

MARINE SAFETY MANUAL

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CHAPTER 20: GENERAL PROVISIONS FOR VESSEL MANNING

- A. Introduction. Chapters 20-26 have been structured to interlink various elements affecting the safe manning and watchkeeping on U.S. vessels and should be referenced comprehensively. This Chapter contains guidance for correct, uniform application of the statutes and regulations that relate to the manning of inspected and uninspected vessels. This material is used by Coast Guard marine safety personnel to determine vessel manning scales, in conjunction with the applicable manning laws, regulations, and official directives. Chapter 21 is intended to assist in the translation of the various statutes, regulations, court decisions, and practices into minimum manning requirements by presenting sample manning scales for both general and specific classes of inspected vessels. Chapter 22 provides supplementary guidance on the manning requirements for credentialed officers and licensed individuals, as well as a detailed discussion on the impact of various international standards. Similarly, Chapter 23 contains supplemental guidance on the impact of laws and international treaties, which may imply or indirectly require the assignment of unlicensed seamen and ratings to the crew. Chapter 24 outlines various watchstanding requirements and shipboard working conditions relevant to U.S. vessels. Chapter 25 discusses the acceptance of automated systems to replace specific personnel or to reduce overall crew requirements. Chapter 26 discusses the statutes and regulations that apply to the uninspected vessel industry.

Unless specified otherwise, the term “credential” used throughout Chapters 20-26 of this Volume includes legacy merchant mariner licenses (MML), merchant mariner documents (MMD), certificates of registry (COR), and STCW certificates which will cease to exist on April 9, 2014. For the purposes of these Chapters the terms credentialed master, mate, engineer, and operator mean an officer endorsement as prescribed in 46 CFR Part 11. Unless expressly stated otherwise, the terms rating and crew member pertain to endorsements as prescribed in 46 CFR Part 12.

B. Authority.

1. Statutes And Implementing Regulations.

- a. Division of crew into watches: 46 U.S.C. 8104; 46 CFR 15.705.
- b. Workhours and rest periods: 46 U.S.C. 8104; 46 CFR 15.1111; 46 CFR 15.710.
- c. Able seamen: 46 U.S.C. 7306-7312 and 8702; 46 CFR 15.1103; 46 CFR 15.840.
- d. Lifeboatmen: 46 U.S.C. 7316 and 8101; 46 CFR 15.845 and 199.100.
- e. Mates: 46 U.S.C. 7102 and 8301; 46 CFR 15.1103; 46 CFR 15.810.
- f. Masters: 46 U.S.C. 7102 and 8301; 46 CFR 15.1103; 46 CFR 15.805.
- g. Radar observers: 46 CFR 15.815.
- h. Chief engineers: 46 U.S.C. 7102 and 8101; 46 CFR 15.1103; 46 CFR 15.820.
- i. Engineers: 46 U.S.C. 7102, 8101 and 8301; 46 CFR 15.1103; 46 CFR 15.825.
- j. Pilots: 46 U.S.C. 7101, 8101 and 8502; 46 CFR 15.812.

- k. Lookouts: 46 CFR 15.850.
- l. Fire patrolmen and cabin watchmen: 46 U.S.C. 8102; 46 CFR 15.855 and 78.30.
- m. Radio officer/radiotelegraph operator watches: 46 U.S.C. 7101-7103, 7318 and 8101; 46 CFR 15.1103; 46 CFR 15.830.
- n. GMDSS Operator(s) and GMDSS Maintenance: [46 CFR 15.817](#); 47 CFR 80.1073 and 80.1074.
- o. Tankermen: 46 U.S.C. 3703, 7317, 8703, 9101 and 9102; 33 CFR 155.710; 46 CFR 31.15 and 15.860.
- p. Operators: 46 U.S.C. 8104(h), 8903 and 8904; 46 CFR 15.601, 15.605, 15.610 and 15.705.
- q. Staff officers: 46 U.S.C. 7101, 7102 and 8302; 46 CFR 15.835.
- r. Qualified members of the engineering department (QMEDs): 46 U.S.C. 7313 and 7314; 46 CFR 15.1103.
- s. Ordinary seamen: 46 U.S.C. 8702; 46 CFR 12.25-10 and 15.840.
- t. Crew citizenship: 46 U.S.C. 8103 and [12131](#); 46 CFR 15.720.

The Secretary of the Department of [Homeland Security \(Secretary\)](#) has authorized the Commandant to perform the functions required of the [Secretary](#) by these laws. This authority has been further delegated in Part 1 of Titles 33 and 46, Code of Federal Regulations (CFR), this manual, and instructions issued to marine safety personnel.

2. General Manning Authority.

The general regulations for manning of vessels are contained in 46 CFR 15 (Subchapter B, Merchant Marine Officers and Seamen). [Requirements concerning certificated lifeboatmen, fire patrolmen, and other vessel specific manning standards are detailed in the parts of the regulations dealing with the inspection of that particular type of vessel.](#) The general manning and crewing requirements for vessels and facilities operating on the U.S. Outer Continental Shelf are contained in Part 141 of Title 33 (Subchapter N, Outer Continental Shelf Activities).

C. Responsibility Of The Officer In Charge, Marine Inspection (OCMI).

Under 33 CFR 1.01-20, the OCMI is responsible for the enforcement of vessel inspection, navigation, and seamen's laws within a specific zone. In this capacity, the OCMI is responsible for establishing manning levels for various types of vessels. The Certificate of Inspection (COI), Form CG-841, states the minimum number of [credentialed](#) officers and crewmembers necessary for the safe operation of inspected vessels, as required by 46 U.S.C. 8101 and 46 CFR 15.501. Also, many uninspected U.S. merchant vessels are subject to the manning requirements of 46 U.S.C. 8103, 8104, 8304, 8701-8703, 8903 and 8904. The International Convention for the Safety of Life At Sea (SOLAS), Chapter V, Regulation [14](#) requires each vessel to which SOLAS Chapter I applies to be issued a "Safe Manning Document." [Refer to Chapter 22 for a more detailed discussion on Safe Manning Documents for inspected and uninspected vessels.](#)

1. In establishing the safe manning level for a certificated vessel, the OCMI should consider the following factors, in addition to statutory and regulatory requirements:
 - a. Size of the vessel;
 - b. Route;
 - c. Hull and equipment maintenance needs (protective coatings, cargo gear, equipment sophistication, etc.);
 - d. Type and horsepower of propulsion machinery;
 - e. Maintenance of machinery and equipment;
 - f. Degree of automation of deck and engine room equipment;
 - g. Type of cargo;
 - h. Cargo transfer system;
 - i. Fire protection systems (crew operational requirements);
 - j. General arrangement of vessel equipment as it relates to crew operational requirements;
 - k. Lifesaving equipment
 - l. Level of qualification of each crew position to perform tasks demanded by the vessel's mission;
 - m. Number of passengers carried;
 - n. Hazards peculiar to route and service;
 - o. Hours of operation within a 24-hour period;
 - p. Successful operation of similar vessels;
 - q. Reasonable work/rest hour limits;
 - r. The existing safety record of the vessel; and
 - s. International Maritime Organization guidelines (IMO Resolution A.1047(27), entitled “Principles of Minimum Safe Manning”) and other international standards, as applicable (See paragraph C.2. below).

2. In addition to the factors above, for vessels on international voyages the OCMI should take proper account of existing international (IMO, ILO, ITU, and WHO) instruments in force and any applicable coastal state agreements (i.e. MOU/MOA) which deal with:
 - a. Watchkeeping;
 - b. Hours of work or rest;
 - c. Safety Management;
 - d. Certification of seafarers;
 - e. Training of seafarers;
 - f. Occupational safety, health, and hygiene;
 - g. Crew accommodations and food;
 - h. Security; and
 - i. Radio communications.

The international instruments pertaining to these factors are discussed in greater detail throughout Chapters 20-26 of this Volume.

D. Determining Minimum Manning (Manning Proposal).

In establishing minimum manning required for safe operation, in addition to mandated levels of manning for safe navigation, the OCMI should also consider other vessel operations, such as cargo handling, emergency evolutions, and preventive maintenance. The sample manning scales in Chapters 21 and 26 have been provided as guidance. The OCMI is not compelled to assign manning levels according to the sample scales presented, as they are neither mandatory, nor all inclusive. To supplement a manning request or when alternatives to the sample manning scales are sought, the cognizant OCMI should request the company responsible for the operation of the vessel to prepare and submit its proposal for the minimum safe manning of that vessel. In preparing a proposal for the minimum safe manning of a vessel on an international voyage, the company should apply the principles, recommendations and guidelines contained in IMO Assembly Resolution A.1047(27). The company should;

1. Make an assessment of the tasks, duties and responsibilities of the vessel's complement required for its safe operation, security, protection of the marine environment, and for dealing with emergency situations;
2. Ensure that fitness-for-duty provisions and work/rest hour requirements are considered;
3. Make an assessment of numbers and grades/capacities in the vessel's complement required for its safe operation, security, protection of the marine environment, and for dealing with emergency situations. The STCW Manning Reference Tables in Chapter 21 provide guidance on the numbers of credentialed deck and engineer officers appropriate for different sizes of vessels (tonnage), trading areas, and aggregate propulsion power;
4. Prepare and submit to the cognizant OCMI a proposal for the minimum safe manning based upon the above assessment. The proposal should include how the vessel's complement will deal with emergency situations, including the evacuation of passengers, where necessary. Owners/operators are encouraged to prepare and submit completed sample tables of duties and rest logs to conceptually facilitate the OCMI's evaluation of the manning proposal. In many cases these samples can be modeled after similarly operated U.S. flagged vessels within a company's management;
5. Ensure that the proposed minimum safe manning is adequate at all times and in all respects, including meeting peak workload situations, conditions and requirements, and for vessels on international voyages, is in accordance with the principles, recommendations and guidelines contained in IMO Assembly Resolution A.1047(27); and
6. Prepare and submit to the cognizant OCMI a new proposal for the minimum safe manning of a vessel in the case of changes in trading area(s), construction, machinery, equipment, operation and maintenance or management of the vessel, which may affect the safe manning. Title 46 CFR 15.505 requires that all requests for changes in manning as indicated on the COI, Safe Manning Document (SMD), or Safe Manning Letter (SML) must be made to the OCMI who last issued the COI or SMD/SML, unless the request is

made in conjunction with an inspection for certification, in which case the request should be addressed to the OCMI conducting the inspection.

E. Proposal Evaluation.

1. The OCMI should evaluate a company's proposal for minimum safe manning and ensure that:
 - a. The proposed vessel's complement contains the number and grades/capacities of personnel to fulfill the tasks, duties and responsibilities required for the safe operation of the vessel, for its security, protection of the marine environment, and for dealing with emergency situations; and
 - b. The master, officers and other members of the vessel's complement are not required to work more hours than is safe in relation to the performance of their duties and the safety of the vessel, and that the requirements for work and rest hours, in accordance with applicable international and national regulations, can be complied with.
2. If the company's proposal is determined to be insufficient, the OCMI should respond providing justification and outline manning levels that are considered acceptable. This may include requesting an amended minimum safe manning proposal.
3. The OCMI should only approve a proposal for the minimum safe manning of a vessel and issue a COI or SMD/SML if he/she is fully satisfied that the proposed vessel's complement is established in accordance with the principles, recommendations and guidelines contained herein, and is adequate in all respects for the safe operation and security of the vessel and for the protection of the marine environment.
4. The cognizant OCMI may suspend, revoke, or amend the COI or SMD/SML of a vessel if:
 - a. The company fails to submit a new proposal for the vessel's minimum safe manning when changes in trading area(s), construction, machinery, equipment or operation and maintenance of the vessel have taken place which affects the minimum safe manning; or
 - b. The vessel is found not in compliance with its COI or SMD/SML (see 46 U.S.C. 3313).
5. The cognizant OCMI should review and may withdraw, as appropriate, the COI or SMD/SML of a vessel which persistently fails to be in compliance with rest hours requirements.
6. Unless expressly provided for under law or regulation, the OCMI should consider the circumstances very carefully before allowing a COI or SMD/SML to contain provisions

for less than three qualified officers in charge of a navigational watch, while taking into account all the principles for establishing safe manning as applicable.

F. U.S. Coast Guard Oversight.

See paragraph K.3 of this Chapter as well as Chapter 24 of this volume for additional information.

G. Administration Of Manning Scales.

When a vessel is certificated in one zone for operation in another, the development of the vessel's manning scale should be coordinated between both OCMI's, to avoid misunderstandings later. Manning of special or unique vessels shall be coordinated with Commandant (CG-CVC). Consult Volume I of this manual concerning waivers and appeals of manning requirements. In accordance with 46 CFR 15.510, any person directly affected by a decision or action taken under Part 15, by or on behalf of the Coast Guard, may appeal in accordance with 46 CFR 1.03.

H. Citizenship Requirements For Credentialed Seamen On U.S. Documented Vessels And Foreign Vessels Within U.S. Jurisdiction.

1. Definition Of Seaman.

In general, the term "seaman" is interpreted broadly by the Coast Guard to mean any individual engaged or employed in the business of a vessel or a person whose efforts contribute to accomplishing the vessel's business, whether that person is involved with operation of the vessel. This interpretation is consistent with expressions of congressional intent, and with judicial opinions regarding the use of the term "seaman" throughout Title 46 of the U.S. Code.

- a. A crewmember may be a seaman although he or she is not occupying a position required by the Certificate of Inspection. However, persons who are on board the vessel in a capacity other than as crewmembers are considered passengers and are not subject to the citizenship requirements; except if the person is filling a position that is designated as a "person in addition to the crew".
- b. Under normal conditions, the Coast Guard does not consider a person who is briefly visiting the vessel in a consulting capacity (e.g., a vendor's technical representative) to be a crewmember. Similarly, the Coast Guard does not apply citizenship requirements to shoreside personnel who come on board vessels while they are not underway to load or unload cargo or to perform services such as maintenance of shipboard equipment. However, under most circumstances, individuals being compensated for performing their jobs while the vessel is underway are considered seamen for the purpose of applying citizenship requirements. Waiters, entertainers, industrial personnel, oil recovery workers, riding maintenance crews, and others employed in the business of the vessel are considered seamen.

- c. The actual details of a particular situation will determine whether in fact the individual in question is a seaman for the purpose of 46 U.S.C. 8103.

2. General Citizenship Requirements.

46 U.S.C. 8103(a) states that only a citizen of the United States may serve as master, chief engineer, radio officer, or officer in charge of a deck or engineering watch on a vessel documented in the United States. Section 8103(b) further states that each unlicensed seaman must be a citizen of the United States or an alien lawfully admitted to the United States for permanent residence, and not more than 25 per cent of the total number of unlicensed seamen on the vessel may be permanent resident aliens. 43 U.S.C. 1356 also imposes U.S. citizenship requirements on U.S. vessels and certain foreign vessels engaged in Outer Continental Shelf (OCS) activities on waters above our OCS.

a. 46 U.S.C. 8103 Exemptions.

Yachts, fishing vessels fishing exclusively for highly migratory species, and fishing vessels fishing outside the exclusive economic zone of the United States are specifically exempted from the unlicensed seaman citizenship requirements. Except for the master, any unlicensed persons serving aboard such vessels do not have to be U.S. citizens. 46 U.S.C. [12131](#) provides that a documented vessel may be placed under the command only of a citizen of the United States, even if the individual is unlicensed. (See [20.H.4.](#) or Chapter 26 of this volume for further discussion.)

b. 43 U.S.C. 1356 Exemptions.

U.S. citizenship requirements in 33 CFR 141 do not apply to a foreign owned and controlled units operating on the OCS. To be considered foreign-owned and foreign-controlled, a unit must be more than 50 percent owned and controlled by a foreign citizen(s) or entity. However, U.S. citizenship requirements may be imposed if the President determines that the vessel's flag country, or the nation that the owners or charters are citizens of or incorporated within, are discriminating against American vessels by excluding U.S. citizens and resident aliens from U.S. vessels engaged in offshore activities off of its shore.

It is recommended that applicants for these exemptions consult 33 CFR 141 prior to submitting an exemption request.

(1) Provisions For Bareboat Chartered Vessels.

Ownership and control of an OCS unit can be significantly altered by bareboat charter. (e.g. [the owner/operator of a](#) foreign vessel bareboat chartered to a U.S. citizen or corporation must employ U.S. citizens/[resident aliens](#). Or if a foreign-flagged, American owned vessel is under a long term bareboat charter to a foreign citizen or corporation, it may be [eligible for](#) an exemption. (See section [20.H.5.c](#) of this Chapter for additional guidance.)) Refer questions involving bareboat charter to Commandant ([CG-CVC](#)).

3. Subsidy Vessels.

Citizenship requirements for U.S. vessels for which a construction or operating differential subsidy has been granted are stated in 46 U.S.C. 8103(c) and (d).

4. Commercial Fishing Vessels.

The citizenship requirements applicable to fishing industry vessels are based on the specific class of vessel and its area of operation.

a. Within U.S. Exclusive Economic Zone (EEZ).

46 U.S.C. 8103(i) provides that each unlicensed seaman on board a U.S. flagged commercial fishing, fish processing or fish tender vessel that is engaged in the fisheries in the navigable waters of the United States or within the EEZ must be:

(1) a citizen of the U.S.;

(2) an alien admitted to the U.S. for permanent residence;

(3) any other alien allowed to be employed under the Immigration and Nationality Act 8 U.S.C. 1101 et seq; or

(4) an alien allowed to be employed under the immigration laws of the Commonwealth of the Northern Mariana Islands if the vessel is permanently stationed at a port within the Commonwealth and the vessel is engaged in the fisheries within the exclusive economic zone surrounding the Commonwealth or another United States territory or possession.

This provision allows 100% of the unlicensed seamen employed on such vessels operating within our EEZ to be resident aliens. However, not more than 25% of the unlicensed seamen on each vessel may be non-resident aliens identified in subparagraph 20.H.4.a.(3) above. (As noted previously in paragraph 20.H.2.a, a fishing vessel fishing exclusively for highly migratory species is exempt from these requirements.)

b. Outside U.S. EEZ.

A fish processing vessel and fish tender vessel operating outside the U.S. EEZ must meet the more stringent citizenship requirements of 46 U.S.C. 8103(b). A combination catcher/processor is considered a fish processing vessel unless it engages exclusively in fishing without processing any catch. A fishing vessel fishing outside the EEZ is exempt from the citizenship requirements for unlicensed seamen. (See Chapter 26 of this volume for more information.)

c. Distant Water Tuna Fleet.

The Coast Guard and Marine Transportation Act (CGMTA) of 2006 (Pub. L. 109-241, Sec. 421), as amended by the 2010 Coast Guard Authorization Act (CGAA, Pub. L. 111-281, Sec. 904) and the Coast Guard and Maritime Transportation Act of 2012 (Pub. L. 109-241, Sec. 701), specifies the requirements, restrictions and limitations for a foreign citizen manning exemption on Distant Water Tuna Fleet (DWTF) purse seine fishing vessels licensed to fish under the 1987 South Pacific Tuna Treaty

(SPTT). Owners/operators of these vessels should provide documentation, in accordance with the established Commandant (CG-CVC) procedure, to validate and receive a determination for credential equivalency and foreign citizen manning exemption applicable to their vessel. Those vessels that are found to satisfy the requirements and provisions of the CGMTA 2006, as amended, will receive a foreign citizen manning exemption letter from the Coast Guard, authorizing the use of foreign citizens to meet U.S. manning requirements (excluding the master).

5. Waivers.

46 U.S.C. 8103(b)(3) authorizes the Secretary to waive a citizenship requirement, other than the requirement that applies to the master of a documented vessel, with respect to an offshore supply vessel or other similarly engaged vessel that operates from a foreign port; a mobile offshore drilling unit or other vessel engaged in support of exploration, exploitation, or production of offshore mineral energy resources operating beyond the waters above the U.S. OCS; and any other vessels if the Secretary determines, after investigation, that qualified seamen who are citizens of the United States are not available. Under the Act of December 27, 1950, (46 App. U.S.C. 1 note; 64 Stat. 1120), "An Act to authorize the waiver of the navigation and vessel-inspection laws" the Coast Guard is directed to waive compliance of the navigation and vessel-inspection laws upon the request of the Secretary of Defense, to the extent deemed necessary in the interest of national defense by the Secretary of Defense. 43 U.S.C. 1356 authorizes "exemptions" from citizenship requirements for vessels operating on waters above the U.S. OCS.

a. Offshore Supply Vessels (OSV) And Mobile Offshore Drilling Units (MODU).

46 U.S.C. 8103(b)(3)(A) and (B) as implemented by 46 CFR 15.720, authorize OSVs operating from foreign ports and MODUs operating beyond the waters above the U.S. OCS, to employ over 25% of crew as aliens lawfully admitted for permanent residence. As noted below, this general waiver does not apply if the OSV or MODU, though it has departed from a foreign port, engages in operations on the U.S. OCS. In these cases, the vessel may be subject to the separate citizenship requirements of the Outer Continental Shelf Lands Act, 43 U.S.C. 1356(c). (See subparagraph 20.H.5.e.(1) below, 33 CFR 141, and NVIC 7-84 for guidelines on exceptions from OCS citizenship requirements and procedures relating to waivers from these requirements.)

(1) This waiver was necessary to allow the described vessels to operate in areas subject to foreign jurisdiction, not necessarily for global circumnavigation, where local citizenship requirements may apply and where the recruitment of U.S. citizens may be impractical. Due to the limited possibilities for employment of non-U.S. credentialed officers in most segments of the maritime industry, the U.S. has not entered into agreements with other Parties that would allow the endorsement of certificates issued in accordance with the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), as amended. In consideration of this conflict and until such a time that the U.S. fully implements STCW Regulation I/10, owners/operators of

vessels subject to 46 CFR 15.720(b) may request that the Cognizant OCMI add the following regional endorsement to the COI;

“When operating within [insert geographical region], foreign nationals with valid STCW certificates, issued by a country deemed by the IMO to be giving full and complete effect to the STCW Convention, as amended, may serve as an officer without additional endorsement, provided the master adheres to Title 46, Code of Federal Regulations (CFR) 15.720(d). The master of the vessel must be a U.S. citizen, duly certificated by the United States.

This endorsement establishes conformity with the safe manning requirements of the United States pertaining to 46 CFR 15.720(b) in full consideration of the guiding principles for Port State Control (Appendix 11, IMO Resolution 1052(27), as revised).”

Failure to comply with the COI will constitute a violation of 46 CFR 15.515. While operating within the terms of this endorsement, the Master should pay due regard to paragraphs (2) and (3) below.

- (2) Vessel owners/operators should be cognizant of the citizenship waiver limitations for vessels returning to the U.S. after operating from a foreign port. The citizenship waiver found in 46 CFR 15.720(b)(1) applies only to OSVs operating from a foreign port. While it is beyond the scope of this guidance to describe every situation that constitutes "operating from a foreign port," any voyage that begins, terminates or includes intermediate port calls at a U.S. port or place is not considered "operating from a foreign port." The citizenship waivers in 46 CFR 15.720(b) do not apply to any vessel operating in the waters above the U.S. OCS. See 46 CFR 15.720(c). The term "operating" in that subsection is not limited solely to resource exploration or exploitation activities but includes field or ocean transits. Subject vessels must be manned with a crew that is fully compliant with the U.S. citizenship, credentialing, and Transportation Worker Identification Credential (TWIC) requirements.
- (3) 46 CFR 15.720(d) requires the master to assure that any replacements of crewmembers by non-U.S. citizens be with an individual who holds a credential that is equivalent in experience, training, and other qualifications to the U.S. credential required for the position. The master of the vessel should ensure that the mariner's qualifications as stated on his or her STCW endorsement are equivalent or superior to the license qualifications required by the vessel's COI. Operators of vessels required to comply with the provisions of SOLAS Chapter IX are reminded that, in accordance with clause 6.2 of the ISM Code, it is the responsibility of the Company to "ensure that each vessel is manned with qualified, certificated and medically fit seafarers in accordance with national and international standards."

- b. Other Vessels Engaged In OCS Activities.
The above general waiver only applies to OSVs and MODUs. Vessels of less than 1,600 gross tons, which are not OSVs, but are "similarly engaged" and operated from a foreign port; and vessels which are not MODUs, but are nonetheless engaged in support of exploration, exploitation or production of offshore energy resources beyond the waters above the U.S. OCS must apply to Commandant ([CG-CVC](#)) for an individual waiver. [For additional clarification on tonnage applicability see Chapter 21, paragraph A.2.](#)
- c. Miscellaneous Vessel Types.
Vessel operators of any other vessel may apply for a waiver under subsection 8103(b)(3)(C) when "qualified seamen who are citizens of the United States are not available." Due to the availability of U.S. merchant mariners, requests for waivers under this section are rare. These requests usually must be supported by Department of Labor (DOL) certifications that qualified citizens cannot be found for the identified positions.
- d. Commercial Fishing Vessels.
[Section 8103\(i\) of title 46 U.S.C. allows 100% of the unlicensed seamen on commercial fishing vessels operating inside the U.S. EEZ to be permanent resident aliens.](#) There is no waiver of citizenship requirements necessary [for](#) such vessels. [Commercial fishing vessels operating inside the U.S. EEZ wishing to employ more than 25% of the unlicensed crew who are non-resident aliens \(Section 8103\(i\)\(2\)\) should request a waiver as discussed in paragraph 20.H.5.c.](#) Also, fish processing vessels and fish tender vessels operating outside the EEZ are required to [meet](#) the statutory requirements of Section 8103(b) and may request a waiver in the same way as discussed in paragraph [20.H.5.c.](#)
- e. OCS Citizenship "Exemptions" (Waivers).
43 U.S.C. 1356 and 33 CFR 141 provide three individual classes of exemptions for vessels and other units (including facilities, rigs, platforms or structures), engaged in OCS activities in waters above the United States OCS.
- (1) U.S. Controlled Or Owned Vessels/Units.
A temporary exemption may be granted to U.S. controlled or owned vessels/units if there are not a sufficient number of U.S. citizens or resident aliens qualified and available for work. Congress has made the Coast Guard the agency responsible for accepting such waiver requests and granting such waivers if no U.S. citizens or resident aliens can be located for employment. (Refer to NVIC 7-84 for guidelines on exceptions from OCS citizenship requirements and procedures relating to waivers from these requirements.)
- (2) National Registry Manning Requirement.
A foreign-flag, American-owned vessel/unit may receive an exemption for the marine crew from the citizenship requirements if the flag country of the vessel

had a national registry manning requirement in effect before 18 September 1978 that required the flag country's nationals aboard vessels/units flying its flag. Also, contractual agreements made on an individual basis for a specific vessel may warrant the issuance of an exemption if such agreements were in effect before 18 September 1978.

(3) Presidential Declaration.

The President of the United States may grant an exemption for any position aboard a vessel if he determines that employment of American citizens or resident aliens would not be consistent with the national interest. This exemption would potentially be applied to address a national emergency or circumstances involving special foreign policy implications.

6. Enforcement.

Whenever a question arises as to whether or not a particular individual is properly documented as a permanent resident alien or other alien allowed to work, the Coast Guard officer should consult with local officials of the [USCIS](#). Coast Guard units that are normally involved in enforcement of laws relating to fisheries should establish contact with the local INS office to discuss how questions concerning aliens will be addressed when they arise.

I. Crew Vacancies And "Sailing Short." (see [46 CFR 15.725](#))

1. Introduction.

46 U.S.C. 8101(e) permits a master to "sail short," e.g., without meeting the manning requirements stated on the COI, under certain unusual circumstances. At the outset of a voyage a vessel should "possess" the complement of [credentialed officers](#) and [crewmembers](#) stipulated on the COI. The Shipping Articles, Form CG-705A, if required, would provide acceptable evidence of this. When vacancies occur at or after the time the crew is required to be aboard as specified in the Shipping Articles, the vessel may sail short, provided the vacancy was without the consent, fault, or collusion of the master, owner, or any other person interested in the vessel, and the master has made a conscientious effort to find a qualified replacement. In addition, the master must be satisfied that the vessel is safe to make the intended voyage.

2. Restrictions.

Convenience-type discharges, vacation time granted in accordance with collective bargaining agreements, etc., are considered "consent" actions and, therefore, not appropriate reasons for sailing short. Desertion, failure to join, hospitalization, etc., are considered "no consent" cases and, may be grounds for sailing short if the master considers the remaining complement sufficient. However, at each port or place called at during the voyage (including the port of departure), the master has an obligation to obtain qualified replacements if they are available. The master need not obtain permission to sail short, but must report the situation in writing within 12 hours of arrival at the port of destination. The master's decision to sail short is subject to the OCMI's review and appropriate administrative action should be taken if warranted (see the Commandant's

Decisions on Appeal, Nos. 2136 (Dillon) and 2172 (Chapman)). [NOTE: The difference between the sailing-short provision and a national defense waiver is based upon timing and purpose. The waiver is a shortage sanctioned for national defense considerations, and is obtained before the voyage. Sailing short is based solely on the master's judgment, and is the subject of an after-the-fact report, and is not based on national defense considerations.]

3. Filling Vacancies With Foreign Crewmembers.

46 U.S.C. 8103(e) provides that if a documented vessel is "deprived for any reason of the services of an individual (except the master and the radio officer)" while on a foreign voyage, the resulting vacancy can be filled with an individual not a citizen of the United States "until the vessel's return to a port at which in the most expeditious manner a replacement who is a citizen of the United States can be obtained." The non-U.S. citizen crewmember should hold an equivalent certificate of competency appropriate for the position being filled. The vessel would be expected to replace the non-U.S. citizen crewmember at any subsequent port call where a qualified U.S. citizen could be dispatched to meet the vessel. Operators are reminded that, whenever a vessel is deprived of the service of a member of its complement and the master or person in charge is unable to find appropriately credentialed personnel to man the vessel, a report of sailing short must be filed in writing with the Officer in Charge, Marine Inspection (OCMI) having cognizance for inspection in the area in which the vessel is operating, or the OCMI within whose jurisdiction the voyage is completed. See 46 CFR 15.725.

