DEPARTMENT OF HOMELAND SECURITY

Coast Guard

46 CFR Parts 2, 15, 136, 137, 138, 139, 140, 141, 142, 143, and 144

[Docket No. USCG–2006–24412]

RIN 1625–AB06

Inspection of Towing Vessels

AGENCY: Coast Guard, DHS.

ACTION: Notice of proposed rulemaking.

SUMMARY: The Coast Guard proposes to establish safety regulations governing the inspection, standards, and safety management systems of towing vessels. The proposal includes provisions covering: Specific electrical and machinery requirements for new and existing towing vessels, the use and approval of third-party auditors and surveyors, and procedures for obtaining Certificates of Inspection.

Without making a specific proposal at this time, the Coast Guard also seeks additional data, information and public comment on potential requirements for hours of service or crew endurance management for mariners aboard towing vessels. The Coast Guard would later request public comment on specific hours of service or crew endurance management regulatory text if it seeks to implement such requirements.

The intent of the proposed rulemaking is to promote safer work practices and reduce casualties on towing vessels by requiring that towing vessels adhere to prescribed safety standards and safety management systems or to an alternative, annual Coast Guard inspection regime. The Coast Guard promulgates this proposal in cooperation with the Towing Vessel Safety Advisory Committee and pursuant to the authority granted in section 415 of the Coast Guard and Maritime Transportation Act of 2004.

DATES: Comments and related material must either be submitted to our online docket via *http://www.regulations.gov* on or before December 9, 2011 or reach the Docket Management Facility by that date. Comments sent to the Office of Management and Budget (OMB) on collection of information must reach OMB on or before November 9, 2011.

ADDRESSES: You may submit comments identified by docket number USCG–2006–24412 using any one of the following methods:

(1) *Federal eRulemaking Portal: http://www.regulations.gov.*

(2) *Fax:* 202–493–2251.

(3) *Mail:* Docket Management Facility (M–30), U.S. Department of Transportation, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue, SE., Washington, DC 20590–0001.

(4) *Hand delivery:* Same as mail address above, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The telephone number is 202–366–9329.

To avoid duplication, please use only one of these methods. For instructions on submitting comments, *see* the ''Public Participation and Request for Comments'' portion of the **SUPPLEMENTARY INFORMATION** section below.

Collection of Information Comments: If you have comments on the collection of information discussed in section VI.D. ''Collection of Information'' of this NPRM, you must also send comments to the Office of Information and Regulatory Affairs (OIRA), OMB. To ensure that your comments to OIRA are received on time, the preferred methods are by e-mail to *oira_submission@omb.eop.gov* (include the docket number and ''Attention: Desk Officer for Coast Guard, DHS'' in the subject line of the e-mail) or fax at 202–395–6566. An alternate, though slower, method is by U.S. mail to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW., Washington, DC 20503, ATTN: Desk Officer, U.S. Coast Guard.

Viewing incorporation by reference material: You may inspect the material proposed for incorporation by reference at Room 1210, U.S. Coast Guard Headquarters, 2100 Second Street, SW., Washington, DC 20593–0001 between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The telephone number is 202–372–1427. Copies of the material are available as indicated in the ''Incorporation by Reference'' section of this preamble.

FOR FURTHER INFORMATION CONTACT: If you have questions on this proposed rule, call Michael Harmon, Project Manager, CGHQ–1210, Coast Guard, telephone 202–372–1427. If you have questions on viewing or submitting material to the docket, call Renee V. Wright, Program Manager, Docket Operations, telephone 202–366–9826.

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I. Public Participation and Request for Comments

We encourage you to participate in this rulemaking by submitting comments and related materials. All comments received will be posted, without change, to *http://www.regulations.gov* and will include any personal information you have provided.

A. Submitting Comments

If you submit a comment, please include the docket number for this rulemaking (USCG–2006–24412), indicate the specific section of this document to which each comment applies, and provide a reason for each suggestion or recommendation. You may submit your comments and material online, or by fax, mail or hand delivery, but please use only one of these means. We recommend that you include your name and a mailing address, an e-mail address, or a phone number in the body of your document so that we can contact you if we have questions regarding your submission.

To submit your comment online, go to *http://www.regulations.gov,* select the

Advanced Docket Search option on the right side of the screen, insert ''USCG–2006–24412'' in the Docket ID box, press Enter, and then click on the balloon shape in the Actions column. If you submit your comments by mail or hand delivery, submit them in an unbound format, no larger than 8½ by 11 inches, suitable for copying and electronic filing. If you submit them by mail and would like to know that they reached the Facility, please enclose a stamped, self-addressed postcard or envelope.

We will consider all comments and material received during the comment period and may change this proposed rule based on your comments.

B. Viewing Comments and Documents

To view comments, as well as documents mentioned in this preamble as being available in the docket, go to *http://www.regulations.gov,* select the Advanced Docket Search option on the right side of the screen, insert USCG–2006–24412 in the Docket ID box, press Enter, and then click on the item in the Docket ID column. If you do not have access to the Internet, you may view the docket online by visiting the Docket Management Facility in Room W12–140 on the ground floor of the Department of Transportation West Building, 1200 New Jersey Avenue, SE., Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. We have an agreement with the Department of Transportation to use the Docket Management Facility. Some articles we have referenced in the preamble are copyrighted and therefore we did not place a copy of these articles in our online docket. You may, however, either use the citation information we provided to obtain a copy of those articles or you may view a copy in room 1210, U.S. Coast Guard Headquarters, 2100 Second Street SW., Washington, DC 20593–0001 between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The telephone number is 202–372–1427.

C. Privacy Act

Anyone can search the electronic form of comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, *etc.*). You may review a Privacy Act notice regarding our public dockets in the January 17, 2008 issue of the **Federal Register** (73 FR 3316).

D. Public Meeting

We plan to hold public meetings on this NPRM. A notice with the specific dates and locations of the meetings will be published in the **Federal Register** as soon as this information is known. In addition, known interested parties will be contacted via mail, e-mail, or telephone. If you wish to be contacted regarding the public meetings, contact Mr. Michael Harmon, listed under **FOR FURTHER INFORMATION CONTACT**.

II. Abbreviations

ABS American Bureau of Shipping
ABSG American Bureau of Shipping Group
ABYC American Boat and Yacht Council
ACAPT Accredited for Commercial Assistance and Professional Towing
ACOE Army Corps of Engineers
ACP Alternate Compliance Program
AED Automatic External Defibrillator
ANSI American National Standards Institute
AWO American Waterways Operators
CEMS Crew Endurance Management System
CGMTA 2004 The Coast Guard and Maritime Transportation Act of 2004
COI Certificate of Inspection
COLREGS International Regulations for Prevention of Collisions at Sea
COTP Captain of the Port
DHS Department of Homeland Security
DOD Department of Defense
DOT Department of Transportation
EPIRB Emergency Position Indicating Radio Beacon
FAST Fatigue Avoidance Scheduling Tool
FMCSA Federal Motor Carrier Safety Administration
FR **Federal Register**
FRA Federal Railroad Administration
GAO Government Accountability Office
gpm Gallons Per Minute
IMO International Maritime Organization
ISM International Safety Management
ISO International Organization for Standardization
kPa Kilopascals
LBP Length Between Perpendiculars
LCG Longitudinal Center of Gravity
LORAN Long Range Aid to Navigation
LPM Liters Per Minute
MMC Merchant Mariner Credential
MOU Memorandum of Understanding
MSHA Mine Safety and Health Administration
MTSA Maritime Transportation Security Act of 2002
NARA National Archives and Records Administration
NEC National Electric Code
NFPA National Fire Protection Association
NIOSH National Institute for Occupational Safety and Health
NPRM Notice of Proposed Rulemaking
NTSB National Transportation Safety Board
OCMI Officer in Charge, Marine Inspection
OIRA Office of Information and Regulatory Affairs
OMB Office of Management and Budget
PA Public-Address
PE Professional Engineer
PPE Personal Protective Equipment
psi pounds per square inch
§ Section
SAE Society of Automotive Engineers
SIR and SIRE Ship Inspection Report
SOLAS International Convention for the Safety of Life at Sea, 1974
TSAC Towing Safety Advisory Committee
TSMS Towing Safety Management System
TVR Towing Vessel Record
UL Underwriters Laboratories Standard
U.S.C. United States Code
UWILD Underwater Inspection in Lieu of Dry Docking
VCG Vertical Center of Gravity
VHF–FM Very High Frequency-Frequency Modulated
VTS Vessel Traffic Service
WSE Water Surface Elevations

III. Background

A. Statutory History

The Coast Guard and Maritime Transportation Act of 2004 (CGMTA 2004), Public Law 108–293, 118 Stat. 1028, (Aug. 9, 2004), established new authorities for towing vessels as follows:

Section 415 added towing vessels, as defined in section 2101 of title 46, United States Code (U.S.C.), as a class of vessels that are subject to safety inspections under chapter 33 of that title (*Id.* at 1047).

Section 415 also added new section 3306(j) of title 46, authorizing the Secretary of Homeland Security to establish, by regulation, a safety management system appropriate for the characteristics, methods of operation, and nature of service of towing vessels (*Id.*).

Section 409 added new section 8904(c) of title 46, U.S.C., authorizing the Secretary to establish, by regulation, ''maximum hours of service (including recording and recordkeeping of that service) of individuals engaged on a towing vessel that is at least 26 feet in length measured from end to end over the deck (excluding the sheer).'' (*Id.* at 1044–45).

The House of Representatives published a Conference Report discussing these provisions, and in particular noted the Coast Guard's broad authority to regulate not just maximum hours of service but also provide predictable work and rest schedules, while considering circadian rhythms and human sleep and rest requirements. H.R. Conf. Rep. 108–617, 2004 U.S.C.C.A.N. 936, 951.

B. Regulatory History

On December 30, 2004, the Coast Guard published a Notice; request for comments, and notice of public meetings titled ''Inspection of Towing Vessels'' in the **Federal Register** (69 FR 78471). The notice asked seven questions regarding how the Coast Guard should move forward with the rulemaking to implement the statutory provisions from the CGMTA 2004, listed

above in section III.A. ''Statutory History.'' The Coast Guard then held four public meetings, one each in Washington, DC, Oakland, CA, New Orleans, LA, and St. Louis, MO. In addition to the comments the Coast Guard received at the public meetings, there were 117 comments submitted to the docket, which can be found in docket [USCG–2004–19977] at *http://www.regulations.gov/search/index.jsp.* A majority of the comments answered the seven questions; however, some brought up issues outside the scope of the questions. These seven questions, as well as the summary of the comments that the Coast Guard received in response, can be found below in section IV.K. ''Discussion of Comments.''

C. American Bureau of Shipping Group (ABSG) Consulting Uninspected Towing Vessel Industry Analysis Report (ABSG Report)

The Coast Guard contracted with American Bureau of Shipping Group (ABSG) Consulting in the summer of 2006 for assistance with gathering data and categorizing the vessels that make up the towing industry. The 1-year effort included an analysis of casualty data, evaluating towing vessel accident history data from 1994 to 2003. ABSG evaluated the effects of the current policy (having no formal Coast Guard inspection program) on the various categories of towing vessels, and forecasted the effects Coast Guard inspections might have for the same vessels. This included preliminary costs of known regulatory alternatives.

To complete the ABSG Report, ABSG and Coast Guard personnel conducted visits to various towing companies, met with company officials and mariners, boarded towing vessels, and reviewed existing safety management systems. The companies visited varied in size and industry segment and included those operating on the West, Gulf, and Atlantic coasts, and along the Western Rivers. The final report was used to draft portions of the proposal published in this document. The final ABSG Report is available in the docket for this NPRM, and can be found by following the instructions listed above in section I.B. ''Viewing comments and documents.''

D. Towing Safety Advisory Committee (TSAC)

In the fall of 2004, the Coast Guard requested that the Towing Safety Advisory Committee (TSAC) assist in developing an inspection regimen for towing vessels. The TSAC is a Federal advisory committee to the Coast Guard that represents the towing and barge industry, with members from the mineral and oil supply vessel industry, port districts, authorities and terminal operators, maritime labor, shippers, and the general public. TSAC members come from large towing companies as well as the small business towing community, and represent a wide cross section of viewpoints from the industry.

TSAC established a working group that consisted of individuals from across the industry. Since 2004, nearly 200 individuals contributed to the deliberations of this working group, which were compiled into four reports, all of which were approved by the TSAC. The Coast Guard carefully reviewed each report, drafted concept documents, and submitted notional regulatory language for review with TSAC. Each submission of the Coast Guard's concepts and TSAC's subsequent reports prompted revisions that allowed the concepts to evolve to form the basis of the proposals published in this document. Each TSAC report is available in the docket for this NPRM, and can be found by following the instructions listed above in section I.B. ''Viewing comments and documents.''

While this process lengthened the overall time it took to complete this NPRM, it enabled the Coast Guard to achieve specific goals. First, the process allowed the Coast Guard to review ideas from industry representatives and discuss their issues and concerns. Furthermore, it allowed the towing industry to participate in the rulemaking process from the initial planning stages, as opposed to waiting until after the publication of an NPRM. This process also helped the Coast Guard create a comprehensive set of rules that the Coast Guard believes will ensure greater safety within the industry and that better represent the industry's uniqueness.

IV. Discussion of Proposed Rule

A. Summary

The Coast Guard proposes to establish a comprehensive safety system that includes company compliance, vessel compliance, vessel standards, and oversight in a new Code of Federal Regulations subchapter dedicated to towing vessels.

At the management level, organizations that operate towing vessels subject to inspection would be required to select a compliance option for the managed fleet. Those compliance options are a Safety Management System, including the development and implementation of that system, or an alternative annual Coast Guard inspection regime, leaving those vessels or fleets subject to an annual Coast Guard inspection. The safety management system would describe procedures for ensuring how its vessels and employees would comply with all applicable requirements prescribed in this subchapter. Management would tailor its safety management system to take into consideration its size, organizational structure, and vessel types and services. Towing Safety Management System (TSMS) compliance would be verified through audits and surveys conducted by third-party organizations approved by the Coast Guard and would be documented by the issuance of a TSMS Certificate.

At the vessel level, towing vessels operating under the TSMS option would receive audits and surveys by the approved third-party organizations, at a frequency delineated in part 138. In addition, the Coast Guard would conduct compliance examinations at least once every 5 years, along with additional random compliance checks based on risk. That risk would be determined through analysis of management and vessel safety histories. Certificates of Inspection (COIs) would be issued by the Coast Guard to vessels based on evidence of a vessel's successful compliance with the subchapter.

