouraged to use the guidelines in Enclosure (2) or an approved alternative. Shipboard QAs may make minor changes to the assessments in Enclosure (2) to reflect differences in shipboard equipment and operating procedures. QAs may not make other changes unless prior approval is given by the National Maritime Center (NMC) (46 CFR 12.601(a)(1)(i)).

c. A training institution applying for approval of a course or program that leads to an endorsement as AS-E should state either that the guidelines in Enclosure (2) will apply, or provide the guidelines it proposes to use. However, under 46 CFR 10.402(e), a training institution must submit any deviations from these guidelines to the Coast Guard for approval before use.

d. When applying for an AS-E endorsement, mariners need only submit the completed Enclosure (3), Record of Assessment or equivalent evidence of demonstration of competence to the Coast Guard. The Coast Guard recommends that the applicant retain a copy of Enclosure (3) or equivalent evidence of demonstration of competence for his or her records.

6. 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 the applicable law.

You can use an alternative approach if the approach satisfies the requirements of the applicable statutes and regulations.

7. 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.

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., National Archives and Records Administration requirements, and the Information and Life Cycle Management Manual, COMDTINST M5212.12 (series). This policy does not create a significant or substantial change to existing records management requirements.

9. QUESTIONS. All questions regarding implementation of this Circular should be directed to the Mariner Credentialing Program Policy Division (CG-CVC-4), at (202) 372-2357 or MMCPolicy@uscg.mil. To obtain approval for an alternative to the assessments described in Enclosure (2), contact the NMC at (888) 427-5662 or IAskNMC@uscg.mil.

J. A. SERVIDIO
Rear Admiral, U. S. Coast Guard
Assistant Commandant for Prevention Policy

Encl: (1) Discussion of Qualification for Able Seafarer-Engine
(2) Assessment Guidelines for Able Seafarer-Engine
(3) Record of Assessment for Able Seafarer-Engine
(4) Excerpts from the STCW Convention and STCW Code

DISCUSSION OF QUALIFICATION REQUIREMENTS FOR ABLE SEAFARER-ENGINE

1. GENERAL. This enclosure provides guidance to qualify for and renew an International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended (STCW) endorsement as Able Seafarer-Engine (AS-E), as specified in 46 Code of Federal Regulations (CFR) 12.607.

   As specified in 46 CFR 12.201(a)(1), an applicant for any STCW endorsement must hold the appropriate national endorsement. To be eligible for an STCW endorsement as AS-E, mariners must hold or qualify for any national endorsement as Qualified Member of the Engine Department (QMED).

2. SEA SERVICE AND TRAINING.

   a. As specified in 46 CFR 12.607(a), to qualify for an AS-E endorsement a mariner must:

      1) Meet the requirements for an endorsement as a Rating Forming Part of an Engineering Watch (RFPEW) contained in 46 CFR 12.609. It is not necessary to hold the endorsement for RFPEW, but all training, sea service and/or assessments required for RFPEW must be completed before accruing the sea service for AS-E;

      2) While qualified as RFPEW have either 12 months of seagoing service in the engine department, or 6 months of seagoing service in the engine department with completed approved training;

      3) Meet the standard of competence specified in Table A-III/5 of the STCW Code (46 CFR 12.607(a)(4)). Mariners may demonstrate achieving the standards of competence by completing the assessments in Enclosure (2), or an approved equivalent alternative; and

      4) Have currently valid Basic Training (46 CFR 12.602).

   b. As specified in 46 CFR 12.607(c), mariners holding a rating endorsement as QMED junior engineer, electrician or electrician/refrigerating engineer, pumpman or pumpman/machinist, refrigerating engineer, or machinist before January 1, 2017, will be eligible for this endorsement if they:

      1) Hold an endorsement as RFPEW; and

      2) Have currently valid Basic Training (46 CFR 12.602).

   c. For qualification as an AS-E, a day of approved seagoing service is 8 hours performing duties relevant to AS-E, not including overtime. As an alternative to 8 hours in 1 day, 2 periods of at least 4 hours each may be combined to equal 1 day. When 2 such periods are combined to form a day of creditable service, no additional credit will be given for periods in excess of 8 hours (46 CFR 10.107).

3. ASSESSMENT.

   a. All seagoing assessments should be performed on a vessel of at least 750 kW/1,000 HP with a manned or periodically unmanned walk-in engine room, generators independent of the main engine and other independent auxiliaries. Because many vessels no longer have manned engine rooms, engine room maintenance with designated engine room operational experience may be substituted for watch keeping experience.

   b. Shipboard Qualified Assessors may only make minor changes to the assessments in Enclosure (2) to reflect differences in shipboard equipment and operating procedures unless approval is given by the National Maritime Center (46 CFR 12.601(b)(3).

4. RENEWAL OF ENDORSEMENT. In order to renew an endorsement as AS-E, an applicant must have currently valid Basic Training as set forth in 46 CFR 12.602 and meet the general requirements for renewal of their national Qualified Member of the Engine Department (QMED) endorsement(s) found in 46 CFR 10.227.

Assessment Guidelines for Able Seafarer-Engine

Standard of competence

Every candidate for certification as Able Seafarer-Engine (AS-E) must provide evidence of having achieved the required standard of competence as specified in Table A-III/5 of the STCW Code (46 CFR 12.607(a)(4)). The table below is adopted from Table A-III/5 of the STCW Code (found in Enclosure (4)) to assist the candidate and assessor in the demonstration of competency.

Practical Skill demonstrations

These assessment guidelines establish the conditions under which the assessment will occur, the performance or behavior the candidate is to demonstrate, 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 qualified assessor 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 until December 31, 2019, provided that the assessor meets the professional requirements in 46 CFR 10.405(a)(3) to assess competence for the specific endorsement. 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 officer in charge of an engineering watch (OICEW) on seagoing vessels of the applicable propulsion mode(s) of at least 1,000 HP (750 kW). For assessments signed on a military vessel, the assessor should be authorized to conduct similar assessments for the U.S. Navy or U.S. Coast Guard Personnel Qualification Standards (PQS) for Engineering Officer of the Watch. 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 a specific propulsion mode should not be performed on a vessel that is not fitted with that mode of propulsion and/or by an assessor who lacks experience in that propulsion mode. After December 31, 2019, QAs must be approved by the National Maritime Center to conduct the assessment (46 CFR 10.405). Qualified military personnel need not be approved as QAs and may continue to sign assessments on military vessels after December 31, 2019.

Notes

RFPEW The assessments are met by holding or qualifying for an STCW endorsement as Rating Forming Part of an Engineering Watch (RFPEW).