J. Maintenance Department.

1. Background.

In recent years, labor-saving devices and operational innovations have been introduced on merchant vessels that permit adjustments in the composition of the minimum crews required by the Coast Guard. These adjustments 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. Such adjustments may include maintenance-persons within the deck and engineering departments, or through the formation of a maintenance department. Personnel so assigned would perform duties on a regular work day basis, and would not be considered members of an established watch, as defined in 46 CFR 15.705.

2. Manning Factors.

The OCMI's authority for approving requests for changes in the required crew composition is contained in 46 CFR 15.501 and 46 U.S.C. 8101. These sections state 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, workhour limits, and the organizational structure of the vessel.

3. Crossover Between Deck And Engine Departments.

A modern vessel with a traditional deck/engine department organization may typically require 6 ABs and 3 QMEDs. When permitted by the COI, some of the individuals in a vessel's required crew complement may be engaged as maintenance-persons (deck or

engine). All personnel so designated will hold ratings as AB for deck maintenance-person or an appropriate rating for engine maintenance-person. Deck or engine personnel assigned to their respective departments are subject to the crossover prohibition of 46 U.S.C. 8104(e). If the vessel establishes an acceptable maintenance department, the persons assigned to the maintenance department are available as a vessel's maintenance crew and are not subject to the crossover prohibition. These personnel may then be employed in a manner best satisfying the vessel's needs that is left to the discretion of the vessel master provided the master operates the vessel in accordance with the approved automation plan. Vessels reorganized with a maintenance department or maintenance-persons assigned to deck and engine departments would normally require unlicensed manning including 3 ABs in the deck department, and at least 5 maintenance-persons. (See Chapter 23 of this volume for further discussion and sample manning scales for vessels which employ maintenance-persons as required crew.)

4. Watch Augmentation.

The required personnel in the maintenance department shall hold appropriate rating [endorsements](#) (AB, QMED, etc.) so that they may be used by the vessel's master to augment navigational or machinery space watches should the need arise. For those personnel 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 personnel 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. 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 successive watch rotation (46 CFR 15.705). Engagement of maintenance-persons with the intention of assigning any individual alternately between deck and engineering watch sections on a routine basis would be considered a violation of 46 U.S.C. 8104(e).

5. Maintenance Department Request.

A request for implementation of a maintenance department on an inspected vessel will require complete documentation from the vessel's operator describing how such a department will function within the shipboard management arrangements. The request must be made to the OCMI who last certificated the vessel or is currently conducting an inspection for certification. The documentation must include an operating manual for the vessel that describes the structure of the maintenance department, qualifications of the maintenance-persons, the responsibilities and duties of all vessel personnel when the maintenance department concept is implemented, various operating conditions under which personnel would be rotated out of the department (e.g., watchstanding augmentation), and a planned maintenance program. [For vessels subject to the ISM Code, this information can be included in a revised section of the Safety Management System and submitted in lieu of a separate operating manual. \(Consult Chapter 23 for additional information concerning Maintenance Departments.\)](#)

K. Workhour Limits (Domestic).

(See Chapter 24 of this volume for additional discussion regarding the applicability of STCW requirements.)

1. Tankers.

The Oil Pollution Act of 1990 (OPA 90) amended 46 U.S.C. 8104 by adding a new Subsection (n) which reads as follows: "On a tanker, a licensed individual or seaman may not be permitted to work more than 15 hours in any 24 hour period, or more than 36 hours in any 72-hour period, except in an emergency or a drill. In this subsection, "work" includes any administrative duties associated with the vessel whether performed on board the vessel or onshore."

2. Other Vessels.

Various sections of 46 U.S.C. 8104 limit the number of hours that credentialed officers and/or crewmembers may be required to work on certain classes of vessels. This does not preclude seamen from voluntarily working beyond those limits and possibly becoming fatigued from excessive hours of overtime. OCMI should consider all relevant information described in 20.C in establishing required manning levels. While there may be no definitive, scientific basis for a maximum workhour limit for vessel crewmembers, the OCMI has the discretion to impose manning levels based on a specified reasonable workhour limit taking into account fatigue and other human factors. A twelve hour work day, applied in a manner similar to the above workhour limit for tankers, is considered a reasonable workhour limit for other classes of vessels. It is recommended that the OCMI consider this workhour limit in establishing manning levels for non-tankers, adjusting for vessel specific factors that might either alleviate or exacerbate fatigue. Likewise, the OCMI may appropriately consider working conditions and workhour limits established through a collective bargaining agreement in arriving at a final manning determination. (See Chapter 24 of this volume for additional discussion regarding working conditions.)

3. Enforcement.

During inspection activities, Coast Guard personnel shall:

- a. Make general inquiries concerning the working conditions on board the vessel.
- b. Make a specific effort to ascertain whether the vessel's crew is complying with the applicable watchkeeping provisions and rest requirements. A review of vessel logs, maintenance records, and crew interviews may be conducted at routine vessel inspections to validate adequacy of the manning level to maintain the vessel in safe operating condition:
 - (1) Ensure that any indication that the owner/operator has made manning increases beyond that required by the COI to satisfy the applicable watchkeeping provisions and rest requirements, or that workhours have been or may be exceeded, or that required maintenance has not been performed because of

inadequate manpower is brought to the attention of the OCMI. The OCMI should review the vessel's manning complement and determine whether the required complement should be modified to ensure that the vessel can be safely operated within the applicable requirements.

- (2) Ensure that all manning increases necessary to meet the applicable watchkeeping provisions and rest requirements are reflected on the COI as the minimum required manning, regardless of whether the owner has already made such changes voluntarily.

MARINE SAFETY MANUAL

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MARINE SAFETY MANUAL

CHAPTER 21: SAMPLE VESSEL MANNING SCALES

A. Introduction.

1. Chapters 20-26 have been structured to interlink various elements affecting the safe manning and watchkeeping on U.S. vessels and should be referenced comprehensively. Refer to Chapter 20 paragraph A for a summary of all Chapters. This Chapter is intended to assist the Officer In Charge, Marine Inspection (OCMI) in the translation of the various statutes, regulations, court decisions, and practices into minimum manning requirements on a vessel's Certificate of Inspection (COI). Sample manning scales are presented below for both general and specific classes of vessels. It must be clearly understood that these scales are stated for conventional (NON-AUTOMATED) vessels, and do not invalidate the basic legal requirements outlined in Chapter 20 of this volume. The OCMI is not compelled to assign manning levels according to the sample scales presented below, as they are neither mandatory, nor all inclusive. They are representative of specific classes of certificate vessels. The OCMI should consider the manning level recommended by the appropriate table as a starting point, and then determine whether fewer or more personnel are required for the safe operation of the vessel based on local circumstances and other relevant considerations which are spelled out in section 20.C. Guidance regarding the proper entry of COI manning data is provided in Chapter 3 section H of the Marine Safety Manual, Volume II. Where manning reductions are requested or contemplated by virtue of vessel automation considerations, the OCMI should also follow the guidance in Chapter 25 of this volume. Chapter 22 provides supplementary guidance on the manning requirements for credentialed officers and licensed individuals. Chapter 23 provides additional guidance on manning requirements for credentialed ratings. Inquiries and correspondence concerning manning requirements should be directed to Commandant (CG-CVC).
2. The regulatory text of Title 46 CFR Chapter I, Subchapter B, referenced throughout Chapters 20-26 of this Volume uses the term “gross tons.” In each relevant instance this term refers to the gross tonnage under the Regulatory Measurement System (GRT), if assigned, and that vessels without an assigned GRT use their gross tonnage under the Convention Measurement System (GT ITC) to apply provisions dependent on “gross tons.”

B. Mechanically-Propelled Passenger Vessels Of 100 GRT Or More.

1. Sample Scales.

a. Ocean Or Coastwise.

1-Master	* -Patrolman or Watchman
*1-Chief Mate	*1-Chief Engineer
*1-2nd Mate	*1-1st Assistant Engineer
*1-3rd Mate	*1-2nd Assistant Engineer
*6-Able Seamen	*1-3rd Assistant Engineer
*3-Ordinary Seamen	*3-Firemen/Watertenders
*3-Radio Officers	*3-Oilers
* -Certificated Lifeboatmen	

b. Great Lakes.

1-Master/1st Class Pilot	*1-Chief Engineer
3-Mates/1st Class Pilots	*1-1st Assistant Engineer
*6-Able Seamen	*1-2nd Assistant Engineer
*3-Ordinary Seamen	*1-3rd Assistant Engineer
*1-Patrolman or Watchman	*3-Firemen/Watertenders
* -Certificated Lifeboatmen	*3-Oilers

c. Lakes, Bays, And Sounds (Except Great Lakes).

(1) Crew (General Operations).

1-Master/1st Class Pilot	*1-Patrolman or Watchman
Pilot	*1-Chief Engineer
*1-Mate/1st Class	*1-1st Assistant Engineer
Pilot	*2-Fireman/Watertenders
*4-Able Seamen	*2-Oilers
*2-Ordinary Seamen	
* -Certificated Lifeboatmen	

(2) Crew (12-Hour Operation).

1-Master/1st Class	*1-Patrolman or Watchman
Pilot	*1-Chief Engineer
*1-Inland Mate	*1-Fireman/Watertender
*2-Able Seamen	*1-Oiler
*1-Ordinary Seaman	
* -Certificated Lifeboatmen	

d. Rivers.

1-Master/1st Class Pilot
*1-1st Class Pilot
*1-Mate
*1-Patrolman or Watchman
*8-Deckhands

*1-Chief Engineer
*1-1st Assistant Engineer
*2-Firemen/Watertenders (NC)
*2-Oilers (NC)

* **Denotes Variables**

2. Variables.

a. Mates.

The number of [credentialed](#) mates required on inspected oceangoing or coastwise vessels depends on the gross tonnage of the vessel (see 46 U.S.C. 8301 and 46 CFR 15.810). Mates on Great Lakes Vessels must also possess First Class Pilot endorsements, (46 CFR 15.812).

b. Mate/First Class Pilots.

On inland vessels a sufficient number of Mates/First Class Pilots should be provided to divide watchkeeping duties into at least two watches when the vessel operates more than 12 hours in a 24 hour period.

c. Able Seamen (ABs).

Depending on the size of the vessel and its needs for safe navigation, this number may vary. Except for vessels on rivers or lakes (other than the Great Lakes), at least 65 percent of the deck crew must be ABs (see 46 U.S.C. 8702 and 46 CFR 15.840).

d. Ordinary Seamen.

This number will vary in proportion to total deck crew.

e. ABs And Ordinary Seamen.

On ocean or coastwise routes, the number of ABs and ordinary seamen carried must be sufficient for the watch system provisions of 46 U.S.C. 8104 and 46 CFR 15.840. Deckhands may be permitted in lieu of ABs and ordinary seamen on river routes. A specially trained ordinary seaman may be substituted for able seaman in certain situations. If an ordinary seaman receives additional lookout procedure training, it is within the discretion of the local OCMI to allow the substitution of an able seaman with a specially trained ordinary seaman and to amend the COI to reflect the situation. But under no circumstances is the OCMI to amend a COI to reflect a manning scale which contradicts 46 U.S.C. 8702(b), which mandates that 65% of the deck crew shall be an able seaman. [Reference section D.1. of Chapter 23 for additional information concerning the substitution of able seamen with specially trained ordinary seamen.](#)

f. Certificated Lifeboatmen.

The number of certificated lifeboatmen must be separately stated on the COI. This number will vary depending on the lifeboat and life raft requirements for each vessel, in accordance with the regulations ([see 46 CFR 15.845 and 199.100](#)). [There must be a sufficient number of persons certified as lifeboatmen on board the vessel for mustering and assisting untrained persons. There must be a sufficient number of deck](#)

officers, able seamen, or persons certificated as lifeboatmen on board the vessel to operate the survival craft and launching arrangements required for abandonment by the total number of persons on board. There must be one person placed in charge of each survival craft to be used. The person in charge must be a deck officer, able seaman, or other person certificated as a lifeboatman. The OCMI, considering the nature of the voyage, the number of persons permitted on board, and the characteristics of the vessel, may permit persons practiced in the handling and operation of liferafts or inflatable buoyant apparatus to be placed in charge of liferafts or inflatable buoyant apparatus. There must be a second-in-command designated for each lifeboat. This person should be a deck officer, able seaman, or other person who is certificated as a lifeboatman. For example, the required number of lifeboatmen for a vessel equipped with two lifeboats (one on each side of the vessel) would be four (one primary and one secondary, per lifeboat). Alternatives for passenger vessels in a specified service can be found in 46 CFR 199.630.

- g. Patrolmen.
The number of patrolmen is determined by the number of patrol routes required to cover all parts of the vessel accessible to passengers or crew, so that each space will be covered at least once every hour from 10 p.m. to 6 a.m. (46 CFR 78.30-10; 46 CFR 15.855).
- h. Watchmen.
The number of watchmen is determined by the need to provide a suitable watch to be stationed in the passenger accommodation areas on each deck during the night (46 CFR 78.30-15; 46 CFR 15.855).
- i. Credentialed Engineers. See Chapter 22 of this volume.
- j. Firemen/Watertenders And Oilers.
The number and specific ratings will vary based on the number and location of boilers, type of fuel, number of furnaces, arrangement of machinery spaces, type and degree of automation, and (for oceangoing, coastwise, and Great Lakes vessels) the watch provisions of 46 U.S.C. 8104. In the case of motor vessels, no firemen/watertenders are normally required. Vessels operating exclusively on river routes are not required to carry credentialed personnel by 46 U.S.C. 8701 and 8702, but in such cases it is appropriate to include the ratings by name on the COI, followed by "NC" (Not Credentialed).
- k. GMDSS Radio Operators.
As discussed in 46 CFR 15.1103, on board a seagoing vessel required to comply with the provisions of the GMDSS in SOLAS Chapter IV, no person may employ or engage any person to serve, and no person may serve, as the master, chief mate, or officer if the navigational watch, unless the person holds the appropriate certificate or endorsement for operator of radio in GMDSS. One of the operators must be designated by the vessel's master as assigned to communicate during a distress situation. Vessels voluntarily relying on the at-sea maintenance provision of the GMDSS must have onboard a licensed GMDSS Radio Maintainer. Vessels without GMDSS will still require radio officers as determined by the FCC.

C. Small Passenger Vessels (SPVs) (Under 100 GRT).

The types, sizes, and operating conditions of small passenger vessels are so varied among the OCMI zones, and within each OCMI zone it would be difficult, if not impossible, to develop a uniform national manning standard for the entire class of vessels. The following manning scales and guidance are provided to assist the OCMI in determining the manning requirements for small passenger vessels. The variations within this vessel class demand the OCMI evaluate each vessel and exercise good judgment in establishing the minimum safe manning. It is emphasized that the OCMI is not compelled to assign manning according to the sample scales in this section as they are neither mandatory, nor all inclusive. The OCMI should consider the manning levels presented as a starting point then determine whether fewer or more personnel are required for the safe operation of the vessel based on local conditions and other considerations noted in section 20.C. The scales are considered a valid reference that could be quoted to a prospective builder or Small Passenger Vessel (SPV) buyer as a conceptual manning level.

1. Sample Scales.

a. Crew (General Operations).

1 Master

*1 crewmember for each
passenger deck

*1 Mate

*Additional deckhands based
on number of passengers on board and
hours of operations (See table in
section B below)

*** Denotes Variables**

Crewmember. A crewmember includes credentialed officers, ratings, and deckhands required by the Certificate of Inspection. Navigating bridge configuration and other local conditions should be considered by the OCMI in determining whether the credentialed officer in charge of the navigating watch is capable of adequately observing and directing passengers on the bridge deck without assistance.

Passenger Deck. A passenger deck is a level accessible to and used by passengers when the vessel is underway. A portion of a deck used only for passage between levels such as a stairway landing, lobby or vestibule is not a passenger accessible deck for manning purposes. In addition, partial decks may be monitored by a crewmember assigned to a full passenger deck provided the crewmember makes regular rounds of the partial deck.

b. Table Of Additional Deckhands.

PASSENGERS ON BOARD	NOT MORE THAN 12 HOUR OPERATION	MORE THAN 12 HOUR OPERATION
0-149	0	1
150-299	1	2
300-499	2	4
500-799	3	6
800 & Up	4	8

c. COI Endorsements.

For vessels that carry varying numbers of passengers the OCMI should provide a sliding scale of the total number of deckhands required indicating the number of passengers carried. When preparing the manning section of the COI, the vessel's regular operating hours should be considered. If the operation is more than 12 hours, a determination should be made as to whether there are adequate facilities for the off watch crew to rest. If the vessel's general operation is 12 hours or less, or there are not adequate facilities for the off watch crew to rest during operations of more than 12 hours, the COI should be prepared with a 12 hour crew compliment in the manning blocks and the following endorsement under the Route Permitted and Conditions of Operations section of the COI: "If the vessel is away from the dock, or passengers are on board or have access to the vessel for a period exceeding 12 hours in a 24 hour period an alternate crew shall be provided." The vessel that routinely operates in excess of 12 hours in a 24 hour period and has adequate facilities for the off watch crew to rest, should be issued a COI with a 24 hour crew in the manning blocks. If the vessel owner uses an alternate crew arrangement then the alternate crew endorsement should be used.

d. High Capacity Small Passenger Vessels.

The increased size of small passenger vessels has resulted in the carriage of great numbers of passengers and will require manning above the scales listed above. This determination can best be made by the OCMI certifying the vessel based on the vessel's characteristics, route, number of passengers and crew required to successfully respond to all operational and emergency situations. The operation of these high capacity, small passenger vessels on certain routes may call for inclusion of a radar observer endorsement on master and mates credentials.

2. Variables.

a. Mates.

The requirement for credentialed mates on vessels of less than 100 GRT is found in 46 CFR 15.810. At least one mate is required on vessels engaged in voyages exceeding 12 hours in duration (see 46 CFR 15.810(b)(5)).

- (1) Ocean And Coastwise Routes.
If operational safety is unaffected the OCMI may choose not to require a mate on vessels operating not more than 12 hours in a 24 hour period provided; (1) the number of passengers on board is less than 400, or (2) the vessel accommodates less than 50 overnight passengers.
- (2) Great Lakes And Inland Service, And Restricted Routes.
The OCMI may delete the mate on vessels operating not more than 12 hours in a 24 hour period under the same conditions as noted under ocean and coastwise vessels. Additionally, the OCMI having considered all safety issues (e.g., the uniqueness of the operation, crew qualifications, the restrictiveness of the route) may choose not to require a mate regardless of the number of passengers carried.
- (3) Less Than 12 Hours.
A credentialed mate on vessels having voyages of less than 12 hours may be engaged to serve as the senior deckhand. He or she would be available to take over navigational responsibilities and also be present to supervise other operational and emergency concerns.

The above considerations notwithstanding, the mate should be required on all vessels carrying more than 150 passengers and/or having overnight accommodations for more than 49 passengers. A designated senior deckhand may replace the mate provided he or she is qualified under NVIC 1-91, as amended, guidelines. Crewmembers qualified as senior deckhand should be designated in writing by the master with a copy retained on board the vessel. A senior deckhand shall be capable of directing the emergency response actions of the vessel's crew. In the event the master becomes incapacitated, a senior deckhand must be capable of maneuvering the vessel and returning it to a position of safety.

b. Deckhands.

The authority to determine the complement (number) of deckhands required on small passenger vessels is 46 U.S.C. 8101. The Coast Guard does not prescribe deckhand qualifications. NVIC 1-91, as amended, provides guidance on recommended qualifications and training for deckhands on small passenger vessels.

There should normally be a deckhand assigned for each deck to which passengers have access, except when the master and/or mate of a vessel can adequately observe and direct the passengers on one deck. The OCMI is not compelled to require a deckhand assigned to that same deck to assist the master. The OCMI is not bound to the requirements of table 21.C.1.b but retains the discretionary authority to assign fewer deckhands, provided that a satisfactory level of operational safety is maintained.

When determining the minimum number of deckhands required the OCMI must consider the following; (1) local circumstances, (2) route, (3) proximity to shore, (4) assistance availability, (5) voyage length, (6) vessel design and construction, (7) crew capabilities, and (8), any other related factors. When applicable, a company's safety record and its training and qualification programs should also be considered in establishing deckhand requirements.

The OCMI must be satisfied that the unlicensed crew is properly trained to perform vessel operations. In general this should be accomplished during the vessel inspection process including the witnessing of performance of emergency drills, the questioning of the crew on duties assigned and/or the review of the company training program. A smaller well trained and qualified crew may be much more capable than a larger number of less qualified deckhands.

The OCMI should consider all variables which are a result of the vessel's design and function, in addition to taking into account an organization's operational structure and policies. For instance, a sailing vessel with extensive rigging or a passenger/cargo vessel using its crew for stevedoring may require additional deckhands. Conversely, certain vessels such as high capacity passenger vessels or vessels operating on restricted routes may require fewer deckhands. If safety remains unaffected, the OCMI may allow a portion or all of the deckhands to perform other duties, such as concessionaire or waiter. These persons must at all times be capable of responding readily to their assigned emergency duties and other deck department related functions. For public health reasons cooks and food handlers should not normally perform or be assigned to deckhand duties.

c. Machinery Operation.

When determining the manning levels for Small Passenger Vessels the OCMI should consider what levels of engineering skills are necessary to operate the vessel safely on its intended route. The OCMI must ensure that owners/operators of Small Passenger Vessels employ someone having a good working operational knowledge of the following; (1) main and auxiliary machinery, (2) steering systems, (3) alarms and monitoring systems, (4) fueling techniques, and (5), emergency procedures. Based on vessel size and engineering complexity, the following levels of engineering expertise should be considered:

(1) Simple Systems.

On vessels with simple engineering systems, it may be necessary that only the master and/or deckhand have these skills.

(2) Complex Systems.

On vessels with more complex engineering systems or vessels that do not carry a mate, deckhands may need special training in routine and emergency engineering tasks.

(3) Main And Auxiliary Systems.

On vessels with large main and auxiliary engineering systems, multiple decks, extended routes, or other similar conditions, it may be necessary that the OCMI place a requirement on the COI for one or more [credentialed engineers \(see 46 CFR 15.825\(b\)\)](#). Chapter 22 of this volume discusses Coast Guard policy for [credentialed engineers](#) on vessels of less than 300 [GRT](#).

3. Drills.

The use of drills is suggested to ensure that manning levels on vessels are for emergency situations. The vessel master or mate directs the drills; Coast Guard marine inspectors witness and evaluate the drills. In addition, drills should not place the vessel or any crewmembers in jeopardy. Crewmembers should not be allowed to enter the water. Unlicensed crewmembers should not maneuver the vessel without direct supervision of the master or a credentialed mate.

4. Launches And Water-Taxi Vessels.

Many unusual hazards exist in launch service or water-taxi operations that are not normally encountered by excursion passenger vessels. These hazards are more pronounced on vessels where the master is the only crew member. Casualty analysis has revealed the following potential hazards of "solo" operation:

a. Debarking Alongside.

The operator is unable to control or assist debarking passengers when alongside an anchored vessel, as he/she must remain at the controls;

b. Intoxicated Passengers.

Persons returning from shore who are under the influence of alcohol may require supervision and assistance. A single operator cannot provide this aid while underway or maneuvering alongside;

c. Language Difficulties.

A foreign passenger may not understand English well and may not be able to alert the operator of an emergency situation or fully understand verbal instructions. A deckhand would be able to assist passengers and visually demonstrate emergency procedures if necessary; and

d. Man Overboard.

It may be extremely difficult for a single operator to maneuver a vessel alongside a person in the water and to recover a person from the water. The OCMI should consider the above hazards when prescribing manning levels for these vessels. The need for a deckhand should be closely evaluated. Commuter type launches and water taxis operating on dedicated runs may not experience all of the above hazards. In certain situations, one-person operation may be acceptable.

D. Passenger Barges Under Tow.

1. General.

Inspected passenger barges shall be required to carry a credentialed master, mate and number of able seamen, ordinary seamen, or deckhands. Credentialed seamen are not required on inland passenger barges as provided for in 46 U.S.C. 8701.

2. Dual-Mode Tug/Passenger Barge Combination (Inland Waters).

Dual-Mode tug/barge combinations are those where the tug and barge are coupled by conventional means and where the operator of the tug navigates the combined units from the tug. Except for navigation, barge operations will be considered as independent of the towing vessels systems and equipment. Manning will be considered separately for each vessel; the tug will be manned as an inspected towing vessel and the barge will be manned as an inspected passenger vessel under Subchapter H or T. Passenger-carrying tug-barge combinations may be operated by masters of inspected vessels of appropriate route and tonnage or masters of towing vessels, as determined by the OCMI (see 68 FR 35804).

Barge.

- 1 Master
- *1 Mate
- *1 Deckhand for each passenger deck
- * Additional deckhands based on number of passengers on board – (See table in section 3 below)

[NOTE: The towing vessel must be operated by at least one appropriately credentialed individual for each 12 hours of operation.]

3. Table Of Additional Deckhands.

PASSENGERS ON BOARD	NOT MORE THAN 12 HOUR OPERATION	MORE THAN 12 HOUR OPERATION
0-149	0	1
150-299	1	2
300-499	2	4
500-799	3	6
800 & Up	4	8

* **Denotes Variables**

4. Variables.

a. Master.

On Subchapter T or Subchapter H inspected passenger barges there must be at least one barge master credentialed under 46 CFR 11.201(i). Any required mates will be credentialed under the same section. The credential must be endorsed for the gross tonnage of the barge. Any credential of comparable tonnage authorizing service on a self-propelled inspected vessel would also satisfy the requirement.

(1) Master In Charge Of Towing Vessel And Passenger Barge.

A barge master may not be required in situations where the OCMI considers that the responsibilities for both the towing vessel and the barge can be safely vested in one individual on the towing vessel. The barge's COI must be endorsed to indicate the conditions when a barge master is not required. The COI will also

require the master of the combined unit to hold a credential as master of inspected, self-propelled vessels of sufficient scope authorizing service on both vessels. The unlicensed towboat crew members may not be used to satisfy the crew requirements on the barge. See 68 FR 35804 for additional information.

b. Mates.

The OCMI may not require a mate on barges operating not more than 12 hours in a 24 hour period when the passengers on board do not exceed 399, and/or there are overnight accommodations for not more than 49 passengers; or regardless of the number of passengers in any case where, because of the nature of the route, operating conditions, crew qualifications, or other factors the OCMI considers it safe to do so. In determining whether not to require the mate for the 12-hour or less operation, the OCMI should consider whether there is an assigned senior deckhand as described in the NVIC 1-91, as amended, "Recommended Qualifications For Small Passenger Vessel Deckhands." The senior deckhand should be designated in writing by the master with a copy retained aboard the barge. The senior deckhand shall be capable of directing the crew in an emergency and assuming the master's responsibilities, if the master becomes incapacitated.

c. Deckhands.

The criteria in section 21.D.2 should be used as a guide in determining the number of deckhands required. Barges of unique design or restricted operations may require different manning scales. In addition, the method of towing may indicate a different requirement for the number of deckhands.

The OCMI will provide on the COI a sliding scale detailing the deckhand requirements for barges that carry varying numbers of passengers. The number of deckhands required will be based on the number of decks and passengers carried.

d. Multiple Barge Combinations.

For multiple barge combinations an OCMI may assign manning scales based on the separate units or as a single scale for the combined unit. In some cases it may not be necessary or practical to have a separate crew for each barge. When assigning one crew to a multiple barge combination, the OCMI should ensure that there is at least one crewmember for each barge when the tow is underway, and sufficient crew members for a roving patrol whenever the tow is docked with passengers on board.

e. Machinery Operation.

Passenger barges under tow should not be operated unless some member of the crew has a good working knowledge of the operation and use of the auxiliary machinery, alarms, electrical systems, and emergency procedures. The OCMI must ensure that the owners/operators crew the vessels with individuals having these qualifications. In most cases the barge master or a properly trained deckhand would meet this requirement.

5. Push Mode - Integrated Tug/Passenger Barge Combinations (ITB) (Inland Waters).

Integrated tug/barge combinations are those in which a specially designed propulsion unit (tug) is mated to the passenger barge. The navigation and operation of the combined unit can be accomplished from a control station located on the passenger barge. The barge

cannot operate independently of the tug which provides its power and other passenger services. These ITB combinations are designed, outfitted and intended to operate as a single unit and therefore will be manned as a single vessel. The master and mates must hold inspected vessel credentials with tonnage limitations appropriate to the combined tonnages of the tug and barge.

1 Master	1 Deckhand for each passenger deck
*1 Mate	* Additional deckhands based on the number of passengers on board (See table in section 21.D.3)

- * **Variables described in section 21.D.4 above may be generally applied to these integrated tug/barge combinations**

As the statutory and regulatory requirements for push-mode ITBs are based on the aggregate tonnage of the combination, vessels of this class could equal or exceed 1,600 GRT. Accordingly, the OCMI may reference section G.1 of this Chapter or any other section for manning levels consistent with a conventional vessel of the same tonnage, route, and service.

6. COI Endorsements.

In preparing the manning section of the COI, the regular operation of the barge should be reviewed to determine whether the operation is more than 12 hours. If the operation is more than 12 hours, a determination should be made as to whether there are adequate facilities for the off watch crew to rest. On vessels where there are no adequate facilities for the off watch crew to rest, and on vessels that generally operate less than 12 hours, the COI should be prepared with a 12 hour crew in the manning blocks and the following endorsements: "If the vessel is away from the dock, or passengers are on board or have access to the vessel for a period exceeding 12 hours in a 24 hour period an alternate crew shall be provided." The COI on barges that routinely operate in excess of 12 hours in a 24 hour period, and have adequate facilities for the off watch crew to rest, should be prepared with a 24 hour crew in the manning blocks unless the barge owner requests to use an alternate crew arrangement. In this case the 12 hour alternate crew endorsement above should be used.(Note: If these vessels exceed 100 GRT and are on a voyage of over 600 nautical miles, they must comply with the requirements of 46 U.S.C. 8104(c))

7. Seagoing Passenger Barges.

The manning and qualifications requirements for seagoing passenger barges will be handled on an individual basis. The OCMI will submit proposed manning for these vessels to Commandant (CG-CVC) for review. Insofar as practical, the required manning for these vessels should parallel that of inland vessels of similar tonnage, passenger capacity, and configuration. Special emphasis must be placed on ability of the crew to handle emergencies, control and care for passengers, and use all required lifesaving equipment.