The Coast Guard would provide direct oversight of the third-party organizations that conduct TSMS audits and surveys, through approval and observation. This would include review and approval of the organization's application to become an approved third party, as well as review of the individual auditors and surveyors they employ. Random visits to their offices and direct observation of their activities would also be used. The Coast Guard would be able to consider an organization's history when evaluating requests for renewal of their status as an approved third party every 5 years and would also have the authority to revoke approval for failure to comply with conditions of approval and applicable standards.

Overall, this proposal would allow each towing vessel organization to customize its approach to meeting the requirements of the regulations, while providing continuous oversight using audits, surveys, inspections, and reviews of safety data. This would improve the safety of towing vessels and provide a more efficient means to use the resources of towing vessel operators, safety professionals in the approved third-party organizations, and the Coast Guard.

The Coast Guard understands that the majority of towing vessel accidents are related to human factors. We are proposing to address human factors in several ways. First, we propose to require that towing vessels be operated pursuant to a safety management system or be subject to an alternative, annual Coast Guard inspection regime. Second, we propose the establishment of new requirements directed at crew and vessel operational safety standards. As indicated below, in section IV.L. of the preamble, we are considering including hours of service standards and crew endurance management requirements but are not proposing such requirements at this time.

Equipment failures also contribute to towing accidents. We would address these non-human factors casualties by establishing vessel equipment and system standards appropriate for towing vessels, and by establishing procedures and schedules for routine tests and inspections of the vessels and their onboard equipment and systems.

In the remainder of this section (IV.), we summarize some of the significant portions of the NPRM, including the proposed applicability of the NPRM, the safety management system, the use of third parties, and the machinery and electrical provisions. After those summaries, we have broken down the proposed regulation in a part-by-part summary. We have included brief discussions on the topics of user fees and manning, as the NPRM contains changes to those already existing provisions in our regulations. Lastly, we have included a discussion of the comments we received in response to our December 30, 2004 request for comments (69 FR 78471).

B. Applicability

Congress did not expressly provide the Coast Guard with the authority to exempt from inspection any subset of vessels that perform towing (46 U.S.C. 3301(15)). However, Congress intended that the Coast Guard prescribe different standards for the various types of towing vessels based on size, horsepower, type of operation, or area of operation (H.R. Conf. Rep. 108–617, 2004 U.S.C.C.A.N. 936, 953), including requiring safety management systems appropriate for the characteristics, methods of operation, and nature of service of towing vessels. *See* 46 U.S.C. 3306(j).

After consulting with towing vessel industry representatives and analyzing data, the Coast Guard believes that focusing our initial efforts on inspecting those towing vessels moving commercial barges, especially those towing oil or other dangerous and combustible cargoes, and/or providing harbor assist services to large commercial ships, is reasonable because the preponderance of casualties reviewed by the Coast Guard involved these vessels, and the potential for casualties that cause permanent injury or death to humans, economic impact to the maritime transportation sector, and/or environmental damage is greatest due to the nature of their service. Therefore, the Coast Guard proposes that this rule not apply to: Towing vessels less than 26 feet in length, unless towing a barge carrying oil or other dangerous or combustible cargo in bulk; workboats that do not engage in commercial towing for hire, but may intermittently move a piece of equipment within a work site such as a dredging or construction site; and towing vessels performing assistance towing as currently defined in 46 CFR 10.107. Regulations covering these towing vessels would be proposed in a future regulatory project. The Coast Guard believes that staggering implementation of inspection requirements for towing vessels in this way allows us to focus our initial regulatory efforts on the characteristics that the groups have in common and the risks, noted above, that can lead to marine casualties.

Also, the proposed regulations for 46 CFR subchapter M, consisting of parts 136 through 144, would not apply to seagoing towing vessels of over 300 gross tons, as they are already subject to inspection as seagoing motor vessels under 46 CFR subchapter I. In 46 CFR 90.05–1 for subchapter I, and in other 46 CFR subchapters with a table that identifies what subchapter a vessel is inspected under, the Coast Guard will conform the table to reflect the change in towing vessels moving from an uninspected vessel class to a class of vessel inspected under 46 CFR subchapter M.

C. Towing Safety Management System (TSMS)

In this NPRM, the Coast Guard proposes to require towing vessels subject to this rulemaking to be part of a safety management system or be subject to an alternative, annual Coast Guard inspection regime. For the purposes of this proposed rule, a safety management system for towing vessels will be a Towing Safety Management System (TSMS). The objectives of a TSMS are to ensure the safety of the vessel and crew, prevent human injury or loss of life, avoid environmental and property damage, and ensure continuous compliance with applicable regulations. To accomplish these objectives, a TSMS would require management, in this case an owner or managing operator of a towing vessel, to implement safety management practices for both their shoreside management and vessel operations.

Congress provided authority to the Coast Guard to establish a safety management system appropriate for the characteristics, methods of operation, and nature of service of towing vessels (46 U.S.C. 3306(j)) and in section 701(c) of the Coast Guard Authorization Act of 2010 (Pub. L. 111–281), it directed the issuance of an NPRM based on that authority. The National Transportation Safety Board recommended establishing a safety management system appropriate for towing vessels (NTSB Safety Recommendation M–07–6). Furthermore, in its September 7, 2006 report on Towing Vessel Inspection, the Towing Safety Advisory Committee Working Group stated that a requirement for a safety management system should be ''* * * the cornerstone of the new inspection regime for towing vessels * * *'' (A copy of this document may be found in the docket for this rulemaking. Instructions for accessing the docket are found in section I.B. ''Viewing comments and documents.'')

The ABSG report, discussed in section III.C, recommended alternative inspection approaches for some companies stating, in part, that ''* * * a safety management system may not [be] a very cost-effective way to achieve safer operations, * * *'' and suggested a more traditional inspected vessel option be considered. In addition, pages 2–8 of the ABSG report stated ''* * * the industry personnel were clear that effective implementation of a safety management system was a very difficult task for a company that had not previously been highly structured and had not formally documented its policies and procedures.'' Also, page 21 of the TSAC Economic Working Group report stated ''[A SMS] will likely have a larger and more devastating impact on smaller companies who do not have the economic means, manpower, or even time to implement a system.''

However, considering the strong recommendations of both the NTSB and TSAC, and considering that towing vessels operate within the same areas as other vessels, many of which also use a safety management system, sharing busy waterways and overworked infrastructure, interacting within the supply chain and marine transportation system, and at times, sharing crewmembers, it is appropriate to propose that all towing vessels subject to this rulemaking have the option of

operating within a company-implemented TSMS.

All towing companies, whether they are aware of it or not, already operate under some form of management-implemented policies and procedures, often developed over time and passed on through on-the-job training. A TSMS collates these policies and procedures into an organized, reviewable document, where procedures become uniform and consistent. This provides a company with the ability to review and discuss their procedures internally, uniformly adjust them as necessary, and enables auditors to verify that all vessels and employees within the company follow written protocol. These reviews establish a means to identify weaknesses in those policies and procedures, as well as provide a benchmark for continual improvement.

A company can describe safe work practices and thus lay out specific procedures for its crewmembers and shoreside personnel that will most likely ensure safe operations and proper maintenance procedures and actions.

By establishing policies and procedures, the criteria for all to follow are clear, so personnel know what would be expected, and training can be consistent, measurable, and repeatable. Actions necessary to document the performance of specific tasks can be implemented and verified through audits. This leads to confidence on the part of regulators, charterers, employees, managers, and others that the company and its vessels operate within a safety system and comply with regulatory requirements. This also provides an important tool for managing the operations of a company.

The Coast Guard believes that through the process of pulling together and formalizing a towing company's operating procedures and implementing a process of ensuring that all of its employees follow the established procedures, the risk of harm to people, property, and the environment will be reduced. As proposed in this NPRM, a TSMS would provide instructions and procedures for the safe operation of the vessel, document authorities, detail reporting requirements, establish quality procedures, and establish and document internal and external auditing. The elements that would be required in an acceptable TSMS are included in the proposed regulatory text.

The complexity of the TSMS would be based upon the number of vessels, type of operation, area of operation, and the nature of the risk associated with the towing operations covered by the TSMS. The Coast Guard understands that full compliance with an elaborate TSMS designed for large operations may be impractical for owners or managing operators with small operations. In these cases, the Coast Guard, through a third party, may approve a significantly scaled down TSMS that is tailored to the operation.

Some owners or managing operators already comply with the International Safety Management (ISM) Code due to the nature of their service. The ISM Code is an internationally mandated safety management system for vessels subject to the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS). The U.S. regulations that implement the ISM Code may be found in 33 CFR part 96. The Coast Guard is proposing to accept compliance with the ISM Code as an equivalent to the TSMS requirements. In many cases, towing vessels that engage in foreign (international) voyages are required to use the ISM Code. As a result, these vessels should not have to use two separate safety management systems, one exclusively for domestic operation and one for foreign voyages at additional cost. The ISM Code can and does work for these vessels, regardless of where they are operating. The Coast Guard believes that the processes and procedures in place for compliance with the ISM Code will ensure that towing vessels comply with proposed Subchapter M, including the elements of the TSMS.

The Coast Guard considered proposing that all towing vessels comply with 33 CFR part 96, Rules for the Safe Operation of Vessels and Safety Management Systems, in lieu of developing the TSMS. However, through consultation with TSAC, it was determined that development of a safety management system specifically for U.S. towing vessels is appropriate. Most U.S. towing vessels operate on inland waters of the U.S. or on coastwise domestic voyages. The proposed TSMS was developed as an integral part of the subchapter and tailored to these U.S. domestic towing vessel operations. The Coast Guard believes that the opportunity to use this tailored system and related procedures is appropriate for this group of vessels. However, the ISM Code requires compliance with mandatory rules and regulations, including relevant national and international regulations, standards, codes, and maritime industry guidelines that are appropriate for towing vessels operating on international voyages. Therefore the Coast Guard believes that companies following the ISM Code will achieve compliance with the proposed Subchapter M without having to implement another safety management system.

Auditing would play an integral part in the proposed TSMS. Audits would ensure that a TSMS functions as designed. A properly designed TSMS, as proposed, would incorporate both internal and external audits to ensure a constantly functioning system that both identifies and corrects problems before they lead to casualties. Companies that comply with the ISM Code should already incorporate both internal and external audits, with the latter performed by recognized classification societies.

The Coast Guard intends to broaden the available pool of auditors to include organizations that meet prescribed standards, which would include professional qualifications, formal training, past experience, and membership in organizations that oversee quality systems, or any combination thereof. Further discussion about third parties is contained below in section IV.D. ''Third Parties.''

The Coast Guard is proposing that third parties be external of the towing organization to be audited to provide independent review. Prospective auditors that are not ''recognized classification societies'' under 46 CFR part 8 would be required to apply to the Coast Guard for approval and be placed on a list of similarly qualified organizations. The list would be made available to towing vessel owners and managing operators.

The Coast Guard has proposed a traditional inspection scheme as one option for towing vessels. This option includes scheduled annual/periodic inspections by Coast Guard marine inspectors. The other option the Coast Guard has proposed is to establish a TSMS regime that would create new and different requirements and procedures. A TSMS would require detailed processes, procedures, recordkeeping, and auditing. It would also provide methods to document compliance with the TSMS, which may include logbooks, non-conformity reports, and/or reports of audits. It is through this documentation that the vessel owner or operator is able to demonstrate compliance.

The Coast Guard is seeking comments on the costs and benefits of the SMS requirement. We are particularly interested in these topics:

(1) Additional compliance options, in addition to the proposed TSMS and Coast Guard inspection regime, that could provide similar benefits at a lower cost;

(2) Flexibilities to the proposed SMS requirements that could provide relief to

small entities while providing similar benefits;

(3) The economic impact on small entities if implementing an SMS became a requirement rather than an option; and

(4) Modifications that could reduce the paperwork and recordkeeping requirements contained in the SMS requirements.

D. Third Parties

The Coast Guard proposes to establish approval procedures for third-party TSMS auditors and surveyors, to carry out routine compliance activities under Coast Guard oversight. The Coast Guard believes that using third parties to carry out compliance activities provides the maximum flexibility in that it reduces vessel downtime, provides greater flexibility in scheduling inspections, and provides greater flexibility in meeting required standards. Using third parties to oversee routine compliance activities would also provide the Coast Guard with more flexibility to apply its resources when and where they are needed most. Third-party auditors would review and approve the TSMS and ensure that it complies with the proposed requirements. Third-party auditors would also conduct required external audits of a TSMS to verify that the system functions as intended. In instances when the regulations require the use of a surveyor, an approved third-party surveyor would be required, providing independent technical expertise to examine the vessel, its systems, and equipment.

Prospective organizations that seek approval as a third party would be required to submit an application to the Coast Guard. Approved third parties would be placed on a publicly-available list maintained by the Coast Guard that would state their qualifications as a surveyor, auditor, or both. Third parties would be subject to rigorous Coast Guard oversight to ensure their reports and other documentation are reliable and the approval would be subject to renewal every 5 years. The Coast Guard would also have the authority to suspend or revoke approval of third-party organizations that do not comply with the proposed standards.

Some companies already employ classification societies. Classification societies have significant expertise with both auditing safety management systems and surveying vessels. The Coast Guard proposes to permit classification societies recognized under 46 CFR part 8 to conduct the audits and surveys required by proposed subchapter M, without further approval.

The Coast Guard also proposes to rely on registered Professional Engineers (P.E.s) to verify compliance with construction and arrangement standards as described in proposed part 144.

The Coast Guard has the authority to rely on third parties in the manner proposed in this NPRM under 46 U.S.C. 3103, which provides authority to the Coast Guard to rely on reports, documents, and records of other persons determined to be reliable, as evidence of compliance with Subtitle II of title 46 of the U.S. Code. In the legislative reports associated with this statute, Congress provided clear guidance on entities they felt could comprise the ''other persons'' mentioned in the statute. These ''other persons'' include surveyors, professional engineering societies, marine chemists, shipyards, the National Cargo Bureau and ''other persons that the Secretary believes may be relied upon to professionally inspect or review a vessel to ensure compliance'' with vessel inspection laws (S. Report 104–160, 1996 U.S.C.C.A.N. 4239, 4269). Title 46 U.S.C. 3308 also provides authority to rely on third-party inspectors by stating that the Secretary shall examine ''or have examined'' vessels subject to inspection. This allows the Coast Guard to use reports and other records as evidence of compliance with vessel inspection requirements.