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Assessment Guidelines for Able Seafarer-Engine

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
1.1.A *RFPEW*	Contribute to a safe engineering watch	Ability to understand orders and to communicate with the officer of the watch in matters relevant to watch keeping duties	This KUP is demonstrated by holding or qualifying for an endorsement as RFPEW.		
1.2.A *RFPEW*	Contribute to a safe engineering watch	Procedures for the relief, maintenance and handover of a watch	This KUP is demonstrated by holding or qualifying for an endorsement as RFPEW.		
1.3.A *RFPEW*	Contribute to a safe engineering watch	Information required to maintain a safe watch	This KUP is demonstrated by holding or qualifying for an endorsement as RFPEW.		
2.1.A *RFPEW*	Contribute to the monitoring and controlling of an engine-room watch	Basic knowledge of the function and operation of main propulsion and auxiliary machinery	This KUP is demonstrated by holding or qualifying for an endorsement as RFPEW.		
2.2.A *RFPEW*	Contribute to the monitoring and controlling of an engine-room watch	Basic understanding of main propulsion and auxiliary machinery control pressures, temperature and levels	This KUP is demonstrated by holding or qualifying for an endorsement as RFPEW.		

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
3.1.A	Contribute to fueling and oil transfer operations	Knowledge of the function and operation of fuel system and oil transfer operations, including: .1 preparations for fuelling and transfer operations .2 procedures for connecting and disconnecting fuelling and transfer hoses .3 procedures relating to incidents that may arise during fuelling or transferring operation .4 securing from fuelling and transfer operations .5 ability to correctly measure and report tank levels	On a vessel or in a laboratory or workshop, given a fueling or transfer system,	the candidate assists the engineering officer with the operation of the function and operation of fuel system and oil transfer operations.	The candidate: 1. Describes ship's bunker piping valves, tanks, and capacities; 2. Lines up the filling and transfer system properly; 3. Ensures that the proper hoses are used; 4. Ensures that any catchments are properly maintained, prepared and/or secured; 5. Observes normal pollution abatement policies including plugging scuppers, drip pans under all fuel oil vent; 6. Ensures that the hoses are secured properly to the shipboard flanges at the shipboard bunkering station; 7. Assists in taking samples for testing before taking on fuel; 8. Takes on fuel properly; 9. Secures the fuel oil fill and transfer system after the task is complete; 10. Observes all MARPOL recommendations for proper bunker procedures; 11. Sounds tanks and uses remote operating fuel gauges to accurately measure fuel oil tank levels; 12. Uses sounding equipment to measure change in tank level and rate of tank level; and 13. Assists to complete the relevant entries in the oil record book.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
4.1.A	Contribute to bilge and ballast operations	Knowledge of the safe function, operation and maintenance of the bilge and ballast systems, including: .1 reporting incidents associated with transfer operations .2 ability to correctly measure and report tank levels	On a vessel or in a laboratory or workshop, given a bilge and ballast system,	the candidate assists the officer on watch with the operation of the bilge and ballast system in accordance with good engineering principles.	The candidate: 1. Correctly lines up the engineroom bilge system; 2. Assists in monitoring pressures and tank levels during pumping; 3. Assists to complete the relevant entries in the oil record book; and 4. Logs all bilge and ballast transfer actions.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
5.1.A	Contribute to the operation of equipment and machinery	Safe operation of equipment, including: .1 valves and pumps	On a vessel or in a laboratory or workshop, given a piping system,	the candidate demonstrates the ability to trace the system, identify & operate valves, and operate liquid-level measuring devices.	The candidate traces out a piping system specified by the assessor and demonstrates or describes: 1. Purpose of the system traced; 2. Location of the valves to be used to normally start and/or shutdown the system; 3. Location of the valves to be used in the event of an emergency shutdown of the system, including emergency shutdown devices; 4. Manual operation of each type of valve in that system, both locally and remotely operated; 5. Manual operation of any in-tank measuring devices; 6. Probable location of any leakage, what form that leakage may take, onboard notification procedures, and what precautions should be followed; 7. Any topping off procedures that are followed; 8. Any stripping procedures that are followed; and 9. Protection of bilge and ballast suctions during normal operations and other configurations where the bilge and ballast suctions and wells may become contaminated.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
5.1.B	Contribute to the operation of equipment and machinery	Safe operation of equipment, including: .1 valves and pumps	On a vessel or in a laboratory or workshop, given a variety of operating pumps,	the candidate assists the officer on watch with the operation of centrifugal and positive displacement pumps in accordance with good engineering principles.	The candidate: 1. Assists in lining up a pumping system; 2. Monitors discharge and suction pressures and temperatures,; 3. Observes seals and gaskets for leaks; 4. Monitors for vibration and pump temperatures; 5. Assists in maintenance of pump as per manufacturer's guidelines.
5.1.C	Contribute to the operation of equipment and machinery	Safe operation of equipment, including: .1 valves and pumps	On a vessel or in a laboratory or workshop, given various valves,	the candidate assists an engineer with the operation and repair of valves in accordance with good engineering principles.	The candidate disassembles, inspects, and reassembles a globe valve, a gate valve, and a check valve and makes repairs to them as necessary.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
5.2.A	Contribute to the operation of equipment and machinery	Safe operation of equipment, including: .2 hoists and lifting equipment .3 hatches, watertight doors, ports and related equipment Ability to use and understand basic crane, winch and hoist signals	On a vessel or in a laboratory or workshop, given a hoist, other lifting equipment, hatches & doors, and a crane or winch,	the candidate assists an engineer with the operation and repair of heavy equipment in accordance with good engineering principles.	The candidate: 1. Operates hoist and lifting equipment as directed; 2. Uses hand signals for crane, winch, and hoist commands to communicate with the crane, winch or hoist operator; 3. Operates hatches, watertight doors, ports, and related equipment; 4. Deswcribes the limitations of ship's equipment and not exceeding those limitations, including: a. Safe working load; b. Maximum load; c. Weather and sea conditions; and d. Proper use of safety practices and situational awareness; and 5. Performs inspections and preventive maintenance as schedules dictate.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
6.1.A	Safe use of electrical equipment	Safe use and operation of electrical equipment, including: .1 safety precautions before commencing work or repair .2 isolation procedures .4 different voltages on board	On a vessel or in a laboratory or workshop, given electrical equipment for repair,	the candidate assists with electrical repairs with the notification and preparation for electrical repairs in accordance with good engineering principles.	The candidate: 1. Communicates hazards to all personnel who may come into contact; 2. Assesses effects of shut down on shipboard operations and notifies appropriate personnel; 3. Lines up alternate equipment; 4. Informs the officer in charge of the engineering watch of all actions; 5. Follows lockout/tag-out and isolation procedures; 6. Locates and prepositions fire extinguishers; 7. Locates and prepositions safety retrieval gear; 8. Locates and assesses alternate sources of electricity; 9. Checks for multiple voltage sources onboard; 10. Prepares for electric shock health hazards; and 11. Shows awareness of arc flash hazard.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
6.2.A	Safe use of electrical equipment	Safe use and operation of electrical equipment, including: .3 emergency procedures	On a vessel or in a laboratory or workshop, when making electrical repairs,	the candidate demonstrates awareness of electrical safety, first aid principles and actions in an emergency.	The candidate performs the following functions: 1. Locating resuscitation equipment; 2. Reviewing the work to be performed, verbal and hand communications and the need for a repeat of the instructions being issued by the person being given instructions; and 3. Reviewing the procedures to be followed in the event an electrical shock occurs, such as; a. De-engergizing the live circuit; b. Removing the victim of electrical shock from the shock hazard if victim is unable to let go or leave the shock hazard c. Removing a victim of electrical shock from the area of the shock hazard; d. First aid for electrical shock and electrical burns; and e. CPR