E. Mechanically-Propelled Cargo/Tank Vessels Of 100 GRT Or More.

1. General.

Tank vessel manning standards are required by 46 U.S.C. 9102 to take into account a number of factors relating to the duties, qualifications, and training of officers and crew. These factors include standards related to vessel navigation, cargo handling, size and type of vessel, qualification by virtue of simulator training, maintenance functions, physical fitness criteria, as well as retraining and special training requirements. Section 20.C also addresses specific factors to be considered in manning determinations.

2. Sample Scales.

a. Ocean And Coastwise.

1-Master	1-Chief Engineer
*1-Chief Mate	*1-1st Assistant Engineer
*1-2nd Mate	*1-2nd Assistant Engineer
*1-3rd Mate	*1-3rd Assistant Engineer
*6-Able Seamen	*3-Firemen/Watertenders
*3-Ordinary Seamen	*3-Oilers
*1-Radio Officer	*3-Tankermen
* -Certificated Lifeboatmen	

b. Great Lakes.

1-Master/1st Class Pilot	1-Chief Engineer
1-Chief Mate/1st Class Pilot	*1-1st Assistant Engineer
2-Mates/1st Class Pilots	*1-2nd Assistant Engineer
*6-Able Seamen	*1-3rd Assistant Engineer
*3-Ordinary Seamen	*3-Firemen/Watertenders
* -Certificated Lifeboatmen	*3-Oilers
	*3-Tankermen

c. Lakes, Bays, And Sounds.

(1) Crew (General Operations).

1-Master/1st Class Pilot	1-Chief Engineer
1-1st Class Pilot	*1-1st Assistant Engineer
*4-Able Seamen	*2-Firemen/Watertenders
*2-Ordinary Seamen	*2-Oilers
* -Certificated Lifeboatmen	*2-Tankermen

(2) Crew (12-Hour Operation).

1-Master/1st Class Pilot	1-Chief Engineer
*2-Able Seamen	*1-Fireman/Watertender
*1-Ordinary Seaman	*1-Oiler
* -Certificated Lifeboatmen	1-Tankerman

* **Denotes Variables**

3. Variables.

a. Workhour Limits.

46 U.S.C. 8104(n) imposes maximum workhour limits for credentialed individuals and seamen on tankers. All tankers must ensure compliance with this provision.

b. Mates.

The number of credentialed mates required specifically by statute or regulation on oceangoing or coastwise vessels generally depends on the gross tonnage of the vessel (see 46 U.S.C. 8301 and 46 CFR 15.810). The workhour limitations may necessitate an additional mate be assigned to prevent the chief mate from exceeding limits due to cargo handling responsibilities.

c. Able Seamen (ABs).

Depending on the size and operation of a vessel and its needs for safe navigation, this number may vary. On certain vessels, sixty-five percent of unlicensed deck crew must be ABs (see 46 U.S.C. 8702 and 46 CFR 15.840).

d. Ordinary Seamen.

This number will vary in proportion to the total deck crew.

e. ABs And Ordinary Seamen.

On oceangoing and coastwise vessels over 100 GRT, the number of ABs and ordinary seamen carried must be sufficient for the watch provisions of 46 U.S.C. 8104 and 46 CFR 15.705. Deckhands may be permitted on vessels restricted to inland routes.

f. Certificated Lifeboatmen And Tankermen.

The number of certificated lifeboatmen and tankermen must be separately stated on the COI. The number will vary depending on the lifesaving equipment requirements for each vessel, and cargo handling workload.

g. Credentialed Engineers.

See Chapter 22 of this volume.

h. Firemen/Watertenders And Oilers.

The number and specific ratings will vary based on the number and location of boilers, type of fuel, number of furnaces, arrangement of machinery spaces, type and

amount of automation, and, for oceangoing, coastwise, and Great Lakes vessels, the watch provisions of 46 U.S.C. 8104. In the case of motor vessels, no firemen/watertenders are normally required. Vessels operating exclusively on river routes are not required to carry credentialed personnel (see 46 U.S.C. 8701 and 8702), but it is appropriate to include the ratings by name on the COI followed by "NC" (Not Credentialed). Refer to Chapter 23 also.

- i. GMDSS Radio Operators.
As discussed in 46 CFR 15.1103, on board a seagoing vessel required to comply with the provisions of the GMDSS in SOLAS Chapter IV, no person may employ or engage any person to serve, and no person may serve, as the master, chief mate, or officer if the navigational watch, unless the person holds the appropriate certificate or endorsement for operator of radio in GMDSS. One of the operators must be designated by the vessel's master as assigned to communicate during a distress situation. Vessels voluntarily relying on the at-sea maintenance provision of the GMDSS must have onboard a licensed GMDSS Radio Maintainer. Vessels without GMDSS will still require radio officers as determined by the FCC.

F. Mechanically-Propelled Cargo/Tank Vessels Under 100 GRT.

1. Sample Scales.

a. General Operations.

1 Master, 1 Mate, *2 Deckhands, *2 Tankermen.

b. With 12-hour Operation Limit.

1 Master, *1 Deckhand, *1 Tankerman.

*** Denotes Variables**

2. Variables.

a. Workhour Limits.

46 U.S.C. 8104(n) imposes maximum workhour limits for credentialed individuals and seamen on tankers. The person in charge of transfer operations on tank vessels with a cargo capacity of 250 barrels or more must be a credentialed engineer, pilot, or master/mate authorized for service on vessels of more than 200 GRT (33 CFR 155.710(a)). The number of credentialed officers required must account for this additional responsibility. The workhour limits prevail over another statute which may allow a specific number of designated crew.

b. Deckhands.

Due to the number of variables in the operation of this type of vessel, the specific deckhand requirements are left to the discretion of the certificating OCMI.

c. Tankermen.

The OCMI enters, on the COI issued to each manned tank vessel subject to the regulations in 46 CFR, the number of crewmembers required to hold valid merchant mariners' documents or MMCs with the proper tankerman endorsement. Title 46 CFR, Table 15.860(a)(1) provides the minimal requirements for tankermen aboard manned tank vessels; Table 15.860(a)(2) provides the tankerman endorsements required for personnel aboard tankships. Tankermen are required aboard all vessels that carry oil or hazardous materials in bulk as cargo or residue (see 46 U.S.C. 8703). In consideration of footnote 5 in 46 CFR Table 30.01-5(d), vessels covered by Subchapter H (Passenger Vessels) or I (Cargo and Miscellaneous Vessels) of 46 CFR Chapter I, where the principal purpose or use of the vessel is not for the carriage of liquid cargo, may be granted a permit to carry a limited amount of flammable or combustible liquid cargo in bulk. The portion of the vessel used for the carriage of the flammable or combustible liquid cargo must meet the requirements of Subchapter D (Tank Vessels) in addition to the requirements of Subchapter H (Passenger Vessels) or I (Cargo and Miscellaneous Vessels). As indicated in 46 CFR 31.15-1, this includes the applicable manning provisions relating to tankermen endorsements required for personnel aboard tank vessels.

G. Integrated Tug-Barges (ITBs) [Refer to NVIC 2-81, as amended].

1. Inspected Tugs And Dual-Mode Integrated Tug-Barges (ITBs).

Inspected tugs are subject to the provisions of 46 U.S.C. 8101, 8104, 8301 (and, depending upon the size or route, 46 U.S.C. 8304, 8701, and 8702). It should be noted that the number of mates required for oceangoing or coastwise tugs by 46 U.S.C. 8301 must be read as complementary to the watch provisions of 46 U.S.C. 8104. Should the voyage equal or exceed 600 miles, the master must also be in a watchstanding status.

1-Master	1-Chief Engineer
*2-Licensed Mates	*2-Assistant Engineer
4-Able Seamen	*3-Oilers
2-Ordinary Seamen	

[NOTE: In many cases Articulated Tug-Barges (ATBs) are treated as two separate units (non integral). If the tug of a dual-mode unit is inspected then paragraph G.1 is applicable. If the tug of a dual-mode unit is uninspected, then refer to Chapter 26 paragraph B. If the unit is push-mode, refer to paragraph G.2 below.]

2. Push-Mode ITBs.

Inspected push-mode ITBs are subject to the provisions of 46 U.S.C. Chapter 37 (if applicable), 8101, 8104, 8301, 8303, 8304, 8701, and 8702. As statutory and regulatory requirements for push-mode ITBs are based on the aggregate tonnage of the combination, virtually all vessels of this class will equal or exceed 1,600 GRT.

1-Master	1-Chief Engineer
1-Chief Mate	*2-Assistant Engineers
2-Mates	*3-Oilers
*6-Able Seamen	*3-Tankermen (if subject to 46
*1-Radio Officer	U.S.C. 3702) (as req. by FCC)

* Denotes Variables

3. Variables.

a. First Class Pilot.

Master and mates must have FCP endorsements when navigating exclusively on the Great Lakes. In addition, when navigating on designated waters, the vessel must have a United States or Canadian registered pilot for the route being navigated. (46 U.S.C. 9302)

b. Mates.

If the gross tonnage of the tug in a Dual-Mode ITB or the combined tonnage of the Push-Type ITB exceed 1,000 GRT then three mates are required (46 U.S.C. 8301).

c. Engineers.

Most of these vessels are highly automated and the manning levels indicated may be reduced. Refer to Chapter 25.

d. Able Seamen (ABs).

On oceangoing and Great Lakes vessels, the number of ABs and ordinary seamen carried must be sufficient for the watch provisions of 46 U.S.C. 8104 and 46 CFR 15.705. Two specially trained ordinary seaman may be substituted for a maximum of two able seamen.

e. GMDSS Radio Operators.

As discussed in 46 CFR 15.1103, on board a seagoing vessel required to comply with the provisions of the GMDSS in SOLAS Chapter IV, no person may employ or engage any person to serve, and no person may serve, as the master, chief mate, or officer if the navigational watch, unless the person holds the appropriate certificate or endorsement for operator of radio in GMDSS. One of the operators must be designated by the vessel's master as assigned to communicate during a distress situation. Vessels voluntarily relying on the at-sea maintenance provision of the GMDSS must have onboard a licensed GMDSS Radio Maintainer. Vessels without GMDSS will still require radio officers as determined by the FCC.

H. Cargo And Miscellaneous Barges.

1. Seagoing Barges.

a. General.

The determination as to whether or not a seagoing barge must be manned shall be made by the OCMI (see 46 CFR 15.801). These vessels must comply with the watch provisions of 46 U.S.C. 8104 when the manning levels prescribed are based on safety considerations. In this regard, the duties of riding personnel should include periodic checks of the towing gear, security of cargo, navigation lights, etc. These are safety-oriented functions amenable to a watch routine, as opposed to maintenance functions such as painting.

b. OCMI's Evaluation.

Should the OCMI decide that safety is the primary task of the riding crew, the number of personnel in the deck department shall be sufficient to meet the watch system requirements of 46 U.S.C. 8104 (two watches for voyages of less than 600 nautical miles, three watches for voyages of 600 nautical miles or more). In all such cases, the deck crew must be composed of at least 65 percent ABs, as required by 46 U.S.C. 8702.

(1) Voyages Of Less Than 600 NM.

*2 Able seamen, **other persons;

(2) Voyages Of 600 NM Or Greater.

*2 Able seamen, 1 ordinary seaman, **other persons.

* One of the crew must hold an appropriate tankerman certificate (aboard tank barges only).

** Other persons may be permitted, depending on the berthing accommodations and lifesaving devices available aboard the barge.

2. Dump Scows And Non-Self-Propelled Harbor Dredges, And Barges Changing Places Of Employment Beyond The Baseline.

a. Required Manning.

Certain barges may be unmanned if so authorized by the OCMI. However, if a crew is required by the OCMI:

(1) Crewmembers.

All crewmembers must possess a [merchant mariner credential \(MMC\)](#) and be divided among required watches.

(2) Unlicensed Deck Crew.

Sixty-five percent of the deck department, exclusive of [credentialed officers](#) personnel, must be ABs.

b. Permitted Manning.

When the OCMI does not deem it necessary to require a crew on subject barges, a crew may still be permitted, and in such cases:

(1) Maintenance Persons.

Barges may carry a person or persons as maintenance men with no duties connected with the navigation of the vessel. A sample endorsement that may be used on the COI: "Certificated without a navigating crew. The vessel may carry one person as maintenance man and operator of the dumping mechanism, with no duties connected with the navigation of the vessel."

(2) Citizenship.

Seventy-five percent of the personnel of this "permitted" crew must be U.S. citizens; and

(3) MMC Requirement. All crewmembers must be in possession of [MMCs](#).

I. Public Vessels.

1. Army Corps Of Engineers (USACE) Vessels.

The manning requirements for inspected USACE vessels are stated on the COI, in the same manner as for other inspected vessels. Inspected USACE dredges are certificated for service on various routes and manned accordingly. Hopper dredges often operate for extended periods in protected waters, entering exposed waters only to change operating sites or to dump spoil. It is the USACE's policy to allow as many crewmembers on liberty as feasible when the vessel is engaged in dredging operations of this type. Accordingly, the COI should be endorsed to provide for a minimal crew while the vessel is dredging or dumping. This will permit the vessel to make short voyages, less than two watch rotations, for dumping purposes with a reduced crew aboard. The scales are provided below, as appropriate.

a. Lakes, Bays, Sounds, And Rivers.

While dredging in lakes, bays, sounds, rivers, or on short coastwise voyages for the purpose of dumping, at least the following persons shall be on board the vessel:

1-Master	1-Chief Engineer
1-Mate	*1-Assistant Engineer
2-Able Seamen	*1-Fireman/Watertender
1-Ordinary Seaman	1-Oiler

b. Great Lakes.

While operating in the Great Lakes, or their connecting and tributary waters, for the purpose of dredging or dumping, the minimum manning shall be:

1-Master and First Class Pilot	1-Chief Engineer
1-Mate/First Class Pilot	*1-Assistant Engineer
2-Able Seamen	*1-Oiler
	1-Ordinary Seaman

*** Denotes variable depending upon mode of propulsion and/or level of automation.**

2. Military Sealift Command (MSC) Vessels.

These vessels are typically civilian-manned. Manning should be established using section 21.E as a guide. In addition, the OCMI should consult volume II, Chapter 12 of this manual and any MOU in force between the USCG and MSC.

J. School Vessels Operated By The U.S. Merchant Marine/State Maritime Academies (SMA).

1. Mechanically-Propelled Vessels Of 100 GRT Or More.

The COI shall specify the minimum complement of officers and crew necessary for the safe navigation of a school vessel (46 CFR 167.60-15). Unless expressly authorized and alternatively endorsed, cadets are not authorized to fill any other position required by the COI. Certain academy training programs have been approved to allow cadets to qualify for rating endorsements restricted to service on a specific vessel. However, cadets cannot

fill a position required by the COI unless they hold a valid MMC duly endorsed to reflect the rating in accordance with the program approval issued by the NMC. The following guidelines are offered to promote uniform manning levels for school vessels. However, the OCMI shall exercise discretion, within the minimum requirements of the law, in this regard, particularly for smaller vessels operating on limited routes.

a. Credentialed Officers.

One master, three licensed mates, one chief engineer, three assistant engineers, and one radio officer, as applicable (see 46 CFR 310.5 concerning state training vessels). For vessels operated exclusively in Great Lakes service, a master/first class pilot and first class pilots shall be employed in lieu of mates.

b. Unlicensed Deck Crew.

Three ABs (one per watch), to act as supervisors of cadets and to fulfill the requirement of 46 U.S.C. 8702 for an AB at the helm in congested waters, periods of reduced visibility and adverse weather, and other hazardous circumstances.

c. Unlicensed Engine Room Personnel.

Three firemen/watertenders or oilers (one per watch), to act as supervisors of cadets and to assist the engineer of the watch.

d. Lookouts.

If the master deems them competent, cadets may be used as lookouts.

e. Lifeboatmen.

The requirements of 46 CFR 199.100 shall be fully met. Cadets may fill the billets for lifeboatmen, provided they are qualified and endorsements to this effect are included on their credential, including, if appropriate, STCW endorsements for Proficiency in Survival Craft.

2. School Vessels Under 100 GRT.

See Chapter 22 of this volume.

K. Sailing School Vessels.

Sailing school vessels must operate with properly credentialed and certificated individuals, as required by statutes and regulations. These individuals provide the necessary base of experience to fulfill leadership roles during emergencies, and to otherwise assure the vessel's safe handling.

1. OCMI Considerations.

In determining the manning needed to safely operate the vessel, the OCMI shall take into consideration the vessel's route and specific characteristics, including the number of masts, type of sails, and number of persons needed for evolutions. Vessels equipped with more than one mast must carry a seaman (AB or deckhand, as appropriate) for each mast, and an additional AB for each square-rigged mast. On ketches and yawls where the second mast is used for balancing purposes, the OCMI may waive the additional seaman, if it is believed that the vessel can be operated with a smaller crew.

2. Deck Crew.

The maximum number of people needed in the deck crew will be figured as noted above, or as required by watchkeeping requirements, whichever is greater. On vessels 100 GRT and above, except those navigating exclusively on rivers or lakes (except the Great Lakes), the unlicensed crew must hold credentials and at least 65 percent must be endorsed as ABs. If propelling machinery is installed aboard seagoing sailing school vessels of 300 GRT or more, a credentialed engineer must be carried. On ocean or coastwise or Great Lakes vessels of 100 GRT or more, the 3-watch standard applies.

L. Offshore Supply Vessels (OSVs).

1. <500 GRT or 6,000 GT ITC

a. Voyages Of 600 Miles And More.

1-Master	<u>*1-Chief Engineer</u>
2-Mates	<u>*2-Assistant Engineers</u>
<u>*3-Able Seamen-OSV</u>	*3-Oilers
	*1-Tankerman

b. Voyages Of Less Than 600 Miles.

1-Master	<u>*1-Chief Engineer</u>
1-Mate	<u>*1-Assistant Engineers</u>
<u>*2-Able Seaman-OSV</u>	<u>*3-Oilers</u>
	*1-Tankerman

2. ≥500 GRT or 6,000 GT ITC

a. Voyages Of 600 Miles And More.

<u>1-Master</u>	<u>*1-Chief Engineer</u>
<u>3-Mates</u>	<u>*3-Assistant Engineers</u>
<u>2-Able Seamen</u>	<u>*3-Oilers</u>
<u>*3-Able Seamen-Limited</u>	<u>*1-Tankerman</u>

b. Voyages Of Less Than 600 Miles.

<u>1-Master</u>	<u>*1-Chief Engineer</u>
<u>2-Mates</u>	<u>*2-Assistant Engineers</u>
<u>*3-Able Seaman-Limited</u>	<u>*3-Oilers</u>
	<u>*1-Tankerman</u>

*** Denotes Variables**

3. Variables.

a. Engineers.

Number of engineering personnel dependent on level of automation. Refer to Chapter 25 and NVIC 1-78, as amended, for specific guidance. A designated duty engineer (DDE) can serve as a Chief or Assistant Engineer, subject to the restrictions of their

endorsement, on vessels of not more than 500 GRT. Engineroom ratings (i.e. Oilers) are not subject to the two watch provisions of 46 U.S.C. 8104(g).

b. Tankermen.

Tankermen are required aboard all vessels that carry oil or hazardous materials in bulk as cargo or residue, and the number required shall be noted on the COI. OSVs with a capacity of at least 250 barrels oil or hazardous material in bulk (e.g., oil based drilling mud) within cargo tanks or portable tanks must have a credentialed master, mate, engineer, or pilot as the person in charge of transfer operations. OSVs which do not carry oil or hazardous materials in bulk as cargo, but carry fuel within the fuel supply tanks for transfer to an offshore facility may have either a certified tankerman or a licensed master, mate, pilot or engineer as the person in charge of transfer operations. OSVs with a cargo capacity exceeding 20 percent of its deadweight tonnage are considered tankers and must meet the more stringent manning scales in sections 21.E or 21.F.

c. Able Seamen (ABs).

The OCMI may consider allowing specially trained ordinary seaman (OS) meeting the requirements of NVIC 3-83 as substitutes for up to 35 or 50 percent, respectively, of the required ABs on domestic voyages as provided by 46 USC 8702(b)(2). Reference section B.1.a.(3) of Chapter 23 for additional information concerning the substitution of able seamen with specially trained ordinary seamen on voyages subject to STCW.

M. Oil Spill Response Vessels (OSRVs).

1. General.

It is expected that many OSRVs will be converted Offshore Supply Vessels (OSVs). OSVs manning scales are not considered appropriate for this new class of vessels. OSRVs will require a 24-hour day capability when engaged in spill response. OSRVs are technically tankers, as defined by 46 U.S.C. 2101(38), and therefore are subject to the workhour limitations imposed by 46 U.S.C. 8104(n). Existing automated OSVs being converted to OSRVs shall be reevaluated for a determination of appropriate manning levels. Manning reductions based on automation shall be handled according to existing regulations and policies. The sample scales below are stated for conventional (non-automated) Oil Spill Recovery Vessels in restricted ocean service; vessels limited to inland routes could have reduced manning levels provided workhour limitations are not exceeded.

2. Sample Scales.

a. Oil Spill Response Vessels Of 500 GRT Or More.

These vessels should be manned similarly to a tank vessel (see section 21.E.1).

b. Oil Spill Response Vessels Between 100 And 500 GRT.

1-Master	*1-Chief Engineer
*2-Mates	*2-Assistant Engineers
*3-Able Seamen	*3-Oilers *2-Tankermen

c. Oil Spill Response Vessels Of 100 GRT And Less.

1-Master
*1-Mate
2-Deckhands
*2-Tankermen

*** Denotes Variables**

3. Variables.

a. Mates.

At least two mates must be assigned on a seagoing inspected OSRV vessel when engaged in an operation over 12 hours in duration. One mate is required when engaged in an operation of less than 12 hours. The watches may be divided into at least two watches when engaged in an operation less than 12 hours in duration. The above scales presume that the master will also stand watches; if the overall responsibilities of the master preclude watchstanding, then an additional mate is required for vessels operating in excess of 12 hours.

b. Able Seamen (ABs).

At least 65 percent of the unlicensed deck crew on seagoing vessels over 100 GRT must hold endorsements for AB. Endorsement as AB-Special is the minimum AB qualification allowed by 46 U.S.C. 7312. The OCMI may consider allowing specially trained ordinary seaman (OS) meeting the requirements of NVIC 3-83 as substitutes for up to 35 percent of the required ABs on domestic voyages. Reference section D.1. of Chapter 23 for additional information concerning the substitution of able seamen with specially trained ordinary seamen. On vessels engaged on voyages of less than 12 hours, 2 ABs may be permitted since the vessel may operate on a two watch schedule. However, the OCMI must consider the ability of the reduced crew to remain within the workhour limits of 46 U.S.C. 8104(n). The OCMI should assess the need for an additional number of ABs to be included in the required manning level. This may be required for vessels operating in an area routinely subject to inclement weather which requires additional lookouts to maintain an adequate watch, or on vessels requiring dedicated helmsmen to be assigned.

c. Engineers.

All OSRVs propelled by machinery of at least 300 GRT, regardless of route, require a credentialed engineer. Seagoing self-propelled inspected vessels of at least 200 GRT require a credentialed chief engineer, and other credentialed engineers as may be

necessary to stand watches. Manning requirements for licensed engineers are found in 46 CFR 15.820 and 15.825. The scales represent a three-watch manning schedule for non-automated engineering propulsion plants. Depending on the level of sophistication of installed engineering automated control and monitoring systems, the credentialed engineering officers and ratings may be reduced based on the system's review and approval in accordance with 46 CFR Part 62 and other existing policy.

d. Tankermen.

Tankermen are required aboard these vessels whenever any transfer operations are conducted. At least two additional tankermen separate from the navigating crew are considered necessary for these operations to comply with the workhour limitations addressed in paragraph 1 of this section. These additional tankermen might be provided as part of the incident response crew, or the owner may opt to have the additional qualified tankermen as part of the permanent crew. An individual holding an endorsement as restricted tankerman under 46 CFR 13.111 may be utilized to satisfy the tankerman requirement, subject to any restrictions on the tankerman endorsement.

N. Oil Spill Response Barges (OSRBs).

1. Manning.

Title 46, United States Code, Chapter 87 allows the Secretary to prescribe the individuals serving on board an OSRV, (including an OSRB) who must hold a credential. Some OSRBs have been outfitted with skimming equipment having the capability to recover and store recovered oily liquids in bulk. This necessitates placing persons onboard the vessel for the safe operation of the barge and its machinery/equipment. Those persons who are assigned to the vessel, engage in the business of the vessel, and are part of the routine underway operations of the vessel are required to hold a valid credential. The number of persons required is determined by the cognizant Officer-in-Charge, Marine Inspection using the policy found in this section. When the vessel is in operation for training exercises and drills, and the evolution is less than 12 hours in duration the persons associated with the safe operation of the vessel may be reduced.

a. ABs and Ordinary Seaman.

At least 65 percent of the unlicensed deck crew on seagoing vessels over 100 GRT must hold endorsements for AB. The alternatives for ABs as found in the provision of 21.M.3.b. may be employed by the OCMI. The OCMI must consider the vessel's operation, work hour considerations and prevailing weather conditions when determining the proper number of deck crew.

b. Watchmen.

When the OSRB is outfitted with crew shelters/quarters and industrial workers have access to the vessel, a suitable number of watchmen shall be provided but will not be less than two.

- c. Certificated Lifeboatmen
The number of certificated lifeboatmen must be separately stated on the COI. This number will vary depending on the lifeboat and life raft requirements for each vessel, in accordance with the regulations
 - d. Tankermen/Persons-In-Charge.
When required, these crewmembers shall be separate from the deck crew in order to comply with the workhour limitations. The vessel's COI should reflect this condition of operation.
2. Crew Quarters and Shelters.
The construction and structural fire protection standards for accommodations should meet the requirements found in 46 CFR, Subchapter D.
 3. Persons in Addition to the Crew (PACs).
To sustain operations during oil spill response, workers will be present aboard the OSRB to recover oil, but will necessarily be part of the underway operating crew assigned to the vessel. These workers are deemed industrial workers and are not required to hold an **MMC** as are on board the vessel for the sole purpose of carrying out the industrial business or function of the vessel. These personnel will need to have access to the vessel as a work and training platform. For response operations, training purposes, and drills the total persons carried shall be determined by the OCMI but may not exceed a total capacity of primary lifesaving equipment on board the vessel, nor shall they adversely impact the vessel's stability. Unless the barge is specifically designed and constructed for the carriage of personnel, the following applies: On all voyages beyond the boundary line, all persons shall be transported on the attending vessel and transferred to the OSRB from the attending vessel upon arrival at the training/response site. All personnel transfers shall be conducted when the attending vessel master deems conditions safe for transfers. Adequate primary lifesaving equipment shall be on board the vessel for all persons carried. The OSRB will provide no overnight accommodations for the PACs, unless the provisions in paragraph 21.N.2. are met.
 4. Attending Vessel.
When the OSRB is underway with persons onboard, engaged in oil spill operations, drills, or training exercises, a vessel must be in attendance at all times. The attending vessel must be capable of receiving all persons aboard in the event of an emergency evacuation, and shall be equipped as a standby vessel in accordance with 33 CFR 143.405. The attending vessel does not have to meet the multiple propellers or propulsion devices requirement of 33 CFR 143.405 provided the vessel can demonstrate it has adequate maneuvering capabilities.
 5. Lightering and Discharges to Shoreside Reception Facility.
The OSRB is generally a tank barge that changed service to Oil Spill Recovery Barge. During an oil response, it is likely that these barges may be employed as lightering barges receiving recovered oil from other oil recovery vessels and then discharging their cargo to a shore facility. The person-in-charge of all oily liquid transfers shall have a tankerman endorsement for the grade(s) of cargo transferred that is appropriate for the vessel. A restricted tankerman endorsement in accordance with 46 CFR 13.111 is acceptable for

these vessels. When engaged in lightering or oily liquid transfers, a minimum of two (2) persons-in-charge shall be on board the vessel. When lightering/transfer operations are less than 12 hours in duration only one person-in-charge is required. The persons-in-charge are only required during transfer operations and not for recovering oil. This requirement is an operational restriction and should be placed in the operating details of the COI. The following verbiage shall be used on the OSRB COI:

"WHEN TRANSFERRING RECOVERED OILY LIQUIDS OR OIL TO OR FROM ANOTHER VESSEL OR FACILITY, A TANKERMAN-PERSON-IN-CHARGE SHALL BE PROVIDED."

O. Mobile Offshore Drilling Units (MODUs).

1. Sample Scales.

a. Drillships On Location (Bottom bearing or moored with anchors placed in the drilling configuration).

1-Master (With OIM Endorsement)	1-Chief Engineer
1-Mate	*1-Assistant Engineer
2-Able Seamen	*2-Oilers
1-Radio Officer (If required by the FCC)	1-Ordinary Seaman

b. Drillships Underway-Voyage Of More Than 72 Hours.

1-Master	1-Chief Engineer
1-Chief Mate	*3-Assistant Engineers
1-Second Mate	*3-Oilers
1-Third Mate	*6-Able Seamen
1-Radio Officer (If required by the FCC)	*3-Ordinary Seamen

* Denotes Variables

c. Drillships Underway-Voyage Of More Than 16 But Not More Than 72 Hours.

1-Master	1-Chief Engineer
2-Mates	*2-Assistant Engineers
4-Able Seamen	*3-Oilers
1-Radio Officer (If required by the FCC)	*2-Ordinary Seamen

d. Drillships Underway-Voyage Of Not More Than 16 Hours.

1-Master	1-Chief Engineer
1-Mate	*1-Assistant Engineer
4-Able Seamen	*2-Oilers
*2-Ordinary Seamen	
1-Radio Officer (If required by the FCC)	

[NOTE: When engaged on a voyage of not more than 8 hours, the crew may be reduced by 2 able seamen, 1 ordinary seaman, and 1 oiler.]

e. Self-Propelled Surface Units (Other Than Drillships) Underway-Voyage Of More Than 72 Hours.