The Coast Guard has a long history of relying on third parties to perform inspection and survey functions on its behalf. In some cases, these third parties are classification societies that are ''recognized'' by the Coast Guard to carry out certain functions. Authority to permit these recognized classification societies to conduct activities is provided by statute (46 U.S.C. 3316) and regulations (46 CFR part 8). These recognized classification societies are instrumental in conducting vessel inspection activities as part of the Alternate Compliance Program (ACP) (46 CFR part 8, subpart B). Examples where the Coast Guard relies on third parties are when the American Bureau of Shipping (ABS) conducts load line surveys (46 CFR part 42), tonnage measurements (46 CFR part 69), and issues international convention certificates (46 CFR part 8, subpart C).

The Coast Guard's use of third parties has not been confined to recognized classification societies. The Coast Guard uses surveyors and P.E.s by adopting a third-party standard through incorporation by reference, such as the Underwriters Laboratories (UL) standard for fire extinguishers (46 CFR 162.028–5). The Coast Guard also uses surveyors or similar entities as ''accepted organizations'' (46 CFR 28.73) and ''similarly qualified organizations'' (46 CFR 28.76) to conduct examinations of commercial fishing vessels (46 CFR 28.76). Finally, third parties play an important role as ''designated examiners'' who qualify personnel who can operate towing vessels (46 CFR subchapter B). ''Designated examiners'' are not employed by the Coast Guard but are trained or instructed to assess and evaluate candidates for a license or license endorsement on behalf of the Coast Guard.

In each of these cases, incorporating third parties into the inspection process has expedited the process and allowed Coast Guard inspection resources to be reinvested. The Coast Guard expects that the use of third parties proposed in this NPRM would provide the Coast Guard with more flexibility in applying its resources when and where they are needed most.

E. Machinery & Electrical (Proposed Part 143)

While developing 46 CFR part 143, the Coast Guard considered the reports provided by ABSG Consulting and TSAC, discussed in sections III.C. and III.D., respectively, earlier in this preamble. These reports were generated by selecting sample marine casualty cases, identifying their main causes, and summarily grouping them into broad categories based on those causes. The reports also proposed a subchapter outline that highlighted general areas on which to focus. For each area pertaining to machinery and electrical systems, the Coast Guard conducted a more in-depth analysis. This included a detailed review of every casualty used in the ABSG Consulting and TSAC reports. For each casualty, the Coast Guard identified both the specific cause included within the broad report category as well as subsequent and contributory causes. When review of the cases was complete, regulations were developed to prevent or mitigate these causes and patterns, with emphasis placed on high risk causes that take into account both consequence and frequency of occurrence. The casualty reports used to conduct this review are all located in the docket for this rulemaking, where listed above in section I.B. ''Viewing comments and documents.''

In most areas, the Coast Guard followed the recommendations in the TSAC report; accepting American Bureau of Shipping (ABS) Rules as the default standard for new towing vessels, and following the TSAC proposed subchapter outline for existing towing vessels. ABS rules provide the towing industry with a comprehensive set of standards appropriate to towing vessels

that are widely accepted and already in use by many towing companies.

However, the Coast Guard's in-depth analysis uncovered three areas where the Coast Guard believes additional standards are required for existing towing vessels beyond what is outlined in these reports. These areas are: (1) Propulsion, steering and related controls reliability, (2) electrical installations, and (3) a pilothouse alerter system. This section addresses these three areas only; the remaining requirements from proposed part 143 are straightforward and may be found in the proposed regulatory text.

1. *Propulsion, steering and related controls reliability.* The intent of proposed subpart D of part 143 is to eliminate the possibility of a single equipment failure leaving the operator with no control of the tow. This would be accomplished by requiring these inspected towing vessels to have alternative methods of maintaining propulsion, steering, and related controls. These methods are to be independent, so that failure of one does not affect another.

When developing proposed subpart D of part 143, the Coast Guard also created proposed regulations that address concerns expressed in comments received in response to its December 2004 Notice and Request for Comments, discussed below in section IV.K. ''Discussion of Comments.'' (69 FR 78471). Many commenters supported exemptions for certain vessel types, expressed concern about requiring existing towing vessels to be modified, and supported tying regulations to high risk areas. As noted earlier in section IV.B. ''Applicability'', the Coast Guard is proposing to limit the applicability of these proposed rules and address additional types of towing vessels in a later rulemaking effort. We are also proposing to provide an additional 5-year compliance period for affected tow vessels, and proposing to further limit the bulk of the propulsion and steering reliability requirements to long distance oil and hazardous materials tows that we believe present the highest risk of damage to the environment. Additionally, because the requirements would apply to some existing towing vessels, the Coast Guard proposes to provide an additional compliance period of 5 years after the date a vessel obtains its COI to comply, which will result in a gradual phase-in to full compliance between 7 and 11 years after the date of publication of the final rule. This compliance period is discussed in more detail below in Section IV.G. ''Compliance.''

Requiring alternative, independent methods of maintaining propulsion, steering, and related control is not a new concept for vessels transporting significant amounts of cargo. The Coast Guard requires alternative, independent steering on cargo ships (including oil tankers), with more robust requirements for oil tankers. Cargo ships are also required to have either alternate, independent methods of propulsion or alternate, independent vital auxiliaries critical to propulsion. Additionally, when cargo ships' engine rooms are minimally or periodically unattended—almost universally the case on towing vessels—alternate, independent propulsion and steering control methods are required. Classification societies also require alternative, independent methods of maintaining propulsion, steering, and related control; the ABS rules referred to in proposed § 143.435 are an example of this.

The Coast Guard notes Congressional interest in harmonizing requirements for oil tankers and vessels towing oil and hazardous materials in bulk. The Senate version of the Coast Guard Authorization Act for Fiscal Year 2008 (S. 1892), Section 702(a)(2), states: ''In promulgating regulations for towing vessels under chapter 33 of title 46, United States Code, the Secretary of the Department in which the Coast Guard is operating shall consider the possible application of standards that, as of the date of enactment of this Act, apply to self-propelled tank vessels, and any modifications that may be necessary for application to towing vessels due to ship design, safety, and other relevant factors.'' The proposed rule meets this requirement, by, in part, requiring alternative, independent methods of maintaining propulsion, steering, and related control similar to those required of self-propelled tank vessels.

As mentioned earlier, the Coast Guard considered the casualty data contained in the TSAC and ABSG reports when developing proposed subpart D. In its report, TSAC stated that equipment failures accounted for 31 percent of the medium and high severity incidents and about 45 percent of the low severity incidents. Failures in the propulsion or steering accounted for 30 percent of the medium and high severity incidents involving equipment. This tells us that a significant number of medium and high severity towing vessel incidents—roughly 1 in 10—are due to failures in propulsion, steering, and/or related controls. However, this only gives a partial picture.

When considering the risk posed by a particular type of casualty one has to consider low severity incidents as well, because risk includes not only the consequence of a single type of casualty but also the frequency, *i.e.* how often that type of casualty occurs. For example, TSAC reported that human factors accounted for 54 percent of the medium and high severity incidents and about 40 percent of the low severity incidents. If one only considers medium and high severity incidents, human factors account for 23 percent more towing vessel incidents than equipment failures. If one only considers low severity incidents, equipment failures account for 5 percent more towing vessel incidents than human factors. If one considers all incidents regardless of severity, equipment failures account for 2 percent more incidents than human factors because low consequence incidents occur eight times more often than medium and high severity incidents.

Unfortunately, because the TSAC report did not give statistics on the causes of the low consequence incidents, one is not able to determine from the report the relative percentage of all incidents caused by failures of propulsion, steering, and related controls. However, the ABSG report gives statistics on both high and low consequence incidents. That report categorized roughly 1 percent of towing vessel incidents as high consequence and 99 percent as low consequence and stated that 23 percent of high consequence incidents and 40 percent of low consequence incidents were due to equipment failures. Failures in propulsion, steering, or related controls accounted for 20 percent of the high consequence and 87 percent of the low consequence incidents involving equipment failures. This indicates that roughly 35 percent of all towing vessel incidents are caused by failures of propulsion, steering, or related controls.

When developing proposed subpart D, the Coast Guard considered the impact on industry. A potentially significant impact involves making redundant systems already installed on existing towing vessels ''independent,'' as defined in proposed § 136.110. The Coast Guard notes that a large majority of vessels subject to these regulations are already equipped with redundant systems; the cost to make these redundant systems independent is both reasonable and justified. For example, the Inland River Record, published annually by the Waterways Journal, indicates about 90 percent of inland vessels have two or more propulsion engines and shafts. (A copy of this document has been placed in the docket for this rulemaking, where listed above

in section I.B. ''Viewing comments and documents.'') The majority of the remaining 10 percent, listed in the Inland River Record as having a single shaft, are vessels not included in the applicability of this NPRM. Currently, vessels with two or more propulsion engines and shafts may have some or all of their fuel, oil, and cooling water piping/pumps or controls (air, mechanical, electrical) common to multiple engines. In order to comply with proposed § 143.410, some vessels may require modification to provide duplicate, independent components to achieve system independence. Other common examples of modifications to make redundant systems independent include separate electronic control circuitry on generators and separate sumps for steering gear hydraulic fluid. As many of the towing vessels currently comply with aspects of the proposed sections, modifications are not expected to require a major overhaul of the vessel. Costs to make modifications are discussed in the separate regulatory assessment for this NPRM, but the Coast Guard proposes to minimize costs by allowing owners and operators up to additional 5 years to bring their vessels into compliance with this requirement, to provide sufficient time to plan for and incorporate these modifications into the vessel's scheduled maintenance period.

2. *Electrical installations.* The Electrical installation requirements are in proposed §§ 143.305 and 143.340–143.360 of subparts B and C of part 143. These sections would require towing vessels to meet specific standards for electrical installations and provide a deferment period for existing towing vessels. The Coast Guard believes that poorly wired and insufficiently maintained electrical systems pose sufficient risk to justify establishing the proposed electrical requirements.

When developing these sections, the Coast Guard consulted the ABSG Consulting and TSAC reports. These reports recommended that electrical installations on existing towing vessels be suitable for the purpose intended and maintained in good operating condition. The Coast Guard agreed with the recommendations and incorporated specific standards dealing with wiring methods, overcurrent protection, electrical connections, grounding, and ground detection into the proposed rule.

The TSAC report stated that 4 percent of high consequence incidents involved electrical failures, but was silent on low consequence incidents. The ABSG report did not have an electrical category. The lack of discussion on electrical incidents in these reports is not unexpected because the reports focused on the primary cause of an incident, not contributory ones.

However, the Coast Guard conducted its own in-depth analysis of the cases reviewed for the ABSG report, along with deficiency reports from examinations of towing vessels during compliance exams, conducted pursuant to 33 CFR part 104 as part of the implementation of the Maritime Transportation Security Act of 2002 (MTSA) (46 U.S.C. chapter 701). These reports provided anecdotal evidence that poor electrical installation and maintenance is a concern on towing vessels. From January 2006 through August 2008, the Coast Guard conducted 768 of these MTSA compliance examinations and issued 2949 deficiencies. Electrical deficiencies involving poor installation and maintenance accounted for 8 percent (226) of the deficiencies. This 8 percent deficiency rate highlights the need to establish more specific standards for electrical installations on towing vessels.

During its in-depth analysis of the ABSG report, the Coast Guard noted several instances where an electrical failure was either the primary cause or a contributory factor even though the report listed some other cause. For example, a significant number of incidents categorized as propulsion, steering, or generator failures were caused by an electrical problem that eliminated the operator's ability to maneuver the tow. Additionally, many cases were attributed to corrosion induced hull failure; however, the improper grounding of electrical systems, which is known to contribute to corrosion induced hull failure, was not investigated.

When developing proposed §§ 143.305 and 143.340–143.360, the Coast Guard sought to create regulations that address concerns noted in comments received on its December 2004 Notice and request for comments, discussed below in Section IV.K. ''Discussion of Comments.'' In response to these comments, the Coast Guard proposes to limit the applicability of §§ 143.340–143.360, opting to cover towing vessels of limited route or service in a later regulation. We also propose providing a longer compliance period for these requirements, providing for a deadline of 5 years from the date of the issuance of the initial Certificate of Inspection. The Coast Guard minimized prescriptive material requirements, such as UL listed cable or circuit breakers, which would require expensive replacements and thus increase the cost to tow vessel owners and operators. The most significant material requirement proposed in §§ 143.340–143.360 is found in proposed § 143.340(a)(3) and (b)(9). It would require two sources of power for certain critical systems typically reliant on electrical power such as navigation equipment, radios, and emergency lighting.

3. *Pilothouse alerter system.* Pilothouse alerter systems detect potential operator incapacitation and alert other crewmembers. A variety of methods are used to detect this, such as a lack of personnel movement or rudder commands for a specified interval. After detection, an alarm sounds in the pilothouse. If it is not acknowledged for a specific interval, another alarm alerts crewmembers in other areas of the vessel.

The pilothouse alerter system requirements are found in proposed § 143.325. The Coast Guard considered the NTSB report of the Robert Y. Love allision with the I–40 Bridge, which killed 14 people and caused more than $60 million in bridge damage. (A copy of this report has been placed in the docket for this rulemaking, where listed above in section I.B. ''Viewing comments and documents.'') The report stated that the master became incapacitated by a medical condition 4 minutes before the bridge allision, and listed a pilothouse alerter as an appropriate preventative measure (*See* Report at 63).

The Coast Guard reviewed its data from 1993 to 2003 for related incidents, and uncovered eight incidents where the operator died while navigating the vessel. Other cases also indicated probable incapacitation of the operator. Towing vessels often operate with large tows in congested or confined waterways and near critical infrastructure such as bridges, often with only the operator in the pilothouse. A towing vessel and its tow, out of control because the only operator becomes incapacitated, is capable of doing significant damage to bridges, other vessels, or shoreside facilities; it may also run aground and lose cargo or obstruct the waterway. Even in open water an out-of-control tug risks a grounding or collision. Therefore, the Coast Guard is proposing a requirement for a pilothouse alerter system with the exception that it is not necessary if a second person is provided in the pilothouse.