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
6.3.A	Safe use of electrical equipment	Safe use and operation of electrical equipment, including: Knowledge of the causes of electric shock and precautions to be observed to prevent shock	On a vessel or in a laboratory or workshop, when making electrical repairs,	the candidate demonstrates awareness of the causes of electrical shock hazards and precautions to prevent shock.	The candidate describes: 1. Causes of electrical shock, including: a. Handling live wiring; b. Working near live wiring; c. Equipment not appropriately insulated; d. Not disconnecting or grounding electrical storage devices; e. Activation of untagged equipment; and f. Equipment not appropriately grounded; and 2. Precautions to be observed to prevent shock , including: a. Tag out, lock out procedures; b. Following the warnings found in the equipment manuals for ship's equipment; c. Notifying affected personnel; d. Cordoning off area affected; e. Using properly insulated equipment; and f. Grounding equipment properly.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
7.1 A	Contribute to shipboard maintenance and repair	Ability to use painting, lubrication and cleaning materials and equipment	On a vessel or in a laboratory or workshop, when using indicated materials and equipment,	the candidate prepares and coats surfaces in accordance with good engineering principles.	The candidate: 1. Identifies product hazards using the Material Safety Data Sheet (MSDS); 2. Separates and properly disposes of waste materials; 3. Properly stores paints and flammables in designated spaces; 4. Selects and applies proper paints and epoxies; 5. Uses the proper tool for spreading the coating onto the prepared surface (brush, roller, sprayer); 6. Blocks off the area to be coated and secures ship's equipment that may be affected; 7. Dons proper protective equipment for the area being coated; and 8. Marks off the coated area so that it is not disturbed until able to withstand the wear and tear of use.
7.2.A	Contribute to shipboard maintenance and repair	Understanding manufacturer's safety guidelines and shipboard instructions	On a vessel or in a laboratory or workshop, when using indicated materials and equipment,	the candidate demonstrates knowledge of safety guidelines and shipboard instructions.	The candidate locates and describes: 1. Lock Out / Tag Out procedures; 2. MSDS; 3. Vessel manuals (machinery and equipment, operational, etc); and 4. Standing safety orders from the Captain and Chief Engineer.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
7.3.A	Contribute to shipboard maintenance and repair	Knowledge of surface preparation techniques	On a vessel or in a laboratory or workshop, when using indicated materials and equipment,	the candidate demonstrates proper surface preparation techniques.	The candidate demonstrates or describes proper surface preparation techniques, including: 1. Evaluating the surface to be prepared: a. Type of material; b. Current coating (or caulk, sealant); c. Condition of coating (or caulk, sealant); and d. Total surface area to be coated; 2. Evaluating the coating (or caulk, sealant) to be used: a. Will the coating (or caulk, sealant)bond to surface and/or current coating; b. Is a primer needed; c. Hazards of using the coating (and primer); and d. Equipment needed to coat the surface; 3. Evaluating the hazards involved in the area surrounding the surface to be prepared: a. Ventilation; b. Fuel sources; c. Air intakes; and d. Ignition sources; 4. Evaluating the resources available to prepare the surface: a. Tools available; b. Cleaning, stripping and etching chemicals available; c. Power sources available; d. Manpower available; and e. Safety equipment available; 5. Selecting the correct tools to be used; 6. Using correct products to be used; and **7.** Preparing the surface provided so that it has a clean surface with the proper texture so that the coating will bond securely.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
7.4.A	Contribute to shipboard maintenance and repair	Knowledge of safe disposal of waste materials	On a vessel or in a laboratory or workshop, when using indicated waste materials and equipment,	the candidate segregates, stores, and disposes of waste in accordance with local, federal and international regulations.	The candidate demonstrates knowledge concerning local, state, federal,& international laws concerning: 1. Hazardous waste; 2. Non-hazardous waste; 3. Correct storage and disposal procedures; and 4. Proper disposal of waste materials.
7.5.A	Contribute to shipboard maintenance and repair	Knowledge of metal work	On a vessel or in a laboratory or workshop, when using measuring instruments and machine tools,	the candidate identifies, selects, and uses tools in accordance with good engineering principles.	The candidate: 1. Uses metal working tools on appropriate surfaces; 2. Selects and uses proper filing tools; 3. Selects and uses proper measuring tools including tapes, rulers, dividers, and squares; 4. Properly cleans and stows all hand tools and measuring devices; 5. Properly selects and uses electrical cords to prevents trip hazards; 6. Identifies steel, cast iron, iron, copper, brass, and aluminum; 7. Selects proper joining methods to include hot and cold joining.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
7.6.A	Contribute to shipboard maintenance and repair	Knowledge of the application, maintenance and use of hand and power tools	On a vessel or in a laboratory or workshop,	the candidate demonstrates knowledge of the maintenance and use of hand and power tools.	The candidate demonstrates or describes the proper use and maintenance of the following hand and power tools: 1. Wrenches of all types; 2. Screwdrivers and hammers; 3. Saws; 4. Drilling equipment; 5. Pipe cutters and threaders; 6. Tubing cutters and connection devices; 7. Air powered or electrical hand grinders; 8. Air powered or electrical chipping guns; 9. Files; and 10. Knives.
8.1.A	Contribute to the handling of stores	Knowledge of procedures for safe handling, stowage and securing of stores	On a vessel or in a laboratory or workshop, when handling stores,	the candidate stows and secures stores and equipment in accordance with good engineering principles.	The candidate: 1. Separates flammable and non flammable materials; 2. Separates food items from sources of contamination; 3. Properly stacks materials, including: a. Stacking heavy materials on the bottom and lighter materials on top; b. Following the height limits as labeled; and c. Following the orientation arrows on the packaging; 4. Separates incompatible materials; 5. Brackets or ties off all goods capable of moving and causing injury; 6. Stores items using first in/first out; and 7. Uses proper types of rope and wire to secure heavy items.

