

MARINE SAFETY MANUAL

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CHAPTER 23: MANNING REQUIREMENTS FOR UNLICENSED CREWMEMBERS

A. Introduction.

There are no statutes that mandate specific numbers of unlicensed crewmembers on a U.S. merchant vessel. However, the minimum safe manning levels established by the Officer In Charge, Marine Inspection must appropriately account for the operational requirements of the vessels and the impact of laws, and international treaties, which may imply or indirectly require the assignment of unlicensed seamen to the crew.

B. Impact Of International Standards.

The International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW) and the International Convention for Safety Of Life At Sea (SOLAS), in combination, serve to impose particular requirements for unlicensed seamen.

1. STCW Requirements.

The U.S. became party to the STCW Convention on October 1, 1991. STCW applies to virtually all seagoing merchant vessels, except fishing vessels. The STCW standards parallel the U.S. regulations (46 CFR Part 10 and 12) regarding the qualification and training requirements for watchstanding personnel. (See chapter 24 for a more detailed discussion of watchkeeping requirements.)

a. Unlicensed Deck Department Personnel.

- (1) STCW regulation II/4 requires that any rating forming part of the navigational watch on a seagoing vessel of at least 200 gross tons must meet certain minimum qualification and certification requirements.
- (2) Unlicensed seafarers certificated as able seamen are deemed competent to perform the duties of any unlicensed member of the deck department. In this regard, reference is made to International Labor Organization Convention 74. Any U.S. documented able seaman is considered to be competent to serve as a rating within the navigational watchkeeping functions as allowed by 46 U.S.C. 7312 and 8702 without any further endorsement.
- (3) All other unlicensed seamen in the deck department assigned to navigational watchkeeping duties must provide evidence of such qualification in accordance with STCW Regulation II/4. Ordinary seamen who meet the requirements of a specially trained ordinary seamen by attaining a letter of qualification, special training and physical standards as provided in NVIC 3-83 are considered to meet STCW regulation II/4.
- (4) Any person assigned as person in command of survival craft must also possess a certificate of competency (e.g., lifeboatman).

b. Unlicensed Engine Department Personnel.

STCW Regulation III/4 establishes minimum qualification for ratings forming part of the engineering watch. Although certificates of competency are recommended for unlicensed engineering ratings, they are not required by the STCW convention until 1 FEB 2002. U.S. documented qualified members of the engine department (QMED)

holding endorsements for QMED-any rating, junior engineer, oiler, fireman/watertender, engineman or deck engine mechanic are considered to meet STCW regulation III/6 for engineering watchstanders.

2. SOLAS Requirements.

SOLAS Chapter V, Regulation 13 requires certain vessels engaged on international voyages to be "sufficiently and efficiently" manned and also requires a certificate of safe manning be issued by the flag-state. The U.S. Coast Guard certificate of inspection (COI) serves as the safe manning document for U.S. vessels.

a. Principles Of Safe Manning.

In establishing the safe manning level to assure a vessel is sufficiently and efficiently manned, SOLAS makes reference to International Maritime Organization Resolution A.481 that establishes the principles of safe manning and prescribes the form and content of the safe manning document.

b. Resolution A.481.

Resolution A.481 acknowledges that watchstanders should normally be divided into three watches; and that lookout and helmsman duties are separate. Where an engineering watch is assigned, it recommends that an officer and at least one unlicensed rating be assigned, unless there is a watch monitoring system (e.g., "dead man alarm") installed on the bridge.

C. Statutes Affecting Unlicensed Manning.

U.S. statutes affecting unlicensed seamen are consistent with international requirements. A number of statutory provisions affect working conditions and watchkeeping requirements for unlicensed seamen. Chapter 24 of this volume provides more detailed discussion of working provisions.

1. Merchant Mariner's Document (MMD) Requirement.

46 U.S.C. 8701 requires any individual serving on merchant vessels of at least 100 gross tons, except those specifically excluded, to possess an MMD authorizing service in the capacity for which the holder of the MMD is engaged or employed. For technical or industrial positions for which the Coast Guard does not require a particular credential, the seaman must possess an MMD endorsed for entry ratings. Certain vessels are exempted from some of the requirements by the statute. Refer to the statute for specific exemption limitations applicable to most fishing industry vessels, barges, yachts, sailing school vessels, oceanographic research vessels, and mobile offshore drilling units (MODU).