1-Master (With OIM Endorsement)	1-Chief Engineer
1-Chief Mate (With BS or BCO Endorsement)	*3-Assistant Engineers
2-Mates (With BCO Endorsement)	*3-Oilers
1-Radio Officer (If required by the FCC)	*6-Able Seamen
	*3-Ordinary Seamen

f. Self-Propelled Surface Units (Other Than Drillships) Underway-Voyage Of More Than 16 Hours But Not More Than 72 Hours.

1-Master (With OIM Endorsement)	*1-Chief Engineer
2-Mates (With BCO Endorsement)	*2-Assistant Engineers
*2-Ordinary Seamen	*2-Oilers
1-Radio Officer (If required by the FCC)	4-Able Seamen

g. Self-Propelled Surface Units (Other Than Drillships) Underway-Voyage Of Not More Than 16 Hours.

1-Master (With OIM Endorsement)	*1-Chief Engineer
2-Mates (With BCO Endorsement)	*1-Assistant Engineer
*2-Ordinary Seamen	*2-Oilers
1-Radio Officer (If required by the FCC)	4-Able Seamen

[Note: When engaged on a voyage of not more than 8 hours, the crew may be reduced by 2 able seamen, 1 ordinary seaman, and 1 oiler.]

h. Self-Propelled Surface Units (Other Than Drillships) On Location Or Under Tow.

1-Master (With OIM Endorsement)	1-Chief Engineer
1-Mate (With BCO Endorsement)	*1-Assistant Engineer
1-Ballast Control Operator	*2-Oilers
1-Radio Officer (If required by the FCC)	2-Able Seamen
	1-Ordinary Seamen

* Denotes Variables

i. Non-Self-Propelled MODUs (Excluding Bottom Bearing Units) On Location Or Under Tow.

1-Offshore Installation Manager
1-Barge Supervisor
2-Ballast Control Operators
2-Able Seamen
1-Ordinary Seaman

j. Non-Self-Propelled Bottom Bearing Units On Location Or Under Tow.

1-Offshore Installation Manager
2-Able Seamen
1-Ordinary Seaman

2. Variables.

a. Offshore Installation Manager (OIM), Barge Supervisor (BS), And Ballast Control Operator (BCO).

Special MODU manning requirements may be found in 46 CFR 15.520 and 15.810.

b. ABs And Ordinary Seamen.

On ocean or coastwise routes, the number of ABs and ordinary seamen carried must be sufficient for the watch system provisions of 46 U.S.C. 8104 and 46 CFR 15.840. In addition, the OCMI must ensure sufficient lifeboatmen will be provided through manning levels established [\(46 CFR 15.845\)](#).

c. Engineers.

Individuals holding MODU engineer [credentials](#) may be substituted for the required [credentialed](#) engineers at the discretion of the OCMI.

P. Dredges.

Commercial dredges are subject to inspection and manning requirements either because they are propelled by steam or they are seagoing motor vessels. As such vessels are generally of [300 GRT or more](#), the standards in section 21.E of this volume should be used to establish manning scales for such vessels. The following endorsement may be used when appropriate: "When dredging in lakes, bays, sounds, or rivers exclusively, or engaged on a coastwise voyage of less than 400 miles for the purpose of dumping dredge spoil, the minimum manning shall be as follows:

1-Master	1-Chief Engineer
1-Mate	1-Assistant Engineer
2-Able Seamen	2-Firemen/Watertenders
1-Ordinary Seaman	2-Oilers

[NOTE: Vessels operating exclusively on river routes are not required to carry [credentialed](#) personnel (see 46 U.S.C. 8701 and 8702). In such cases, it is appropriate to include the ratings by name on the COI followed by "NC" (Not [Credentialed](#)).]

Q. Nuclear-Powered Vessels.

Any request for a manning scale for a nuclear-powered vessel shall be forwarded to Commandant (CG-CVC).

R. Motor-Propelled Oceangoing Yachts.

1. Required Manning.

The statutory authority regarding the manning of seagoing motor-propelled yachts of 300 GRT or more is based on a combined reading of 46 U.S.C. 8101, 8301, and 8304. When certificating the vessel, consideration shall be given to manning, which includes the following:

- | | |
|----------------------------|------------------------|
| 1-Master | *1-Chief Engineer |
| *1-Licensed Mates | *1-Assistant Engineers |
| * -Able Seamen | * -Oilers |
| * -Deckhands | |
| * Denotes Variables | |

S. Hydrofoils And Air Cushion Vehicles (ACVs) Under 100 GRT.

1. Introduction.

The use of hydrofoils and ACVs in the U.S. has been limited to date. There are no regulations specifically addressing these vessels, and the Coast Guard's involvement has been only with those craft used as small passenger vessels. Until these vessels become more widely used, specific standards for operators cannot be established. The ultimate decision as to whether an applicant has adequate training and possesses sufficient knowledge and skill to operate a hydrofoil or ACV must rest with the OCMI. However, the following minimal requirements shall be applied:

a. Required Credential.

Possession of a credential endorsed as master for conventional passenger vessels of commensurate tonnage and, for vessels subject to the High-Speed Craft (HSC) Code, a type rating endorsement;

b. Required Course.

Successful completion of a course conducted by either the manufacturer or owner of the vessel, acceptable to the OCMI or approved by the National Maritime Center (NMC) for a HSC type rating endorsement; and

c. Operating Experience.

Completion of a period of operating experience, as required by the OCMI. For the first vessel of a particular type, the OCMI may make special arrangements for the initial operator to obtain operating experience.

2. Training Courses.

The Coast Guard does not currently provide formal approval of training courses for hydrofoil and ACV operators, other than those that are considered High-Speed Craft under the HSC Code. Although hydrofoils and ACVs may not be built and classed to the High

Speed Craft Code, the training required for personnel on a HSC is an appropriate reference. Training should be substantially similar to that prescribed in NMC Policy Letter 6-01 or superseding policy (although the OCMI's discretion in this regard is not limited). The OCMI's prior review and acceptance of a training course's level of proficiency is appropriate; an inspector may be assigned to participate in or monitor such a course to evaluate its effectiveness.

3. Manning Standards.

A hydrofoil or ACV shall carry two credentialed individuals having radar observer endorsements on their credentials; this arrangement will allow one operator to monitor the radar while the other "cons" the vessel. The number of required deckhands shall be determined by the OCMI according to the size and arrangement of the vessel, its route(s), and its operation; a minimum of four deckhands is envisioned.

[NOTE: This manning scale applies only to vessels under 100 GRT, operating up to 12 consecutive hours. Vessels operating for more than 12 hours at a time shall be required to carry another full crew for relief purposes.]

T. Hydrofoils And ACVs Over 100 GRT.

Requests relative to personnel qualifications and manning scales for large hydrofoils and ACVs, other than those subject to inspection under 46 U.S.C. 3301, shall be forwarded with full background information to the Commandant (CG-CVC), via the district commander. Insofar as practical, the manning scales for such vessels shall parallel those of conventional vessels of similar trades, routes, and tonnages. Requirements for special training, radar observer endorsements, and two credentialed individuals per deck watch shall apply; unique machinery installations may require special training or engineering personnel.

U. Submersible Vessels.

1. General.

Currently, submersibles have only been inspected for service as passenger vessels. However, there are a number of uninspected vessels of this type, including uninspected passenger submersibles (carrying 6 or less passengers), oceanographic research and underwater survey submersibles. Eventually, there may be an expansion of services for this class of vessel which would necessitate inspection, such as its use as an industrial vessel. Coast Guard regulations do not currently address licensing and manning requirements for submersibles. A manning and licensing proposal should be submitted to Commandant (CG-CVC) via the Officer-in-Charge, Marine Inspection (OCMI). This proposal should address the levels of personnel training and qualifications including certifications held, as well as the number of personnel considered necessary for the safe operation of the vessel. The credentialed individuals as well as any unlicensed crew would be required to complete a comprehensive course prescribed by the vessel manufacturer. It is expected the course schedule should be similar to that noted in section 21.S.2.

2. Sample Scale.

a. Crew General Operation.

1-Master

*1-Mate

*Additional Deckhands based on the number of passengers aboard or service requirements

*** Denotes Variables**

3. Variables.

At least two credentialed officers should be provided to ensure the vessel can be safely operated under all conditions. This ensures that at least one other person is capable of taking control of the vessel's navigation should the pilot become incapacitated, and also provides another individual for assisting and directing the passengers and required crew in the event of an emergency.

V. Multi-Service (Certificated) Offshore Supply Vessels.

Multi-service vessel COIs should be structured such that appropriate manning is specified for each vessel service and voyage lengths. The OCMI is responsible for determining acceptable manning levels for vessels inspected in their respective OCMI zones. When a multi-service vessel is not operating as an OSV, it is required to meet the manning requirements of the applicable service. Any vessel operating as a multi-service vessel should have the type of service entered into the vessel's log book or record. Although an official logbook is not required for all OSVs, tank, or cargo and miscellaneous vessels operating in domestic service, 46 CFR Subchapter L requires that an OSV without an official logbook have an unofficial log or record (46 CFR 131.610). This entry should be made each time the vessel changes service. The master is to ensure that the service of the vessel (either OSV, tank, or cargo and miscellaneous) is officially noted in the vessel's logbook or record. This requirement should be entered into the conditions of operation on the vessel's COI.

W. STCW Manning Reference Tables (Seagoing Vessels).

The tables found in this section provide guidance on the numbers of credentialed deck and engineer officers appropriate to different sizes of vessels (tonnage), trading areas, and aggregate propulsion power as well as STCW certification references. Additional tables are provided, pertaining to uninspected towing vessels (UTVs) and offshore supply vessels (OSVs). These tables do not address or provide guidance applicable to Mobile Offshore Drilling Units (MODUs). The number of ratings required should be determined by the factors summarized elsewhere in this Chapter. As the watchkeeping arrangements for the engineering department and the demands placed on personnel vary significantly according to the level of automation, these tables only provide guidance and are not all-inclusive. OCMI as well as owners/operators must take all relevant factors into account during the manning determination process. In consideration of the manning scale variables, the OCMI should give due regard to the company's manning proposal as discussed in Chapter 20.

Figure 21-1: Deck Officer Table

Trading Area	Inspection Status	Size of Vessel (GRT)	Number of Officers to be carried – STCW 2010			
			Reg II/2 Master	Reg II/2 Ch.Mate	Reg II/1 OICNW	Reg II/3 OICNW
Unlimited	Inspected	≥1,000	1	1	2(a)	-
Unlimited	Inspected	<1,000 ≥500	1	1	1	-
Unlimited	Inspected	<500 ≥100	1	-	2	-
Unlimited	Inspected	<100	1	-	1(c)	-
Unlimited	Uninspected	<300 ≥200	1	-	2(d)	-
Unlimited	Uninspected	<200	1	-	1(c)	-
Near-Coastal	Inspected	≥1,000	1	1	2(a)	-
Near-Coastal	Inspected	<1,000 ≥500	1	1	1	-
Near-Coastal	Inspected	<500 ≥100	-	-	-	3(b)
Near-Coastal	Inspected	<100	-	-	-	2(b)(c)
Near-Coastal	Uninspected	<300 ≥200	-	-	-	3(b)(d)
Near-Coastal	Uninspected	<200	-	-	-	-

Variables

- a. When on a voyage of less than 400 miles from port of departure to port of final destination, OICNW may be reduced to one.
- b. One must have an endorsement for the capacity of master.
- c. Vessels on voyages not exceeding 12 hours in duration may, if the OCMI determines it to be safe, be operated without mates.
- d. An individual in charge of the navigation or maneuvering of a self-propelled, uninspected, documented, seagoing vessel of 200 GRT or over must hold an appropriate license or MMC authorizing service as mate.

Figure 21-2: Engineer Officer Table

Trading Area	Inspection Status Size of Vessel (GRT)	Registered Propulsion Power kW (hp)	Number; Grade of Officers to be carried – STCW 2010			Total
			Chief Engineer	Second Engineer (U.S. 1 st A/E)	OICEW	
Unlimited	Inspected ≥1000	≥3,000kW (4,000hp)	1; III/2	1; III/2	2; III/1	4
Unlimited	Inspected <1000 ≥500	≥3,000kW (4,000hp)	1; III/2	1; III/2	2(a); III/1	4
Unlimited	Inspected <500 ≥100	≥3,000kW (4,000hp)	1; III/2(b)	1; III/2(b)	2(a); III/1(c)	4
Unlimited	Inspected <100	≥3,000kW (4,000hp)	(h)	-	(h)	
Unlimited	Inspected ≥1000	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3	1; III/3	2; III/1	4
Unlimited	Inspected <1000 ≥500	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3	1; III/3	2(a); III/1	4
Unlimited	Inspected <500 ≥100	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3(b)	1; III/3(b)	2(a); III/1(c)	4
Unlimited	Inspected <100	<3,000kW (4,000hp) ≥750kW (1000hp)	(h)	-	(h)	-
Unlimited	Uninspected <300 ≥200	≥3,000kW (4,000hp)	1; III/2(b)(d)	-	2; III/1(c)(e)	3

Figure 21-2: Engineer Officer Table (Con't)

Trading Area	Inspection Status Size of Vessel (GRT)	Registered Propulsion Power kW (hp)	Number; Grade of Officers to be carried – STCW 2010			Total
			Chief Engineer	Second Engineer (U.S. 1 st A/E)	OICEW	
Unlimited	Uninspected <300 ≥200	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3(b)(d)	-	2; III/1(c)(e)	3
Unlimited	Uninspected <200	≥3,000kW (4,000hp)	(h); III/2(b)	-	(h); III/1(c)	See CH. 22 Para. E
Unlimited	Uninspected <200	<3,000kW (4,000hp) ≥750kW (1,000hp)	(h); III/3(b)	-	(h); III/1(c)	See CH. 22 Para. E
Near-Coastal	Inspected ≥1000	≥3,000kW (4,000hp)	1; III/2	1; III/2	2; III/1	4
Near-Coastal	Inspected <1000 ≥500	≥3,000kW (4,000hp)	1; III/2	1; III/2	2(a); III/1	4
Near-Coastal	Inspected <500 ≥100	≥3,000kW (4,000hp)	1; III/2(b)	1; III/2(b)	2(a); III/1(c)	4
Near-Coastal	Inspected <100	≥3,000kW (4,000hp)	(h)	-	(h)	-
Near-Coastal	Inspected ≥1000	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3	1; III/3	2; III/1	4
Near-Coastal	Inspected <1000 ≥500	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3	1; III/3	2(a); III/1	4
Near-Coastal	Inspected <500 ≥100	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3(f)	1; III/3(f)	2(a); III/1(g)	4

Figure 21-2: Engineer Officer Table (Con't)

Trading Area	Inspection Status Size of Vessel (GRT)	Registered Propulsion Power kW (hp)	Number; Grade of Officers to be carried – STCW 2010			Total
			Chief Engineer	Second Engineer (U.S. 1 st A/E)	OICEW	
Near-Coastal	Inspected <100	<3,000kW (4,000hp) ≥750kW (1,000hp)	(h)	-	(h)	-
Near-Coastal	Uninspected <300 ≥200	≥3,000kW (4,000hp)	1; III/2(b)(d)	-	2; III/1(e)(g)	3
Near-Coastal	Uninspected <300 ≥200	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3(b)(f)	-	2; III/1(e)	3
Near-Coastal	Uninspected <200	≥3,000kW (4,000hp)	(h); III/2(b)	-	(h); III/1(c)	See CH. 22 Para. E
Near-Coastal	Uninspected <200	<3,000kW (4,000hp) ≥750kW (1,000hp)	(h); III/3(f)	-	(h); III/1(g)	See CH. 22 Para. E

Variables

- a. If the OCMI determines it to be safe and a three watch system can effectively be maintained, OICEW may be reduced to one.
- b. A designated duty engineer with no horse power limitation, endorsed in accordance with STCW III/2 or III/3 (propulsion power dependant), is authorized for service as chief engineer or second engineer (U.S. 1st A/E) on vessels of not more than 500 GRT on any waters.
- c. A designated duty engineer with no horse power limitation, endorsed in accordance with STCW III/1, is authorized for service as OICEW on vessels of not more than 500 GRT on any waters.
- d. An individual engaged or employed to perform the duties of chief engineer on a mechanically propelled, uninspected, seagoing, documented vessel of 200 GRT or over must hold an appropriately endorsed license or MMC authorizing service as a chief engineer.
- e. An individual in charge of an engineering watch on a mechanically propelled seagoing, documented vessel of 200 GRT or over must hold an appropriately endorsed license of MMC authorizing service as an assistant engineer.

- f. A designated duty engineer limited to vessels of not more than 3000kW (4,000hp), endorsed in accordance with STCW III/3, is authorized for service as chief engineer or second engineer (U.S. 1st A/E) on vessels of not more than 500 GRT on near-coastal waters.
- g. A designated duty engineer limited to vessels of not more than 3000kW (4,000hp), endorsed in accordance with STCW III/1, is authorized for service as OICEW on vessels of not more than 500 GRT on near-coastal waters.
- h. 46 CFR 15.1103(a) may apply.

Figure 21-3: Uninspected Towing Vessels (UTV) – Deck Officers

Trading Area	Watch System	Size of Vessel (GRT)	Number of Officers to be carried – STCW 2010			
			Reg II/2 Master	Reg II/2 Ch.Mate	Reg II/1 OICNW	Reg II/3 OICNW
Unlimited	3 (≥600 miles)	<300 ≥200	1(a)(d)	-	2(a)(b)(d)	-
Unlimited	3 (≥600 miles)	<200	1(a)(d)	-	2(a)(d)	-
Unlimited	2 (<600)	<300 ≥200	1(a)(d)	-	1(a)(b)(d)	-
Unlimited	2 (<600)	<200	1(a)(d)	-	1(a)(d)	-
Near-Coastal	3 (≥600 miles)	<300 ≥200	-	-	-	3(a)(b)(c)(d)
Near-Coastal	3 (≥600 miles)	<200	-	-	-	3(a)(c)(d)
Near-Coastal	2 (<600)	<300 ≥200	-	-	-	2(a)(b)(c)(d)
Near-Coastal	2 (<600)	<200	-	-	-	2(a)(c)(d)

Variables

- a. 46 CFR 15.610(a) applies.
- b. An individual in charge of the navigation or maneuvering of a self-propelled, uninspected, documented, seagoing vessel of 200 GRT or over must hold an appropriate license or MMC authorizing service as mate.
- c. One must have an endorsement for the capacity of master.
- d. 46 CFR 15.1103(a) applies.

Figure 21-4: Uninspected Towing Vessels (UTV) – Engineer Officers

Trading Area	Watch System	Size of Vessel (GRT)	Registered Propulsion Power kW (hp)	Number; Grade of Officers to be carried – STCW 2010			Total
				Chief Engineer	Second Engineer (U.S. 1 st A/E)	OICEW	
Unlimited	3 (≥600 miles)	<300 ≥200	≥3000kW (4000hp)	1; III/2(a)(c)	-	2; III/1(b)(d)	3
Unlimited	3 (≥600 miles)	<200	≥3000kW (4000hp)	(g); III/2(a)	-	(g); III/1(b)	See CH. 22 Para. E
Unlimited	2 (<600)	<300 ≥200	≥3000kW (4000hp)	1; III/2(a)(c)	-	1; III/1(b)(d)	2
Unlimited	2 (<600)	<200	≥3000kW (4000hp)	(g); III/2(a)	-	(g); III/1(b)	See CH. 22 Para. E
Unlimited	3 (≥600 miles)	<300 ≥200	<3000kW (4000hp) ≥750kW (1000hp)	1; III/3(a)(c)	-	2; III/1(b)(d)	3
Unlimited	3 (≥600 miles)	<200	<3000kW (4000hp) ≥750kW (1000hp)	(g); III/3(a)	-	(g); III/1(b)	See CH. 22 Para. E
Unlimited	2 (<600)	<300 ≥200	<3000kW (4000hp) ≥750kW (1000hp)	1; III/3(a)(c)	-	1; III/1(b)(d)	2
Unlimited	2 (<600)	<200	<3000kW (4000hp) ≥750kW (1000hp)	(g); III/3(a)	-	(g); III/1(b)	See CH. 22 Para. E
Near-Coastal	3 (≥600 miles)	<300 ≥200	≥3000kW (4000hp)	1; III/2(a)(c)		2; III/1(b)(d)	3
Near-Coastal	3 (≥600 miles)	<200	≥3000kW (4000hp)	(g); III/2(e)	-	(g); III/1(f)	See CH. 22 Para. E

Figure 21-4: Uninspected Towing Vessels (UTV) – Engineer Officers (Con’t)

Trading Area	Watch System	Size of Vessel (GRT)	Registered Propulsion Power kW (hp)	Number; Grade of Officers to be carried – STCW 2010			Total
				Chief Engineer	Second Engineer (U.S. 1 st A/E)	OICEW	
Near-Coastal	2 (<600)	<300 ≥200	≥3000kW (4000hp)	1; III/2(a)(c)	-	1; III/1(b)(d)	2
Near-Coastal	2 (<600)	<200	≥3000kW (4000hp)	(g); III/2(a)	-	(g); III/1(b)	See CH. 22 Para. E
Near-Coastal	3 (≥600 miles)	<300 ≥200	<3000kW (4000hp) ≥750kW (1000hp)	1; III/3(c)(e)	-	2; III/1(d)(f)	3
Near-Coastal	3 (≥600 miles)	<200	<3000kW (4000hp) ≥750kW (1000hp)	(g); III/3(e)	-	(g); III/1(f)	See CH. 22 Para. E
Near-Coastal	2 (<600)	<300 ≥200	<3000kW (4000hp) ≥750kW (1000hp)	1; III/3(c)(e)	-	1; III/1(d)(f)	2
Near-Coastal	2 (<600)	<200	<3000kW (4000hp) ≥750kW (1000hp)	(g); III/3(e)	-	(g); III/1(f)	See CH. 22 Para. E.

Variables

- a. A designated duty engineer with no horse power limitation, endorsed in accordance with STCW III/2 or III/3 (propulsion power dependant), is authorized for service as chief engineer or second engineer (U.S. 1st A/E) on vessels of not more than 500 GRT on any waters.
- b. A designated duty engineer with no horse power limitation, endorsed in accordance with STCW III/1, is authorized for service as OICEW on vessels of not more than 500 GRT on any waters.
- c. An individual engaged or employed to perform the duties of chief engineer on a mechanically propelled, uninspected, seagoing, documented vessel of 200 GRT or over must hold an appropriately endorsed license or MMC authorizing service as a chief engineer (see 46 CFR 15.820(b)).

- d. An individual in charge of an engineering watch on a mechanically propelled seagoing, documented vessel of 200 GRT or over must hold an appropriately endorsed license or MMC authorizing service as an assistant engineer (see 46 CFR 15.825(a)).
- e. A designated duty engineer limited to vessels of not more than 3,000kW (4,000hp), endorsed in accordance with STCW III/3, is authorized for service as chief engineer or second engineer (U.S. 1st A/E) on vessels of not more than 500 GRT on near-coastal waters.
- f. A designated duty engineer limited to vessels of not more than 3,000kW (4,000hp), endorsed in accordance with STCW III/1, is authorized for service as OICEW on vessels of not more than 500 GRT on near-coastal waters.
- g. 46 CFR 15.1103(a) may apply.

Figure 21-5: Offshore Supply Vessels (OSV) – Deck Officers

Trading Area	Watch System	Size of Vessel (GRT/ GT ITC)	Number of Officers to be carried – STCW 2010			
			Reg II/2 Master	Reg II/2 Ch.Mate	Reg II/1 OICNW	Reg II/3 OICNW
Unlimited	3 (≥600 miles)	≥6,000 GT ITC	1; II/2	1; II/2	2; II/1	-
Unlimited	3 (≥600 miles)	<500 GRT or 6,000 GT ITC	1; II/2	-	2; II/1	-
Unlimited	2 (≤600 miles)	≥6,000 GT ITC	1; II/2	1; II/2	1; II/1	-
Unlimited	2 (≤600 miles)	<500 GRT or 6,000 GT ITC	1; II/2	-	1; II/1	-
Near-Coastal	3 (≥600 miles)	≥6,000 GT ITC	1; II/2	1; II/2	2; II/1	-
Near-Coastal	3 (≥600 miles)	<500 GRT(a) or 6,000 GT ITC ≥500 GT ITC	1; II/2	-	2; II/1	-
Near-Coastal	2 (≤600 miles)	≥6,000 GT ITC	1; II/2	1; II/2	1; II/1	-
Near-Coastal	2 (≤600 miles)	<500 GRT(a) or 6,000 GT ITC ≥500 GT ITC	1; II/2	-	1; II/1	-
Near-Coastal	3 (≥600 miles)	<500 GT ITC	-	-	-	3; II/3(b)
Near-Coastal	2 (≤600 miles)	<500 GT ITC	-	-	-	2; II/3(b)

Variables

- a. If a vessel is only assigned a GRT and no GT ITC, then the master and mate may be certificated in accordance with STCW II/3 for a vessel of less than 500 GRT on a near coastal voyage.
- b. One must have an endorsement as master.

Figure 21-6: Offshore Supply Vessels (OSV) – Engineer Officers

Trading Area	Watch System	Size of Vessel (GRT/ GT ITC)	Registered Propulsion Power kW (hp)	Number; Grade of Officers to be carried – STCW 2010			Total
				Chief Engineer	Second Engineer (U.S. 1 st A/E)	OICEW	
Unlimited	3 (≥600 miles)	≥6,000 GT ITC	≥3,000kW (4,000hp)	1; III/2	1; III/2	2; III/1	4
Unlimited	3 (≥600 miles)	<500 GRT or 6,000 GT ITC	≥3,000kW (4,000hp)	1; III/2(b)	1; III/2(b)	2(a); III/1(c)	4
Unlimited	2 (<600)	≥6,000 GT ITC	≥3,000kW (4,000hp)	1; III/2	1; III/2	1; III/1	3
Unlimited	2 (<600)	<500 GRT or 6,000 GT ITC ≥200	≥3,000kW (4,000hp)	1; III/2(b)	-	2(a); III/1(c)	3
Unlimited	3 (≥600 miles)	≥6,000 GT ITC	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3	1; III/3	2(a); III/1	4
Unlimited	3 (≥600 miles)	<500 GRT or 6,000 GT ITC ≥200	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3(b)	-	2; III/1(c)	3
Unlimited	2 (<600)	≥6,000 GT ITC	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3	1; III/3	1; III/1	3
Unlimited	2 (<600)	<500 GRT or 6,000 GT ITC ≥200	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3(b)	-	2(a); III/1(c)	3
Unlimited	Any	<200	Any	(f)	-	(f)	-

Figure 21-6: Offshore Supply Vessels (OSV) – Engineer Officers (Con’t)

Trading Area	Watch System	Size of Vessel (GRT/ GT ITC)	Registered Propulsion Power kW (hp)	Number; Grade of Officers to be carried – STCW 2010			Total
				Chief Engineer	Second Engineer (U.S. 1 st A/E)	OICEW	
Near-Coastal	3 (≥600 miles)	≥6,000 GT ITC	≥3,000kW (4,000hp)	1; III/2	1; III/2	2; III/1	4
Near-Coastal	3 (≥600 miles)	<500 GRT or 6,000 GT ITC	≥3,000kW (4,000hp)	1; III/2(b)	1; III/2(b)	2(a); III/1(c)	4
Near-Coastal	2 (<600)	≥6,000 GT ITC	≥3,000kW (4,000hp)	1; III/2	1; III/2	1; III/1	3
Near-Coastal	2 (<600)	<500 GRT or 6,000 GT ITC ≥200	≥3,000kW (4,000hp)	1; III/2(b)	-	2(a); III/1(c)	3
Near-Coastal	3 (≥600 miles)	≥6,000 GT ITC	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3	1; III/3	2(a); III/1	4
Near-Coastal	3 (≥600 miles)	<500 GRT or 6,000 GT ITC ≥200	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3(d)	-	2; III/1(e)	3
Near-Coastal	2 (<600)	≥6,000 GT ITC	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3	1; III/3	1; III/1	3
Near-Coastal	2 (<600)	<500 GRT or 6,000 GT ITC ≥200	<3,000kW (4,000hp) ≥750kW (1,000hp)	1; III/3(d)	-	2(a); III/1(e)	3
Near-Coastal	Any	<200	Any	(f)	-	(f)	-

Variables

- a. If the OCMI determines it to be safe and a three watch system can effectively be maintained, OICEW may be reduced to one.
- b. A designated duty engineer with no horse power limitation, endorsed in accordance with STCW III/2 or III/3 (propulsion power dependant), is authorized for service as chief engineer or second engineer (U.S. 1st A/E) on vessels of not more than 500 GRT on any waters.
- c. A designated duty engineer with no horse power limitation, endorsed in accordance with STCW III/1, is authorized for service as OICEW on vessels of not more than 500 GRT on any waters.
- d. A designated duty engineer limited to vessels of not more than 3,000kW (4,000hp), endorsed in accordance with STCW III/3, is authorized for service as chief engineer or second engineer (U.S. 1st A/E) on vessels of not more than 500 GRT on near-coastal waters.
- e. A designated duty engineer limited to vessels of not more than 3,000kW (4,000hp), endorsed in accordance with STCW III/1, is authorized for service as OICEW on vessels of not more than 500 GRT on near-coastal waters.
- f. 46 CFR 15.1103(a) may apply.

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A. Introduction.

Chapters 20-26 have been structured to interlink various elements affecting the safe manning and watchkeeping on U.S. vessels and should be referenced comprehensively. Refer to Chapter 20 paragraph A for a summary of all Chapters. This Chapter provides supplementary guidance on the manning requirements for credentialed officers and licensed individuals, as well as a detailed discussion on the impact of international standards.