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Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
8.1.B	Contribute to the handling of stores	Knowledge of procedures for safe handling, stowage and securing of stores	On a vessel or in a laboratory or workshop, when handling stores,	the candidate demonstrates knowledge of stores-handling gear and equipment such as cranes, derricks, and winches.	The candidate's demonstration or description includes: 1. Inspecting the equipment to be used to ensure that it is good operating condition and suitable for the load to be lifted; 2. Unstowing the equipment to be used; 3. Performing any rigging and that all of the ancillary equipment is readily available, including, block and tackle; 4. Lifting a load and moving it to a predetermined location, as determined by the assessor; 5. Securing the equipment in its stowed position; and 6. Stowing ancillary equipment.
9.1.A	Apply precautions and contribute to the prevention of pollution to the marine environment	Knowledge of precautions to be taken to prevent pollution of the marine environment	On a vessel or in a laboratory or workshop,	the candidate describes knowledge of sources of operational pollution.	The candidate describes the sources of operational pollution including: 1. Oil; 2. Noxious liquid substances; 3. Packaged goods and non-liquid substances; 4. Sewage; 5. Garbage; 6. Marine debris; and 7. Air pollution.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
9.1.B	Apply precautions and contribute to the prevention of pollution of the marine environment	Knowledge of the precautions to be taken to prevent pollution of the marine environment	On a vessel or in a laboratory or workshop,	the candidate describes knowledge of the precautions to be taken to prevent pollution of the marine environment.	The candidate describes: 1. Collection, sorting, storage, and estimating the amount of garbage onboard; 2. Preparations for preventing or controlling pollutants due to the transfer of cargo, fuel, or passengers; 3. Transferring garbage ashore for disposal; 4. Making rounds of areas which are under the responsibility of the engine department for pollution prevention and control; and 5. Awareness of the function of the following: a. Marine Sanitation Device (MSD); b. Oily water separator and bilge cleanliness; c. Ballast water management; d. Incinerator; e. Emission controls; and f. Vessel General Permit (VGP).
9.2.A	Apply precautions and contribute to the prevention of pollution of the marine environment	Knowledge of the use and operation of anti-pollution equipment	On a vessel or in a laboratory or workshop, given the indicated equipment,	the candidate demonstrates knowledge of the use of anti-pollution equipment.	The candidate describes the use of anti-pollution equipment aboard ship, including the location and use of: 1. Sorbents aboard the ship and the types of spills that the sorbents are effective on; 2. Booms aboard the ship and the types of spills that the booms are effective on; 3. Plugs, caps, flanges, and other equipment that can be used to stop leaks in the cargo, ballast, bunker, etc. systems.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
9.3.A	Apply precautions and contribute to the prevention of pollution of the marine environment	Knowledge of the approved methods for disposal of marine pollutants	On a vessel or in a laboratory or workshop,	the candidate identifies and describes the expected types of waste generated by a pollution incident and describe the proper way to dispose of the waste.	The candidate identifies and describes the expected types of waste that could be generated and describes the proper manner of collection and storage so that the pollution potential of that waste is minimized, including: 1. Contaminated rags; 2. Contaminated booms; 3. Garbage; 4. Damaged drums; 5. Contaminated sorbents; and 6. Other contaminated material specific to the type of vessel the assessment is performed on.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
10.1.A	Apply occupational health and safety precautions	Working knowledge of safe working practices and personal shipboard safety including electrical safety	On a vessel or in a laboratory or workshop,	the candidate describes procedures to safeguard personnel and the vessel as it applies to electrical safety.	The candidate describes procedures designed to safeguard personnel and the ship, including: 1. Observing all pertinent instructions and electric warning signs aboard ship; 2. Observing all safety precautions regarding portable electric lights and tools; 3. Not touching or operating any device that has a tag attached; 4. Not touching bare electric wires or connections and assuming all circuits to be live; 5. Not removing explosion proofing globes from lighting fixtures; 6. Not using electric cable runs to hoist or support any weight; 7. Not using the wire ways for storage; 8. Not permitting water to get into electrical equipment; 9. Avoiding sever burns and damage to equipment and clothing caused by electrolyte from storage batteries; 10. Having an electrician disconnect the circuit and tag it as out of commission when working on electrical motors or other equipment; 11. Not starting or operating electrical equipment when flammable vapors are present; and 12. Reporting damaged electrical equipment or wiring to your superior.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
10.2.A	Apply occupational health and safety precautions	Working knowledge of safe working practices and personal shipboard safety including lockout/tagout procedures	On a vessel or in a laboratory or workshop, given the indicated equipment,	the candidate performs lockout/tagout procedures in accordance with good engineering principles.	The candidate: 1. Identifies the equipment to be locked out; 2. Locks and tags out equipment using approved methods, including logging; 3. Informs the first assistant or watch engineer that equipment is locked and tagged; and 4. Gives appropriate notice of removal of lock/tag when work is completed.
10.3.A	Apply occupational health and safety precautions	Working knowledge of safe working practices and personal shipboard safety including mechanical safety	On a vessel or in a laboratory or workshop, given the indicated equipment,	the candidate demonstrates knowledge of mechanical safety.	The candidate identifies mechanical hazards and explains safe working practices for: 1. Portable tools; 2. Hand tools; 3. Rotating machinery; 4. Galley equipment; and 5. Cargo securing gear.
10.4.A	Apply occupational health and safety precautions	Working knowledge of safe working practices and personal shipboard safety including permit to work systems	On a vessel or in a laboratory or workshop,	the candidate describes safe working practices and personal shipboard safety including permit to work systems.	The candidate describes procedures for and spaces that require a permit to work, including: 1. Hot work; 2. Confined spaces; and 3. Other policies that require a permit to work such as working aloft or over the side.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
10.5.A	Apply occupational health and safety precautions	Working knowledge of safe working practices and personal shipboard safety including working aloft	On a vessel or in a laboratory or workshop, given the indicated equipment,	the candidate demonstrates knowledge of safe working practices and personal shipboard safety when working aloft.	The candidate describes the proper preparations for going aloft, including: 1. Notifying the appropriate officer in accordance with company procedures 2. Confirming that all equipment that may create a hazard has been turned off and tagged accordingly; 3. Confirming that the ship's motion and weather conditions will remain within safe limits; 4. Using safety equipment and checking it for operational integrity; 5. Cordoning off and placarding the area below; 6. Attaching lanyards to tools, if practical; 7. Reading safety placards in the area and taking appropriate actions; 8. Completing any required permits; and 9. Notifying appropriate personnel.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
10.6.A	Apply occupational health and safety precautions	Working knowledge of safe working practices and personal shipboard safety including working in enclosed spaces	On a vessel or in a laboratory or workshop, given the indicated equipment,	the candidate demonstrates knowledge of the identifying characteristics of an enclosed space.	The candidate describes the characteristics of an enclosed space, including: 1. Limited openings for entry and exit; 2. Unfavorable natural ventilation; and 3. Not designed for continuous worker occupancy, and 4. Provides examples, including: a. Cargo spaces; b. Double bottoms; c. Fuel tanks; d. Ballast tanks; e. Pump-rooms; f. Compressor rooms; g. Cofferdams; h. Void spaces; i. Duct keels; j. Inter-barrier spaces; k. Engine crankcases; and l. Sewage tanks.
10.6.B	Apply occupational health and safety precautions	Working knowledge of safe working practices and personal shipboard safety including working in enclosed spaces	On a or in a laboratory or workshop, given the indicated equipment,	the candidate demonstrates understanding of the dangers involved in an enclosed space entry.	The candidate describes possible scenarios which could occur during an enclosed space entry, including: 1. Workers being overcome by fumes and lack of oxygen; 2. Rescuers not using proper safety equipment and being overcome by the hazard; and 3. What stand-by personnel should do in trying to affect a rescue with proper equipment.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
10.6.C	Apply occupational health and safety precautions	Working knowledge of safe working practices and personal shipboard safety including working in enclosed spaces	On a vessel or in a laboratory or workshop, given the indicated equipment,	the candidate demonstrates knowledge of procedures designed to safeguard personnel working in enclosed spaces.	The candidate describes procedures designed to safeguard personnel and the ship, including: 1. Assessment of risk; 2. Entry authorization procedures; and 3. General precautions, including: a. Isolating hazards; b. Ventilation; c. Interior and exterior illumination; d. Communications; e. Rescue and resuscitation equipment; f. Proper dress and safety equipment; g. Briefing of entry crew; and h. Initial and continuous testing.
10.7.A	Apply occupational health and safety precautions	Working knowledge of safe working practices and personal shipboard safety including lifting techniques and methods of preventing back injury	On a vessel or in a laboratory or workshop, given the indicated equipment,	the candidate demonstrates knowledge of lifting techniques and methods of preventing back injury.	The candidate shall demonstrates: 1. Proper lifting procedures; 2. Proper procedures to set down a load; and 3. The use of back support or movement limiting devices.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Task No.	STCW Competence	Knowledge, Understanding, and Proficiency	Performance Condition	Performance Behavior	Performance Standard
10.8.A	Apply occupational health and safety precautions	Working knowledge of safe working practices and personal shipboard safety including chemical and biohazard safety	On a vessel or in a laboratory or workshop, given the indicated equipment,	the candidate demonstrates knowledge of the proper response to a chemical or biohazard spill or incident.	The candidate describes the proper handling of chemical or biohazard materials in accordance with the MSDS.
10.8.B	Apply occupational health and safety precautions	Working knowledge of safe working practices and personal shipboard safety including chemical and biohazard safety	On a vessel or in a laboratory or workshop, given the indicated equipment,	the candidate demonstrates knowledge of the procedures to use in the event of exposure to a chemical or biohazard spill.	The candidate describes the procedures to use in the event of exposure to or spill of a chemical or biohazard including: 1. Isolation; 2. Reporting; 3. Reference to the MSDS; and 4. Monitoring until relieved by an emergency team.
10.9.A	Apply occupational health and safety precautions	Working knowledge of safe working practices and personal shipboard safety including personal safety equipment	On a vessel or in a laboratory or workshop, given the indicated equipment,	the candidate demonstrates the use of personal safety equipment appropriate to the task being performed	The candidate demonstrates the use of personal safety equipment, including: 1. Gloves; 2. Goggles; 3. Respirators; 4. Aprons; 5. Face shields; 6. Steel toed shoes; 7. Hearing protection; 8. Clothing; and 9. Safety harness.