2. Crew Complement.

46 U.S.C. 8702 requires at least 75 percent of the crew in each department to be able to understand orders spoken by the officers. Additionally, 65 percent of the unlicensed deck crew must hold MMDs endorsed as able seaman; except vessels authorized to employ a 2-watch system may reduce the percentage to 50 percent.

3. Citizenship Requirements.

Although a foreign national, e.g., an alien lawfully admitted to the United States for permanent residence, may obtain an MMD, 46 U.S.C. 8103 imposes specific citizenship requirements for U.S. vessels that may significantly limit the number of aliens that may be employed on such vessels. (See chapter 20 for a more detailed discussion of the citizenship requirements.)

4. Seagoing And Great Lakes Merchant Ships Of More Than 100 Gross Tons.

Section 8104(d) provides that the unlicensed sailors, firemen, watertenders, oilers, and coal passers (e.g., wipers) on seagoing and Great Lakes vessels of more than 100 gross tons must be divided into at least three watches. Section 8104(g) modifies this requirement in that it allows a 2-watch system to be employed for the licensed individuals and unlicensed crewmembers in the deck department on towing vessels, OSVs, and barges engaged on voyages of less than 600 nautical miles.

5. Uninspected Towing Vessels.

46 U.S.C. 8104(h) provides that the licensed individuals on uninspected towing vessels may not work more than 12 hours in a consecutive 24-hour period except in an emergency. Sections 8104(a), (c), (d), (e), and (g) establish watchkeeping, workhour, and rest period rules for crews on seagoing and Great Lakes towing vessels. A towing vessel's unlicensed crew is not restricted by any of these laws from voluntarily working beyond 8 hours. Unlicensed seamen on inland towing vessels, other than the Great Lakes, that are on voyages of over 600 miles, have no specified workhour limit or watch schedule provided by statute. However, if the voyage is less than 600 miles, then 46 U.S.C. 8104(g) applies. Regardless of the route of the vessel, or work rules agreed to by crewmembers individually or through collective bargaining, the owner and master (or licensed operator) are required to provide an adequate and fit watch as per 46 CFR 15.610 and 15.705. Consequently, if the licensed or unlicensed individuals have no relief and are too fatigued to stand an alert watch, a hazardous condition is created and the owner and/or master should not permit the vessel to continue to operate until the situation is remedied. (See chapters 24 and 26 for further discussions.)

6. Fishing Industry Vessels.

Sections 8104(k), (l), (m), and (o) provide watchstanding requirements for the unlicensed deck crew on fishing industry vessels.

7. Tankers.

Section 8104(n) limits a licensed individual or seaman from working more than 15 hours in any 24-hour period. In effect, section 8104(n) imposes an average work limit of 12 hours in a 24-hour period for licensed individuals or seamen on tankers. Many tankers employ unlicensed personnel to assist in cargo handling responsibilities. These individuals should be included as part of the required manning on the COI if such crewmembers are required for safe cargo operations or are necessary to meet the workhour limits.

D. Deck Department Manning.

The deck department unlicensed crew for a seagoing vessel of at least 100 gross tons typically consists of able seamen and ordinary seamen. Inland vessels typically employ "deckhands" for similar functions.

1. Able Seamen And Ordinary Seamen.

The unlicensed deck crew on a seagoing vessel would normally consist of six able seamen and three ordinary seamen to meet operational requirements including watchstanding, cargo handling and vessel maintenance. The ordinary seamen may be eliminated from the required crew if the OCMI is satisfied with the installed crew watch call system, the messing and sanitary facilities provided in proximity to the navigation bridge, as well as the suitability of labor-saving deck equipment and mooring arrangements. Unrestricted ocean voyages continue to require at least six able seamen (or four able seamen and two specially trained ordinary seamen) in the crew complement to assure adequate watchkeeping.