B. Impact Of International Standards.

The combined effect of several international conventions significantly impact manning standards for credentialed personnel on U.S. documented vessels operating beyond the boundary line. A conceptual understanding of the relationship between the fundamentals of the manning level provisions relating to the establishment of crew complement and the certification requirements for the requisite crew is essential to the administration of the safe manning principles. The manning levels on U.S. documented vessels are derived from statutory and regulatory requirements, in concert with official directives.

1. Officer's Competency Certificates Convention (OCCC) 1936.

The OCCC is implemented in 46 U.S.C. 8304 requiring persons serving in the capacity of master, mate, or engineer on any vessel operating on the high seas (i.e., operating beyond the boundary line) of 200 GRT or over to hold a certificate of competency issued under 46 U.S.C. 7101 appropriate for the route and tonnage of the vessel. The OCCC differs from other conventions in that various definitions are presented, which associate positions such as navigating officer and engineer officer in charge of a watch with any person that is actually in charge of the navigation or maneuvering of a vessel or running of a vessel's engines, respectively. In essence, this means that any person performing duties as defined under the Convention must be the holder of an appropriate officer endorsement, and not merely a merchant mariner's document/credential or rating endorsement. This doctrine serves as the statutory framework for the prescription of a distinct tonnage threshold to be applied as the basis for determining the minimum number of credentialed officers required for the safe operation of a vessel. The OCCC differs from other international instruments in relation to the applicability of the U.S. Regulatory Measurement System versus the measurement system of the International Convention on Tonnage Measurement of Ships, 1969, otherwise known as the Convention Measurement System. Accordingly, for vessels that have requested and received a GRT measurement, the Secretary is required to use the Regulatory Measurement System tonnage as the basis for determining the required number of credentialed officers in a crew complement. For vessels measured solely under the Convention Measurement System, the GT ITC is used to apply manning requirements. Mariners engaged to perform the duties in this capacity, as required by statute or regulation, are obliged to comply with the training and certification requirements of STCW, as applicable (see paragraphs 22.A.2 and 22.A.3).

2. International Convention Of Standards Of Training, Certification And Watchkeeping For Seafarers (STCW) 1978, as amended.

The U.S. regulations (46 CFR Parts 10, 11, 12, 13, and 15) parallel the provisions in STCW regarding the qualification and training requirements for watchstanding personnel. Through various amendments, STCW prescribes minimum standards relating to training, certification and watchkeeping for seafarers, which Parties are obliged to meet or exceed. Although STCW does not include specific manning level requirements, it does impact manning decisions where certification and training are concerned. As discussed in 46 CFR 15.1103, onboard a seagoing vessel operating beyond the boundary line, as described in 46 CFR Part 7, no person may employ or engage any person to serve, and no person may serve, in a position requiring a person to hold an STCW endorsement, including master, chief mate, chief engineer officer, second engineer officer, officer of the navigational or engineering watch, or GMDSS radio operator, unless the person serving holds an appropriate, valid STCW endorsement issued in accordance with 46 CFR Part 11. Mariners engaged to perform certain shipboard duties, as required by statute or regulation, are obliged to comply with the training and certification requirements of STCW, as applicable (see paragraph 22.A.3).

a. Deck Department Structure.

STCW identifies three licensed deck officer positions: master, chief mate and officer in charge of a navigational watch (e.g., mate). Refer to Chapter 21 for STCW Manning Reference Tables.

STCW Regulation	STCW Capacity	Factors
II/1	Officer in Charge of a Navigational Watch (OICNW)	Seagoing vessels of 500 GT ITC or more.
II/2	Master and Chief Mate	Seagoing vessels of 500 GT ITC or more.
II/3	Master and OICNW *See II/3.1 & .2 for vessels not engaged on near-coastal voyages	Seagoing vessels of less than 500 GT ITC engaged on near-coastal voyages.

b. Engine Department Structure.

STCW identifies three licensed engineer officer positions: chief engineer, second engineer officer (equivalent to a U.S. credentialed first assistant engineer), and officer in charge of an engineering watch (equivalent to a U.S. credentialed second or third assistant engineer or designated duty engineer). Refer to Chapter 21 for STCW Manning Reference Tables.

STCW Regulation	STCW Capacity	Factors
III/1	Officer in Charge of an Engineering Watch (OICEW)	Seagoing vessels powered by main propulsion machinery of 750 kW (1,000 hp) propulsion power or more.
III/2	Chief Engineer and Second (First Assistant) Engineer <u>Officer</u>	Seagoing vessels powered by main propulsion machinery of 3,000 kW (4,000 hp) propulsion power or more.
III/3	Chief Engineer and Second (First Assistant) Engineer <u>Officer</u>	Seagoing vessels powered by main propulsion machinery of between 750 kW (1,000 hp) and 3,000 kW (4,000 hp) propulsion power.

- (1) Designated Duty Engineer (DDE). Under U.S. provisions, if appropriately endorsed in accordance with the applicable STCW requirements, a DDE license or endorsement authorizes service as chief (III/2 or III/3) or assistant engineer (III/1) on vessels of not more than 500 GT ITC in the following manner:
- (a) A DDE limited to vessels of not more than 1000 hp or 4000 hp may serve only on near coastal, Great lakes, or inland waters;
 - (b) A DDE with no horsepower limitations may serve on any waters.
- c. Additional Requirements:
- (1) Basic Training. Onboard a seagoing vessel to which this section applies, no person may assign a shipboard duty or responsibility to any person who is serving in a position that must be filled as part of the required crew complement or who is assigned a responsibility on the muster list, and no person may perform any such duty or responsibility, unless the person performing it can produce evidence of having:

- (a) Received appropriate approved basic training or instruction as set out in the standards of competence under STCW Regulation VI/1, with respect to personal survival techniques, fire prevention and fire-fighting, elementary first aid, and personal safety and social responsibilities; and
- (b) Maintained the standard of competence under STCW Regulation VI/1, with respect to personal survival techniques, fire prevention and fire-fighting, elementary first aid, and personal safety and social responsibilities, every 5 years.
- (2) Lifeboatman. Every person assigned duties as a lifeboatman must hold a credential attesting to such proficiency. Persons serving on vessels subject to the STCW Convention must also hold an appropriate STCW endorsement (VI/2) in proficiency in survival craft and rescue boats other than fast rescue boats (PSC), or in proficiency in fast rescue boats. (See 46 CFR 15.404(e) and (g).)
- (3) Tankerman. An endorsement issued in accordance with 46 CFR Part 13 serves as proof that the person meets the mandatory minimum requirements of Chapter V of the STCW. Because STCW does not recognize restricted Tankerman-PIC endorsements, persons may not act under the authority of these endorsements on vessels conducting business outside the Boundary Line.
- d. Near-Coastal Voyages.
 - (1) Domestic Near-Coastal Voyages. The application of STCW to vessels on domestic voyages is not a result of the 1995 Amendments. STCW, as adopted in 1978 and as ratified by the United States in 1991, applied to personnel serving on "seagoing vessels," not only vessels on international voyages. Consequently, the Coast Guard is not able to provide a general exemption for seagoing vessels on domestic-only voyages. However, as provided in 46 CFR 15.103(f), personnel serving on the following small vessels engaged exclusively on domestic, near-coastal voyages are in compliance with 46 CFR Part 15 Subpart J and are, therefore, not subject to further requirements for the purposes of the STCW Convention:
 - (a) Small passenger vessels subject to Subchapter T or K of title 46, CFR.
 - (b) Vessels of less than 200 GRT (other than passenger vessels subject to Subchapter H of title 46 CFR).
 - (c) Uninspected passenger vessels (UPVs) as defined in 46 U.S.C. 2101(42)(B).

Under 46 CFR 15.103(g), personnel serving on vessels identified paragraphs 22.A.2.d.1.a and b may be issued, without additional proof of qualification, an appropriate STCW endorsement on their credential when the Coast Guard determines that such an endorsement is necessary to enable the vessel to engage on a single international voyage of a non-routine nature. The STCW endorsement will be expressly limited to service on the vessel or the class of vessels and will not establish qualification for any other purpose.

- (2) Foreign Near-Coastal Voyages. Absent explicit authorization to the contrary, through the execution of an agreement between parties, U.S. documented vessels operating on the near-coastal waters of a foreign country are considered to be engaged on an international voyage for the purposes of STCW and are subject to the provisions of Regulation I/3, Principles governing near-coastal voyages, unless otherwise exempted under current regulations. With respect to U.S. documented vessels regularly engaged on near-coastal voyages off the coast of another Party (i.e. coastal state), the U.S. shall prescribe the training, experience and certification requirements for mariners serving on such vessels at least equal to those on the coastal state, provided they do not exceed the requirements of the Convention in respect to vessels not engaged on near-coastal voyages. In cases where a U.S. vessel regularly operates in the vicinity of another country's coast, a U.S. near-coastal endorsement should be sufficient. However, under no circumstances shall the 200 nautical mile limitation be increased.
- (a) If a coastal state defines near-coastal more stringently than 200 miles offshore, as defined in 46 CFR 10.107, it is the prerogative of the coastal state to not accept the near-coastal interpretation of the United States. Mariners serving on a vessel which extends its voyage beyond what is defined as a near-coastal voyage by the coastal state and enters waters not covered by that definition shall fulfill the appropriate competency requirements of the Convention. The vessel owner/operator and master should be aware of the coastal state's requirements for vessels engaged on near-coastal voyages off the coast of another Party.

(b) Enforcement of the Canadian Marine Personnel Regulations will take effect on October 26, 2013 for U.S. vessels in Canadian waters. These regulations apply to Canadian vessels operating in all waters and to all vessels, irrespective of registry, operating in Canadian waters. The Canadian regulations stipulate that an individual on watch must hold a certificate/license appropriate to the class of vessel for the voyages on which the vessel is engaged. Although not required by U.S. regulations, the Canadian regulations require that, irrespective of tonnage or length, the authorized representative of a vessel shall ensure that its crew complement consist of an individual credentialed to be in charge of the vessel's machinery unless the vessel has a propulsive power of less than 750 kW (1,000 hp). Accordingly, all personnel (including additional engineering personnel employed to comply with the Canadian regulations) must hold a valid Merchant Mariner Credential issued by the U.S. Although the Canadian Marine Personnel Regulations call for certification in accordance with the International Convention of Standards of Training, Certification and Watchkeeping for Seafarers (STCW), Transport Canada and the Coast Guard have executed a memorandum of understanding (MOU) for the mutual recognition of personnel licensure and certification applicable to each nation's trading vessels while trading in the domestic waters of either the United States or Canada. Therefore, personnel are not required to obtain STCW endorsements when operating in the domestic waters of either the United States or Canada. The following notes may apply when preparing safe manning documentation for subject vessels;

- i. For certain vessels of less than 200 GRT on voyages to Canada, the Certificate of Inspection or safe manning document maybe endorsed to the effect of “*Chief Engineer, Assistant Engineers, or Designated Duty Engineers not required other than on voyages to Canada in accordance with Division 4 of the Canadian Marine Personnel Regulations.” See USCG MSIB 021-12 for additional information.
- ii. For vessels trading exclusively between the United States and Canada, the “STCW Grade/Capacity” and “STCW Regulation” fields on the safe manning documentation may be omitted as “N/A” if the “Trading Area” is limited to “Inland U.S./Canada,” “Near-Coastal U.S./Canada,” or “Great Lakes” exclusively.
- iii. For uninspected towing vessels to receive safe manning documentation endorsed for Periodically Unattended Machinery Space (PUMS), operators may present the OCMI with a Certificate of Class appropriately endorsed for unattended machinery status or meet the U.S. requirements (e.g. 46 CFR Part 62). Alternatively, as Part 62 and MSM Volume III Chapter 25 are not necessarily applicable to uninspected vessels, NVIC 1-78 may be used to establish PUMS.

3. International Convention On Tonnage Measurement Of Ships, 1969 (ITC).
With the 1995 Amendments to STCW coming into force on 1 February 2002, absent explicit authorization to the contrary, GT ITC is the applicable tonnage for the application of STCW. As provided for in Appendix 10 of IMO Resolution A.1052(27), Procedures for Port State Control, 2011, adopted 30 November 2011, use of Regulatory Measurement System tonnages for this purpose is no longer authorized. Therefore, regardless of tonnage, vessels engaged upon international voyages should be manned with appropriately credentialed mariners in accordance with STCW as reflected in the Certificate of Inspection or safe manning document.
- a. ITC Impact On Specific Vessels.
Small passenger vessels (SPV) and seagoing tugs are most significantly affected by the ITC. Consider, for example, the impact on a new small passenger vessel which measures in excess of 2500 GT ITC, but measures only 99 GRT by the Regulatory Measurement System. If the vessel remains exclusively in domestic service the master and mates must hold 100 GRT endorsements. If the same vessel engages in international voyages the master and mates must hold credentials with a minimum of 3000 GT ITC endorsements. In essence, the officers of this vessel would need to hold an unlimited tonnage endorsement when on vessels or voyages subject to STCW.
- b. Application of STCW Domestically.
The Coast Guard has established requirements for the implementation of STCW domestically, including the application of the Regulatory Measurement System (GRT) in determining the applicability of STCW to mariners employed on vessels of more than 200 GRT/500 GT ITC that operate beyond the boundary line and exclusively to and from U.S. ports (excluding operations from a foreign port). Further, in accordance with NVIC 7-00 and 46 CFR 15.103(f)(2), it is the policy of the Coast Guard that some variance is appropriate for personnel serving on U.S. flag vessels less than 200 GRT (500 GT ITC if GRT is not assigned) on domestic voyages beyond the boundary line. However, the OCMI should consider the safety of all vessels operating in the same waters before he/she grants any such variance. The Coast Guard has specifically determined that, for certain small vessels on domestic near-coastal voyages, the scheme of safety provided by the current credentialing program and the inspection and oversight programs for small vessels deliver a level of safety comparable to STCW.
4. The International Convention For Safety Of Life At Sea (SOLAS).
The IMO provisions relating to safe manning are covered by regulation in Chapter V of the International Convention for the Safety of Life at Sea (SOLAS), 1974, whose requirements are supported by IMO Resolution A.1047(27) Principles of Safe Manning, adopted in 2011. Specifically, SOLAS Chapter V, Regulation 14 requires each vessel to which Chapter I of SOLAS applies to be "sufficiently and efficiently" manned as evidenced by a Safe Manning Document (SMD) issued by the flag-state. It is important to distinguish between the Principles of Safe Manning, IMO Resolution A.1047(27), and the requirement to maintain a SMD found in SOLAS Chapter V/14. The principles of safe

manning apply to all vessels, regardless of size, as a guideline. The requirement to possess a flag-state issued SMD applies to vessels subject to Chapter I of SOLAS (500 GT ITC or more, absent explicit authorization to the contrary). To avoid adverse Port State Control action (e.g. detention), regardless of the SMD applicability, operators of vessels on international voyages should observe the guidelines pertaining to the principles of safe manning.

a. Inspected Vessels.

For U.S. flagged inspected vessels, the Certificate of Inspection (COI) serves as the safe manning document. The COI states the minimum number of credentialed officers and crewmembers necessary for the safe operation of inspected vessels, as required by 46 U.S.C. 8101 and 46 CFR 15.501.

b. Uninspected Vessels.

It is the responsibility of the owner/operator to ensure that each vessel under their management complies with the manning, certification, and watchkeeping requirements in accordance with all applicable statutes and regulations.

(1) Although they are not provided with a COI, certain uninspected vessels that engage on international voyages are required to carry a SMD in accordance with SOLAS Chapter V/14 and should apply for one via the cognizant Coast Guard OCMI. When requesting a SMD, owners/operators should refer to Chapter 20 for additional guidance. When preparing a SMD, the OCMI should follow the sample format provided in the Annex to this Volume.

(2) When engaged on international voyages, those uninspected vessels which are not subject to the specific requirements of SOLAS Chapter V/14 are encouraged to request a permissive SML to document flag-state approval of the vessel's manning levels. The SML provides objective evidence to port-state authorities that the subject vessel meets the minimum safe manning requirements as determined by the flag state. When requesting a SML, owners/operators should refer to Chapter 20 for additional guidance. When preparing a SML, the OCMI should follow the sample format provided in the Annex to this Volume.

5. Principles Of Safe Manning.

In establishing the safe manning level to assure a vessel is sufficiently and efficiently manned, SOLAS makes reference to IMO Resolution A.1047(27) which establishes the principles of safe manning and prescribes the form and content of the safe manning document. Resolution A.1047(27) suggests that, except in ships of limited size and limited propulsion power or operating under provisions for unattended machinery spaces, manning levels should be based on the presumption that the master and chief engineer do not stand watch under normal circumstances. It further suggests, subject to exceptions, watchstanders should normally be divided into three watches; and that lookout and helmsman duties are separate. Refer to Chapters 21 [STCW Manning Reference Tables

(Seagoing Vessels)], 24, and 26 for additional discussion on vessels permitted to maintain a two-watch system.

C. Masters.

The provisions of 46 U.S.C. 8301, 8304, and 8902, as well as 46 CFR 15.805, require certain self-propelled vessels to have the full-time services of a master. Various statutes, regulations, and customs place continuing responsibilities upon the master of a vessel, whether underway, at anchor, moored, or handling cargo. Except aboard vessels of limited size, or on vessels having dedicated limited routes, these responsibilities cannot be properly discharged when the master is in charge of a watch. It is not therefore expected that the master will stand watches in the regular routine of the vessel, except on vessels of 1,000 GRT or less.

D. Mates.

A number of statutory provisions in Title 46, U.S. Code, as well as 46 CFR 15.810, dictate the minimum number of credentialed mates required for a vessel. The statutes predominately specify manning level based upon watchkeeping requirements. In establishing the minimum

number of mates required for safe operation, the Officer in Charge, Marine Inspection (OCMI) should consider a vessel's total operational requirements, such as cargo handling, emergency evolutions, navigational challenges to include vessel congestion and Vessel Traffic Service areas, visibility restrictions, proximity to navigational hazards, and preventive maintenance in addition to mandated levels of manning. The sample manning scales in Chapters 21 and 26 have been prepared following this philosophy.

1. Minimum Number Of Mates.

46 U.S.C. 8301 requires a minimum number of mates based on vessel tonnage, length of voyage, and in some cases upon vessel type. These mate manning levels are not discretionary. An OCMI may not authorize fewer mates than provided within this statutory section.

a. On vessels subject to STCW, the individual meeting the requirement of this section must also hold an STCW endorsement as officer in charge of a navigational watch with the appropriate tonnage for the vessel upon which he or she is operating, except as noted in §15.103(f) of this part for vessels on domestic voyages.

2. Master, Mate, Or Engineer Officer Requirement.

a. 46 U.S.C. 8304 requires persons serving as master, mate, or engineer on any vessel of 200 GRT or more operating on the high seas (e.g., beyond the boundary line) to hold a license or MMC officer endorsement appropriate for the route and tonnage of the vessel.

b. The above notwithstanding, neither the statute nor the implementing regulations expressly specify the grade of credential required to fill either the requirement for mate or engineer. Chapter 21 of this volume does provide delineation in respect to the suggested grades for the sample manning scales. In STCW, there is little discretion in specifying the manning levels for vessels subject to the provisions of STCW in

relation to the mandatory minimum requirements for certification in the management level capacities. However, in the case of the operational level, STCW makes no delineation between 2nd or 3rd Mate (only OICNW-II/1) and 2nd [U.S.] or 3rd assistant engineer (only OICEW-III/1). In this case, the grade for the mates and engineers at the operational level are variables for the OCMI to consider when establishing the manning level. In doing so, the OCMI should consider the job descriptions and responsibilities for all positions as identified and defined in the relevant safety management system.

3. Working Conditions And Watch Requirements.

46 U.S.C. 8104 has a number of subsections concerning working conditions and watch requirements that may result in a higher number of mates being assigned than might otherwise be required by 46 U.S.C. 8301.

- a. Section 8104(a) requires a minimum rest period for the officer in charge of the navigation watch upon a vessel's departure from port or immediately after the vessel departs. A sufficient number of mates must be assigned to ensure all in-port duties may be accomplished safely and a rested crew is available for departure. 46 CFR 15.1109 and 15.1111 also provide provisions on watches, work hours, and rest periods for vessels operating beyond the boundary line.
- b. Section 8104(b) provides that credentialed officers on a seagoing vessel of not more than 100 GRT may not be required to work more than 12 hours in a 24-hour period at sea. Reference Coast Guard interim policy¹ for guidance to ensure that every person assigned duty as officer in charge of a navigational or engineering watch, or duty as ratings forming part of a navigational or engineering watch, or designated safety, prevention of pollution, and security duties onboard any vessel that operates beyond the boundary line must receive:

(1) a minimum of 10 hours of rest in any 24-hour period; and

(2) 77 hours of rest in any 7-day period.

Under 46 CFR 15.810, a credentialed mate is normally required in addition to the master. If the voyages do not exceed 12 hours in duration, the OCMI has the discretion to determine if the vessel can be safely operated without a licensed/credentialed mate. The extent of the master's duties in port should be considered when making this determination. If no mate is required and the vessel operates more than 12 hours in a 24-hour period then an alternate crew must be provided to ensure safe operation while the vessel is underway.

- c. Section 8104(c) provides that credentialed officers and unlicensed seamen on Great Lakes towing vessels cannot be required to work more than 8 hours in a day.

¹ See CG-CVC Policy Letter No. 12-05

- d. Section 8104(d) provides that the credentialed officers and certain unlicensed crew positions on seagoing and Great Lakes vessels of more than 100 GRT must be divided into at least three watches. Therefore, unless the master also stands watch, at least three mates would be required on such vessels. Section 8104(g) modifies this requirement in that it allows a 2-watch system for the credentialed officers and certain crewmembers on seagoing towing vessels, OSVs, and barges engaged on voyages of less than 600 nautical miles.
- e. Sections 8104(k) and (l) require either a 3-watch or 2-watch system for certain fish processing vessels based on inspection requirements, gross tonnage and service entry dates. Section 8104(m) exempts certain fish processing vessels from the above watch system requirements. (See Chapter 24 for watchkeeping arrangements and workhour limits; also see Chapter 26 for uninspected fishing industry vessels manning requirements.)
- f. Section 8104(n) limits a credentialed officer or seamen on a tanker 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 credentialed officers or seamen on tankers. OCMI should particularly take this factor into account in establishing tanker manning. (See detailed discussion of workhour limits in Chapters 22 and 26 of this volume.)
- g. Section 8104(o) imposes a 3-watch or 2-watch system for fish tender vessels engaged in the Aleutian trade depending on gross tonnages and entry date or purchase date to serve in the trade.

E. Chief Engineer.

1. Inspected Mechanically Propelled Vessels (46 CFR 15.820(a)).
Title 46 CFR 15.820 requires that there be an individual holding an appropriate MMC or license endorsed as chief engineer or other credential authorizing service as chief engineer employed on board the following inspected mechanically propelled vessels:
 - a. Seagoing vessels of 200 GRT and over;
 - b. Offshore supply vessels of more than 200 GRT; and
 - c. Inland (other than Great Lakes) vessels of 300 GRT or more, if the OCMI determines that an individual with a license or the appropriate MMC officer endorsement responsible for the vessel's mechanical propulsion is necessary.
2. Uninspected Mechanically Propelled Vessels (46 CFR 15.820(b)).
An individual engaged or employed to perform the duties of chief engineer on a mechanically propelled, uninspected, seagoing, documented vessel of 200 GRT or over must hold an appropriately endorsed license or MMC authorizing service as a chief engineer.

3. On Vessels Subject To STCW.

Individuals meeting the requirements of this section must also hold an STCW endorsement as chief engineer with the appropriate propulsion power for the vessel upon which he or she is operating, except as noted in 46 CFR 15.103(f) for vessels on domestic voyages.

F. Engineers.

Under 46 U.S.C. 8301, a credentialed engineer must be employed aboard every seagoing vessel of 300 GRT, propelled by machinery, which carries freight or passengers. Further, section 8304 and 46 CFR 15.825 require persons serving as engineers on most seagoing vessels of 200 GRT or more to hold a license or MMC officer endorsement. Although 46 U.S.C. 8101 does permit discretion in establishing a manning scale, the following limitations must be strictly observed in exercising this discretion:

1. Oceangoing Or Coastwise Vessels Of 200 GRT Or More.

Taking into account the applications of 46 U.S.C. 8104(d) and 8304(c), the requirements are as described in paragraph 22.D. Unless the vessel is automated, there should be at least three licensed/credentialed engineers assigned to seagoing vessels of more than 100 GRT to be divided into at least three watches per 46 U.S.C. 8104(d). On a towing vessel, an offshore supply vessel, or a barge to which 46 U.S.C. 8104(g) applies, which are engaged on a voyage of less than 600 miles, the number of licensed/credentialed engineers may be reduced to two and divided, when at sea, into at least two watches.

2. Oceangoing Or Coastwise Vessels Of Less Than 200 GRT (Not Subject To 46 U.S.C. 8301).

Credentialed engineers are not required by statute. However and regardless of tonnage or inspection status, if, by the nature of a vessel's engineering systems and functionality, an individual is necessarily engaged to perform engineering duties on board a seagoing vessel (subject to STCW), driven by main propulsion machinery of 750kW (1,000 hp) propulsion power or more, then that individual shall hold a valid STCW certificate or endorsement issued in accordance with 46 CFR Part 11 or 12. The failure to ensure that individuals are appropriately certificated in accordance with STCW may result in a violation of 46 CFR 15.1103. The identification of necessary marine engineering tasks, duties, and responsibilities is an important factor for safe vessel operations and a critical component to consider when carrying out manning assessments. The degree of system automation and human interaction/control, and the watchkeeping provisions must also be taken into consideration. Owners/operators are encouraged to coordinate with the cognizant OCMI to ensure that subject vessels are safely manned in accordance with the applicable requirements by appropriately certificated mariners. Additional information concerning manning requirements, assessments, and proposals can be found in Chapter 20.

3. Inspected Inland Vessels Of 300 GRT Or More.

The number of credentialed engineers required must be at least one. Although not required by law, typically an individual endorsed as chief engineer or an endorsement authorizing service as chief engineer (e.g., designated duty engineer) should be assigned. [46 CFR 15.820(a)(3)]

4. Inspected Inland Vessels Of Less Than 300 GRT.

The scale may vary, from no requirement to a number adequate for the safe operation of the propulsion plant as determined necessary by the OCMI. Automated engineering systems should meet the criteria of 46 CFR Part 62, Navigation and Vessel Inspection Circulars (NVICs) 1-69, 1-78, or 6-84, and the provisions of Chapter 25 of this volume. [NOTE: Aboard non-seagoing vessels less than 200 GRT, a credentialed chief engineer is not required. Aboard such vessels, the grade(s) of credentialed engineer(s) required by the OCMI shall be commensurate with the vessel's route, the complexity of the engineering plant, and watch system requirements.]

5. On vessels subject to STCW, the individual meeting the requirement of this section must also hold an STCW endorsement as officer in charge of an engineering watch with the appropriate propulsion power for the vessel upon which he or she is operating, except as noted in §15.103(f) of this part for vessels on domestic voyages.

G. Master And Mate (Pilot) Of Towing Vessels (see 46 CFR 15.805(a)(5) and 15.810(d)). Title 46 CFR 15.610(a) requires that every towing vessel of at least 8 meters (at least 26 feet) in length, measured from end to end over the deck (excluding sheer), must be under the direction and control of a person holding a license or MMC officer endorsement as master or mate (pilot) of towing vessels or as master or mate of vessels of greater than 200 GRT holding either -

1. An endorsement on his or her license or MMC for towing vessels: or
2. a completed Towing Officer's Assessment Record (TOAR) signed by a U.S. Coast Guard approved designated examiner indicating that the officer is proficient in the operation of towing vessels.

This requirement does not apply to any vessel engaged in assistance towing. Because STCW has no specific provisions for towing vessels, seafarers should be certificated and duly endorsed in accordance with STCW for the applicable tonnage, propulsion power, and intended route of service. Refer to Chapter 21 for STCW Manning Reference Tables and 46 CFR 15.610(a).

H. Operator Of Uninspected Passenger Vessels (OUPV).

Title 46 U.S.C. 8903 requires an uninspected passenger vessel to be operated by a credentialed individual as prescribed by regulation.

1. Title 46 CFR 15.605(a) requires every self-propelled uninspected passenger vessel defined by 46 U.S.C. 2101(42)(B) to be under the "direction and control" of an individual holding a license or MMC endorsed as operator of uninspected passenger vessels.

2. Title 46 CFR 15.605(b) requires every uninspected passenger vessel of 100 GRT or more, as defined by 46 U.S.C. 2101(42)(A), to be under the “direction and control” of a credentialed master, pilot, or mate as appropriate.

The intent is that the vessel must be under the physical control or direct supervision of an appropriately endorsed individual. 46 U.S.C. 8104(b) provides that licensed individuals on oceangoing vessels of not more than 100 GRT "may not be required" to work more than 12 hours in a 24-hour period while at sea. Credentialed operators serving as OUPV may voluntarily work more than 12 hours in a 24-hour period. However, OCMI's should strongly encourage uninspected passenger vessels operating in excess of 12 hours to have at least two credentialed operators assigned to prevent fatigue. It has been suggested by some operators that a qualified seaman could be left at the helm while the credentialed operator sleeps close by. This position is untenable. As noted above, 46 U.S.C. 8903 mandates the vessel be operated by a licensed individual; the Coast Guard does not have the discretion to allow any unlicensed seaman to control the vessel without supervision. (See Chapters 24 and 26 for further discussion regarding working conditions for these vessels.)

I. Pilots.

46 U.S.C. 8502 requires a coastwise seagoing vessel to be under the direction and control of a pilot credentialed by the Coast Guard when underway on U.S. navigable waters. A coastwise seagoing vessel generally means one which is carrying or authorized by its documentation to engage in trade between one U.S. port and another. (See Chapter 11 for detailed discussion of pilotage requirements.) See 46 CFR 15.812 for further discussion about Pilots.