Successful completion of these Assessment Guidelines will provide satisfactory evidence of meeting the standard of competence specified in Section A-III/5 of the STCW Code. 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 12.601(b)(1)(i), alternative Assessment Guidelines must be approved by the National Maritime Center before use.

Record of Assessment

for

Able Seafarer – Engine

Candidate's Name	*Candidate's Signature*	*Candidate's Mariner Reference No.*

RECORD OF ASSESSMENT

Able Seafarer – Engine

NOTE TO QUALIFIED ASSESSOR(S): In performing your function as a qualified assessor, you may use your initials only to indicate that 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-III/5 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 12.601(b)(1)(i) alternative Assessment Guidelines must be submitted to the National Maritime Center and approved before use.

STCW Competence	Knowledge, Understanding, and Proficiency	Task No.	Task Name	Assessor's Initials	Date
Contribute to a safe engineering watch	Ability to understand orders and to communicate with the officer of the watch in matters relevant to watch keeping duties	1.1.A *RFPEW*	Understand orders	RFPEW	
	Procedures for the relief, maintenance and handover of a watch	1.2.A *RFPEW*	Watch relief	RFPEW	
	Information required to maintain a safe watch	1.3.A *RFPEW*	Watchkeeping	RFPEW	
Contribute to the monitoring and controlling of an engine-room watch	Basic knowledge of the function and operation of main propulsion and auxiliary machinery	2.1.A *RFPEW*	Operation of main propulsion and auxiliary machinery	RFPEW	
	Basic understanding of main propulsion and auxiliary machinery control pressures, temperature and levels	2.2.A *RFPEW*	Main propulsion and auxiliary machinery control pressures, temperature and levels	RFPEW	
Contribute to fueling and oil transfer operations	Knowledge of the function and operation of fuel system and oil transfer operations	3.1.A	Operation of fuel system and oil transfer operations		

Notes:

RFPEW The assessment is met by holding or qualifying for an endorsement as Rating Forming Part of an Engineering Watch (RFPEW).

Candidate's Name *Candidate's Mariner Reference No.*

RECORD OF ASSESSMENT

Able Seafarer – Engine

STCW Competence	Knowledge, Understanding, and Proficiency	Task No.	Task Name	Assessor's Initials	Date
Contribute to bilge and ballast operations	Knowledge of the safe function, operation and maintenance of the bilge and ballast systems	4.1.A	Operation of bilge and ballast system		
Contribute to the operation of equipment and machinery	Safe operation of equipment, including: valves and pumps	5.1.A	Trace out a piping system		
		5.1.B	Operation of centrifugal and positive displacement pumps		
		5.1.C	Operation and repair of valves		
	Safe operation of equipment, including: hoists and lifting equipment; hatches, watertight doors, ports and related equipment Ability to use and understand basic crane, winch and hoist signals	5.2.A	Operation and repair of heavy equipment		
Safe use of electrical equipment	Safe use and operation of electrical equipment, including: safety precautions before commencing work or repair; isolation procedures; different voltages on board	6.1.A	Assist with electrical repairs		
	Safe use and operation of electrical equipment, including: emergency procedures	6.2.A	Electrical safety		
	Knowledge of the causes of electric shock and precautions to be observed to prevent shock	6.3.A	Electrical shock hazards		

Candidate's Name

Candidate's Mariner Reference No.

RECORD OF ASSESSMENT

Able Seafarer – Engine

STCW Competence	Knowledge, Understanding, and Proficiency	Task No.	Task Name	Assessor's Initials	Date
Contribute to shipboard maintenance and repair	Ability to use painting, lubrication and cleaning materials and equipment	7.1.A	Surface preparation and coating		
	Understanding manufacturer's safety guidelines and shipboard instructions	7.2.A	Safety guidelines and shipboard instructions		
	Knowledge of surface preparation techniques	7.3.A	Surface preparation techniques		
	Knowledge of safe disposal of waste materials	7.4.A	Waste disposal		
	Knowledge of metal work	7.5.A	Tool selection		
	Knowledge of the application, maintenance and use of hand and power tools	7.6.A	Maintenance and use of hand and power tools		
Contribute to the handling of stores	Knowledge of procedures for safe handling, stowage and securing of stores	8.1.A	Stowage and securing of stores and equipment		
		8.1.B	Stores handling gear, cranes, derricks, and winches		
Apply precautions and contribute to the prevention of pollution of the marine environment	Knowledge of precautions to be taken to prevent pollution of the marine environment	9.1.A	Sources of operational pollution		
		9.1.B	Precautions to prevent pollution of the marine environment		
	Knowledge of the use and operation of anti-pollution equipment	9.2.A	Use of anti-pollution equipment		
	Knowledge of the approved methods for disposal of marine pollutants	9.3.A	Waste generation and disposal		