F. Functional Requirements

The Coast Guard is providing an alternate format in two of the parts included in proposed subchapter M: Lifesaving (proposed part 141) and

Machinery and Electrical (proposed part 143). This format includes the use of functional requirements in appropriate sections. Functional requirements indicate what the section is trying to achieve in the most non-prescriptive manner possible; they provide performance standards stating what to do, and not how to do it. Where appropriate, each regulation section also contains a prescriptive option that does not need to be followed, but following it guarantees compliance with the section. This prescriptive option represents one way to comply with the functional requirements (performance standard) in the section; industry is free to propose alternative methods of compliance to a cognizant Officer in Charge, Marine Inspection (OCMI) or an approved third party. We are specifically seeking comments on whether this format is preferred to the more traditional formats, found in the other parts of proposed subchapter M.

G. Compliance

We are proposing a compliance scheme that we believe would provide adequate time for industry to develop their TSMS, implement it on their vessels, and obtain COIs and spread out the cost of doing so over several years. Owners and managing operators who selected the TSMS option would have 2 years from the effective date of a final rule to create their TSMS, have a third party approve their TSMS, and have a third party issue their TSMS Certificate. They would have 4 years from the date of that TSMS Certificate to bring all vessels under their ownership or management into the TSMS and obtain Certificates of Inspection. We are proposing a requirement that owners and managing operators bring 25 percent of their fleet into compliance in each one of those 4 years, so as to avoid a strain on Coast Guard and third-party resources at year four.

Owners and managing operators of towing vessels subject to Subchapter M requirements would need to select the annual Coast Guard inspection option 2 years from the effective date of a final rule, if they have not created a TSMS by that point. Towing vessels without a TSMS would be subject to the annual Coast Guard inspection regime 2 years from the effective date of the final rule. They would have 4 years from that date to obtain Certificates of Inspection for all vessels under their ownership or management. We are proposing that owners and managing operators bring 25 percent of their fleet into compliance in each one of those 4 years, to avoid straining Coast Guard resources and those of owners and managing operators.

The machinery and electrical requirements discussed above in Section IV.E., ''Machinery and Electrical,'' would have even longer compliance periods. We are proposing to allow for an additional 5-year period after the issuance of the first Certificate of Inspection (COI) to a vessel. This would allow the vessel owners or managing operators who choose the TSMS option to plan for compliance within their TSMS, and to work it into the regular scheduled maintenance periods for the vessel.

H. Part-by-Part Summary

In this section, we briefly outline the several parts that we propose to add as subchapter M. We have not detailed the proposals for each part; instead, we strove to draft regulatory text that is easily understandable. This section highlights the requirements that can be found in each part.

Part 136, ''Certification,'' outlines procedures and requirements for obtaining, amending, and renewing a COI, permits to proceed, and permits to carry an excursion party. Part 136 defines the terms used in the subchapter, and provides a description of vessels that are subject to these regulations. The applicability provisions discussed above in section IV.B. ''Applicability'' may be found in this part.

Part 137, ''Vessel Compliance,'' describes how to come into compliance with the requirements of Subchapter M, including how to conduct, and the frequency of, TSMS surveys and audits, including a summary of the items to be examined. It also outlines alternative methods for carrying out vessel compliance activities. It proposes the contents of required reports and the qualifications required for the various personnel who carry out compliance activities.

Part 138, ''Towing Safety Management System (TSMS),'' proposes requirements for towing vessels subject to inspection that select the TSMS option. Such vessels must be operated in compliance with a safety management system, to be known as the TSMS. This part describes the contents to be required of a TSMS, including management policies and procedures that serve as operational protocol. Also described are procedures related to the approval of a TSMS, internal and external audits of a TSMS, and documentation and oversight. The TSMS provisions discussed above in section IV.C. ''Towing Safety Management Systems (TSMS)'' may be found in this part.

Part 139, ''Third-Party Organizations,'' describes the qualifications and procedures for organizations that audit TSMSs and/or survey vessels. An organization seeking to perform audits and/or surveys would be required to submit an application to the Coast Guard for approval. Approvals would be valid for 5 years with procedures for renewal provided in this part. The Coast Guard would also review relevant information concerning individuals within the organization that would conduct the audits or surveys. Also described in this part are procedures relative to Coast Guard continuing oversight of third-party organizations. This includes procedures for suspension and revocation of approval. The third-party provisions discussed above in section IV.D. ''Third-Party Organizations'' may be found in this part.

Part 140, ''Operations,'' describes health, safety, and operational requirements for vessels and crewmembers serving onboard the vessels. This includes crewmember training and drills. This part would also establish recordkeeping requirements for towing vessels required to comply with subchapter M, requiring the recording of certain drills, training, and operational activities. Navigation and towing safety requirements are also described in this part. To develop this part, the Coast Guard considered the recommendations of the Towing Safety Advisory Committee, reviewed requirements that currently apply to uninspected towing vessels, and reviewed requirements for other types of inspected vessels.

Workplace safety and health requirements onboard uninspected towing vessels are enforced by the Occupational Safety and Health Administration (OSHA) (29 CFR parts 1910 and 1915). However, under a 1983 Memorandum of Understanding (MOU) between the Coast Guard and OSHA, once the Coast Guard prescribes regulations for a class of vessel that is subject to inspection under 46 U.S.C. 3301, OSHA will not enforce its standards against owners and operators of those vessels with respect to the working conditions of seamen. The Coast Guard believes that crewmember safety and health requirements aboard towing vessels should not be lost due to the change in status from uninspected to inspected vessels, and thus proposes safety and health standards that would apply on inspected towing vessels. To develop these standards, the Coast Guard reviewed the OSHA standards and considered adopting them whole cloth. We also considered the

recommendations contained in the reports provided by TSAC. The regulations proposed in this NPRM use elements of both. We believe they are appropriate for the nature and service of towing vessels. Workplace safety and health requirements may be found in subpart E of part 140.

Under provisions in §§ 136.170 and 136.203 of this proposed rule, there would be a number of years between the effective date of a final rule in this rulemaking and when a vessel subject to subchapter M would need to obtain a certificate of inspection. Note, however, that once a final rule becomes effective, the requirements in it would be enforced by the Coast Guard. As with these COI provisions, certain part 140 provisions as proposed would provide a period of time before compliance is required. While § 140.500 would provide 3 years after the effective date to implement a health and safety plan, compliance with the regulations on which that plan would be based—*e.g.,* using vessel equipment in accordance with the manufacturer's recommended practice and in a manner that minimizes risk of injury or death, and making appropriate personal protective equipment (PPE) available and on hand for all personnel engaged in an activity that requires the use of PPE—would be required as soon as the rule became effective. Once an inspection of towing vessels final rule became effective, vessels subject to it would become ''inspected vessels'' under the USCG–OSHA MOU, and Coast Guard regulations would apply. Note, however, that OSHA will continue to enforce its requirements on shipyard employers that perform shipyard employment subject to 29 CFR 1915 on inspected and uninspected vessels.

In proposed § 140.655, Prevention of oil and garbage pollution, we state that towing vessels must comply with 33 CFR parts 151, 155, and 156, as applicable. We request comments on whether we should require all towing vessels subject to Subchapter M to track oily waste disposal in the towing vessel's record book or limit recording requirements to existing requirements in 33 CFR parts 151 or 155 and to vessels subject to those parts.

Part 141, ''Lifesaving,'' describes requirements for lifesaving equipment, arrangements, systems, and procedures. Included in this section are readiness and testing requirements for lifesaving equipment on inspected towing vessels as well as minimum lifesaving requirements based on the route of the vessel. To arrive at these proposed standards, we considered the recommendations of the Towing Safety Advisory Committee and reviewed standards that apply to other types of inspected vessels in comparable operating areas and consulted with Coast Guard subject matter experts; and are proposing additional requirements that would provide lifesaving protections similar to other classes of inspected vessels.

Part 142, ''Fire Protection,'' describes the requirements for fire suppression and detection equipment and arrangements. This part would establish requirements for portable and fixed fire extinguishing equipment, and related inspection and testing requirements. It also proposes crewmember training and drills with the required fire protection equipment. The fire protection standards proposed in this part substantially retain fire protection regulations that currently apply to most towing vessels and are contained in Title 46 CFR Parts 25 and 27. To arrive at these proposed standards we considered the recommendations of the Towing Safety Advisory Committee, reviewed subchapters for other classes of inspected vessel, and consulted Coast Guard subject matter experts. In a separate rulemaking, entitled ''Carbon Dioxide Fire Suppression Systems on Commercial Vessels'' (RIN 1625–AB44), the Coast Guard has proposed new fire suppression standards for commercial vessels in general. *See* 75 FR 8432, February 24, 2010. In § 142.235 of this Towing Vessels NPRM, which deals with fixed fire-extinguishing systems, we make reference to requirements in 46 CFR subpart 76.15. Please note that the Carbon Dioxide Fire Suppression NPRM proposes to revise subpart 76.15. *See* 75 FR 8443. Also, please note that the Carbon Dioxide Fire Suppression NPRM would revise the definition of ''fixed fire-extinguishing system'' in 46 CFR 27.101. *See* 75 FR at 8438.

Part 143, ''Machinery and Electrical Systems and Equipment,'' describes requirements for the design, installation, and operation of primary and auxiliary machinery and electrical systems and equipment on certain towing vessels. The machinery and electrical provisions discussed previously in section IV.E. ''Machinery & Electrical'' may be found in this part.

Part 144, ''Construction and Arrangement,'' describes the requirements for design, construction, and arrangement of towing vessels which would be inspected under subchapter M, including plan review and approval. The procedures for plan review are proposed, as are qualifications for persons conducting plan review. The part describes different requirements for existing towing vessels and new towing vessels and provides descriptions of requirements for subdivision and stability, visibility, and vessel arrangements related to crew safety such as rails, guards, and escapes. To arrive at these proposed standards, we considered the recommendations of the Towing Safety Advisory Committee, reviewed other subchapters, consulted with Coast Guard subject matter experts and reviewed current Coast Guard processes and procedures relative to vessel construction and arrangement; and are proposing requirements that are similar to other classes of inspected vessels.

I. User Fees

Under 46 U.S.C. 2110, the Coast Guard is required to charge vessel inspection user fees. The regulations contained in 46 CFR 2.10 prescribe procedures and fees for vessels required to have a Certificate of Inspection (COI). We intend to establish a user fee, as required by law, for those vessels required to comply with subchapter M; however we have not included a proposed fee in this NPRM. Once we have received comments on our proposal, and are closer to issuing a final rule, we will propose a user fee through an appropriate analysis of Coast Guard activities related to certification of towing vessels. The Coast Guard will not inspect towing vessels or issue COIs to towing vessels until user fees are established.

Currently, ''sea-going towing vessel'' is defined in 46 CFR part 2 as a ''* * * sea-going commercial vessel engaged in or intending to engage in the service of pulling, pushing or hauling alongside * * *''. However, only towing vessels over 300 gross tons operating beyond the boundary line are currently subject to inspection, and consequently these are the only towing vessels subject to user fees. Without a change to the definition in part 2, smaller towing vessels operating beyond the boundary line would also be subject to inspection and the corresponding user fee, whereas smaller towing vessels not operating beyond the boundary line would not be subject to the user fee.

In order to ensure that only those towing vessels that currently pay a user fee will need to continue to do so, the Coast Guard is proposing to revise the definition for ''sea-going towing vessel'' in part 2, to clarify user fee applicability for certain seagoing towing vessels. The Coast Guard proposes to revise the existing definition by adding the words ''issued a certificate of inspection under the provisions of subchapter I of this chapter'' to the end of the existing definition.

J. Manning

The Coast Guard is proposing to amend the regulations contained in 46 CFR subchapter B to clarify the regulatory requirements for manning of inspected towing vessels. Part 15 of subchapter B contains separate subparts for inspected and uninspected vessels.

With this amendment, we are copying current requirements for uninspected towing vessels, contained in subpart E (Manning Requirements; Uninspected Vessels), into subpart D (Manning Requirements; Inspected Vessels). This ensures that the current qualification requirements for mariners serving aboard towing vessels continue to apply.

Manning requirements for uninspected towing vessels must remain in subpart E because certain towing vessels will remain uninspected vessels for the near future.

K. Discussion of Comments

As stated above in section III.B. ''Regulatory History,'' on December 30, 2004, the Coast Guard published a ''Notice; request for comments, and notice of public meetings.'' (69 FR 78471). The notice asked seven specific questions, which are replicated below, along with a summary of the comments we received on each.

Most of the commenters were generally agreeable to creating new regulations and a safety management system for towing vessels. While some promoted either regulations or a safety management system, others called for a balance between the two items. Several commenters criticized the creation of new regulations and a safety management system, stating that vessels are already subject to regulations and citing the superior safety record of the towing industry as a whole.

The Coast Guard received a large number of comments from industry representatives who are members of the American Waterways Operators (AWO). Many AWO members' comments were similar to one another. Additionally, comments were received from organizations that represent environmental groups, mariners, passenger vessel organizations, former Coast Guard members, government entities and officials, and other sectors of the industry. Some of these comments supported AWO's positions, while others completely disagreed. Overall, many commenters said the towing industry was unique, and some discussed unique ways to regulate the industry.

Question One: Towing vessels of a certain size (300 or more gross tons) are already inspected vessels and are subject to a variety of existing requirements. Should the Coast Guard use any of these existing standards (or standards for other types of inspected vessels) for incorporation into the new regulations regarding the inspection of towing vessels? If so, which regulations or standards should be incorporated into these new regulations?

A majority of the responses indicated the Coast Guard should not use existing standards when developing the regulations for towing vessel inspections. The commenters stated the towing industry is ''unique'' and fills a variety of functions from assistance towing to towing certain dangerous cargos. Additionally, towing vessels work in a variety of locations, such as inland waterways and coastal areas, and come in a large assortment of shapes and sizes. Instead of the traditional regulations, many of these commenters suggested using a safety management system.

Commenters noted that safety management systems are flexible in nature and allow the industry members to tailor programs to their specific needs based on real-time operations, risk analysis, and casualty statistics. They indicated that focusing on a safety management system may allow deviation from ''prescriptive'' standards and create a system that is ''reasonable, effective, and necessary * * *''.

However, other commenters expressed openness to using existing standards when creating the new regulations. Commenters who argued in favor of using existing standards said there were some existing standards that could easily be applied to the towing industry. A few of these commenters stated that the House of Representatives Conference Report to the CGMTA 2004 (''House Report'') mandated the use of existing standards. We were unable to substantiate the claim that the House Report on the CGMTA 2004 mandated the use of existing standards. Furthermore, commenters declared that while a safety management system is the best way to ensure that all segments of the industry are covered, it is not intended to take the place of traditional inspections and regulations.