J. Radar Observers.

Title 46 CFR 15.815 requires that each person in the required complement of deck officers, including the master, on inspected vessels of 300 GRT or over which are radar equipped, shall hold an endorsement as radar observer. Additionally, each person having to hold a license or MMC officer endorsement under 46 U.S.C. 8904(a) for employment or service as master or mate on board an uninspected towing vessel of 8 meters (approximately 26 feet) or more in length must, if the vessel is equipped with radar, hold an endorsement as radar observer. Each person who is required to hold a radar endorsement must have his or her certificate of training readily available to demonstrate that the endorsement is still valid. Readily available means that the documentation must be provided to the Coast Guard, or other appropriate Federal agency, within 48 hours of a request by the Coast Guard or other agency. The documentation may be provided by the individual, or his or her company representative, electronically, by facsimile, or physical copy. Under 46 CFR 11.480, a radar observer endorsement is valid for 5 years from the date of issuance of the certificate of training from a course approved by the Coast Guard.

K. Radio Officers.

The requirements for various items of radio communications equipment are controlled primarily by the Federal Communications Commission (FCC). Primary attention must be given to radiotelegraph officers and GMDSS operators, who are licensed by the FCC and the Coast Guard (see 46 U.S.C. Chapter 71 and Section 7318); the requirement for such persons shall be noted on the vessel's Certificate of Inspection (COI) or SMD/SML. [NOTE: This is considered only a reinforcement of FCC authority.] On smaller vessels, radiotelephone installations are permitted; as radiotelephone operators are licensed solely by the FCC, their presence is not required on the COI (FCC requirements for equipment and personnel qualifications are contained in Title 47, CFR).

1. General.

The controlling authority for radio operators and installations aboard U.S. vessels is generally a function of the FCC. The operation of transmitters of most vessel stations must be performed by a person holding a commercial radio operator license or permit of the class as specified in 47 CFR 80, Subpart D.

2. Global Maritime Distress And Safety System (GMDSS).

As discussed in 46 CFR 15.1103, on board a seagoing vessel required to comply with the provisions of the GMDSS in SOLAS Chapter IV, no person may employ or engage any person to serve, and no person may serve, as the master, chief mate, or officer if the navigational watch, unless the person holds the appropriate certificate or endorsement for operator of radio in GMDSS. . For example, if a master and three mates (OICNW) are required then each should be certificated in accordance with STCW IV/2 as GMDSS Radio Operators. This should be reflected on the COI or SMD, as applicable. Similarly, Vessels voluntarily relying on the at-sea maintenance provision of the GMDSS must have onboard a licensed GMDSS Radio Maintainer (See 46 CFR 15.818 and 15.1103(e)).

L. Vessel Security Officer.

For each vessel subject to 33 CFR 104, the vessel owner or operator must designate, in writing, by name or title, a Vessel Security Officer (VSO). As required in 46 CFR 15.1113, persons performing duties as VSO on-board a seagoing vessel subject to STCW, as amended, must hold a valid Coast Guard-issued credential with a VSO endorsement. An endorsement issued in accordance with 33 CFR 104.215(c) serves as proof that the person meets the vessel security officer requirements of Regulation VI/5 of the STCW.

Persons who hold an endorsement as VSO will be deemed to satisfy the requirements for vessel personnel with designated security duties.

M. Personnel With Designated Security Duties.

After [a date to be determined], onboard a seagoing vessel of 500 GT ITC or more, all personnel with designated security duties must hold a valid endorsement as vessel personnel with designated security duties, or a certificate of course completion from an appropriate Coast Guard-accepted or Coast Guard-approved course meeting the requirements of 33 CFR 104.220.

Persons who hold an endorsement as vessel personnel with designated security duties, or a certificate of course completion from an appropriate Coast Guard-accepted or Coast Guard-approved course for vessel personnel with designated security duties, will be deemed to satisfy the requirements for all other vessel personnel.²

N. Security Awareness.

After [a date to be determined], onboard a seagoing vessel of 500 GT ITC or more, all other vessel personnel not covered in paragraphs (L) and (M) above must hold a valid endorsement in security awareness, or a certificate of course completion from an appropriate Coast Guard-accepted course meeting the requirements of 33 CFR 104.225.

After [a date to be determined], onboard a seagoing vessel of 500 GT ITC or more, all contractors, whether part-time, full-time, temporary, or permanent, must hold a valid endorsement in security awareness, or a certificate of course completion from an appropriate Coast Guard-accepted course meeting the requirements of 33 CFR 104.225.³

O. Transportation Worker Identification Credential (TWIC).

Prior to the Coast Guard Authorization Act of 2010 (“Act”), all mariners required to hold a Merchant Mariner Credential (MMC) were also required to obtain and hold a valid TWIC. Section 809 of the Act, however, permits the Secretary, acting through the Coast Guard, to exempt any mariner who does not require unescorted access to a secure area of a vessel from the requirement to hold a valid TWIC as a precondition of receiving and holding a MMC. Accordingly, the Coast Guard is allowing mariners without a valid TWIC who operate on board vessels that do not have a security plan to acquire and renew a MMC. Specifically, this policy applies to mariners who are inactive or not operating under the authority of their credential, as well as those who serve on vessels that are NOT required to have a vessel security plan. When inspecting subject vessels, the Coast Guard has adjusted its enforcement policies so that a mariner who does not hold a TWIC or holds an expired TWIC, but a current MMC, will not be considered in violation of the applicable regulations.

² See CG-CVC Policy Letter No. 12-06 & IMO Circ. STCW.7/Circ.17

³ See CG-CVC Policy Letter No. 12-06 & IMO Circ. STCW.7/Circ.17

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CHAPTER 23: MANNING REQUIREMENTS FOR CREDENTIALLED RATINGS

A. Introduction.

Chapters 20-26 have been structured to interlink various elements affecting the safe manning and watchkeeping on U.S. vessels and should be referenced comprehensively. Refer to Chapter 20 paragraph A for a summary of all Chapters. There are no statutes that mandate specific numbers of ratings 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. Refer to Chapter 22 for a more detailed discussion on the impact of international standards.

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.

U.S. regulations (46 CFR Parts 10, 11, 12 and 15) parallel the provisions in STCW regarding the qualification and training requirements for watchstanding personnel. Through various amendments, STCW prescribes minimum standards relating to training, certification and watchkeeping for seafarers, which Parties are obliged to meet or exceed. (See Chapter 24 for a more detailed discussion of watchkeeping requirements.)

a. Deck Department Personnel.

- (1) Each person serving as an able seafarer-deck, or a rating forming part of a navigational watch (RFPNW) on a seagoing vessel of 500 GT ITC or more must hold an STCW endorsement certifying him or her as qualified to perform the navigational function at the support level, in accordance with the STCW Convention.
- (2) Each person serving as a RFPNW on a seagoing vessel of 500 GT ITC or more, subject to the STCW Convention, must hold a STCW endorsement attesting to his or her qualifications to perform the navigational function at the support level (II/4).
- (3) It is feasible that an ordinary seaman, qualified as a RFPNW and duly certificated in accordance with STCW II/4, could substitute for an Able Seaman in certain shipboard situations. Aside from Able Seamen, who hold RFPNW II/4, all other unlicensed seamen in the deck department assigned to navigational watchkeeping duties, including specially trained ordinary seamen, must be certificated in accordance with STCW Regulation II/4. Pursuant to a request from a vessel owner/operator, OCMI's, at their discretion and as appropriate, can issue a Certificate of Inspection (COI) or Safe Manning Document (SMD) endorsed to permit the substitution of ordinary seamen, qualified and certificated in accordance with STCW II/4, for Able Seamen in accordance with 46 U.S.C. 8702(b). In any case, the COI or SMD will not be endorsed to allow fewer Able Seaman than permitted by 46 U.S.C. 8702(b).

Sample Endorsement:

"UP TO TWO ORDINARY SEAMEN WITH A STCW CERTIFICATE ENDORSED FOR REGULATION II/4 'RATING FORMING PART OF A NAVIGATION WATCH' MAY BE SUBSTITUTED FOR TWO ABLE SEAMEN."

b. Engine Department Personnel.

- (1) Each person serving as an able seafarer-engine, or a rating forming part of an engineering watch (RFPEW), on a seagoing vessel driven by main propulsion machinery of 1,000 hp/750 kW propulsion power or more, must hold an STCW endorsement certifying him or her as qualified to perform the marine-engineering function at the support level, in accordance with the STCW Convention.
- (2) Each person serving as a rating forming part of an engineering watch (RFPEW) in a manned engine-room or designated to perform duties in a periodically unmanned engine-room, on a seagoing vessel driven by main propulsion machinery of 1,000 hp/750 kW propulsion power or more, must hold an STCW endorsement certifying him or her as qualified to perform the marine-engineering function at the support level, in accordance with the STCW Convention (III/4).

c. Additional Requirements:

- (1) Basic Training (46 CFR 15.1105). Onboard a seagoing vessel, no person may assign a shipboard duty or responsibility to any person who is serving in a position that must be filled as part of the required crew complement or who is assigned a responsibility on the muster list, and no person may perform any such duty or responsibility, unless the person performing it can produce evidence of having:
 - (a) Received appropriate approved basic training or instruction as set out in the standards of competence under STCW Regulation VI/1, with respect to personal survival techniques, fire prevention and fire-fighting, elementary first aid, and personal safety and social responsibilities; and
 - (b) Maintained the standard of competence under STCW Regulation VI/1, with respect to personal survival techniques, fire prevention and fire-fighting, elementary first aid, and personal safety and social responsibilities, every 5 years.

- (2) Lifeboatmen (46 CFR 15.845 and 199.100). Every person assigned duties as a lifeboatman must hold a credential attesting to such proficiency. Persons serving on vessels subject to the STCW Convention must also hold an STCW endorsement (VI/2) in proficiency in survival craft and rescue boats other than fast rescue boats (PSC) except as noted in 15.103(f) for vessels on domestic voyages.

2. SOLAS Requirements.

SOLAS Chapter V, Regulation 14 requires each vessel to which Chapter I of SOLAS applies to be "sufficiently and efficiently" manned as evidenced by a Safe Manning Document (SMD) issued by the flag-state. Refer to Chapter 22 for a more detailed discussion on the impact of international standards and SMD provisions.

a. Principles Of Safe Manning.

In establishing the safe manning level to assure a vessel is sufficiently and efficiently manned, SOLAS makes reference to IMO Resolution A.1047(27) that establishes the principles of safe manning and prescribes the form and content of the safe manning document.

b. Resolution A.1047(27).

Resolution A.1047(27) 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 Ratings.

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

1. Merchant Mariner Credential/Document Requirement.

Under 46 CFR 15.403, every person below the grades of officer and staff officer employed on any U.S. flag merchant vessel of 100 GRT or more, except those navigating rivers exclusively and the smaller inland lakes, must possess a valid merchant mariner credential (MMC) or merchant mariner's document (MMD) with all appropriate endorsements for the positions served. 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 46 U.S.C. 8701. 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). For additional information on TWIC, see Chapter 22 paragraph M.

2. Crew Complement.

Although there are no statutes that mandate specific numbers of ratings on a U.S. merchant vessel, the minimum safe manning levels established by the OCMI 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. On oceangoing vessels, the number of unlicensed personnel carried must be sufficient for the watch provisions of 46 U.S.C. 8104 and 46

CFR 15.705. 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 MMCs 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 a MMC, 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. Specifically, Section 8103(b) states that each unlicensed seaman must be a citizen of the United States or an alien lawfully admitted to the United States for permanent residence, and not more than 25 per cent of the total number of unlicensed seamen on the vessel may be permanent resident aliens. (See Chapter 20 for a more detailed discussion of the citizenship requirements.)

4. Seagoing And Great Lakes Merchant Vessels Of More Than 100 GRT.

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 GRT 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 credentialed officers and crewmembers in the deck department on towing vessels, OSVs, and barges engaged on voyages of less than 600 nautical miles. Engineroom ratings (i.e. Oilers) are not subject to the two watch provisions of 46 U.S.C. 8104(g).

5. Uninspected Towing Vessels.

46 U.S.C. 8104(h) provides that the credentialed 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 600 miles or more, 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 are required to provide an adequate and fit watch as discussed in 46 CFR 15.610 and 15.705. Consequently, if the credentialed officers or ratings 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. Fish Processing Vessels And Fish Tender Vessels.

46 U.S.C. Sections 8104(k), (l), (m), and (o) provide watchstanding requirements for the licensed individuals and deck crew on board these types of commercial fishing vessels.

7. Tankers.

Section 8104(n) limits a credentialed individual 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 credentialed individuals 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 for a seagoing vessel of at least 100 GRT typically consists of able seamen and ordinary seamen. Inland vessels typically employ "deckhands" for similar functions.

1. Able Seamen And Ordinary Seamen.

Unless specifically provided otherwise, the deck department 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 three 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. Reference Section B.1.a.(3) of this Chapter for additional information concerning the substitution of able seamen with specially trained ordinary seamen on voyages subject to STCW. The OCMI may consider allowing specially trained ordinary seamen (OS) meeting the requirements of NVIC 3-83 as substitutes for up to 35 percent of the required ABs on domestic voyages.

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 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.
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 as amended, and 6-84. The engineering ratings 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. Qualified Member Of The Engine Department (QMED).
Under 46 CFR 15.404, the holder of an MMD or MMC endorsed with one or more QMED ratings may serve in any unqualified rating in the engine department without obtaining an additional endorsement. A QMED may serve as a qualified rating in the engine department only in the specific ratings endorsed on his or her MMD or MMC.
6. 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 a 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 and [15.505](#). This section states that the COI issued to an inspected vessel specifies the minimum complement of licensed/[credentialed](#) 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 vessel'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 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 [working in](#) 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. [Engagement of maintenance-persons with the intention of assigning any individual alternately between deck and engineering watch sections on a routine basis is considered a violation of 46 U.S.C. 8104\(e\). \(Consult Chapter 20 for additional information concerning Maintenance Departments.\)](#)

3. Manning Requirements For Vessels Engaged On International Voyages.

[For vessels subject to STCW, personnel required to augment navigational or machinery space watches should hold the appropriate qualified ratings endorsements as required in 46 CFR 15.1103.](#)

4. 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).

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CHAPTER 24: SHIPBOARD WORKING CONDITIONS

A. Watchstanding Requirements On U.S. Vessels.

Chapters 20-26 have been structured to interlink various elements affecting the safe manning and watchkeeping on U.S. vessels and should be referenced comprehensively. Refer to Chapter 20 paragraph A for a summary of all Chapters. This Chapter outlines various watchstanding requirements and shipboard working conditions relevant to U.S. vessels.

1. Authority Citations.

46 U.S.C. 8104 and 8702, 46 CFR 15.1111 and 46 CFR 15.705.

2. Definitions.

The following definitions are consistent with previous Coast Guard policies or regulations.

- a. Emergency is an unforeseen development that imposes an immediate hazard to the safety of the vessel, the passengers, the crew, the cargo, property, or the marine environment, requiring urgent action to remove or mitigate the hazard.
- b. Overriding operational conditions are circumstances in which essential vessel work cannot be delayed for safety or environmental reasons, or could not reasonably have been anticipated at the commencement of the voyage.
- c. Rest means a period of time during which the person concerned is off duty, is not performing work, including administrative tasks such as chart corrections or preparation of port entry documents, and is allowed to sleep without being interrupted.
- d. Travel time to a vessel is considered to be neutral time as it is normally not considered to be “rest,” “off-duty,” or “work” time, but all relevant circumstances should be considered in evaluating whether a mariner complies with the applicable “rest” required by STCW or “off-duty” requirements specified in 46 U.S.C. §8104(a).
- e. Watch is activity related to the direct performance of vessel operations, whether deck or engine, where such operations would routinely be controlled and performed in a schedule and fixed rotation. The performance of maintenance or work necessary to the vessel’s safe operation on a daily basis does not in itself constitute the establishment of a watch. However, the latter does count toward the hours of work that can be required by an employer.
- f. Work is any activity that is performed on behalf of a vessel, its crew, its cargo, or the vessel’s owner or operator. This includes, but is not limited to, standing watches, performing maintenance on the vessel or its appliances, unloading cargo, or performing administrative tasks, whether underway or at the dock.

The definitions above for “overriding operational conditions” and “rest” are used in situations where STCW applies.

3. Master's Responsibility.

The master is responsible for ensuring that adequate watches are established. In exercising this responsibility, the master must take into account applicable statutory and regulatory provisions and international conventions. In addition, the circumstances affecting the safety of the vessel, its crew, its cargo, its passengers, and operational requirements, especially as they relate to pollution prevention must also be considered. In accordance with 46 CFR 15.1109, each master of a vessel that operates beyond the Boundary Line, except those serving on the vessels listed in 15.103(e) or (f), shall ensure observance of the principles concerning watchkeeping set out in STCW Regulation VIII/2 and section A-VIII/2 of the STCW Code.

4. Watchstanding Categories.

A normal watch cycle will include those crewmembers who have functions, duties or responsibilities about vessel operations that are routinely controlled or performed in a scheduled and fixed rotation. Typically, these functions, duties and responsibilities will include the following:

a. Officer In Charge Of A Navigational Watch (Master Or Mate).

Except on vessels of limited size the provision of qualified deck officers should be such that it is not necessary for the master to keep regular watches. This principle is accepted internationally and is expressed in International Maritime Organization Resolution A.1047(27), "Principles of Safe Manning."

b. Helmsman (Able Seaman Or Specially Trained Ordinary Seaman, RFPNW).

The required minimum manning level must include sufficient personnel who may be assigned to the navigation watches to steer the vessel. The helmsman should be separate from the look-out, except on small vessels where the helmsman may safely perform both functions. Unless assigned duty as lookout, the helmsman may be assigned to other duties when not required to be physically present at the helm (e.g., when vessel is on auto pilot). On a merchant vessel of 100 GRT or more (with limited exceptions under 46 U.S.C. 8702) an individual with a rating of less than able seaman may not be at the wheel "in ports, harbors, and other waters subject to congested vessel traffic, or under conditions of reduced visibility, adverse weather, or other hazardous circumstances."

c. Look-out (Able Seaman Or Specially Trained Ordinary Seaman, RFPNW).

It is expected that a dedicated look-out should normally be assigned to each navigational watch to satisfy Rule 5 of the International Regulations for Preventing Collisions at Sea, 1972 and of the Inland Navigation Rules. Rule 5 requires that "Every vessel shall at all times maintain a proper look-out by sight and hearing as well as by all available means appropriate in the prevailing circumstances and conditions so as to make a full appraisal of the situation and the risk of collision." Look-out duties may be performed by the helmsman or the officer in charge of the navigational watch under some circumstances, to the extent that Rule 5 will not be violated. Section A-VIII/2 Part 4-1 of the STCW Code indicates the requirements for individuals serving as look-outs.

d. Officer In Charge Of An Engineering Watch (Chief Engineer, Assistant Engineer, Or Designated Duty Engineer).

Depending on the level of automation, credentialed engineers would either be assigned to direct watchkeeping assignments within the machinery spaces on a rotating basis or, in the most sophisticated vessels, would be assigned monitoring duties without being obliged to maintain a “live watch” in the machinery spaces. Under such circumstances, the automation system performs a significant amount of the watchstanding functions. The required engineers would be assigned overnight duty to respond to alarms that may occur and potentially make intermittent rounds of the machinery spaces. It is noteworthy that IMO Assembly Resolution A.1047(27) also suggests that the chief engineer would not normally be a watchstander.

e. Qualified Member Of The Engine Department (QMED, RFPEW).

QMEDs (e.g., oiler, watertender, fireman) would be assigned in a manner similar to the licensed engineers. Non-automated vessels would frequently require QMEDs and non-rated members of the engine department assigned to successive watches. However, QMEDs may be assigned to an alternate work schedule (e.g., day-work) when not required for watchstanding duties in the machinery spaces. Where an engineering watch is assigned, IMO resolution A.1047(27) recommends an engineering officer and unlicensed member of the engine department be assigned, unless the engineering watch officer's status can be monitored from the bridge and assistance immediately dispatched.

f. GMDSS Radio Operator/Radio Officer.

As discussed in 46 CFR 15.1103, on board a seagoing vessel required to comply with the provisions of the GMDSS in SOLAS Chapter IV, no person may employ or engage any person to serve, and no person may serve, as the master, chief mate, or officer if the navigational watch, unless the person holds the appropriate certificate or endorsement for operator of radio in GMDSS. Vessels voluntarily relying on the at-sea maintenance provision of the GMDSS must have onboard a licensed GMDSS Radio Maintainer.

5. Watchkeeping Arrangements.

Current U.S. statutes impose specific watchkeeping requirements on U.S. vessels (46 U.S.C. 8104). Specific provisions for vessels navigating under way and requirements for vessels at anchor can be found in 33 CFR 164.11, 164.13, and 164.19; as applicable. Additionally, STCW Regulation VIII/2 details watchkeeping arrangements and principles to be observed.

a. Seagoing And Great Lakes Merchant Vessels Of More Than 100 GRT.

Except for certain fishing industry vessels and yachts, 46 U.S.C. 8104(d) requires merchant vessels of more than 100 GRT, when at sea, to be manned with a three-watch system, and mariners shall be kept on duty successively to perform ordinary work incident to the operation and management of the vessel (See 46 U.S.C. 8104(d) for specific exceptions). This section of the law also states that a mariner cannot be

required to work for more than 8 hours in one day. There are certain exceptions to the work-hour limitations relevant to the docking/undocking, conducting emergency drills, actual emergency situations or overriding operational conditions that compromise the safety of the vessel and its passengers and crew in which a mariner can be required to work more than 8 hours in a day (see 46 U.S.C. 8104(f)). Mariners subject to 46 U.S.C. 8104(d) can consent to work in excess of 8 hours in a day, provided there are no violations of the hours of rest provisions. Generally, the three-watch system such as 4-on/8-off provides an optimal approach although non-conformances in the hours of rest can be triggered by periods of additional work if they are not properly planned and managed.

b. Certain Vessels On Voyages Of Less Than 600 Nautical Miles.

On a towing vessel, an offshore supply vessel, or a barge to which 46 U.S.C. 8104(g) applies, which are engaged on a voyage of less than 600 miles, the credentialed officers and crewmembers (except the coal passers, firemen, oilers, and water tenders) may be divided, when at sea, into at least two-watches. A two-watch system, such as 6-on/6-off, can provide short-term compliance with the hours of rest provisions, although technical non-conformances can occur during each rest period under the revised STCW requirements. Any additional period of work has the potential to result in significant non-conformances during subsequent work periods. As a result, it is recommended that any period of 6-on/ 6-off is limited to a short duration and the impact of any recurrence should be taken into account. Where 6-on/6-off watch systems are regularly employed, other mitigating measures should be considered, such as short tours of duty or the provision of extra manning. See Chapter 26 paragraph B.3 and Figure 26-1 for similar circumstances where a two-watch system may be permitted.

c. Fish Processing Vessels (FPVs).

Credentialed officers and deck crew on FPVs over 5000 **GRT** must be divided into at least three watches. At least a 2-watch system is required on FPVs of more than 1,600 **GRT** and less than 5,000 **GRT**. (See 46 CFR 15.705(e) and 46 USC 8104(k) and (l)).

d. Fish Tender Vessels In The Aleutian Trade.

The credentialed officers and crewmembers on a fish tender vessel of not more than 500 **GRT** engaged in the Aleutian trade must be divided into at least three watches. However, if: (1) the vessel operated in the Aleutian trade before September 8, 1990; or (2) the vessel was purchased to be used in that trade before September 8, 1990, and in fact entered into service in that trade before June 1, 1992, the credentialed officers and crewmembers must be divided into at least two watches. See 46 USC 8104(o).

B. In-Port Watches Of Credentialed Engineers.

There have been conflicting decisions and interpretations concerning whether credentialed engineers are required to be aboard vessels that are not in a fully operational condition. Under 46 U.S.C. 3302, vessels are not obligated to be manned according to the COI when they are "laid up, dismantled, or out of commission." The only area for which the Coast Guard has published an interpretation in this regard is the Great Lakes, where most vessels are laid up each winter. A vessel in this area undergoes a distinct status cycle:

1. Operating Status.
The vessel is in service.
2. Laying-Up Status.
The vessel has completed service and is being "laid-up" for the winter.
3. Laid-Up Status.
Laying-up of the vessel has been completed. The vessel is inoperable and is essentially laid-up and dismantled and "out of commission" for the winter.
4. Fitting-Out Status.
The lay-up period has ended and the vessel is being prepared for service.

Vessels in laid-up status are exempted by regulations from Coast Guard inspection; therefore, no manning requirements shall be made for them. Vessels in laying-up or fitting-out status should normally be required to have credentialed engineers aboard in the early stages of work, and at any time when plant operation warrants such a requirement (for example, while the vessel is moored with boilers in operation). It is recognized that, in many instances, laying-up and fitting-out cannot be classified in a clear-cut manner; however, an adequate determination generally can be made under these criteria.

C. Workhour Limitations.

1. Authority Citations.
46 U.S.C. 8104; 46 CFR 15.1111 and 46 CFR 15.710.
2. "Required" Vs "Permitted" Workhour Limits.
The current statutory provisions limit the number of hours a credentialed officer or crewmember may be "required" to work, and in some cases also limit the number of hours the individual may be "permitted" to work. When an individual cannot be "required" to work beyond a certain number of hours, any work in excess of those hours must be voluntary. Such work is not considered to be voluntary if the individual works as a result of direct or indirect coercion. The employee's signature on an employment contract or when working under a labor agreement that clearly obligates him or her to work more than the statutory workhour limit is evidence that such work is performed voluntarily. (It should be noted that the statutory workhour limit e.g., the limit in the number of hours during which work may be required, is not necessarily the point at which "overtime" is calculated under a particular employment contract.)

a. Seaman's Right To Refuse.

Under 46 U.S.C. 8104(d) an individual retains the statutory right to refuse to work beyond the 8-hour statutory workhour limit, except in an emergency or other condition listed in 8104(f). Furthermore, work performed beyond the statutory limit, even when performed voluntarily, may be considered excessive and should not be condoned if the individual's performance will be impaired by fatigue. A continuing pattern of excessive workhours provides good cause for reviewing whether the manning complement as stated on the vessel's COI is sufficient for the safe operation of the vessel.

b. Holiday Work.

A seaman also may not be "required" to perform "unnecessary work" on Sundays or on certain holidays when the vessel is in a safe harbor, though this rule does not prevent the master from assigning work to get the vessel underway on a voyage. See 46 U.S.C. 8104(f).

c. Maximum Permitted Workhours.

Under 46 U.S.C. 8104(c), 8104(h), and 8104(n), credentialed officers and crewmembers are not permitted to work beyond a certain number of hours. The individual still cannot be "required" to work over a certain number of hours each day, but these provisions also place a limit on the number of hours the individual can be allowed to work voluntarily. Except in strictly limited circumstances (such as a drill or emergency), the individual subject to the limitation is not permitted, and may not be required, to perform any work if it would result in working beyond the maximum workhour limitation. Vessels subject to STCW requirements have additional workhour limitations as found in A-VIII/I and discussed in section E of this Chapter.

3. Duty Status.

46 U.S.C. 8104(a) requires a minimum "off duty" (e.g., rest) period for officers assigned to take charge of the navigational watch when leaving or immediately after leaving port. The Coast Guard interprets "off duty" within this statute to mean: A continuous period of time that is available to the seaman for rest, during which no work is assigned. A vessel's officer who serves as nightmate while the vessel is in port is considered to be "on duty" whether or not engaged in work during that time. The hours during which the officer is aboard in such capacity would determine the number of hours worked during that day, and the point at which the officer was relieved would establish the beginning of the off duty period. Similarly, a mariner who has worked aboard vessel during the day and stays aboard with the watch section at night, on call in case of fire or an emergency, is considered "on duty" within the meaning of 46 U.S.C. 8104. The statutory prohibition precluding more than 8 hours required work per day is considered to apply to those officers and crew serving in a night relief watch. However, the presumption is that, by accepting such employment, the night watch has voluntarily assumed the additional duty.

4. Exceptions To Workhour Limitations.

Where statutory provisions impose workhour limitations, circumstances are described under which the limits are not binding. The master may require seamen to work when the crew is needed for "(1) maneuvering, shifting the berth of, mooring, or unmooring, the vessel; (2) performing work necessary for the safety of the vessel, or the vessel's passengers, crew, or cargo; (3) saving life on board another vessel in jeopardy; or (4) performing fire, lifeboat, or other drills in port or at sea." On the other hand, when there are statutory limits on the number of hours a seaman may be "permitted" to work, the circumstances under which those limits may be broken are restricted to responding to emergencies or for drills. While there are no strict definitions for what constitutes an emergency for purposes of exceeding a workhour limitation, the Coast Guard considers the best guideline to be the generally understood meaning of an emergency: An unforeseen development which imposes an immediate hazard to the safety of the vessel, the crew, the cargo, property, the passengers or the marine environment, requiring urgent action to remove or mitigate the hazard

5. Workhour Limits By Class Of Vessel.

There are several statutes that impose maximum required or permitted workhours within a specific time period (e.g., "day," 24 hour period, etc.). Where the term "day" is used in the context of workhour limits, the Coast Guard continues to accept a long-standing interpretation rendered by the [United States](#) Attorney General that the word "day," as used in the predecessor to 46 U.S.C. 8104, is construed to mean a calendar day of 24-hours beginning at midnight. [(39 [U.S.](#) Op. Att'y Gen. 112, [opinion dated October 5, 1937](#))]. Where a provision establishes a workhour limit within a consecutive time period, such as a 24-hour consecutive period, there is no specified starting point from which the 24-hour period is measured; except in an emergency or a drill, the prescribed workhour limit may not be exceeded within any given 24 hour consecutive period.

a. Uninspected Passenger Vessels.

There are no specific statutory or regulatory workhour limits which apply to the [credentialed](#) operators on these vessels, although 46 U.S.C. 8104(b) provides that a licensed individual on a seagoing vessel of not more than 100 [GRT](#) may not be required to work more than 12 hours in a 24-hour period at sea. The Coast Guard as a matter of policy considers 12 hours to be the practical limit for how long an individual can safely exercise direction and control of the vessel. While there may be individuals who can routinely and safely perform work for periods in excess of 12 consecutive hours, the rigors of watchkeeping increase the likelihood of fatigue beyond such period, and such a practice should be discouraged as imprudent. Depending upon the specific circumstances, an owner who compels a [credentialed](#) operator to work, or a [credentialed](#) operator who voluntarily works on an uninspected passenger vessel beyond 12 hours may be engaged in negligent operation of the vessel for failing to maintain an adequate watch. (See Chapters 22, and 25 for further discussions.)

b. Tankers.