2. Deckhands.

The number of deckhands assigned to inspected vessels shall normally be determined on the basis of operational requirements. (See chapter 21 for a detailed discussion of the factors influencing the number of deckhands on small passenger vessels.) The minimum number of deckhands employed on an uninspected vessel should be based on the operational requirements of the vessel, taking into account any watchstanding requirements for such crewmembers.

E. Engineering Department Manning.

The unlicensed engineering complement on a vessel is dependent on a number of factors (e.g., type of propulsion system, number of separate machinery spaces requiring monitoring of equipment, level of machinery automation, and maintenance requirements.

1. Motor Vessels.

Non-automated vessels powered by diesel, gasoline, or gas turbine engines would typically employ three to six oilers as qualified watchstanders depending on the complexity and arrangement of the machinery spaces.

2. Steam Vessels.

Non-automated steam vessels would typically assign at least one fireman/watertender on watch for each machinery space containing a boiler. In addition, an oiler and wiper would typically be assigned to each engine room watch depending on the complexity and arrangement of the machinery spaces.

3. Electric Propulsion.

An OCMI should consider the need for the assignment of a sufficient number of electricians for watchstanding or maintenance as part of the required manning for vessels that employ electric propulsion. This manning requirement should be in addition to the manning required for safe operation of the prime mover for generating electric propulsion power.

4. Automated Machinery.

Unlicensed engineering manning levels on an automated vessel will be based on an assessment of the automation system installed as detailed in 46 CFR Part 62 and NVICs 1-69, 7-73, 1-78, and 6-84. The unlicensed engineering crew may be completely eliminated depending on the capability and sophistication of the automation system. (Consult chapter 25 for detailed information concerning requests for manning reductions on such vessels.)

5. Other QMED Ratings.

The ratings of "deck engine mechanic," "engineman," or "junior engineer" are not normally required on the COI. The minimum manning requirements are prescribed by the OCMI in accordance with 46 CFR 15.801. However, if the owner, operator, or master of an automated or partially automated vessel requests that the vessel's complement include a deck engine mechanic or engineman, the COI will carry the requirement for "oilers" and a notation that "junior engineers, deck engine mechanics, or enginemen may be substituted for one or more oilers." [NOTE: Employment of these ratings as substitutes for oilers does not remove them from the watchstanding provisions of 46 U.S.C. 8104 and 46 CFR 15.705.]

F. Maintenance-Persons And Maintenance Departments.

1. Authority Citations.

46 U.S.C. 8101 and 8104, and 46 CFR 15.705.

2. Background.

OCMI authority for approving requests for changes in the required crew composition is contained in 46 CFR 15.501. This section states that the COI issued to an inspected vessel specifies the minimum complement of licensed individuals and crew considered necessary for the safe operation of the vessel. Among the factors to be considered by the OCMI in determining the minimum crew complement are: installed equipment, degree of automation, use of labor saving devices, and the organizational structure of the vessel. The establishment of a maintenance department and maintenance persons and the ability to delegate crewmembers to different areas, may provide the vessel's master the flexibility to use the crew more effectively while still ensuring that sufficient qualified personnel are carried for continued safe operation of a vessel. When permitted by the Certificate of Inspection, some of the individuals in a vessel's required crew complement may be engaged as maintenance-persons and assigned as deck maintenance-persons or engine maintenance-persons in their respective departments. These individuals would perform maintenance duties within the deck or engine department boundaries and are subject to the crossover prohibition of 46 U.S.C. 8104(e). If the vessel establishes an acceptable maintenance department, the mandated maintenance-persons will be assigned to the maintenance department and are then available as a ship's maintenance crew who are not subject to the crossover prohibition in 46 U.S.C. 8104(e). The required maintenance-persons shall hold appropriate qualified ratings (AB, QMED, etc.) so that they may be used by the vessel's master to augment navigational or machinery space watches should statutory or regulatory requirements come into effect or in an emergency situation. For those maintenance-persons not assigned to the maintenance department, watch

assignments would be governed by departmental affiliation, except under circumstances noted in 46 U.S.C. 8104(f). For maintenance-persons assigned to the maintenance department, watch augmentation will be based on individual qualifications. For example, an individual who holds both deck and engine qualifying ratings assigned to the maintenance department may be assigned to deck or engine watches at the discretion of the master. During periods in which these maintenance-persons are used to augment navigational or machinery space watches, they become part of the watch and are subject to requirements of 46 CFR 15.705.