Some of the existing regulations cited were those outlined in the Gulf Coast Mariners' Association's Report R–276, Revision 8. This report can be found in the docket for the request for comments [USCG–2004–19977] as item 14; to access this report, use the procedures listed in section I.B. ''Viewing comments and documents.'' Commenters also listed several subchapters of Title 46 as potential sources for the tow vessel regulations, including subchapters C, D, F, H, I, J, K, L, and T.

The Coast Guard carefully considered input received in response to Question One and has decided to both use existing standards/regulations and to develop new towing vessel-specific standards and regulations. For example, we adopted all of the existing fire-suppression requirements from 46 CFR part 27 into part 142 of these proposed regulations. Inclusion of these existing regulations is also supported by TSAC. An example of a towing-specific standard is the creation of the TSMS option and its use throughout these proposed regulations. This requirement and the regulations pertaining to it, which can be found in proposed part 138, were created exclusively for this rulemaking, based on the comments the Coast Guard received from our Notice (and is also supported by TSAC).

Question Two: Title 46, United States Code, specifies the items covered with regard to inspected vessels including lifesaving, firefighting, hull, propulsion equipment, machinery, and vessel equipment. However, the legislation that added towing vessels to the list of inspected vessels, authorized that the Coast Guard may prescribe different standards for towing vessels than for other types of inspected vessels. What, if any, different standards should be considered with regard to inspected towing vessel requirements from other inspected vessels?

Most responses treated Question Two as part of, or an extension of, Question One. Some commenters answered the questions together; others gave very similar answers to both questions. Where possible, we separated the commenters' answers to best reflect their statements and avoid repetition of the issues.

Beyond the subchapters mentioned in the previous question, some commenters suggested the standards covering manning and the particular subchapters applicable to the barges being towed were important. Some commenters disagreed and stated since towing vessels do not actually carry cargo (or passengers), they should not follow the standards applicable to the barge. One commenter suggested a new ''classification system'' should be created to cover the wide variety of towing vessels in operation.

Title 33 CFR part 96 was cited as containing standards that could be applicable to towing vessels. This part contains the standards for safety management systems for other types of vessels and could be used as a model for safety management systems for towing

vessels. Some specific sections cited were §§ 96.100 through 96.250, and creating ''new §§ 96.225, 96.235, 96.245, and 96.255.''

Many commenters called for new and unique regulations and a safety management system. Several commenters said that a safety management system should be based on risk and casualty data, rather than on existing regulations. A couple of commenters cautioned not to rely strictly on accident data because some accidents and ''near-misses'' may not be reported. The main concern expressed by many commenters was that a safety management system should be easy to implement for both large and small companies alike.

Other systems, such as the TSAC–Industry Working Group's ''straw man,'' AWO's Responsible Carriers Program (RCP), American Bureau of Shipping (ABS) standards, the oil companies' Ship Inspection Report (SIR and SIRE) Programs, the Streamline Inspection Program, and the 8th Coast Guard District boarding form were discussed as models for a safety management system. The TSAC ''straw man'' document, available in the docket for the request for comments [USCG–2004–19977] as item 32 (to access this document, use the procedures listed in section I.B. ''Viewing comments and documents.'') was cited most frequently, with the AWO's RCP and International Safety Management (ISM) close behind. A few commenters said several different systems could be combined to fill in any gaps that may exist.

After carefully considering the comments received for Question Two, the Coast Guard decided not to just rely on standards or regulations found in other, existing vessel inspection subchapters. The Coast Guard decided that the unique nature of the towing industry and towing operations warranted the development of some new standards and regulations that would pertain exclusively to towing vessels. In addition to the TSMS cited in our discussion in Question One, the Coast Guard also proposes other towing vessel-specific provisions including expansion of the use of third-party organizations as part of the Coast Guard's proposed TSMS-based towing vessel inspection for certification regime. Third-party organization requirements are found in proposed part 139. Expanding the use of third-party organizations would provide greater flexibility to owners and managing operators of inspected towing vessels that choose the TSMS option to schedule various vessel-related activities and meet the Coast Guard's proposed requirements.

Question Three: Towing vessels vary widely in terms of size, horsepower, areas of operation, and type of operation. Under what circumstances, if any, should a towing vessel be exempt from the requirements as an inspected vessel?

Some commenters believed exemptions should be given to vessels under 26 feet (8 meters), assistance towing vessels, and towing vessels used in fleeting and construction sites.

Several commenters suggested that some older vessels should be exempt because they are difficult and expensive to retrofit in order to comply with new regulations. Some of the specific categories of older vessels mentioned for exemption were towing vessels less than 65 feet, vessels with less than 759 horsepower, vessels less than 100 gross tons, and those operating within sight of land. One commenter suggested exemptions for towing vessels over 300 tons because they are already subjected to regulation. Some commenters suggested exemptions for towing vessels that tow or push passenger barges. Some of these commenters said these towing vessels often received ''courtesy'' inspections when the barges they tow or push were inspected. Therefore, it was unnecessary to subject passenger barge towing vessels to another complete inspection.

A few commenters said there should be no exemptions. These commenters said mariners and the environment would be better protected if every towing vessel complied with the new regulations. Some commenters said the regulations could be a minimum foundation for all towing vessels, and a safety management system could cover the specifics for unique segments of the industry.

Some commenters did not agree that fleeting towing vessels should be exempt because they have a questionable safety history and must maneuver in small spaces. Several commenters recommended exemptions for ''day shift'' vessels which only carry crewmembers during the day and have no sleeping quarters.

A few commenters said there was no reason for any towing vessel to be completely exempted from inspection regulations. However, they said there was a possibility of making different regulations to cover different types of towing vessels and making portions of the regulations apply to some vessels but not to others. Another commenter said that the 8-meter cut-off should not apply because ''this only encourages one to use a boat too small for the job and penalizes competition of one with a larger vessel that is using prudent seamanship.''

Some commenters suggested that exemptions should be handled on a case-by-case basis. These exemptions could be handled by the Captain of the Port (COTP) directly, or the requests could go to Coast Guard Headquarters, with decisions made by the Commandant.

Other commenters said exemptions could be made based on a towing vessel's area of operation. Vessels operating in ''low risk'' areas could have different regulations than those operating in ''high risk'' areas.

During the course of our interactions with TSAC, it was clear that we could not categorically exempt a subset of the towing vessel population for reasons of vessel size or service. However, the Coast Guard determined that it should not propose regulations that would establish uniform requirements for all towing vessels regardless of size or service. We evaluated regulatory requirements and applied them to particular types or service, based on risk. For example, we adopted the existing requirement to provide an exception from certain fire-suppression requirements for towing vessels engaged in certain services such as harbor-assist towing or vessels operating in a limited geographic area. These exceptions from certain fire-suppression requirements are found in proposed part 142. Furthermore, while the towing vessels identified in proposed § 136.105 have been exempted from this NPRM, the Coast Guard intends to propose regulations for these vessels in a future rulemaking.

Question Four: Should existing towing vessels be given time to implement requirements, be ''grandfathered'' altogether from them, or should this practice vary from requirement to requirement?

The commenters indicated the regulations should not be implemented immediately; however, the suggestions for the length of time for compliance varied widely. A majority of commenters supported some level of ''grandfathering,'' but for the most part, applied ''grandfathering'' only to equipment requirements.

Most commenters stated that implementation should begin between 180 days (6 months) and 1 year after publication of the final rule. A few commenters suggested that the implementation should start ''without delay,'' while others proposed a sliding scale or a flexible schedule, depending on the requirements. One commenter said that the Coast Guard should have

the responsibility of deciding the implementation period. Some commenters said that there should be adequate time for mariners to participate in both the rulemaking and the implementation. One commenter focused on the safety management system, saying that safety management systems should have a 1-year phase-in period. According to AWO members, 6 months to 1 year would be sufficient time to implement the RCP and train new people on using an already established safety management system.

''Grandfathering'' was a highly important issue in many of the comments. Some commenters said ''grandfathering'' should only be for vessels that would be too difficult and too expensive to modify. One commenter said ''grandfathering'' can ''be employed to ensure that operators of existing towing vessels can phase-in new requirements in a cost-effective manner. Some requirements should be permanently grandfathered where the requirement necessitates major reconstruction. * * *''

Other commenters said it was not clear that the House Conference Report to the CGMTA 2004 allowed ''grandfathering'' of any kind. Some commenters suggested offering waivers for those vessels unable to comply with new structural requirements. It was suggested that such waivers and limitations could be reflected on the COI.

Most commenters stated there should be no ''grandfathering'' from the implementation date of a flexible safety management system. Other commenters said that with a flexible safety management system, there may be a need for some minor ''grandfathering,'' but it should predominately be avoided. One commenter said that allowing extensive ''grandfathering'' would have ''the unintended consequence of potentially stifling new construction.''

Some commenters suggested that all existing towing vessels be ''grandfathered'' into the new regulations. Other commenters limited this to towing vessels already operating under a safety management system. Other commenters said that vessels already operating under ISM are class inspected; therefore, adding another Coast Guard inspection would be redundant. One commenter suggested a complete phase-out of existing towing vessels so that only new towing vessels would be following the new regulations.

We have determined that the complete ''grandfathering'' of existing towing vessels, as that term is commonly understood, is not appropriate under the mandate provided in the CGMTA 2004 because grandfathering all existing towing vessels from all aspects of these proposed regulations would not improve safety within the towing industry and could have the undesired effect of influencing towing vessel owners to retain existing, unsafe vessels instead of building or purchasing new vessels. With regard to the question of giving vessels additional time to comply with certain provisions of these proposed regulations, we carefully considered the comments received and are proposing to give towing vessels that would need to comply with subchapter M additional time to comply with certain proposed requirements. For example, specific requirements that were deferred for existing towing vessels are included in Part 143, Subparts C and D. We feel that the additional time to comply with these requirements will not only provide more time for vessel owners and operators to complete the necessary work, but it will also allow for a longer period to budget expenses necessary to complete the required work.

Question Five: Should existing towing vessels be treated differently from towing vessels yet to be built?

Several commenters addressed Question Five much like Question Four. Some respondents chose not to answer Question Five, stating that Question Four covered what they wished to express. Others gave a ''yes'' or ''no'' answer and referred to their comments in Question Four. One commenter stated ''[a]ll new construction should meet an established set of inspection standards. * * *'' Another commenter said that other inspection regimes have ''grandfathering'' so the same should apply to towing vessels. Furthermore, this same commenter stated that the Coast Guard can add new requirements for existing towing vessels.

We received several comments concerning mariner safety on both new and existing towing vessels. One commenter said that treatment should differ according to the vessel's age because old vessels are generally not as safe as new ones. The commenter said existing towing vessels would be too difficult and expensive to retrofit to meet the new standards. Other commenters said it made sense to treat new and existing towing vessels differently because the existing towing vessels were built to meet certain needs and regulations in force at the time of build. However, these vessels may not comply with new regulations.

Many commenters said that both new and existing towing vessels should be able to follow a safety management system. These commenters favored incremental and flexible change that would allow them to continue operating their towing vessels as they exist, while making them safer. Other commenters referenced the House Conference Report to the CGMTA 2004, saying that there was no indication that there should be different treatment between new and existing towing vessels. These commenters said making such a distinction would imply a ''traditional inspection regime'' rather than a safety management system. Another commenter stated different treatment would only be acceptable if existing towing vessels showed and demonstrated an intent to meet the new regulations.

One commenter said that a safety management system should be implemented for newly constructed vessels as soon as possible, while existing towing vessels should have phase-ins for required physical changes, corrections, and upgrades. Another commenter stated that existing towing vessels should either become compliant within a certain amount of time or be completely phased-out. Furthermore, this commenter said new and existing towing vessels that are not phased-out should implement a TSMS within 6 months of the final regulations. Similarly with Question Four, some commenters suggested exceptions with respect to design, construction, technology, and equipment standards.

A commenter from a governmental agency said the new regulations should be risk-based rather than whether the towing vessel is new or existing. Additionally, the commenter said the type of vessel and area of operation, as well as the condition of the vessel, should determine safety standards. Finally, the commenter stated that the operational risk assessment will determine how quickly to implement the new regulations.

After carefully considering the comments concerning the treatment of existing towing vessels and towing vessels yet to be built, the Coast Guard is proposing additional requirements for inspected towing vessels yet to be built that will not apply to existing towing vessels. This concept is particularly exemplified in both proposed Parts 143 and 144 where requirements for existing towing vessels are dealt with in one subpart and requirements for new vessels are dealt with in a separate subpart. The Coast Guard recognizes that existing towing vessels have been in service for extended periods of time, in some cases decades, which indicates that some systems or components adequately withstood the test of time.

The proposed inspection regimes, which include the use of a TSMS and third-party compliance surveys or a Coast Guard inspection regime, will ensure that these systems remain safe. At the same time, the Coast Guard recognizes that inspected towing vessels yet to be built need to incorporate advances in good marine practice in their design and construction to improve safety of the towing industry.

Question Six: The same act that requires inspection of towing vessels authorizes the Coast Guard to develop a safety management system appropriate for the towing vessels. If such a system is developed, should its use be required for all inspected towing vessels?

Several commenters answered this question, ''Yes'' with no further qualifications. Most commenters supported developing a safety management system, though some suggested exemptions for the types of vessels mentioned in comments to Question Three. Commenters recommended a safety management system because it is flexible and fits both large and small companies, as well as differing geographic areas and types of operation. Additionally, commenters noted that a safety management system provides an alternative from traditional inspection regimes because ''previous inspection modality * * * would not be appropriate for our industry or be supported by data in a preferred risk-based system.''

A few commenters did not fully endorse a safety management system program. One said a safety management system could ''kill many small towing vessel companies.'' Furthermore, the commenter stated that a safety management system should be voluntary, but being voluntary could be harmful to mariners. To prevent such harms, a ''small business outreach'' program, in conjunction with a safety management system program, should be developed.

Another commenter opposed safety management systems since companies wishing to participate in a safety management system could follow 33 CFR part 96 ''Rules for the Safe Operation of Vessels and Safety Management Systems.'' Other commenters suggested using already established programs when creating a safety management system rather than developing a new program. Some commenters expressed concern that safety management systems were too flexible; giving companies a way around making their vessels safer. One commenter said regulations, rather than a safety management system, are the best way to move forward. Several commenters favored no new action because towing vessels ''have been running efficiently for more than a century and there are no problems that need to be addressed.''