Candidate's Name *Candidate's Mariner Reference No.*

RECORD OF ASSESSMENT

Able Seafarer – Engine

STCW Competence	Knowledge, Understanding, and Proficiency	Task No.	Task Name	Assessor's Initials	Date
Apply occupational health and safety precautions	Working knowledge of safe working practices and personal shipboard safety including electrical safety	10.1.A	Electrical safety procedures		
	Working knowledge of safe working practices and personal shipboard safety including lockout/tagout procedures	10.2.A	Lockout/tagout procedures		
	Working knowledge of safe working practices and personal shipboard safety including mechanical safety	10.3.A	Mechanical safety		
	Working knowledge of safe working practices and personal shipboard safety including permit to work systems	10.4.A	Safe working practices and personal shipboard safety		
	Working knowledge of safe working practices and personal shipboard safety including working aloft	10.5.A	Safety when working aloft		
	Working knowledge of safe working practices and personal shipboard safety including working in enclosed spaces	10.6.A	Characteristics of enclosed spaces		
		10.6.B	Enclosed space safety		
		10.6.C	Enclosed space entry		
	Working knowledge of safe working practices and personal shipboard safety including lifting techniques and methods of preventing back injury	10.7.A	Back injury prevention		

Candidate's Name *Candidate's Mariner Reference No.*

RECORD OF ASSESSMENT

Able Seafarer – Engine

STCW Competence	Knowledge, Understanding, and Proficiency	Task No.	Task Name	Assessor's Initials	Date
Apply occupational health and safety precautions	Working knowledge of safe working practices and personal shipboard safety including chemical and biohazard safety	10.8.A	Response to a chemical or biohazard spill		
		10.8.B	Procedures for exposure to a chemical or biohazard spill		
	Working knowledge of safe working practices and personal shipboard safety including personal safety equipment	10.9.A	Use of personal safety equipment		

Candidate's Name

Candidate's Mariner Reference No.

RECORD OF ASSESSMENT

Able Seafarer – Engine

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 officer in charge of an engineering watch (OICEW) on seagoing vessels of the applicable propulsion mode(s) of at least 1,000 HP (750 kW). For assessments signed on a military vessel, the assessor should be authorized to conduct similar assessments for the U.S. Navy or U.S. Coast Guard Personnel Qualification Standards (PQS) for Engineering Officer of the Watch. After December 31, 2019, QAs must be approved by the National Maritime Center (46 CFR 10.107). Qualified military personnel will not need to be approved as QAs and may continue to sign assessments on military vessels after December 31, 2019.

Vessel Name and Propulsion Mode	Propulsion Power	Dates of Service		Assessor Name	Assessor Signature	Sample Initials of Assessor	Assessor Mariner Ref. No.	Assessor Shipboard Position
		From	To					
M/V Handy Boy Motor	9,876 HP	7/7/2018	11/14/2018	Ignatius J. Reilly	Ignatius J. Reilly	IJR	1234567	Chief Engineer

Candidate's Name

Candidate's Mariner Reference No.

RECORD OF ASSESSMENT

Able Seafarer – Engine

Vessel Name and Propulsion Mode	Gross Tonnage (GRT or GT)	Dates of Service		Assessor Name	Assessor Signature	Sample Initials of Assessor	Assessor Mariner Ref. No.	Assessor Shipboard Position
		From	To					

Candidate's Name

Candidate's Mariner Reference No.

Excerpts from the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978, as amended

and

Seafarers' Training, Certification and Watchkeeping Code, as amended

Notice: These excerpts are provided for background information only. By themselves, they do not constitute United States Coast Guard policy.

The Manila Amendments to the annex to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978

Chapter I
General provisions

Regulation I/6
Training and assessment

Each Party shall ensure that:

.1 the training and assessment of seafarers, as required under the Convention, are administered, supervised and monitored in accordance with the provisions of section A-I/6 of the STCW Code; and

.2 those responsible for the training and assessment of competence of seafarers, as required under the Convention, are appropriately qualified in accordance with the provisions of section A-I/6 of the STCW Code for the type and level of training and assessment involved.

Regulation I/12
Use of simulators

1 The performance standards and other provisions set forth in section A-I/12 and such other requirements as are prescribed in part A of the STCW Code for any certificate concerned shall be complied with in respect of:

.1 all mandatory simulator-based training;

.2 any assessment of competency required by part A of the STCW Code which is carried out by means of a simulator; and

.3 any demonstration, by means of a simulator, of continued proficiency required by part A of the STCW Code.

Chapter III
Engine department

Regulation III/5
Mandatory minimum requirements for certification of ratings as able seafarer engine in a manned engine-room or designated to perform duties in a periodically unmanned engine-room

1 Every able seafarer engine serving on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more shall be duly certificated.

2 Every candidate for certification shall:

.1 be not less than 18 years of age;

.2 meet the requirements for certification as a rating forming part of a watch in a manned engine-room or designated to perform duties in a periodically unmanned engine-room;

.3 while qualified to serve as a rating forming part of an engineering watch, have approved seagoing service in the engine department of:

.3.1 not less than 12 months, or

.3.2 not less than 6 months and have completed approved training; and

.4 meet the standard of competence specified in section A-III/5 of the STCW Code.

3 Every Party shall compare the standard of competence which it required of ratings in the engine department for certificates issued before 1 January 2012 with those specified for the certificate in section A-III/5 of the STCW Code, and shall determine the need, if any, for requiring these personnel to update their qualifications.

4 Seafarers may be considered by the Party to have met the requirements of this regulation if they have served in a relevant capacity in the engine department for a period of not less than 12 months within the last 60 months preceding the entry into force of this regulation for that Party.

The Manila Amendments to the Seafarers' Training, Certification and Watchkeeping (STCW) Code

Chapter I
Standards regarding general provisions

Section A-I/6
Training and assessment

1 Each Party shall ensure that all training and assessment of seafarers for certification under the Convention is:

.1 structured in accordance with written programmes, including such methods and media of delivery, procedures, and course material as are necessary to achieve the prescribed standard of competence; and

.2 conducted, monitored, evaluated and supported by persons qualified in accordance with paragraphs 4, 5 and 6.

2 Persons conducting in-service training or assessment on board ship shall only do so when such training or assessment will not adversely affect the normal operation of the ship and they can dedicate their time and attention to training or assessment.

Qualifications of instructors, supervisors and assessors[*]

3 Each Party shall ensure that instructors, supervisors and assessors are appropriately qualified for the particular types and levels of training or assessment of competence of seafarers either on board or ashore, as required under the Convention, in accordance with the provisions of this section.

In-service training

4 Any person conducting in-service training of a seafarer, either on board or ashore, which is intended to be used in qualifying for certification under the Convention, shall:

.1 have an appreciation of the training programme and an understanding of the specific training objectives for the particular type of training being conducted;

.2 be qualified in the task for which training is being conducted; and

.3 if conducting training using a simulator:

.3.1 have received appropriate guidance in instructional techniques involving the use of simulators; and

.3.2 have gained practical operational experience on the particular type of simulator being used.

5 Any person responsible for the supervision of in-service training of a seafarer intended to be used in qualifying for certification under the Convention shall have a full understanding of the training programme and the specific objectives for each type of training being conducted.