3. Acceptance Of Crew Composition Adjustments.

If a vessel owner or operator requests the certificating OCMI to make crew composition adjustments to allow flexibility in the assignment of watchstanding personnel with the carriage of maintenance-persons, the OCMI should consider the following factors in determining the acceptability of the proposed adjustments:

a. Maintenance Plan.

Implement an acceptable maintenance plan. The OCMI should review the vessel's plan bearing in mind the proposed crew's ability to perform all duties within reasonable or required workhour limits.

b. Maintenance Department.

Implementation of a maintenance department on board the vessel; as appropriate.

c. Vessel's Equipment.

Nature and reliability of vessel equipment, labor saving devices, alarm systems, and automated systems, including autopilot steering capability. (See chapter 25; 46 CFR 15.715; and 46 CFR 62.)

d. Vessel's Design.

Vessel arrangement, including visibility from the pilothouse and steering position; (for permitting one AB bridge watch).

e. Call Systems.

Bridge and engine room call systems and whether they include the quarters of maintenance-persons who may be required to augment watches.

f. Station Bill.

Inclusion of the term maintenance-person on the vessel's station bill and muster lists.

g. Master's Responsibilities.

Existence of a vessel operations manual or similar company directives that describe in detail the master's responsibilities regarding the establishment of adequate watches and discretion to utilize appropriately qualified personnel when circumstances require watch augmentation; conditions under which the watch(es) will be augmented including emphasis on keeping a proper lookout; and, the principles contained in the following as they relate to duties, responsibilities, and composition of watches: 46 CFR 15.705 and 46 U.S.C. 8104 (Watches), 46 U.S.C. 8702(d) (AB at the helm),

SOLAS Chapter V, Regulation 19 (Automatic pilot), 46 CFR 15.850 and Rule 5 of the Navigation Rules (Lookout) and Subchapter P of Title 33, Code of Federal Regulations (Ports and Waterways Safety).

h. Qualifications Of Personnel.

Qualifications of the maintenance-persons for proper performance of their duties, including watchstanding. Any request for a reduction in the number of crewmembers based either on automation or the installation of labor saving devices should be approved by Commandant (G-MOC). (Consult chapter 23 for detailed information concerning procedures on requests for manning reductions.)

4. COI Sample Endorsements.

a. Deck And Engine Maintenance-Person Endorsements.

If the OCMI is satisfied that adjustments can be made in the required crew composition by the inclusion of deck and/or engine maintenance-persons, the following is representative of the entry to be placed on the vessel's COI:

3 Able Seamen

*3 Deck Maintenance-persons

**3 Engine Maintenance-persons

* Deck maintenance-persons must hold Able Seaman endorsements.

** Engine maintenance-persons must hold QMED endorsement as junior engineer, deck engine mechanic, oiler or engineman.

b. Maintenance Department Endorsement.

If the OCMI is satisfied that adjustments can be made in the required crew composition by the inclusion of maintenance-persons who are assigned to an approved maintenance department, the following is representative of the entry to be placed on an automated vessel's COI where the vessel has been found suitable for minimally attended or periodically unattended machinery operation, and equipped with deck labor-saving devices:

3 Able Seamen

*6 Maintenance-persons

"The above manning is contingent upon the utilization of a maintenance department as indicated in the vessel's operating manual. Any substantial change in the operation of this department must, prior to implementation, be reported to the OCMI who issued the vessel's Certificate of Inspection."

*At least three of the required maintenance-persons must hold endorsements as able seamen, except that up to two of these may be qualified as specially trained ordinary seamen in lieu of holding able seaman endorsements. Three Maintenance-persons must each hold a QMED endorsement as junior engineer, deck engine mechanic, oiler, or engineman

The above endorsements would be affixed in addition to any automation endorsement specified by chapter 25 of this volume.