Another commenter argued against requiring safety management systems because of the possible increase in paperwork. Several commenters expressed a concern about additional paperwork because there are not enough man-hours for responsible crewmembers to complete it. One commenter suggested records should be kept by a designated company officer, and those records should remain in the company's land-based office.

Several commenters said a safety management system will be helpful, but it would still leave gaps requiring regulatory solutions. One of these commenters said ''suitable regulations'' should be developed first to govern the industry. A few commenters referred to the CGMTA 2004 and the House Conference Report to the CGMTA 2004, stating that a safety management system should not be a substitute for an inspection regime, but rather a supplemental way to ensure towing vessels are compliant with their Certificate of Inspection.

For the reasons discussed earlier in Section IV.C., including Congressional authorization for a safety management system, a statutory directive to issue an NPRM based on that authority, and recommendations by TSAC and the NTSB, the Coast Guard proposes an inspection option that utilizes a TSMS but also provides for a traditional, annual inspection regime. Requirements for the TSMS are found in proposed part 138.

Question Seven: Examples of existing safety management systems include the International Safety Management (ISM) code and the American Waterways Operators Responsible Carrier Program. If a safety management system is used, what elements should be included in such a system?

Most of the elements discussed in the comments came from the TSAC-Industry Working Group's ''straw man'' document. Many commenters stated the ''straw man'' provided a model safety management system. However, several commenters suggested the following new elements:

1. Incident, Accident, and Non-Conformity Reporting;
2. Investigation and Corrective Action Policies and Procedures, including Documentation;
3. Vessel and Equipment Maintenance, and Use Policies and Procedures;
4. Manning, Watchstanding, and Training;
5. Person Overboard Recovery Equipment;
6. Designated Person, Master's Responsibility, and Authority; and
7. External Audit and Certification.

Several commenters strongly stated it is not enough to implement equipment requirements, but new regulations must be developed to ensure equipment is in ''operating condition.'' Other commenters gave extensive lists of equipment and manning procedures to be included in the regulations and a safety management system. Another commenter suggested ''True vessel horsepower must be determined and a horsepower to tonnage barge ratio developed.'' One commenter suggested that the lifesaving equipment aboard towing vessels should be similar to the equipment on Coast Guard vessels.

In addition to, and in some cases in place of, using the ''strawman,'' several commenters suggested using current safety management systems as models for creating a new safety management system. These models include the RCP, the ISM Code, Title 33 CFR part 96, Title 46 CFR, the SIRE, the SIP, and the ''Accredited for Commercial Assistance and Professional Towing'' (ACAPT) program for assistance towing vessels if they are included in this rulemaking. Some commenters said regardless of the model proposed, the Coast Guard should develop guidelines to ensure consistent enforcement by all Captains of the Port (COTPs). Other commenters said towing vessel companies should choose one model. A few commenters suggested allowing entities to apply to the Coast Guard for approval of their specific safety management systems.

One commenter said accident data should be used to determine the areas where regulations are needed the most. Such data and risk assessment would show which elements are needed in a safety management system.

The Coast Guard carefully considered the comments received pertaining to the nature and content of a safety management system that might be included in these proposed regulations. The Coast Guard is proposing to require that all inspected towing vessels use a TSMS and the requirements are found in proposed part 138, or equivalent, or be subject to an annual, Coast Guard inspection regime. As discussed above, Congress provided the Coast Guard with authority to establish a safety management system appropriate for towing vessels and has directed that we issue an NPRM based on that authority. Compliance with a company implemented Safety Management

System is the cornerstone of the Towing Safety Advisory Committee's recommendation, and the National Transportation Safety Board has recommended the establishment of a safety management system for towing vessels. Additional discussion on safety management systems may be found in Section IV.C. Requirements for the TSMS are found in proposed part 138.

Additional Comments

We received many comments that covered topics not addressed in the seven questions noted above. One of the subjects covered most was the issue of manning. Several comments from mariners and mariner associations noted manning issues. Some commenters stressed the need to protect the safety of mariners aboard towing vessels. These commenters opined that manning issues had been neglected and this new regulation afforded a chance to fix long-standing problems.

The commenters identified the duty of the deck officer and keeping an appropriate watch as major issues. Some commenters stated there were not enough crewmembers aboard towing vessels to fulfill all the duties in the time available. One commenter said manning, watchstanding, and crew meetings should be required, but there should not be additional ''meetings, drills, maintenance or duties placed on the overburdened system without safe and comprehensive manning requirements.'' One commenter suggested that the proper amount of manning should be determined by the usage of the vessel.

Other commenters were concerned with work hours. Several commenters said captains often complete a 12-hour shift on one vessel, then immediately work another 12-hour shift on different vessel. This practice provides them with very little sleep. The commenters suggested a mandatory rest period for all captains. Another commenter said administrative duties performed by captains and mates should count as work hours because this time may be under-reported.

Some commenters said a labor shortage for inland towing vessels caused work hour problems. These commenters suggested the labor shortage was a result of harsh working conditions with few benefits. One commenter said ''blue water'' operations (*i.e.,* tow vessels operating in an ocean environment) do not have the same labor shortage because the vessels are considered safer to work on. The commenter added that inland towing vessels should have equal standards to these ''blue water'' vessels.

A few commenters said that manning should be equivalent to other types of inspected vessels of similar size and horsepower. Some commenters expressed concern that company managers order captains to take a vessel out, regardless of safety concerns. These commenters said the captain and pilot should have final say on whether a vessel is safe to get underway without repercussions from management.

Some commenters discussed enforcement of manning regulations and licensing of merchant mariners. One commenter said it is unclear how the Coast Guard intends to enforce manning regulations and safety management systems. The commenter said the manning proposal ''criteria'' is vague with no indication of how the criteria will be enforced. Another commenter said there are currently regulations that allow vessels to get underway without the appropriate number of licensed mariners, if it is deemed safe by the master. The commenter believed the Coast Guard should not allow this exception for towing vessels. Another commenter said there was no indication that merchant mariner documents will be included in this rulemaking, and that the Coast Guard should take action on this issue.

As noted above in Section IV.J. ''Manning,'' we are not proposing to change any of the current manning levels required for towing vessels. However, portions of the TSMS covering operations should address many of the concerns raised by these commenters.

In addition to manning, auditing and inspections were topics mentioned frequently by commenters. Some commenters said inspections and safety management system approvals should be done by third-party auditors. Other commenters suggested a combination of third-party auditors and Coast Guard auditors. Yet other commenters said only the Coast Guard should handle inspections and safety management system approvals. One commenter said ''Any safety auditor * * * should be required to meet the highest industry certification to ensure that they are competent to conduct these safety audits.'' Another commenter agreed saying audit companies should be held accountable; as such a system would reduce the inspection burden on the Coast Guard. A commenter stated third-party auditors must not be associated with the companies they are auditing, and should be monitored closely by the Coast Guard. One commenter stated it was important for companies to submit their individual safety management system plans for approval and allow audits by third parties to insure compliance with the plans. The Coast Guard took these comments into consideration while developing the proposed regulations covering the use and approval of third parties.

The Coast Guard is proposing that all inspected towing vessels be operated in accordance with a company-implemented safety management system or be subject to an annual, Coast Guard inspection regime. This rulemaking also proposes contents and procedures relative to safety management systems, and proposes standards and procedures for approval of third parties and the roles and responsibilities of third parties. Additional discussion of safety management systems is provided in section IV.C above; discussion of third-party organizations is provided in section IV.D above. Many commenters discussed the frequency of audits and inspections. These varied from every year to every 3 years to every 5 years. One commenter said the initial inspection date should be based on the anniversary of existing towing vessels, divisible by 5 years. Furthermore, the commenter said every new vessel should be inspected prior to placement in service. Another commenter suggested companies with better safety histories could be inspected less often than those with poor histories.

Some commenters addressed drydocking specifically, saying towing vessels rarely go more than 1 year between drydockings, and the Coast Guard should not need to be present at every instance, although there was some allowance for the Coast Guard to be present at initial drydockings. The Coast Guard took these comments into consideration while developing the proposed regulations covering inspection, audits, and surveys.

Several commenters expressed concern about the level of sophistication of mariners in trying to comply with the new regulations. The commenters suggested creating new regulations that are easy to follow. Other commenters said the regulations should be easy to read for operators and marine surveyors. One of the commenters said the written regulations should be placed onboard towing vessels so that mariners have access to them. Furthermore, the mariners should also have access to ''boarding check sheets for equipment.'' A few commenters suggested offering testing on the new regulations for licensing to ensure mariners understand the changes. Another commenter said the OCMI should assist mariners with questions and comments.

Many commenters requested one location for the new regulation so they

are easy to find and follow. One commenter said we should reduce overlapping regulations and clarify ''confusing and incomprehensible tables.'' Another commenter suggested individual updates to 46 CFR subchapters A, E, F, and J, and use of subchapters C, I, S, and W instead of one central location. The commenter also suggested making a new subchapter ''X'' for applicable cross-references to applicable requirements in other subchapters. The Coast Guard considered these comments and developed straightforward, easily understandable regulations, mostly contained in the newly proposed subchapter M.

Other commenters strongly requested the Coast Guard work in a close partnership with TSAC. At several of the public meetings, many of the participants invited the Coast Guard to contact them for further information. Other commenters suggested the Coast Guard should keep mariners involved with the rulemaking. A few commenters discussed placing restrictions on the Certificate of Inspection for vessels towing dangerous cargo barges, or those unable to meet the new regulations. As already noted, the Coast Guard worked extensively with TSAC while developing this NPRM, which included input from nearly 200 individuals.

One commenter discussed penalties for non-compliance, saying companies should be held accountable for not following their safety management systems. Another commenter said the Coast Guard should have the authority to enforce any recommendations that come out of accident reports. A third commenter said, ''the safety regulations for our industry have to target corrective actions that will improve and address human factors * * * like voyage planning, situational awareness, [and] crew endurance.'' One commenter said mariners should have access to the Marine Safety Office (now Sectors) to report hazards, and have an inspector address every complaint. Again, these comments were considered in the development of this NPRM. We invite the public to suggest additional topics or changes to the proposed regulation in their comments on the NPRM, as noted in section I. ''Public Participation and Request for Comments.''

L. Hours of Service and Crew Endurance Management Programs

As we stated in our discussion of statutory authority, in Section III.A of this preamble, 46 U.S.C. 8904(c) authorizes the Secretary to establish maximum hours of service regulations for individuals engaged on a towing vessel that is at least 26 feet in length. The legislative history for 46 U.S.C. 8904(c) makes clear that this provision gives the Coast Guard authority to establish ''scientifically based hours-of-service regulations that set limits on hours of service, provide predictable work and rest schedules, and consider circadian rhythms and human sleep and rest requirements'' as recommended by the National Transportation Safety Board in 1999, Recommendation M–99–1. See H.R. Conf. Rep. 108–617, 2004 U.S.C.C.A.N. 936, 951.

The Coast Guard is considering establishing hours of service standards and requirements for managing crew endurance, the ability for a crewmember to maintain performance within safety limits while enduring job-related physiological and psychological challenges. The Coast Guard is seeking additional public comment on possible hours of service and crew endurance management program standards and requirements at this time. After considering this additional information, the Coast Guard would later request public comment on specific hours of service or crew endurance management regulatory text if it seeks to implement such requirements.

Specifically, the Coast Guard, in this section IV.L., discusses its views on potential hours of service and crew endurance management program standards and requirements, and seeks addition data and other information related to these provisions. In particular, the Coast Guard seeks additional data and information specifically related to hours of service and performance of work on towing vessels. Although the Coast Guard welcomes all public comments related to these potential requirements, the Coast Guard specifically invites comments on the research discussed below, and responses to the following questions:

- What would be the best way to manage work and rest schedules to ensure sufficient time off for mariners' on towing vessels?
- How many hours of uninterrupted sleep per day do mariners on towing vessels require?
- What would be the best method to ensure that sufficient qualified personnel are available for 12 hours of work per day on a towing vessel?
- What do you view as the potential economic consequences resulting from a mandate that mariners on towing vessels obtain a required number of hours of uninterrupted sleep, such as 7–8 hours, for your vessel or organization?
- What would be the benefits to implementing a mandate that mariners on towing vessels obtain a required number of hours of uninterrupted sleep, such as 7–8 hours, for your vessel or organization? Would such a mandate be effective in reducing vessel casualties and other accidents?
- Despite medical and scientific evidence, discussed below, that most people need at least 7 hours of uninterrupted sleep to restore their cognitive abilities necessary to maintain situational awareness, it is common for watch and rest schedules on towing vessels to fail to permit this minimum amount of uninterrupted sleep. Why have market forces not caused the towing vessel industry to adopt work schedules that permit the minimum amount of uninterrupted sleep necessary for most persons to maintain situational awareness?
- Would a mandate that mariners on towing vessels obtain a required number of hours of uninterrupted sleep, such as 7–8 hours, require a change in watch schedules? If so, what watch schedules would a towing vessel use?
- Would a mandate that mariners on towing vessels obtain a required number of hours of uninterrupted sleep, such as 7–8 hours, require more than changes in watch schedules?
- If your vessel has already changed from a schedule that allows a certain number of hours of uninterrupted sleep, for example 7–8 hours, to a square watch schedule (alternating 6 hours on watch, 6 hours off, 6 hours on watch, 6 hours off, every 24 hours), what factors led to the switch? What factors prevent a towing vessel from having a watch schedule that allows for a certain number of hours of uninterrupted sleep?
- What are the differences in operating costs and workplace injuries based on watch schedules that require a certain number of hours of uninterrupted sleep?
- Would implementing a requirement to provide sufficient time off for mariners on towing vessels to obtain a certain number of hours of uninterrupted sleep, such as 7–8 hours, reduce the rate of injuries and accidents? If you know of relevant injury/accident data to support your comments, we request that you identify or provide that information.
- If your company or vessel operates with a crew endurance management program, have you seen a reduction in workplace injuries? Can you provide data to support implementation of the crew endurance management program?
- If your company or vessel operates with a crew endurance management program, what measures have you undertaken to develop and implement a crew endurance management program? Did you make modifications to lighting,

noise and vibration? If so, what type of modification? How many crew endurance management program coaches does a vessel have? How many coaches are trained each year? Do you require training for other crew on your crew endurance management program system? How often?