[*] The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

Assessment of competence

6 Any person conducting in-service assessment of competence of a seafarer, either on board or ashore, which is intended to be used in qualifying for certification under the Convention, shall:

.1 have an appropriate level of knowledge and understanding of the competence to be assessed;

.2 be qualified in the task for which the assessment is being made;

.3 have received appropriate guidance in assessment methods and practice;

.4 have gained practical assessment experience; and

.5 if conducting assessment involving the use of simulators, have gained practical assessment experience on the particular type of simulator under the supervision and to the satisfaction of an experienced assessor.

Training and assessment within an institution

7 Each Party which recognizes a course of training, a training institution, or a qualification granted by a training institution, as part of its requirements for the issue of a certificate required under the Convention, shall ensure that the qualifications and experience of instructors and assessors are covered in the application of the quality standard provisions of section A-I/8. Such qualification, experience and application of quality standards shall incorporate appropriate training in instructional techniques, and training and assessment methods and practice, and shall comply with all applicable requirements of paragraphs 4 to 6.

Section A-I/12
Standards governing the use of simulators

Part 1 – Performance standards

General performance standards for simulators used in training

1 Each Party shall ensure that any simulator used for mandatory simulator-based training shall:

.1 be suitable for the selected objectives and training tasks;

.2 be capable of simulating the operating capabilities of shipboard equipment concerned, to a level of physical realism appropriate to training objectives, and include the capabilities, limitations and possible errors of such equipment;

.3 have sufficient behavioural realism to allow a trainee to acquire the skills appropriate to the training objectives;

.4 provide a controlled operating environment, capable of producing a variety of conditions, which may include emergency, hazardous or unusual situations relevant to the training objectives;

.5 provide an interface through which a trainee can interact with the equipment, the simulated environment and, as appropriate, the instructor; and

.6 permit an instructor to control, monitor and record exercises for the effective debriefing of trainees.

General performance standards for simulators used in assessment of competence

2 Each Party shall ensure that any simulator used for the assessment of competence required under the Convention or for any demonstration of continued proficiency so required shall:

.1 be capable of satisfying the specified assessment objectives;

.2 be capable of simulating the operational capabilities of the shipboard equipment concerned to a level of physical realism appropriate to the assessment objectives, and include the capabilities, limitations and possible errors of such equipment;

.3 have sufficient behavioural realism to allow a candidate to exhibit the skills appropriate to the assessment objectives;

.4 provide an interface through which a candidate can interact with the equipment and simulated environment;

.5 provide a controlled operating environment, capable of producing a variety of conditions, which may include emergency, hazardous or unusual situations relevant to assessment objectives; and

.6 permit an assessor to control, monitor and record exercises for the effective assessment of the performance of candidates.

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Part 2 – Other provisions

Simulator training objectives

6 Each Party shall ensure that the aims and objectives of simulator-based training are defined within an overall training programme and that specific training objectives and tasks are selected so as to relate as closely as possible to shipboard tasks and practices.

Training procedures

7 In conducting mandatory simulator-based training, instructors shall ensure that:

.1 trainees are adequately briefed beforehand on the exercise objectives and tasks and are given sufficient planning time before the exercise starts;

.2 trainees have adequate familiarization time on the simulator and with its equipment before any training or assessment exercise commences;

.3 guidance given and exercise stimuli are appropriate to the selected exercise objectives and tasks and to the level of trainee experience;

.4 exercises are effectively monitored, supported as appropriate by audio and visual observation of trainee activity and pre- and post-exercise evaluation reports;

.5 trainees are effectively debriefed to ensure that training objectives have been met and that operational skills demonstrated are of an acceptable standard;

.6 the use of peer assessment during debriefing is encouraged; and

.7 simulator exercises are designed and tested so as to ensure their suitability for the specified training objectives.

Assessment procedures

8 Where simulators are used to assess the ability of candidates to demonstrate levels of competency, assessors shall ensure that:

.1 performance criteria are identified clearly and explicitly and are valid and available to the candidates;

.2 assessment criteria are established clearly and are explicit to ensure reliability and uniformity of assessment and to optimize objective measurement and evaluation, so that subjective judgements are kept to the minimum;

.3 candidates are briefed clearly on the tasks and/or skills to be assessed and on the tasks and performance criteria by which their competency will be determined;

.4 assessment of performance takes into account normal operating procedures and any behavioural interaction with other candidates on the simulator or with simulator staff;

.5 scoring or grading methods to assess performance are used with caution until they have been validated; and

.6 the prime criterion is that a candidate demonstrates the ability to carry out a task safely and effectively to the satisfaction of the assessor.

Qualifications of instructors and assessors[*]

9 Each Party shall ensure that instructors and assessors are appropriately qualified and experienced for the particular types and levels of training and corresponding assessment of competence as specified in regulation I/6 and section A-I/6.

[*] The relevant IMO Model Course(s) and resolution MSC.64(67), *Recommendations on new and amended performance standards*, may be of assistance in the preparation of courses.

Chapter III

Standards regarding the engine department

Section A-III/5

Mandatory minimum requirements for certification of ratings as able seafarer engine in a manned engine-room or designated to perform duties in a periodically unmanned engine-room

Standard of competence

1 Every able seafarer engine serving on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more shall be required to demonstrate the competence to perform the functions at the support level, as specified in column 1 of table A-III/5.

2 The minimum knowledge, understanding and proficiency required of an able seafarer engine serving on a seagoing ship powered by main propulsion machinery of 750 kW propulsion power or more is listed in column 2 of table A-III/5.

3 Every candidate for certification shall be required to provide evidence of having achieved the required standard of competence in accordance with the methods for demonstrating competence and the criteria for evaluating competence specified in columns 3 and 4 of table A-III/5.

Table A-III/5

Specification of minimum standard of competence for ratings as able seafarer engine in a manned engine-room or designated to perform duties in a periodically unmanned engine-room

Function: Marine engineering at the support level

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Contribute to a safe engineering watch	Ability to understand orders and to communicate with the officer of the watch in matters relevant to watchkeeping duties Procedures for the relief, maintenance and handover of a watch Information required to maintain a safe watch	Assessment of evidence obtained from in-service experience or practical test	Communications are clear and concise Maintenance, handover and relief of the watch is in conformity with acceptable practices and procedures
Contribute to the monitoring and controlling of an engine-room watch	Basic knowledge of the function and operation of main propulsion and auxiliary machinery Basic understanding of main propulsion and auxiliary machinery control pressures, temperatures and levels	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience; .2 approved training ship experience; or .3 practical test	The frequency and extent of monitoring of main propulsion and auxiliary machinery conforms with accepted principles and procedures Deviations from the norm are identified Unsafe conditions or potential hazards are promptly recognized, reported and rectified before work continues
Contribute to fuelling and oil transfer operations	Knowledge of the function and operation of fuel system and oil transfer operations, including: .1 preparations for fuelling and transfer operations .2 procedures for connecting and disconnecting fuelling and transfer hoses	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience	Transfer operations are carried out in accordance with established safety practices and equipment operating instructions The handling of dangerous, hazardous and harmful liquids complies with established safety practices Communications within the operator’s area of responsibility are consistently successful