A **credentialed officer** or seaman may not be permitted to work more than 15 hours in any 24-hour period, or more than 36 hours in any 72-hour period, except in an emergency or a drill. In other words, any individual employed on board in any capacity is limited to an average of 12 hours of work maximum per day, but can never exceed 15 hours of work in a 24-hour period. If an individual works more than 12 hours in one day that individual must work less than 12 hours on other days to ensure he or she does not work more than 36 hours in any three day (72-hour) period. The workhour limit applies to the master as well as other individuals employed on board tankers. The master is recognized to have a unique status on board the vessel. The master's duties, and the overall responsibility associated with overseeing the safety of the vessel and its crew, are continuous. However, the master, like any member of the crew, can suffer from fatigue. Although it may be difficult to fully predict or anticipate the master's workload, the master must regulate his or her own duties and workhours to mitigate the possibility of fatigue, particularly if the master is included in a watch section as an officer of the navigational watch. 46 U.S.C. 8104(n) exempts the master as it does the other **credentialed officers** and seaman, when workhours must be exceeded in the case of an emergency or drill.

c. Seagoing And Great Lakes Merchant Vessels Of More Than 100 GRT.

A **credentialed officer** or seaman in the deck or engine department on these vessels may not be required to work more than 8 hours in one day, except when needed for vessel maneuvers, "necessary" (e.g., essential, safety related) work, lifesaving, or drills. See 46 U.S.C. 8104(d), (e) and (f). This does not preclude seamen from voluntarily working beyond 8 hours and possibly becoming fatigued. OCMI's should consider all relevant information as described in **Chapter 20** in establishing the required manning level. While there is no definitive basis for a maximum workhour limit for vessel crewmembers, the OCMI has the discretion to impose manning levels based on a specified reasonable workhour limit taking into account fatigue and other human factors. A twelve hour work day, applied in a manner similar to the workhour limit for tankers, is considered a reasonable workhour limit for other classes of vessels. (See section 20.H of this volume for additional discussion.)

d. Commercial Fishing Vessels.

Although there are no statutory workhour limit provisions regarding these vessels, there are requirements concerning watchkeeping arrangements that apply to the **credentialed officers** and unlicensed deck crew on the various uninspected fishing industry vessels. (See section A.4 of this Chapter and Chapter 26.)

D. Crossover Prohibition.

1. Authority Citation.

46 U.S.C. 8104(e).

2. Deck And Engine Departments.

On merchant vessels of more than 100 **GRT** (with certain exceptions as stated in 46 U.S.C. 8104(d), and towing vessels operating on the Great Lakes and connecting waters, a

seaman may not be engaged to work alternately in the deck and engine departments; nor may a seaman be required to work in the engine department if he or she has been engaged to work in the deck department, and vice versa. However, this rule does not prevent the seaman from being required to work in a department for which he or she was not engaged when needed for vessel maneuvers, "necessary"(e.g., essential, safety related) work, lifesaving, or drills. See 46 U.S.C. 8104(e) and (f).

- a.** 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 those respective departments. These individuals perform maintenance duties within the deck or engine department boundaries and are subject to the crossover prohibition of 46 U.S.C. 8104(e).
- b.** The required maintenance-persons should hold appropriate qualified ratings (e.g., Able Seaman, QMED, etc.) so they may be used to augment navigational or engine room watches should the need arise. During periods in which these maintenance-persons are used to augment watches, they become part of the watch and are subject to the appropriate watch rotation requirements.

3. Maintenance Department.

With the increased use of automated systems, labor saving devices, and scheduled shoreside maintenance programs, some vessel operators have used shipboard management innovations to provide greater flexibility in the use of available crewmembers. Assignment of maintenance-persons to a Maintenance Department allows these crewmembers to be used to perform work throughout the vessel on a regular schedule. However, with suitable qualifications, they can also be available to augment the watch as watchstanders as circumstances may warrant (such as periods of restricted visibility, or a failure in an automated system). When authorizing implementation of a Maintenance Department on a particular vessel, the OCMI should condition final approval on review of the vessel's operational requirements, and crew workload, following a trial period of up to a year. (See Chapters 20 and 23 for maintenance department discussion and sample manning scales for vessels employing maintenance-persons.)

E. International Standards Relating To Working Conditions.

1. International Convention On Standards Of Training, Certification And Watchstanding For Seafarers (STCW) 1978, as amended.

Reference Coast Guard interim policy⁴ for guidance on [the 2010 amendments to the STCW Convention, which include changes to the hours of rest requirements, STCW Regulation VIII/1, applicable to personnel working on board U.S. vessels. Specifically, the amended rest hour requirements are as follows: \(1\) Expanded the application for hours of work and rest periods for mariners to include all personnel with designated safety, prevention of pollution, and security duties onboard any vessel; \(2\) changed the weekly rest hours requirements from 70 hours to 77 hours; and \(3\) required the recording of hours](#)

⁴ [See CG-CVC Policy Letter No. 12-05](#)

of rest. While STCW is not a manning convention, it clearly impacts manning decisions in terms of requiring certain skills to be possessed by crewmembers performing certain functions. STCW also lists a number of criteria to be taken into account and principals to be observed in keeping a watch.

a. Fitness For Duty.

In accordance with the provisions of section A-VIII/1 of the STCW Code, all persons who are assigned duty as officer in charge of a watch or as a rating forming part of a watch and those whose duties involve designated safety, prevention of pollution and security duties shall be provided with a rest period of not less than:

- (1) a minimum of 10 hours of rest in any 24-hour period; and
- (2) 77 hours in any 7-day period.

The hours of rest may be divided into no more than two periods, one of which shall be at least 6 hours in length, and the intervals between consecutive periods of rest shall not exceed 14 hours.

b. Exceptions For Emergencies.

The requirements for rest periods need not be maintained in the case of an emergency or in other overriding operational conditions. Musters, fire-fighting and lifeboat drills, and drills prescribed by national laws and regulations and by international instruments, shall be conducted in a manner that minimizes the disturbance of rest periods and does not induce fatigue. Nothing in this guidance should be deemed to impair the right of the master of a vessel to require a seafarer to perform any hours of work necessary for the immediate safety of the vessel, persons on board or cargo, or for the purpose of giving assistance to other vessels or persons in distress at sea. Accordingly, the master may suspend the schedule of hours of rest and require a seafarer to perform any hours of work necessary until the normal situation has been restored. As soon as practicable after the normal situation has been restored, the master shall ensure that any seafarers who have performed work in a scheduled rest period are provided with an adequate period of rest.

c. Records.

The master or authorized person is responsible for ensuring that records of daily hours of rest are maintained for each seafarer serving on the vessel. Owners/operators are encouraged to utilize the Model Format for Records of Hours of Work or Hours of Rest of Seafarers developed by the IMO. Each record should be endorsed by the master or authorized person and the seafarer. A copy should be made available to the seafarer. It is recommended that records be retained on-board for each seafarer during their full time on board or for 12 months, whichever is the longer. In an emergency or when unforeseen events occur, changes may be unavoidable. In these cases records should reflect all deviations from the hours of rest schedule.

2. The International Labor Organization (ILO) Convention Concerning Minimum Standards In Merchant Vessels (ILO Convention 147).

Among other matters, this Convention addresses shipboard conditions of employment and shipboard living arrangements. Each country that is a party to the Convention must have laws or regulations laying down, for vessels registered in its territory, inter alia, "safety standards, including standards of competency, hours of work and manning, so as to ensure the safety of life on board vessel." This convention came into force for the United States on June 15, 1988. (See COMDTINST 16711.12 for enforcement guidance concerning this convention.)

3. Human Factors Considerations.

Recognizing that the majority of maritime casualties involve human error, the International Maritime Organization is undertaking a review of its instruments, including conventions, codes and resolutions, to consider whether human factor implications have adequately been taken into account in the development of guidelines, standards and recommendations. The United States is playing a major role in this effort to integrate human factors considerations into the IMO decision-making process. The objective is to ensure that human performance limitations, and the role of the human being within a defined system, are given fundamental consideration in the development of new international standards. Given the rapidity with which new information is becoming available on human factors applications in the maritime environment, it is not possible to provide detailed guidance in this manual. Information which may be particularly useful to the industry will be circulated by other suitable means.

F. General Responsibilities.

Mariners, owners/operators, and the Coast Guard have separate responsibilities for compliance with, and enforcement of, the work-hour limitation and watchkeeping laws. The subparagraphs below provide general guidance regarding the responsibilities of each party.

1. Mariners.

Mariners have an individual responsibility to obey the law and are responsible for reporting suspected watchkeeping and work-hour violations to the Coast Guard. The master of a vessel is ultimately responsible for the safety of the vessel, passengers and crew, cargo, and the environment. To carry out this responsibility the master must ensure that he/she and the crew are properly rested and complying with the law. The master must communicate with the owner/operator to ensure realistic goals are set. If management exerts pressure to exceed the law, the mariner is encouraged to report this situation to the local Coast Guard OCMI. Section G of this Chapter describes protections afforded to mariners when reporting violations to the OCMI. While the definition of work includes activities which are required for the vessel to be operated safely, a minimal amount of *de minimis* activities would generally not be considered a violation of this rule. Examples of such *de minimis* activities include: those which are necessary to ensure continued safe operation of the vessel (i.e. information exchange at watch change); safety meetings; and drills and training which can only be conducted underway.

2. Ship Management.

Owners/operators, like mariners, are responsible for obeying the law. Companies should ensure employees are informed of the law and educated regarding safety concerns of not getting adequate rest. They should be aware of operational demands and work hours required to complete expected tasks on board their vessels. 46 U.S.C. 8104(j) states that “the owner, charterer, or managing operator of a vessel on which a violation of subsection (c), (d), (e), or (h) of this section is liable to the government for a civil penalty...” thus pointing out their responsibility to ensure compliance. They should provide unambiguous guidelines to the master regarding expectations to comply with safety requirements and the law when these are in conflict with operational demands. Under the requirements of the International Safety Management (ISM) Code, for subject vessels, the Company should ensure that each vessel is manned with qualified, certificated and medically fit seafarers in accordance with national and international requirements. Shore management has a responsibility to ensure that the Safety Management System (SMS) provides proper guidance on the management of fatigue, its impact on safety and the regulation of hours of work and rest. The SMS should encourage seafarers to alert their onboard managers should they be working, or be at risk of working, in non-conformance. The SMS should also provide clear guidance to Masters on the actions to be taken in the event of significant non-conformance. Such action may include the suspension of operations until personnel are suitably rested. Owners/operators should also be aware of, and react to, planned or expected periods of high intensity operations and ensure that staffing on board is adequate in good time prior to the planned operations.

3. U.S. Coast Guard.

The Coast Guard is charged with enforcement of the law. The Coast Guard can initiate an investigation based on confidential information provided by mariners during the vessel inspection process, anonymous tips, or through the findings of a Coast Guard marine casualty investigation. The latter may also bring consequences for the mariners involved or the vessel’s owner/operators. When the Coast Guard determines that a casualty occurred because of a violation of law, an appropriate action, a suspension and revocation proceeding, and/or a civil penalty may be recommended. However, as described in section G of this Chapter, protections exist for the mariner reporting deficiencies or illegal operations. OCMI’s should ensure that all responsible parties within there are of responsibility are aware of the requirements of the law and particularly the importance that hours of rest, safe manning, and watchkeeping play in ensuring safe operations.

It should be noted that the Coast Guard, by 46 CFR 5.71, is prohibited from exercising its authority for the purposes of favoring any party to a maritime labor controversy. However, if a situation is encountered that affects the safety of a vessel or persons on board, the Coast Guard will initiate an investigation and pursue appropriate action when a violation of statute or regulation is discovered. A particular situation that has generated confusion and concern involves the requirement found in 46 U.S.C.8104(a), which states that an officer taking charge of the deck watch on a vessel leaving port must have at least 6 hours of off-duty time in the 12 hours immediately before leaving port. While an owner/operator

cannot be held accountable for the time a mariner has off, they are responsible for the time that an individual is on the dock or on the vessel while in port, and can be expected to verify that the individual has had an opportunity for rest regardless of where he/she has been prior to performing the assigned duties. The owner/operator cannot expect a mariner to participate in extensive preparations for getting underway and also be rested enough to take the navigation watch without providing an opportunity for the minimum off-duty time required by 46 U.S.C. 8104(a). Similarly, the mariner is responsible for arriving at the vessel properly rested.

G. Protections

The Coast Guard has historically depended on individuals involved with the maritime industry to report violations or unsafe vessel conditions when they occur. In the absence of mariner reporting, the Coast Guard is limited to discovering these types of violations through casualty investigations, or by chance during a scheduled inspection. To prevent retaliation for reporting violations to the Coast Guard, Congress enacted specific protections for mariners that make reports of violations to the Coast Guard. The following cites represent the obligation and protections afforded to mariners for reporting violation of the law or regulations to the Coast Guard.

1. 46 U.S.C. 2114.

Provides protection to seamen against any form of discrimination, including discharge, for reporting a violation of any law or regulation issued under the authority of Title 46.

2. 46 U.S.C. 3315(a).

Requires credentialed officers servicing on inspected vessels to assist the coast Guard in the inspection of their vessels as well as point out defects and imperfections known to them. This includes any violations of work or watch standing limitations.

3. 46 U.S.C. 3315(b).

Prohibits any official of the Coast Guard from disclosing the identity of any individual that provides information on vessel defects, imperfections, and overall safety of an inspected vessel which he or she is serving. This includes information on watchkeeping and work hours.

4. Freedom Of Information Act (FOIA)

The identity of any mariner who reports an unsafe condition on any vessel, inspected or uninspected, is also protected in accordance with the FOIA exemptions and Department of Transportation (DOT) regulations (49 CFR Part 7).

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CHAPTER 25: MANNING REQUIREMENTS FOR AUTOMATED VESSELS

A. Manning Requirements.

Chapters 20-26 have been structured to interlink various elements affecting the safe manning and watchkeeping on U.S. vessels and should be referenced comprehensively. Refer to Chapter 20 paragraph A for a summary of all Chapters. This Chapter discusses the acceptance of automated systems to replace specific personnel or to reduce overall crew requirements.

1. General.

Coast Guard acceptance of automated systems to replace specific personnel or to reduce overall crew requirements is predicated upon the capabilities of the system, its demonstrated and continuing reliability, and a planned maintenance program that ensures continued safe operation. Accordingly, 46 CFR Part 62 applies where automated systems are provided to replace specific personnel in the direct control and observation of the engineering plant and spaces or to reduce overall crew requirements. The automated systems and arrangements must provide that under all sailing conditions, including maneuvering, a level of safety at least equal to that of the same vessel with the entire plant under fully attended direct manual supervision. The Officer in Charge, Marine Inspection (OCMI) should review all manning proposals objectively. Reductions in manning scales shall only be granted when they do not detract from the safe navigation or operation of the vessel and are consistent with statutory or regulatory requirements. The following general features shall be addressed in reduced manning proposals:

a. Fire Equipment.

Installed fire protection equipment shall be adequate for the reduced complement to deal effectively with a fire emergency.

b. Station Bill.

The station bill shall provide for the effective use of personnel during emergency situations.

c. Lifesaving Equipment.

The design and installation of lifesaving equipment shall be adequate for effective operation by the complement.

d. Vital Systems.

Redundancy of vital systems or machinery shall be required (as in duplicate fuel pumps, secondary vessel's service generator(s) with independent prime movers, etc.).

e. Operational Limit.

Scenarios of the vessel's contemplated operation (unlimited or limited service, possible support by shoreside personnel) shall be provided.

f. Accommodations.

Quarters shall be sufficient to accommodate the designated complement and any additional personnel needed during initial operation or during periods when additional manning is required, such as a result of an automation failure. These accommodations need not be in the form of additional staterooms, but their size and furnishings shall be adequate to meet the needs of the additional personnel.

Manning proposals for new construction or existing vessels that are altered to incorporate automated features should be requested from the owner/operator early in the work. Experience has shown an occasional lack of awareness or understanding of the legal requirements concerning the Coast Guard's assignment of manning scales. In some cases, delay in obtaining such information may result in completion of the vessel to designed standards that will not physically accommodate the required crew.

2. Deck Department.

Reductions in the deck department normally involve elimination of the ordinary seamen, resulting in a deck crew of 6 able seamen (ABs). In addition, requests are received to man vessel's with 4 ABs and 2 ordinary seamen. This manning will normally be considered only if the 2 ordinary seamen meet the criteria set forth in Navigation and Vessel Inspection Circular (NVIC) 3-83. The vessel's Certificate of Inspection (COI) will require 6 ABs, but will be endorsed to allow substitution of up to 2 specially trained ordinary seamen for 2 ABs. The decision to allow substitution of specially trained ordinary seaman for ABs rests with the OCMI. On vessels subject to STCW, members of the navigation watch must meet the qualification as "rating forming part of a navigational watch", and must hold the appropriate STCW certificate. The basic features permitting a lesser requirement for unlicensed deck personnel are as follows:

a. Messing.

Coffee service, drinking water, and sanitary facilities in the immediate bridge area are necessary for the functioning of the bridge watch without the relief service traditionally provided by an ordinary seaman.

b. Call System(s) From The Bridge.

These systems, running to each mate and AB's quarters, general spaces, such as the messroom and recreation areas, and line-handling stations, enable the summoning of crewmembers for the oncoming watch and in emergencies, and allow better coordination in the mooring/unmooring of the vessel.

c. Constant Tension (Self-Adjusting) Mooring Winches.

These devices enable the reduced deck force to moor/unmoor the vessel safely, without unreasonable physical effort.

d. Automated Hatch Cover Securing Equipment.

These devices enable the reduced deck force to open and secure the vessel's hatches without unreasonable physical effort (this is particularly important aboard dry bulk and container cargo vessels).

[NOTE: These features are not all-inclusive. Consideration will be given to alternate proposals that accomplish the same goals more practically, when applied to a particular vessel.]

3. Engine Department.

Modern vessels frequently have automated engineering systems. As defined in 46 CFR 62.10, "automated" means the use of automatic or remote control, instrumentation, or alarms. In certain cases, automated engineering systems may be provided to replace specific personnel in the control and observation of the engineering plant and spaces, or reduce overall crew requirements. A review of automated vessel experiences show

varying degrees of reliability in engineering automation. Accordingly, the U.S. Coast Guard's acceptance of automated engineering systems to replace specific personnel or to reduce overall crew requirements shall be made only after a system has been operated for a sufficient period of time to demonstrate its reliability.

a. Reduction In Engine Room Manning Requests.

The Officer in Charge, Marine Inspection (OCMI) shall review and approve all requests for reductions in engine room manning, including requests to operate minimally attended or periodically attended machinery spaces (MAMS/PUMS). The examination shall include a detailed analysis of the following: (1) the capabilities of the automated system; (2) the combination of the personnel, equipment, and systems necessary to ensure the safety of the vessel, personnel and environment in all sailing conditions; (3) the ability of the crew to perform all evolutions including emergencies and during control or monitoring system failure; (4) a planned maintenance program with regular testing and inspection procedures; and (5) the automated system's demonstrated reliability during its initial trial period and its continued reliability. For vessels equipped with Dynamic Positioning Systems (DPS), the OCMI should review the DPS operating manual and note any specific DPS manning requirements on the COI. Critical consideration shall be given to the degree of vital system automation, status of automation approval by the Marine Safety Center (MSC) and status of testing required by 46 CFR 61.40. 46 CFR 62.50 provides additional details on the specific equipment and operational requirements for minimally attended or periodically unattended machinery arrangements. Although classification society automation notations identify the level of automation provided in accordance with class rules, they are not a substitute for the applicable laws, regulations, and policy pertaining to manning and watchkeeping on U.S. vessels. The OCMI shall consider all relevant information in determining a reduction in crew size or authorization for MAMS/PUMS to ensure there is no adverse affect on safety. Any follow-up requests for alteration of the vessel's manning shall be documented and reviewed in a similar manner. Commandant (CG-CVC) shall be provided a copy of the OCMI's final approval letter whenever a manning reduction is permitted.

b. Automated Engineering Systems.

There are generally four stages in the approval process of vessels with automated vital systems that may ultimately lead to a request for a reduction in engine room manning. This process occurs between the vessel owner and the cognizant OCMI.

(1) Conceptual Approval.

This is normally given in response to a request to evaluate a proposed vessel and its crew size before construction and, in some instances, may be based on only the broadest description of the vessel and its intended operations. Conceptual approval is always based on the condition that the cognizant OCMI finds the vessel's proposed manning is sufficient for safe operation. The manning levels in the conceptual approval are the design goals for the owner, which are subject to change if the situation warrants. Also, the owner may want to design the automation so that the engine room is suitable for periodically unattended operation, even though no request for reduced manning is made during initial certification.

(2) Technical Review and System Testing.

In accordance with 46 CFR 61.40, design verification and periodic safety testing of automated vital systems verifies system design, construction and operation according to applicable Part 62 requirements. These include general and specific requirements for the types of vessels described in 46 CFR 62.01-5(a) and the automated engineering systems described in 62.01-5(b). There are additional requirements when automation is intended to replace watchstanders for minimally attended or periodically unattended machinery spaces (see 46 CFR 62.50-20 and 62.50-30, respectively). Design verification testing proves the fail-safe character of the vital systems automation design, and is the most effective method to verify functional independence of automated engineering systems. This testing must be performed according to an MSC approved design verification test procedure and witnessed by the cognizant OCMI before vessel certification, or immediately after installation of the automation, as applicable. The approved design verification test (DVT) procedure is the final product of the completed vital systems automation plan approval and satisfactory review of the qualitative failure analysis (QFA) required by 46 CFR 62.20-3(b). A staff engineer from MSC may accompany the OCMI to witness the DVT. This critical testing should not be started until plan review of the QFA and DVT is complete. Periodic safety testing must also be completed to demonstrate required instrumentation and alarms and proper operation of the automation. This testing is done in accordance with the periodic safety test procedure that is reviewed by MSC and then forwarded with recommendations to the cognizant OCMI for approval. Again, this testing should not begin until vital systems automation plan review is complete.

(3) Initial Certification.

When a vessel is initially certificated, the manning level specified in the manning block on the certificate of inspection will generally be that of a fully manned engine room. This level is determined based upon the minimum personnel necessary to stand the engine room watch should complete automation failure occur. However, contingent upon satisfactory technical review and system testing, during the trial period the vessel's master has the authority to decide if watches are necessary, the required complement of the watch, and how watches are actually stood (46 CFR 15.715(b)). In making this determination the master should pay due regard to IMO Resolution A.1047(27), as discussed in paragraph (f) below, when on an international voyage. If for some reason the automation fails, the necessary watchstanders will be onboard and will be assigned a watch schedule in accordance with the requirements of 46 U.S.C. 8104. This level is determined based upon the minimum personnel necessary to stand the engine room watch should complete automation failure occur. No reference to watches or periodic unattended engine room operation is to appear on the COI until approved. However, the COI should indicate the MSC automation system approval letter by serial number and date.

(4) Final Approval.

A vessel owner may ask the cognizant OCMI for a reduction in engine room manning before, at, or sometime after, initial certification. The request for reduction in engine room manning must precede the trial period discussed below and must be consistent with the technical approval of the vessel's automation features. In making a final approval determination the OCMI should: (1) ensure satisfactory completion of the trial period; (2) review the vessel's records; and (3) conduct an onboard observation trip to witness the system's reliability and the ability of the reduced crew to maintain and perform all evolutions safely.

(a) Trial Periods.

The trial period is a period of operating the plant at the desired watchstanding level (however, a complete engineering crew, as specified in the manning block on the vessel's COI, must be onboard). The trial period validates the proper design and installation of the automation intended to replace engine room personnel and allows the vessel personnel to correct minor system problems and fine tune the automated systems. The trial period also demonstrates the reliability of the automation hardware and software. The duration of trial periods for new construction when the vessel is first in a class of vessels is based on underway time and will be 3000 hours. Follow up vessels in the same class may have a reduced trial period depending upon the successful completion of the trial period by the first in class and other circumstances considered by the OCMI. On the other hand, evidence of repeated major problems and systems failures may be cause for the OCMI to lengthen trial periods and in some cases reevaluate previously accepted manning levels on vessels of the same class.

(b) Review of Vessel Records.

Whenever possible, the inspector should review the engineering logs, maintenance records and crew overtime logs prior to the observation trip. This will assist in developing a plan for conducting the inspection and to identify possible problem areas with the automation. The OCMI should prompt the vessel owner to submit these logs for review whenever they are not attached with the observation trip request. Identification of problems can be a formidable task. Many of the sophisticated computer logging systems prevalent today tend to log all events. For example, equipment secured by the vessel's crew as a matter of routine generate alarms and logged events. It is difficult to differentiate such normal occurrences from evidence of significant automation problems (e.g., repeated problems that significantly degrade system reliability or automation system/equipment failures). Interviews with the engineering crew should help the inspector make these distinctions. It is also important to determine whether maintenance is preventive or in response to a casualty. Interviews will also assist here. The inspector shall document all significant automation problems, including excessive maintenance, in the inspection report.

(c) Observation Trip.

Onboard observation trips should be of sufficient length to adequately assess the reliability of the systems. A trip of one to seven days is recommended depending upon the complexity of the plant and the crew reduction requirements. If possible, the inspector assigned should be one who is familiar with the vessel. The vessel should be operated as it would with reduced manning and the inspector should witness the crew's ability to respond to emergencies and system failures. The crew's response should be demonstrated through their performance of a reasonable number of randomly selected tests taken from the vessel's approved periodic safety test procedure. Interviews with the vessel's engineering officers and crew should be conducted to discuss plant operation, the frequency and character of assistance-needed alarms, event logging methods, and maintenance policies. The inspector should submit a report that is sufficiently detailed to allow for an adequate review of all evolutions and/or problems witnessed, and should document all significant automation problems and any excessive maintenance needed. The OCMI may, after reviewing the results of the observation period, require an increase in engine room watch personnel until any problems are corrected, a longer trial period may also be required. The OCMI may also consider an increase in engine room watchstanders onboard other vessels of the same class previously approved for reduced manning levels. In these cases, the OCMI's that issued COIs to any sister vessels should be consulted.

(d) Issuance of COI.

The COI may be amended once the request for reduced manning is approved and/or MAMS or PUMS is authorized. The following entry in the "Conditions of Operation" section shall be made identifying the mode of operation for which the propulsion plant is approved:

"Approved for [**periodically unattended**] or [**minimally attended**] machinery space operation. This approval and the minimum manning level specified on this Certificate of Inspection are contingent upon the proper operation of the automated control/automated monitoring/automated machinery management system(s). Any major alteration or failure must be reported immediately to the nearest OCMI."

(e) Reflagged Vessels.

Reflags will be processed in accordance with this Chapter, except allowance for a reduced trial period can be considered if prior records (in English or with certified English translation) can be provided showing a history of safe operation, and that no major system changes are contemplated during reflagging. In no case will an initial manning level less than that required by the former flag state be considered.

(f) Vessels Subject to Certain SOLAS Requirements.

The OCMI's determination of acceptable machinery space attendance stems from the systems, controls, and capabilities in the Administration's (U.S.)

interpretation of SOLAS II-1/E, 46 CFR Part 62, which includes the provisions for regular inspections and routine tests, required by II-1/46.2. These provisions have been incorporated into the periodic inspection and testing regulations found in 46 CFR 61.40 and Part 62. These provisions apply where automated systems are provided to replace specific personnel in the control and observation of the engineering plant and spaces, or reduce overall crew requirements. The arrangements must make sure that under all sailing conditions, including maneuvering, the safety of the vessel is equal to that of the same vessel with the entire plant under fully attended direct supervision. The approval to operate minimally attended or periodically unattended machinery spaces is subject to the requirements of 46 CFR Part 62. Authorization shall be so stated on the COI as required by SOLAS II-1/E and recommended by Annex 4 of IMO Resolution A.1047(27), as amended, as discussed in paragraph 3.b.(4)(d) above.

(g) Alternate Compliance Program (ACP) / Maritime Security Program (MSP). For additional information, refer to the latest guidance pertaining to vessels enrolled in the ACP or MSP.

4. Annual Inspections.

Marine inspection personnel shall ascertain the performance of installed systems of those vessels that have reduced manning levels during annual inspections. In addition to the review of the vessel's logs, maintenance records and overtime sheets, credentialed officers and ratings should be interviewed. When vessels are required to carry engine maintenance personnel, any periods in which they are placed in a watch status must be noted.

5. Increased Manning Levels.

Vessel manning levels that have been reduced due to the installation of automated systems or controls will be restored to conventional levels if the automated system develops a pattern of unreliable performance; isolated instances of "downtime" will not be basis for increased manning. The manning level will be adjusted only in the department affected by the malfunctioning system, and an appropriate amendment will be made to the COI. The increased manning level will remain in effect until corrective action has been taken and the system has been tested to the OCMI's satisfaction.

The OCMI should take appropriate action to validate any complaints or reports detailing specific instances of repeated equipment failures, excessive overtime, or concerns regarding unsatisfactory performance of crews during emergency and operational evolutions onboard vessels having reduced manning. If the reports are confirmed, a reevaluation of the manning may be justified. The COI required manning must reflect the minimum safe manning level to comply with statutes and regulations. The OCMI should increase the required manning whenever a review of the work records indicates excessive workloads, or when statutory workhour limits are being exceeded, or in situations when

the limits are met by the virtue of the vessel owner assigning a sufficient number of "other persons in the crew" to augment the required crew. Manning increases deemed necessary by the OCMI due to automation system failures or inability to safely operate and maintain the vessel for any reason should be reported to Commandant ([CG-CVC](#)). Automated machinery control and management system failures, design or component related, which may affect a class of vessels should also be reported to Commandant ([CG-ENG](#)).