- Would a crew endurance management program requirement alone, without a specific requirement that mariners on towing vessels obtain a required number of hours of uninterrupted sleep, such as 7–8 hours, be effective in combating fatigue?
- Would a crew endurance management program requirement alone, without a specific requirement that mariners on towing vessels obtain a required number of hours of uninterrupted sleep, such as 7–8 hours, reduce casualties and injuries?
- What existing crew endurance management programs could the Coast Guard consider equivalent to the Coast Guard's Crew Endurance Management System?
- Would a mandate to change the watch schedule or to implement and maintain a crew endurance management program impose economic burdens upon small businesses? If so, would these burdens be significant?
- What is the appropriate phase-in period or method for implementing hours of service and crew endurance management program standards or requirements?

The Coast Guard offers the following research and additional information regarding hours of service standards and requirements for managing crew endurance, the ability for a crewmember to maintain performance within safety limits while enduring job-related physiological and psychological challenges in order to inform public comment related to these issues:

The Coast Guard recognizes that the issue of operator fatigue is not new, nor is it an issue confined solely to the maritime industry. In 1989, the National Transportation Safety Board (NTSB) first addressed the issue of operator fatigue in three recommendations presented to the Secretary of Transportation and called for research, education, and revisions to existing regulations. In 1990, NTSB added these recommendations to its Most Wanted List. In 1999, NTSB sponsored a safety study that determined that operator fatigue remained widespread throughout the transportation industry. In 2006, NTSB reaffirmed their recommendation to the regulatory bodies for the Aviation, Marine, and Pipeline Industries to establish scientifically based hours of service regulations that set limits on hours of service, provide predictable work and rest schedules, and consider human sleep and rest requirements. As part of this recommendation, NTSB stated that ''operating a vehicle without the operator's having adequate rest, in any mode of transportation, presents an unnecessary risk to the traveling public.'' These NTSB studies, recommendations, and other documents may be found at URL: *http://www.ntsb.gov.*

Sleep Loss and Its Consequences

In most work environments, many pressures and stressors impact workers' quality of life and performance. One important yet underestimated stressor is daily restriction of sleep (*See* National Sleep Foundation, ''Sleep in America'' poll. URL: *http://www.sleepfoundation.org* (2007)).

In many jobs, daily sleep restriction is unavoidable. Some professions such as health care, security, and transportation require working at night and, often, long work hours of 12 hours or more per day. In these fields, the effect of daily sleep loss on performance is crucial to safety. Often, in response to the daily workplace stressors, workers tend to stretch their capacity and compromise their nightly sleep, thus becoming chronically sleep deprived.

While the need for sleep varies considerably between individuals, studies show that for adults an average length of sleep between 7 and 8 ½ hours per night provides physiological and cognitive resources to support normal health and performance. Physiologically, at least two processes regulate sleep, one homeostatic and the other cyclic (also known as circadian) with a period of about 24 hours per day. The homeostatic process regulates energy availability and depends on the daily duration of sleep and of wakefulness; the need to sleep increases as wakefulness continues uninterrupted. The circadian process, also referred to as the body clock, regulates the time of the day when sleep is scheduled and also impacts the restoration and availability of cellular energy. In brief, the body clock abhors uncertainty; it prefers stable, daily sleep beginning at the same time(s). (*See* Paula Alhola & Paivi Polo-Kantola, ''Sleep Deprivation: Impact on Cognitive Performance.'' Neuropsychiatric Diseases and Treatment, 553–567, Vol. 5 (2007).) These studies show that both of these processes work well with daily sleep periods lasting at least 7 uninterrupted hours, where that sleep occurs at consistent times from day to day. Additionally, significant disruptions of the timing of daily sleep onset, or restriction of the duration of sleep below 7 uninterrupted hours per day, result in significant impacts on human physiology, health, and performance.

While there are many unanswered questions regarding the functions of sleep and the effects of sleep loss, there is no question that sleep is critical for body restitution, like energy conservation, thermoregulation, and tissue recovery. In addition, a now well documented body of research demonstrates that sleep is essential for cognitive performance, especially memory consolidation. Daily sleep loss, instead, activates the sympathetic nervous system, causing release of adrenalin and cortisol, resulting in stress and impairments of the immune system and metabolism. Daily sleep loss is now linked with cellular insulin resistance, thus predisposing people who experience sleep restriction to abnormal glucose metabolism and diminished energy production. People who experience daily sleep loss usually suffer a decline in cognitive performance and changes in mood.

Performance Standards and Protection of Situational Awareness

Based on the Coast Guard's current research, the Coast Guard is considering requirements that would permit crewmembers on towing vessels: (a) Sufficient time off to obtain at least 8 uninterrupted hours of sleep or at least 7 hours of uninterrupted sleep and an additional sleep period in every 24 hour period; and (b) the means to prevent the disruption of circadian rhythms. Such standards would promote the daily restoration of crewmember cognitive and physiological resources and the protection of crewmember situational awareness and decision-making abilities.

Situational awareness refers to the capability to maintain a constant vigil over important information, understand the relationship among the various pieces of information monitored, and project this understanding into the near future to make critical decisions. The term ''situational awareness'' is a form of mental bookkeeping (David D. Woods, Leila J. Johannesen, Richard I. Cook & Nadine B. Sarter, Behind Human Error: Cognitive Systems, Computers, and Hindsight (1994)).

Crewmembers aboard towing vessels, whether working on the navigation watch, on deck, in engineering, or in the galley, must constantly maintain situational awareness to ensure safe operations. Situational awareness is essential to make informed decisions, act in a timely manner, and ultimately

ensure operational safety, whether at sea or transiting through inland waterways, harbors, or coastal environments. Maintaining 24-hour vessel operations while successfully meeting navigational challenges such as inclement weather, vessel traffic, bridges, locks, and recreational vessels, requires all of the cognitive processes supporting situational awareness to be functioning in good working order.

Maintaining and updating situational awareness and making timely and accurate decisions in operational environments, such as the wheelhouse of a towing vessel, engineering, and on deck, necessitates a wide range of cognitive skills. In particular, a mariner must be able to:

- Appreciate a difficult and rapidly changing situation;
- Assess risk;
- Anticipate the range of consequences;
- Keep track of events;
- Update the big picture;
- Be innovative;
- Develop, maintain and revise plans;
- Remember when events occurred;
- Control mood and behavior;
- Show insights into one's own performance;
- Communicate effectively; and
- Avoid irrelevant distractions.

In addition to these skills, situational awareness and decision making also require cognitive abilities for rule-based skills of logical, critical, and deductive reasoning. A substantial body of research demonstrates that loss of sleep significantly degrades the cognitive skills (those 12 bulleted items listed above) necessary to establish and maintain situational awareness. (*See* Yvonne Harrison & James A. Horne, ''The Impact of Sleep Deprivation on Decision Making: A Review,'' Journal of Experimental Psychology: Applied, 236–249, Vol. 6 No. 3 (2000).

The prefrontal region of the brain facilitates the use of cognitive skills necessary for situational awareness. This region of the brain may shut down as it experiences daily sleep loss. (*See Id.;* Paula Alhola & Paivi Polo-Kantola, ''Sleep Deprivation: Impact on Cognitive Performance.'' Neuropsychiatric Diseases and Treatment, 553–567, Vol. 5 (2007).)

Effects of Sleep Loss on Situational Awareness: Distractions, Assimilation, and Judgment

Appreciation of a complex situation while avoiding distraction requires assimilation of large amounts of information in a short period of time. Loss of sleep increases visual and auditory distractions that decrease focused attention and, therefore, interferes with the assimilation of rapidly changing information. Daily loss of sleep results in less discrimination handling ambiguous material, less confidence, more openness to leading information, and more willingness to modify recollections of events. These effects also interfere with the correct assimilation of changing information. Even a single night of sleep loss can result in less appreciation of a complex situation. When subjected to sleep loss, study participants consistently applied more effort to pointless areas of their decision-making, which had little or no effective outcome in the task at hand. (*See* Yvonne Harrison & James A. Horne, ''The Impact of Sleep Deprivation on Decision Making: A Review.'' Journal of Experimental Psychology: Applied, 236–249, Vol. 6 No. 3 (2000).

Effects of Sleep Loss on the Ability To Track Events and To Develop and Update Strategies

One night of sleep loss leads to deterioration of planning skills, marked perseveration, and failure to revise original strategies in light of new information. Additionally, people who experience partial sleep loss are more likely to ''stay the course'' as opposed to changing strategies, even when it is apparent that the strategies are no longer appropriate. (*See Id.*).

Studies of accidents in maritime operations support the notion that loss of situational awareness plays a significant role in incidents attributed to human error. In a report published in 2005, discussed above in section III.D. of this preamble, TSAC reported that human factors accounted for 54 percent of the medium and high severity incidents and about 40 percent of the low severity incidents. Failures in situational awareness or task performance accounted for 69 percent of the medium and high severity incidents involving human factors. In a separate report in 2003, the Coast Guard—American Waterways Operators (AWO) Bridge Allision Working Group examined 459 bridge allisions (an allision is contact between a moving towing vessel and a stationary object such as bridge, dock, or moored vessel) and reported 78 percent were associated with pilot error and 12 percent with other operational errors. These reports may be found in the docket for this rulemaking, where listed above in section I.B. ''Viewing comments and documents.'' Of even greater importance to the association of human error with loss of situational awareness was the finding that 68 percent of 435 cases showed critical decision-making errors on the part of the towing vessel operator.

These findings support the NTSB findings and recommendations that, in dynamically evolving operational scenarios, a loss of situational awareness leads to inadequate decision making and performance errors. On towing vessels, a typical work schedule alternates between 6 hours of work and 6 hours of rest, otherwise known as ''6 on/6 off.'' This schedule consistently restricts daily uninterrupted sleep below 6 hours (total uninterrupted sleep obtained in a 6 on/6 off watch schedule cannot exceed 6 hours) and does not deliberately ensure nighttime physiological adjustment (body clock adjusted for nighttime work and daytime sleep) when crewmembers work at night. As a result, when reviewing accidents involving human error, it is not possible to determine whether the degradation in situation awareness was from increasing sleep debt or from working against the physiological need to sleep. (*See* Yvonne Harrison and James A. Horne, ''The Impact of Sleep Deprivation on Decision Making: A Review.'' Journal of Experimental Psychology: Applied, 236–249, Vol. 6 No. 3 (2000); Paula Alhola and Paivi Polo-Kantola, ''Sleep Deprivation: Impact on Cognitive Performance.'' Neuropsychiatric Diseases and Treatment, 553–567, Vol. 5 (2007).)

Work Hours in the Towing Industry

Licensed crewmembers in the towing industry work approximately 84 working hours in a 7-day work week. See Department of Labor Bureau of Labor Statistics' Occupational Outlook Handbook, 2010–11, Water Transportation Occupations (*http://www.bls.gov/oco/pdf/ocos247.pdf*), p. 2. In most segments of the towing industry, towing companies must sustain 24-hour operations to provide customers with adequate transportation services and to compete with other carriers. Currently, a number of requirements governing hours of service for the shipping industry can be found in Title 46 of the U.S. Code. The law states that a towing vessel on a trip or voyage of less than 600 miles may divide its licensed officers and certain crewmembers, while at sea, into at least 2 watches (46 U.S.C. 8104(g)). The law further requires that licensed individuals on towing vessels that are at least 26 feet in length may not work more than 12 hours in a consecutive 24-hour period, except in an emergency (46 U.S.C. 8104(h)). Additionally, licensed individuals or crewmembers in the deck or engine departments, operating on the

Great Lakes, may not work more than 8 hours in one day or more than 15 hours in any 24-hour period, or 36 hours in any 72-hour period (46 U.S.C. 8104(c)).

As previously stated, the typical work schedule for towing vessels alternates between 6 hours of work and 6 hours of rest. This work/rest schedule is repeated every day, when possible, without changing reporting times. While the 6 on/6 off schedule provides consistent periods of work and rest from day to day, under the conditions of a 6 on/6 off schedule, sleep is restricted and sleep debt accumulates day after day, which gradually increases fatigue levels. (See Mikko Ha·rma·, Markku Partinen, Risto Repo, Matti Sorsa, and Pertti Siivonen, ''EFFECTS OF 6/6 AND 4/8 WATCH SYSTEMS ON SLEEPINESS AMONG BRIDGE OFFICERS.'' Chronobiology International, 25(2&3): 413–423, (2008)). Ultimately, under the 6 on/6 off schedule, fatigue is inevitable.

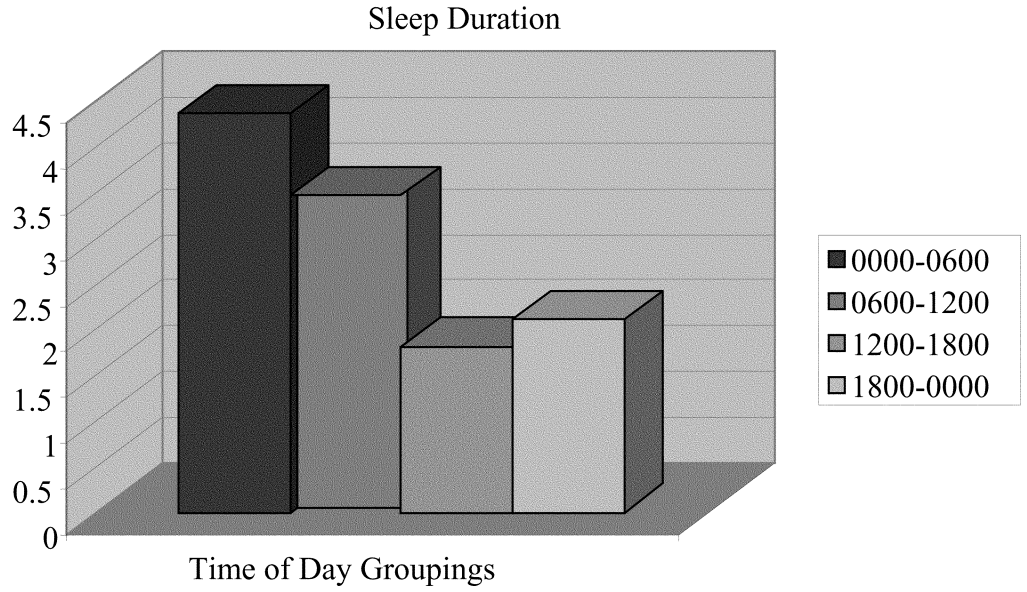
Physiological adaptation to nighttime work schedules is required to prevent crewmember fatigue. During nighttime watch periods, crewmembers experience the disparity between the need to sleep during the night and the requirement to work when they would normally be sleeping. (See Margareta Lützhöft, Anna Dahlgren, Albert Kircher, Birgitta Thorslund, and Mats Gillberg, ''Fatigue at Sea in Swedish Shipping—A Field Study.'' AMERICAN JOURNAL OF INDUSTRIAL MEDICINE 53:733–740 (2010). Adapting to nighttime work and daytime sleep requires specific natural and artificial light exposure regimens prior, during, and after the night watch to re-adjust physiological timing.