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Contribute to fuelling and oil transfer operations (*continued*)	.3 procedures relating to incidents that may arise during fuelling or transferring operation .4 securing from fuelling and transfer operations .5 ability to correctly measure and report tank levels	Assessment of evidence obtained from practical demonstration	
Contribute to bilge and ballast operations	Knowledge of the safe function, operation and maintenance of the bilge and ballast systems, including: .1 reporting incidents associated with transfer operations .2 ability to correctly measure and report tank levels	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience Assessment of evidence obtained from practical demonstration	Operations and maintenance are carried out in accordance with established safety practices and equipment operating instructions and pollution of the marine environment is avoided Communications within the operator's area of responsibility are consistently successful
Contribute to the operation of equipment and machinery	Safe operation of equipment, including: .1 valves and pumps .2 hoists and lifting equipment .3 hatches, watertight doors, ports and related equipment Ability to use and understand basic crane, winch and hoist signals	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience Assessment of evidence obtained from practical demonstration	Operations are carried out in accordance with established safety practices and equipment operating instructions Communications within the operator's area of responsibility are consistently successful

Function: Electrical, electronic and control engineering at the support level

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Safe use of electrical equipment	Safe use and operation of electrical equipment, including: .1 safety precautions before commencing work or repair .2 isolation procedures .3 emergency procedures .4 different voltages on board Knowledge of the causes of electric shock and precautions to be observed to prevent shock	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience	Recognizes and reports electrical hazards and unsafe equipment Understands safe voltages for hand-held equipment Understands risks associated with high-voltage equipment and onboard work

Function: Maintenance and repair at the support level

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Contribute to shipboard maintenance and repair	Ability to use painting, lubrication and cleaning materials and equipment Ability to understand and execute routine maintenance and repair procedures Knowledge of surface preparation techniques Knowledge of safe disposal of waste materials Understanding manufacturer's safety guidelines and shipboard instructions	Assessment of evidence obtained from practical demonstration Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience	Maintenance activities are carried out in accordance with technical, safety and procedural specifications Selection and use of equipment and tools is appropriate

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Contribute to shipboard maintenance and repair (*continued*)	Knowledge of the application, maintenance and use of hand and power tools and measuring instruments and machine tools Knowledge of metalwork		

Function: Controlling the operation of the ship and care for persons on board at the support level

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Contribute to the handling of stores	Knowledge of procedures for safe handling, stowage and securing of stores	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience	Stores operations are carried out in accordance with established safety practices and equipment operating instructions The handling of dangerous, hazardous and harmful stores complies with established safety practices Communications within the operator's area of responsibility are consistently successful
Apply precautions and contribute to the prevention of pollution of the marine environment	Knowledge of the precautions to be taken to prevent pollution of the marine environment Knowledge of use and operation of anti-pollution equipment Knowledge of approved methods for disposal of marine pollutants	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience	Procedures designed to safeguard the marine environment are observed at all times

Column 1	Column 2	Column 3	Column 4
Competence	**Knowledge, understanding and proficiency**	**Methods for demonstrating competence**	**Criteria for evaluating competence**
Apply occupational health and safety procedures	Working knowledge of safe working practices and personal shipboard safety, including: .1 electrical safety .2 lockout/tag-out .3 mechanical safety .4 permit to work systems .5 working aloft .6 working in enclosed spaces .7 lifting techniques and methods of preventing back injury .8 chemical and biohazard safety .9 personal safety equipment	Assessment of evidence obtained from one or more of the following: .1 approved in-service experience .2 practical training .3 examination .4 approved training ship experience	Procedures designed to safeguard personnel and the ship are observed at all times Safe working practices are observed and appropriate safety and protective equipment is correctly used at all times

GUIDANCE REGARDING PROVISIONS OF THE ANNEX TO THE STCW CONVENTION PART B

Chapter I
Guidance regarding general provisions

Section B-I/6
Guidance regarding training and assessment

Qualifications of instructors and assessors

1 Each Party should ensure that instructors and assessors are appropriately qualified and experienced for the particular types and levels of training or assessment of competence of seafarers, as required under the Convention, in accordance with the guidelines in this section.

In-service training and assessment

2 Any person, on board or ashore, conducting in-service training of a seafarer intended to be used in qualifying for certification under the Convention should have received appropriate guidance in instructional techniques[*].

3 Any person responsible for the supervision of in-service training of a seafarer intended to be used in qualifying for certification under the Convention should have appropriate knowledge of instructional techniques and of training methods and practice.

4 Any person, on board or ashore, conducting an in-service assessment of the competence of a seafarer intended to be used in qualifying for certification under the Convention should have:

.1 received appropriate guidance in assessment methods and practice[*]; and

.2 gained practical assessment experience under the supervision and to the satisfaction of an experienced assessor.

5 Any person responsible for the supervision of the in-service assessment of competence of a seafarer intended to be used in qualifying for certification under the Convention should have a full understanding of the assessment system, assessment methods and practice[*].

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Section B-I/12
Guidance regarding the use of simulators

1 When simulators are being used for training or assessment of competency, the following guidelines should be taken into consideration in conducting any such training or assessment.

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Recommended performance standards for non-mandatory types of simulation

67 Performance standards for non-mandatory simulation equipment used for training and/or assessment of competence or demonstration of skills are set out hereunder. Such forms of simulation include, but are not limited to, the following types:

[*] The relevant IMO Model Course(s) may be of assistance in the preparation of courses.

.1 navigation and watchkeeping;

.2 ship handling and manoeuvring;

.3 cargo handling and stowage;

.4 reporting and radiocommunications; and

.5 main and auxiliary machinery operation.

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Main and auxiliary machinery operation simulation

73 Engine-room simulation equipment should be capable of simulating a main and auxiliary machinery system and incorporate facilities to:

.1 create a real-time environment for seagoing and harbour operations, with communication devices and simulation of appropriate main and auxiliary propulsion machinery equipment and control panels;

.2 simulate relevant sub-systems that should include, but not be restricted to, boiler, steering gear, electrical power general and distribution systems, including emergency power supplies, and fuel, cooling water, refrigeration, bilge and ballast systems;

.3 monitor and evaluate engine performance and remote sensing systems;

.4 simulate machinery malfunctions;

.5 allow for the variable external conditions to be changed so as to influence the simulated operations: weather, ship's draught, seawater and air temperatures;

.6 allow for instructor-controlled external conditions to be changed: deck steam, accommodation steam, deck air, ice conditions, deck cranes, heavy power, bow thrust, ship load;

.7 allow for instructor-controlled simulator dynamics to be changed: emergency run, process responses, ship responses; and

.8 provide a facility to isolate certain processes, such as speed, electrical system, diesel oil system, lubricating oil system, heavy oil system, seawater system, steam system, exhaust boiler and turbo generator, for performing specific training tasks.[*]

Chapter III
Guidance regarding the engine department

Section B-III/5
Guidance regarding the certification of ratings as able seafarer engine

Onboard training should be documented in an approved training record book.

[*] The relevant IMO Model Course(s) may be of assistance in the preparation of courses.