MARINE SAFETY MANUAL

Chapter 26: MANNING OF UNINSPECTED VESSELS (INCLUDING CERTAIN YACHTS)

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MARINE SAFETY MANUAL

CHAPTER 26: MANNING OF UNINSPECTED VESSELS (INCLUDING CERTAIN YACHTS)

A. General.

Chapters 20-26 have been structured to interlink various elements affecting the safe manning and watchkeeping on U.S. vessels and should be referenced comprehensively. Refer to Chapter 20 paragraph A for a summary of all Chapters. This Chapter discusses the statutes and regulations that apply to the uninspected vessel industry. Although there are very few statutory requirements that allow the Coast Guard to regulate the manning of uninspected vessels, this Chapter will discuss those statutes and regulations that do apply to the uninspected vessel industry. The discussions and manning recommendations in this Chapter are not meant to be all-inclusive and should be used as a general guide only. (See Chapters 21, 22, 23 and 24 for discussions concerning manning and watchstanding qualifications necessary to meet U.S. and international requirements when applicable to certain vessels discussed in this Chapter.)

B. Towing Vessels (Including Integrated & Articulated Tug-Barges (ITBs / ATBs)).

Generally, uninspected towing vessels are subject only to the provisions of 46 U.S.C. 8904 for credentialed operators. Seagoing towing vessels of at least 200 GRT or more are subject to 46 U.S.C. 8304, and therefore, also require masters and mates with appropriate endorsements.

1. Definitions.

a. Oceans (Domestic Trade) Voyages.

An Oceans (domestic trade) voyage can be interpreted to include a voyage from any U.S. port to any other U.S. port. 46 U.S.C. 2101(44) states that "United States", when used in a geographical sense means the States of the United States and the following territories or possessions: Guam, Puerto Rico, the Virgin Islands, American Samoa, the District of Columbia, the Northern Mariana Islands, and any other territory or possession of the United States. Therefore, a voyage from New York, NY to Guam is considered an Oceans (domestic trade) voyage.

b. Near Coastal Voyages.

46 CFR 10.107 states, in part, that "near coastal" means ocean waters not more than 200 miles offshore. See paragraph 26.D. regarding uninspected passenger vessels operating in U.S. near coastal waters, and Chapter 22.A.2.d.(2) for additional discussion pertaining to U.S. vessels that regularly operate in the near coastal waters of another country.

2. Uninspected Towing Vessel Worksite Exclusion.

Worksite means an area specified by the cognizant Officer in Charge, Marine Inspection (OCMI) within which workboats are operated over short distances for dredging, construction, maintenance, or repair work and may include vessel yards, owner's yards, or lay-down areas used by marine construction projects.

Workboat means a vessel that pushes, pulls, or hauls alongside equipment including dredging, construction, maintenance, or repair equipment within a worksite.

The statute addressing officers on towing vessels, 46 U.S.C. 8904, requires a towing vessel that is at least 26 feet (7.9 meters) in length to be operated by a licensed individual. The U.S. Senate Committee on Commerce Report of June 27, 1972, however, described various situations in which the statute was not intended to apply. The following statement was included in the report: "The licensing requirement will apply only to those vessels which are documented solely for other services or are not required to be documented. The vessels covered are those which perform towing services as a business and the bill does not cover vessels towing in an emergency or on an intermittent basis, not directly connected with the service for which the vessel may have been documented. Excluded from coverage would be, for instance, workboats which are used to move dredging equipment for short distances at the dredging site" (H.R. 92-125, 92nd Cong., 1st sess., 3.). The import of the legislative history comment was that workboats, at a worksite, that may be called upon to move a piece of equipment a short distance at a worksite on an emergency or intermittent basis, would not be required to be operated by licensed individuals. On the other hand, vessels engaged to perform towing services, including marine construction equipment, however intermittently, would be required to be operated by licensed individuals. It is important to note that workboats, which tow barges on a fulltime basis, even though always at the worksite, are not operating on an emergency or intermittent basis and are not entitled to a worksite exclusion.

Towing vessels not specifically engaged in the commercial towing service, operating solely as workboats in dredging operations may be exempt from the manning requirements of 46 U.S.C. 8904. Each case shall be carefully scrutinized to determine whether the exemption applies. The Coast Guard, therefore, must consider the facts of a particular situation in making a determination as to the applicability of the statute.

3. Navigation Watches.

There is no specific number of credentialed officers or crewmembers required on an uninspected towing vessel. Watchstanding requirements do, however, prescribe a minimum complement. 46 U.S.C. 8104(d), (g) and (h) require different watchstanding arrangements for the various types of towing vessels and towing operations. See Chapter 24 paragraph A.4.b for related discussion on two-watch arrangements and additional factors.

- a. A 3-watch system is required for the credentialed officers, sailors, coal passers (e.g. wipers), firemen, oilers and watertenders on seagoing towing vessels of 200 GRT or more, on a voyage of 600 nautical miles or more.

- b. A 3-watch system is also required for the sailors and engineering personnel (such as coal passers (e.g. wipers), firemen, oilers, and watertenders), where necessary for the direct control and observation of the engineering plant, on seagoing towing vessels between 100 and 200 GRT on a voyage of 600 nautical miles or more. In this situation the credentialed operators may be divided into a 2-watch system as allowed by 46 CFR 15.705(d).
 - c. Per 46 U.S.C. 8104(g), a 2-watch system is permitted for the credentialed officers and crewmembers (except the coal passers, firemen, oilers, and watertenders) on seagoing towing vessels of 100 GRT or more when on a voyage less than 600 nautical miles.
 - d. Uninspected towing vessels not on the high seas (i.e., not operating beyond the boundary line), may be divided into a 2-watch system regardless of the length of the voyage as permitted by 46 CFR 15.705(d).
4. Engineering Workers.
Considering the above statutes and interpretations the following can be concluded: Certain engine department ratings (e.g., Coal passer, firemen, oilers and watertenders) on towing vessels of 100 GRT or greater must be divided into a 3 watch system at all times. Also, seagoing vessels of 200 GRT or more which employ or engage personnel to perform the duties of a chief engineer or engineer of the watch must employ appropriately credentialed engineers (see 46 U.S.C. 8304).
5. Workhour Limits.
46 U.S.C. 8104(h) allows credentialed operators working aboard towing vessels subject to the provisions of 46 U.S.C. 8904 (e.g., vessels less than 200 GRT) to work no more than 12 hours in a consecutive 24-hour period. There is no similar maximum workhour limit for the crewmembers and ratings on towing vessels subject to 46 U.S.C. 8904, with some exceptions as follows. Seagoing towing vessels of more than 100 GRT are subject to the provisions of 46 U.S.C. 8104(d) (a credentialed officer or seaman may not be required to work more than 8 hours in one day). However, regardless of the route of the vessel, or work rules agreed to by crewmembers, individually or through collective bargaining, the owner and master (or credentialed operator) are required to provide an adequate and fit watch as per 46 CFR 15.601, 15.705 and 15.1111. Consequently, if the credentialed officers or crewmembers 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.
- C. Self-Propelled Vessels 200 GRT Or More.
Documented vessels of 200 GRT or more operating on the high seas, including commercial fishing industry vessels, are subject to the provisions of 46 U.S.C. 8304. Title 46 USC 8304 considers 'high seas' to mean waters seaward of the Boundary Line. Accordingly, the master, mates and engineers on any vessel subject to 46 U.S.C. 8304 (whether uninspected or recreational) are required to hold a Coast Guard-issued license or MMC officer endorsement to serve in that capacity. Subject vessels are required to have a master (46 CFR 15.805). While the regulations do not explicitly state a minimum number of mates or engineers for these vessels, individuals serving in those capacities must be credentialed or licensed appropriately.

The following manning scale is considered appropriate for such vessels:

1-Master	*1-Chief Engineer <u>(Mechanically-Propelled)</u>
1-Licensed Mate *Optional	*1-Licensed Assistant Engineer <u>(Mechanically-Propelled)</u>

There are no statutory requirements for watch systems or minimum number of credentialed officers or licensed individuals on these vessels, with the exception of certain fish processing vessels or fish tending vessels engaged in the Aleutian trade. It is the master's responsibility to ensure an adequate watch for the safety of the vessel. While there may be individuals who can routinely and safely perform work for periods in excess of 12 consecutive hours, the rigors of watchkeeping at sea greatly increase the likelihood of fatigue beyond such a period. Between 12 and 24 hours of operation there is a gray area in which the OCMI must judge the prudence of the master's decision to sail without a second credentialed officer or licensed individual to implement the watch, based on the specific circumstances.

If a vessel is operating at sea for extended periods of time it may be assumed that the master of the vessel must, due to normal sleep and body function requirements, relinquish the watch to another crewmember. When this occurs, the person who is assigned the watch becomes the mate and is the person in charge of navigating or maneuvering the vessel. His or her actual status as "mate" does not diminish even if his/her standing orders are to notify the master upon the slightest change of watch conditions which could impact the safety of the vessel. While there is no direct authority by which the Coast Guard can require a subject vessel to carry both a master and a mate in terms of a "manning requirement," if the master of the vessel is found to be too fatigued to stand watch and there is no credentialed mate to assume the duties of officer in charge of the navigation watch, then the master of the vessel could be charged with negligence for failure to maintain an adequate watch. OCMI's should strongly encourage subject vessels of 200 GRT or more operating in excess of 12 hours to have at least two credentialed officers or licensed individuals assigned to prevent fatigue. (See Chapters 22, and 24 for additional discussions.) The controlling statute requires only that persons serving as "officers" shall hold a credential endorsed for their positions.

Motor vessels of any size, regardless of their numbering or documentation, engaged exclusively in fishing on other than the high seas, are not currently subject to any federal manning requirements. Title 46 U.S.C. 12131 does require that a documented vessel be placed under the command of a citizen of the United States; however, unless subject to 46 U.S.C. 8304 this person may be unlicensed.

1. GMDSS And Commercial Fishing Vessels.

Traditionally, commercial fishing vessels have been required to carry the radiotelegraph and radiotelephone equipment, including GMDSS equipment, specified for cargo ships in the Communications Act of 1934 and in the Commission's Rules (see 64 FR 6253). However, commercial fishing vessels that are otherwise subject to the SOLAS GMDSS requirements have received a limited, temporary waiver of certain equipment carriage requirements in Sea Areas A1 and A2 (see Waiver of Certain GMDSS Rules Applicable to Fishing Vessels and Small Passenger Vessels, Order, 14 FCC Rcd 528, FCC 98-296 (1998)). The waiver is available only for vessels that remain within the specified communications ranges (A1 and A2), and is not applicable to vessels that travel in Sea Area A3 or beyond. Accordingly, in the absence of an individual exemption, such vessels must be fitted with the full complement of required GMDSS equipment and manned with two licensed GMDSS radio operators.

D. Uninspected Passenger Vessels.

Title 46 U.S.C. 8903, and 46 CFR 15.605 require each self-propelled uninspected passenger vessel to be under the "direction and control" of a credentialed individual as prescribed by regulation. In this regard, if a water-skier, or para-sailor is towed for hire, the vessel is considered to be carrying passengers for hire, and the operator of the vessel must be appropriately endorsed. Credentialed masters, mates, or operators of uninspected passenger vessels (OUPV) may serve as person in charge of navigation. Under 46 CFR 10.107, an endorsement for OUPV issued for ocean waters will be limited to near-coastal waters not more than 100 miles offshore from the U.S. and its possessions (See 26.B.1.b for additional discussion of the definition of "near coastal").

1. Workhour Limitations.

46 U.S.C. 8104(b) provides that credentialed individuals on oceangoing vessels of not more than 100 GRT "may not be required" to work more than 12 hours in a 24-hour period while at sea. Credentialed individuals serving as OUPV may, however, voluntarily work more than 12 hours in a 24-hour period. (See Chapters 22 and 24 for additional discussions.)

2. Adequate Watches.

While an OUPV may work more than 12 hours, he or she must maintain an adequate watch. If the OUPV has no relief and is too fatigued to stand an alert watch, then that individual would be negligent for failure to maintain an adequate watch. While there may be individuals who can routinely and safely perform work for periods in excess of 12 consecutive hours, the rigors of watchkeeping at sea greatly increase the likelihood of fatigue beyond such a period. Between 12 and 24 hours of operation, there is a gray area in which the OCMI must judge the prudence of the credentialed operator's decision to sail without a second credentialed operator, based on the specific circumstances. Charter fishing and dive vessels routinely operating more than 24 consecutive hours with only one credentialed operator present a dangerous situation, raising significant issues of negligence on the part of the OUPV and owner for failure to provide an adequate watch.

3. Enforcement Action.

OCMIs should strongly encourage uninspected passenger vessels operating in excess of 12 hours to have at least two credentialed operators assigned to prevent fatigue. It has been suggested by some operators that a qualified seaman could be left at the helm while the credentialed operator sleeps close by. This is an untenable position. Title 46 U.S.C. 8903 mandates the vessel be operated by a credentialed individual; the Coast Guard does not have the discretion to allow any rating or crewmember to control the vessel without supervision. When a sole credentialed OUPV is assigned to a vessel and is found to have been unfit to maintain vigilance due to fatigue, or allows a rating or crewmember to control the vessel while the OUPV sleeps, the OCMI should consider charging the credentialed operator with negligence, misconduct, or violation of law, as may be appropriate to the specific circumstances.

E. Oceanographic Research Vessels.

Undocumented, uninspected oceanographic research vessels under 200 GRT are not subject to the provisions of 46 U.S.C. 8304 or 46 CFR 15.701. However, if they are of 100 GRT or more, they are subject to 46 U.S.C. 8702 and 8104.

F. Manning Charts.

Figure 26-1 lists typical requirements and the references for citizenship, manning, and watch requirements that apply to uninspected, documented, vessels (including certain yachts). It is not meant to be all-inclusive and should be used as a general guide only. In certain cases STCW and SOLAS will apply to uninspected vessels. See Chapters 21, 22, and 23 for additional guidance.

Figure 26-1: Manning Requirements And References For Documented Uninspected Vessels (Including Certain Yachts)

Vessel Types	Percentage Of Crew Required To Be A U.S. Citizen Or Alien Lawfully Admitted For Permanent Residency 46 U.S.C. 8103	Crew Required To Hold Merchant Mariner's Document (MMC/MMD) 46 U.S.C. 8701(A)	Percentage Of Deck Crew Required To Be Able Seaman 46 U.S.C. 7312(A-F) 46 U.S.C. 8702	Licensed Operator Required 46 U.S.C. 8901	Licensed Master 46 U.S.C. 8304 <u>46 U.S.C. 8904</u>	Licensed Mates 46 U.S.C. 8304	Licensed Chief Engineer 46 U.S.C. 8304	Licensed Asst. Engineer 46 U.S.C. 8304	Required Watch Divisions 46 U.S.C. 8104
Fishing Vessels (< 200 GRT)	--- ³	NO	---	---	---	---	---	---	---
Fishing Vessels (200 GRT Or >)	--- ³	NO	---	---	YES ⁴	1 ⁴	YES ⁵	1	---
Tender Vessels (< 200 GRT)	100% ³	NO ⁴	--- ⁶	---	---	---	---	---	--- ⁶
Tender Vessels (200 GRT – 500 GRT)	100% ³	NO ⁴	--- ⁶	---	YES ⁴	1 ⁴	YES ⁵	1 ⁵	--- ⁶
Processor 1 (< 1,600 GRT)	100% ³	NO	---	---	YES ⁴	1 ⁴	YES ⁵	1 ⁵	---
Processor 2 (1,600 GRT – 5,000 GRT)	100% ³	YES ⁷	50%	---	YES ⁴	1 ⁴	YES ⁵	1 ⁵	2
Salvage Vessel	100%	YES ⁷	65%	NO	YES ⁴	1 ⁴	YES ⁵	1 ⁵	---
Towboats Seagoing (600 NM Or >)	100%	YES ⁷	65%	---	<u>YES</u>	2 ⁴ , <u>11</u>	YES ⁵	2 ⁵	3 ¹¹
Towboats Seagoing (< 600 NM)	100%	YES ⁷	50%	---	<u>YES</u>	1 ⁴	YES ⁵	1 ⁵	2 ⁹

Figure 26-1: Manning Requirements And References For Documented Uninspected Vessels (Including Certain Yachts) (Con't)

Vessel Types	Percentage Of Crew Required To Be A U.S. Citizen Or Alien Lawfully Admitted For Permanent Residency 46 U.S.C. 8103	Crew Required To Hold Merchant Mariner's Document (MMC/MMD) 46 U.S.C. 8701(A)	Percentage Of Deck Crew Required To Be Able Seaman 46 U.S.C. 7312(A-F) 46 U.S.C. 8702	Licensed Operator Required 46 U.S.C. 8901	Licensed Master 46 U.S.C. 8304 <u>46 U.S.C. 8904</u>	Licensed Mates 46 U.S.C. 8304	Licensed Chief Engineer 46 U.S.C. 8304	Licensed Asst. Engineer 46 U.S.C. 8304	Required Watch Divisions 46 U.S.C. 8104
Towboats Great Lakes	100%	YES ⁷	65%	---	<u>YES¹⁰</u>	---	---	---	3 ¹⁰
Towboats Inland & W/R	100%	NO	---	---	<u>YES¹¹</u>	---	---	---	2 ¹¹
Yachts	---	NO	---	---	YES ⁴	1 ⁴	YES ⁵	1 ⁵	---
Uninspected Passenger Vessels	100%	NO	---	YES ¹²	---	---	---	---	2 ¹²
Other Vessels	100%	YES ⁷	65% ⁸	YES	YES ⁴	2 ⁴	YES ⁵	2 ⁵	3 ⁸

Figure 26-1: Manning Requirements And References For Documented Uninspected Vessels
(Including Certain Yachts) (Con't)

NOTES:

1. Small Fish Processor:
 - (a) no more than 1,600 GRT, entering service before 1/1/88, or
 - (b) 100 GRT or over, entering service after 12/31/87 with no more than 16 people on board primarily employed in the preparation of fish and fish products.
2. Medium Fish Processor:
 - (a) over 1,600 GRT but not more than 5,000 GRT, entering service before 1/1/88, or
 - (b) 100 GRT or over, entering service after 12/31/87 with more than 16 people on board primarily employed in the preparation of fish and fish products.
3. Inside the exclusive economic zone (EEZ): On a fishing, fish processing, or fish tender vessel that is engaged in the fisheries of the EEZ, 75% of the unlicensed seamen must be either U.S. Citizens or aliens lawfully admitted to the U.S. for permanent residence. The remaining 25% may be any other alien allowed to be employed under the Immigration and Nationality Act [8 U.S.C. 1101]. Masters, chief engineers, deck watch officers, engineering watch officers and radio officers must be U.S. citizens. [46 U.S.C. 8103].
4. A person in charge of navigating or maneuvering vessels of 200 GRT or more operating outside of the Boundary Lines must be licensed (credentialed officer) as per 46 U.S.C. 8304. [46 CFR 15.810(c)]
5. A person on a seagoing mechanically propelled vessel performing the duties of chief engineer and anyone in charge of an engineering watch must be properly licensed (credentialed officer). [46 CFR 15.820(c) and 15.825(a)]
6. Fish tender vessels engaged in the Aleutian trade must comply with 46 U.S.C. 8702(b). As a general matter, section 8702(b) requires 65% of the unlicensed deck crew to be ABs, except that this may be reduced to 50% for fish tender vessel engaged in the Aleutian trade. Section 8104(o)(1) requires fish tender vessels of not more than 500 GRT to divide the licensed (credentialed officers) individuals and crewmembers into a 3-watch system. However, Section 8104(o)(2) allows a 2-watch system for fish tender vessels operating or purchased to be used in the trade before September 8, 1990, and entered into service before June 1, 1992. [46 CFR 15.705(e)]
7. Under 46 U.S.C. 8701, with certain exceptions, a merchant mariner's document/credential (MMD/MMC) is required for personnel to be employed on vessels of 100 GRT or more.

Figure 26-1: Manning Requirements And References For Documented Uninspected Vessels
(Including Certain Yachts) (Con't)

8. Vessels not included under the exemptions of 46 U.S.C. 8702(a) must comply with 8702(b). In general, Section 8702(b) requires 65% of the unlicensed deck crew to be ABs for a 3-watch system and 50% for a 2-watch system. Section 8104 determines the applicable watch system. [46 CFR 15.401, and 15.705]
9. 46 U.S.C. 8104(g) allows licensed (credentialed) officers and members of the crew other than coal passers, firemen, oilers, and water tenders to be divided into not less than two watches while at sea. [46 CFR 15.705]
10. 46 U.S.C. 8104c does not permit any licensed or unlicensed seamen on a towing vessel operating on the Great Lakes to work more than 8 hours in one day. In practice this would require a two or three watch system for operations greater than 8 hours.
11. Subject to exceptions, 46 U.S.C. 8104(h) permits a master or mate (pilot) operating a towing vessel that is at least 26 feet in length measured from end to end over the deck (excluding sheer) to work not more than 12 hours in a consecutive 24 hour period except in an emergency. The Coast Guard interprets this, in conjunction with other provisions of the law, to permit masters or mates (pilots) serving as operators of towing vessels that are not subject to the provisions of the Officers' Competency Certificates Convention, 1936, to be divided into two watches regardless of the length of the voyage (46 CFR 15.705(d)). See Chapter 24 paragraph A.4.b for related discussion on two-watch arrangements and additional factors.
12. 46 U.S.C. 8903 requires the OUPV to be licensed by the Secretary under prescribed regulations. 46 U.S.C. 8104(b) provides that licensed individuals on oceangoing vessels of not more than 100 GRT "may not be required" to work more than 12 hours in a 24-hour period while at sea. Therefore an uninspected passenger vessel operating greater than 12 hours should have a two watch system. If the OUPV has no relief and is too fatigued to stand an alert watch, then that individual would be negligent for failure to maintain an adequate watch. [46 CFR 15.601, 15.705 and 15.905]

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MARINE SAFETY MANUAL

ANNEX



Model format for record of hours of work or hours of rest of seafarers¹

Name of ship: _____ IMO number (if any): _____ Flag of ship: _____
Seafarer (full name): _____ Position / rank: _____
Month and year: _____ Watchkeeper:² yes no

Page 1 of 2

Record of hours of work/rest³

Please mark periods of work or rest, as applicable, with an X, or using a continuous line or arrow.

COMPLETE THE TABLE ON THE REVERSE SIDE

The following national laws, regulations and/or collective agreements governing limitations on working hours or minimum rest periods apply to this ship:

I agree that this record is an accurate reflection of the hours of work or rest of the seafarer concerned.

Name of master or person authorized by master to sign this record _____

Signature of master or authorized person _____ Signature of seafarer _____

A copy of this record is to be given to the seafarer. This form is subject to examination and endorsement under procedures established by _____
(name of competent authority)

¹ The terms used in this model table are to appear in the working language or languages of the ship and in English.

² Check / as appropriate.

³ Delete as appropriate.



MINIMUM SAFE MANNING DOCUMENT

Issued under the provision of regulation V/14 of the
INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, as amended
under the authority of the Government of **THE UNITED STATES OF AMERICA**
by **THE UNITED STATES COAST GUARD**

Vessel Name: (From Certificate of Documentation) IMO Number: (If Not Provided Indicate U.S. O.N.)
Distinctive numbers or letters: (Call Sign) Port of Registry: (Hailing Port)
Gross Tonnage: (GRT) (GT ITC) Main Propulsion Power: (Aggregate Horsepower)(hp)
Type of Vessel: (Primary Service) Periodically Unattended Machinery Plant: (YES or NO)
Trading Area: (e.g. Oceans/Unlimited) Operating Company:

In accordance with the principles and guidelines set out in Annex 1 and 2 of IMO Resolution A.1047(27), the vessel named in this document is considered to be safely manned if, when it proceeds to sea, it carries not less than the number and grades/capacities of personnel specified in the table below. When on an 'international voyage', this vessel must be manned with the following licensed and unlicensed personnel, included in which there must be two (2) certificated lifeboatmen [Note: Ref. 46 CFR 15.845], three (3) GMDSS Radio Operators [Note: Ref. Para 22.L], and zero (0) certificated tankerman [Note: Ref. 46 CFR 15.860]:

U.S. License/Rating	STCW Grade/Capacity	Certificate (STCW regulation)	Number of Persons
Master [Note: Ref. Para 22.C & G]	Master on vessels of 500 to 3,000 GT ITC or more	II/2 [Note: Ref. Para 22.B.2.a]	1
Licensed Mate [Note: Ref. Para 22.D & G]	Officer in charge of a navigational watch of vessels over 500 GT ITC	II/1 [Note: Ref. Para 22.B.2.a]	2 ^a
Able Seaman [Note: Ref. Para 23.C & D]	Rating forming part of navigational watch	II/4 [Note: Ref. Para 23.B.1.a]	3 ^a
Chief Engineer (Motor/Unlimited hp) [Note: Ref. Para 22.E]	Chief engineering officer, main propulsion machinery over 3,000 kW	III/2 [Note: Ref. Para 22.B.2.b]	1
Licensed Engineer (Motor/Unlimited hp) [Note: Ref. Para 22.F]	Officer in charge of an engineering watch of vessels over 750kW	III/1 [Note: Ref. Para 22.B.2.b]	2 ^a
Qualified Member of the Engine Department [Note: Ref. Para 23.C & D]	Rating forming part of an engineering watch	III/4 [Note: Ref. Para 23.B.1.b]	---

Special requirements and conditions:

*In accordance with U.S. law, when on a voyage of less than 600 miles, manning may be reduced by one (1) Licensed Mate, one (1) GMDSS Radio Operator, one (1) Licensed Engineer, and one (1) Able Seaman. [Note: Ref. Para 24.A.4.b]

Up to one (1) Ordinary Seamen with an STCW 95 endorsement attesting to "Rating forming part of a navigational watch" may be substituted for one (1) Able Seaman. [Note: Ref. Para 23.B.1.a.(3) & 23.D.1]

[Note: Ref. Para 22.B.2.d.(2)(b) for special requirements and conditions pertaining to the Canadian MPR]

In addition, the vessel may carry xxxx (x) passengers, xxxx (x) other persons in crew, xxxx (x) persons in addition to the crew, and no others. Total persons allowed: xxxxx (xx).

Issued at: (Location of Unit)
Date of Issue:

XXXXXXX XXXXXX
U.S. Coast Guard
Officer in Charge, Marine Inspection

U.S. Department of
Homeland Security

United States
Coast Guard



Unit Address Block
Unit Address Block
United States Coast Guard

Unit address block
Unit address block
Staff Symbol: (sp)
Unit phone
Unit fax
Unit e-mail

16711 /*Insert Vsl name*

Vessel Operator Address Block

Attn:

Vessel Operator Address

Vessel Operator Address

Subj: SAFE MANNING LETTER (SML)

Dear Port State Control Official:

We are providing this letter as a statement of fact for the referenced vessel regarding U.S. requirements for operation in oceans unrestricted service on foreign/international voyages. This commercial vessel was built / keel laid date on [REDACTED], is [REDACTED] GRT, [REDACTED] GT ITC, (Aggregate) hp, and (Aggregate) kW. The vessel has / has not undergone any major modifications.

The International Convention on Tonnage Measurement of Ships, 1969, came fully into force on 18 July 1994. Under the provisions of this Convention, as supplemented by International Maritime Organization (IMO) Interim Schemes (Resolutions A.494 (XII) and A.541(13)), a vessel meeting certain criteria may retain the gross tonnage assigned under the Flag State's national tonnage system for the purpose of applying requirements of specific international conventions.

The U.S. Coast Guard acknowledges that the above mentioned vessel is currently of United States registry and qualifies for retaining national gross tonnage under the provisions of the International Convention on Tonnage Measurement of Ships, 1969, as supplemented by IMO Interim Schemes. The national gross tonnage assigned to this vessel under the United States Regulatory Measurement System is [REDACTED] GRT.

Based on its size and current service the vessel is not required to be inspected and certificated by the U.S. Coast Guard under the laws of the United States, nor do SOLAS and MARPOL require certification, including issuance of a Safe Manning Document.

To assist Port State Authorities and others that may have an interest in the operations of the subject vessel the below information is provided regarding what requirements do apply to the vessel:

The vessel must comply fully with our flag-state requirements for an uninspected vessel of this tonnage and service. Those requirements are contained in Title 46 Code of U.S. Federal Regulations, Subchapter C (Part 24-26). Although no inspection certificate is required to be issued attesting to compliance, the Coast Guard does have authority to do boarding's of the vessel for the purpose of verification. A properly displayed and valid Uninspected Towing Vessel decal shows this vessel has voluntarily been examined and meets current applicable flag state requirements.

The vessel may engage in unrestricted international voyages provided that it is properly manned with credentialed crew as noted below:

1 Master (Oceans/Near Coastal) of not more than _____ GRT, _____ GT ITC.

1 Mate, OICNW (Oceans/Near Coastal) of not more than _____ GRT, _____ GT ITC.

1 Chief Engineer, of _____ hp, _____ kW.*

1 Assistant Engineer, of _____ hp, _____ kW.*

2 Able-bodied Seaman (without STCW endorsements)

*A Designated Duty Engineer (Unlimited/4,000 hp) may be substituted for a Chief Engineer and/or an Assistant Engineer on vessels below 500 GRT.

STCW requires any rating forming part of any watch in a manned engine room or designated to perform duties in a periodically unmanned engine room powered by main propulsion machinery of 750 kW or more to meet certification requirements. If the vessel employs a crewmember in this capacity that crewmember should have an MMC with appropriate STCW endorsements. Deck ratings are not required to meet STCW if aboard a vessel of less than 500 GT ITC.

The vessel should maintain records indicating the work and rest hours of all credentialed watch standers.

We respectfully request that Port State Officials accept this letter as evidence of the flag-state's requirements for the vessel to operate in unrestricted service.

Questions concerning this letter may be directed to address and/or e-mail listed at the top of this letter.

Sincerely,

XXXXXXXXXXXXXXXXXXXX

Insert rank, U. S. Coast Guard
Officer in Charge, Marine Inspection

Copy: Commandant (CG-CVC-1)

MARINE SAFETY MANUAL

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