A recent study conducted at the Karolinska Institute in Sweden demonstrated that maritime officers working the 6 on/6 off schedule, without the opportunity to adjust their internal physiology to nighttime work and daytime sleep, consistently obtained less than 4.5 hours of sleep during a 6-hour period off, even when sleeping during the night (*see* Figure 1, below) (Claire A. Eriksen, Mats Gillberg & Peter Vestergren, ''Sleepiness and Sleep in a Simulated 'Six Hours on/Six Hours off' Sea Watch System.'' 23 Chronobiology International: The Journal of Biological and Medical Rhythm Research 1193–1202, (2006)). Officers sleeping during the night were not able to sleep longer than 5 hours per night, while officers sleeping during daytime hours slept less than 4 hours per sleep period. These data demonstrate that even when officers slept in comfortable bedrooms on shore, as was the case in this study, lack of physiological adaptation to the night work schedule resulted in further restrictions of sleep duration during daytime hours. Participants in this study share with crewmembers aboard domestic towing vessels both the 6 on/6 off watch schedule and the lack of opportunity to physiologically adapt to working nights and sleeping during the day.

Figure 1

Sleep in a simulated "Six Hours on/Six Hours off" Sea Watch System

Study conducted in the Karolinska Institute, Sweden University of Umea, Umea, Sweden.



The Coast Guard provides training and information on fatigue management through the Crew Endurance Management Systems (CEMS) program. While this training and information has been available to the industry-at-large,

companies report difficulty in providing appropriate artificial lighting for crewmember nighttime adaptation. Under the 6 on/6 off watch schedule, crewmembers work at night, against the natural physiological need to sleep, and under the influence of increasing sleep debt. Under these operational conditions, reduced situational awareness is inevitable. (*See* Yvonne Harrison and James A. Horne, ''The Impact of Sleep Deprivation on Decision Making: A Review.'' Journal of Experimental Psychology: Applied, 236–249, Vol.6 No.3 (2000); Paula Alhola and Paivi Polo-Kantola, ''Sleep Deprivation: Impact on Cognitive Performance.'' Neuropsychiatric Diseases and Treatment, 553–567, Vol. 5 (2007)).

The nexus between daily sleep restriction, relevant to the 6 on/6 off watch schedule, and cognitive impairment vital to the maintenance of situational awareness is demonstrated in a study conducted in 2002 at the Walter Reed Army Institute of Research. Researchers examined performance degradation and restoration in 66 research volunteers who were allowed 3, 5, 7, and 9 hours of continuous time in bed, each night for 7 consecutive days. Results of the study can be found in an article titled ''Patterns of Performance Degradation and Restoration During Sleep Restriction and Subsequent Recovery: A Sleep Dose-Response Study.'' This article may be found in the docket for this rulemaking, where listed above in section I.B. ''Viewing comments and documents.''

As noted in the article, baseline performance was measured after participants were allowed 8 continuous hours of time in bed. Participants who had 9 consecutive hours of time in bed each night showed no impairment in performance. By contrast, participants who had 5 or 7 hours of time in bed showed slower reaction speeds. Participants in the 5-hour time in bed condition exhibited greater alertness deficit than in the 7-, 8-, and 9-hour time in bed conditions.

This study also highlighted the importance of recovery sleep on performance. After the 7 days of sleep restriction, participants were allowed 8 consecutive hours of time in bed for 3 days. During this 3-day recovery period, participants underwent neurobehavioral tests while awake. The 9-hour time in bed group showed no significant differences from the baseline. By contrast, the 3-hour time in bed group rapidly recovered when allowed 8 hours of time in bed on the first night, though their performance did not recover to baseline levels (8-hour time in bed). In fact, during the 3 days of sleep recovery, this group's performance levels never rose higher than those of participants whose sleep was restricted to 5 or 7 hours.

Disturbingly, while participants who had less than 8 continuous hours of time in bed did not report feeling sleepy, this group's performance and alertness levels decreased significantly, especially in the 5-hour and 3-hour time in bed groups. These data illustrate that people experiencing partial sleep deprivation do not easily recognize their own performance impairment.

A more recent study observed 48 healthy adults whose sleep was restricted to 4, 6, and 8 hours of time in bed per night for 14 days. The results are published in an article titled ''The Cumulative Cost of Additional Wakefulness: Dose-Response Effects on Neurobehavioral Functions and Sleep Physiology From Chronic Sleep Restriction and Total Sleep Deprivation.'' In this study, participants underwent neurobehavioral tests, while awake, every 2 hours to determine the effects of sleep restriction on their daytime performance. These tests included measures of attention/reaction time, working memory, mental agility, and subjective sleepiness. Taken together, the tests measured participants' cognitive abilities while they performed tasks requiring vigilance and mental tracking of critical information. Results showed that performance deteriorated significantly, as sleep loss accumulated over the 14 days.

Remarkably, the performance levels of participants who received less than 6 hours of time in bed per day, for 14 days, degraded as much as those of participants who had no time in bed for 2 days. Paradoxically, none of the sleep-restricted participants reported feeling sleepy.

The results of both studies highlighted here are important to towing operations, and as such were taken into consideration when we considered hours-of-service performance standards. While they cannot be said to prove without a doubt that when given less than 8 hours time in bed per night, a crewmember's alertness and cognitive abilities, and thus overall situational awareness, will decline, they do suggest that this is the case. Compounding the problem is the fact that sleepiness is unlikely to be reported, even when cognitive abilities are impaired.

In addition to reviewing the studies cited above, we used the Fatigue Avoidance Scheduling Tool (FAST) to determine the effects of sleeping less than 7–8 hours per day, even when considering two separate sleep periods. The FAST is the result of coordinated Department of Transportation (DOT) and Department of Defense (DOD) research efforts to develop and validate a comprehensive model to assess the effects of work and rest schedules on human health and performance. The Coast Guard also uses the FAST to assess, identify, and mitigate operational risks inherent in its own afloat, aviation, and ashore missions. Other agencies such as the Federal Railroad Administration (FRA) use the FAST for similar purposes. A full assessment, when applying the FAST, may be found in the docket for this rulemaking, where listed above in section I.B. ''Viewing comments and documents.''

Figures 2 through 10 in the assessment, which can be found in the docket for this rulemaking, show results from modeling changes in human alertness and cognitive performance effectiveness as a result of working a variety of schedules. Figure 2 shows the impact of restricted sleep on performance and alertness of a crewmember working nights from 12 midnight–6 a.m. and during the day from 12 noon–6 p.m., simulating a two-watch system. In this case, the crewmember sleeps a total of 6 hours per day in two separate sleep periods, one occurring from 8 a.m.–10 a.m. and the other from 7 p.m.–11 p.m. All sleep considered in this example is of the highest quality, without any interruptions of any kind. This example simulates the crewmember sleeping 4 consecutive hours just prior to reporting for the night watch and 2 consecutive hours after the end of the watch. The FAST calculations reveal a pattern of degraded performance throughout the 30-day simulation. Under these circumstances, the daily alertness and performance function shows a degrading trend with alertness and performance levels comparable to someone with Blood Alcohol Concentration (BAC) levels of 0.05 percent, 0.08 percent, and 0.1 percent throughout the watch period.

Figure 3 shows the effect of interrupted sleep under the same schedule as the one used for the calculations depicted on figure 2. In this case, the FAST simulation includes two short interruptions of sleep per hour. This scenario simulates occasional sleep disruptions due to environmental noise, and results in brief wakefulness periods during every hour of sleep. In this instance, minor disruptions of the sleep period causes a rapid decrease in the performance efficiency curve. This

decrease reaches levels comparable to performance below the 0.1 percent BAC level after only 3 consecutive days. Performance does not recover above the 0.1 percent BAC level throughout the 30-day assessment.

Figure 4 models the performance and alertness functions of a crewmember working 6 hours during the night (midnight–6 a.m.) and 6 hours during the day (noon–6 p.m.), but sleeping a total of 8 hours per day, 4 hours between 7 a.m.–11 a.m. and 4 hours between 7 p.m.–11 p.m. All sleep in this example is of the highest quality, without any interruptions. Examining the performance effectiveness function on Figure 4 reveals a daily degradation in alertness and performance that is comparable to 0.05 percent and 0.08 percent BAC levels throughout the night watch period. However, unlike the example shown on Figure 2, performance effectiveness begins a recovery trend on the seventh day. Recovery is not complete, as performance effectiveness does not climb above the 0.05 percent BAC performance level. This provides evidence that increasing daily sleep from 6 to 8 hours did improve performance efficiency, but it was not sufficient to prevent degradation of performance throughout the 30-day assessment.

Figure 5 shows the impact of minor interruptions of sleep per hour (two awakenings less than 1 minute long). The FAST algorithm reveals that, although this model iteration affords 8 total hours of sleep (adding both sleep periods), minor sleep disruptions result in significant degradation of performance. Performance effectiveness degrades below the 0.1 percent BAC level after the third day and remains below the 0.05 percent BAC level for the rest of the 30-day period of assessment. Both models explored in Figures 4 and 5 provide evidence that performance efficiency depends on the interaction between daily sleep duration and quality of sleep.

Figures 6, 7, 8, 9, and 10 provide results from modeling longer work and sleep periods in a two-watch system. The results shown in these models indicate that it is possible to prevent performance degradation in the two-watch system, but it requires the extension of the rest periods. The placement of the longest sleep period relative to the night watch is also important. Sleeping 6 hours soon after the night watch and 4 hours during the afternoon maintains performance efficiency within safe levels. Day watch models also showed high performance efficiency when consecutive sleep durations reached 6.5 hours.

Considering together the results from the FAST modeling, the scientific evidence showing that restricted sleep degrades performance via a degradation of cognitive abilities supporting situational awareness, and evidence of sleep restriction under the 6 on/6 off schedule, the Coast Guard believes that insufficient time off to allow for at least 7 hours of uninterrupted, daily sleep degrades cognitive abilities. Thus, the Coast Guard seeks additional data, information and public comment on potential requirements to increase uninterrupted sleep duration to a threshold of at least 7 consecutive hours in one of the two available off periods in the two-watch system to increase the probability that crewmembers will have the opportunity to restore the cognitive abilities necessary to maintain situational awareness, even if the sleep environment is not optimal.

The Coast Guard expects that any hours of service limitations, either adopted by industry or imposed through regulation, would address the need for inspected towing vessel operators to gradually alter the traditional 6 on/6 off watch schedules. The Coast Guard acknowledges, however, that requiring organizations and/or individuals to change behavior or adopt new behavioral patterns quickly, in response to abrupt regulatory requirements, can cause unintended disruptions in operation and service while the organizations and individuals adapt. The Coast Guard is thus requesting public comments on the appropriate phase-in period for a potential hours-of-service standard or requirement.

The Coast Guard is also considering the use of the light management process outlined in the Coast Guard's Crew Endurance Management System (CEMS) to gradually adapt crewmembers' physiology to early morning reporting times and to night work. Crewmembers' physiology would then allow them to sleep longer during the off watch periods. This gradual change would take place as crewmembers take advantage of the physiological adaptation to early morning reporting times and to night work afforded through the CEMS light management process.

The Coast Guard welcomes public comment on the issues addressed in this section related to potential hours of service standards and requirements.

Crew Endurance Management Programs

As discussed above, the CGMTA 2004 granted the Coast Guard authority to update the maximum hours of service standards currently regulating the towing industry. The CGMTA 2004 states that ''the Secretary may prescribe by regulation, requirements for maximum hours of service (including recording and recordkeeping of that service) of individuals engaged on a towing vessel that is at least 26 feet in length measured from end to end over the deck (excluding the sheer).'' 46 U.S.C. 8904(c). This Act authorized the Coast Guard to draft regulations to ensure that shipboard work practices do not compromise the safety of navigation and/or crewmembers due to unmitigated fatigue incidence. H.R. Conf. Rep. 108–617, 2004 U.S.C.C.A.N. 936, 951, 953. However, Congress directed the Coast Guard to carry out a demonstration project with the purpose of assessing the effectiveness and feasibility of the previously established Crew Endurance Management System (CEMS) on towing vessels, and report the results to Congress (Pub. L. 108–293, § 409(b), 118 Stat. 1044).

The Coast Guard developed CEMS in 1999 as a voluntary program to assist the commercial maritime industry in managing shipboard fatigue by coordinating improvements to shipboard diet, sleep, work environments, and watch schedules. CEMS established practices to protect crewmember health and performance. In developing CEMS, the Coast Guard recognized that a crewmember's physical endurance depends on efficient physiological energy production and management of risk factors such as poor diet, lack of exercise, and personal stress. Onboard access to exercise equipment, communications with family, and low-fat meals that consist of lean protein, complex carbohydrates, and fresh water are necessary to support a crewmember's physical endurance. However, while these activities are extremely important, the central objective of CEMS was and is to ensure that crewmembers have sufficient time off to obtain a daily minimum of 7–8 hours of uninterrupted, high-quality sleep. The Coast Guard has information suggesting that this daily sufficient sleep is crucial to maintain alertness and the cognitive abilities necessary to establish and maintain situational awareness and adequate physical capacity in the work environment.

Responding to the Congressional mandate, the Coast Guard conducted the CEMS demonstration project aboard towing vessels in 2005. The results of this project showed CEMS implementation was feasible, effective, and sustainable, but not all companies that participated adopted a watch scheduled that permitted a minimum of 7–8 hours of uninterrupted sleep. The

report submitted to Congress, titled ''Report on Demonstration Project: Implementing the Crew Endurance Management System (CEMS) on Towing Vessels'' is available in the docket for this rulemaking, where listed above in section I.B. ''Viewing comments and documents.'' The Coast Guard welcomes public comments on this report, and all of the information and questions presented above in relation to potential hours of service and crew endurance management standards and requirements. As noted, after considering this additional information, the Coast Guard would later request public comment on specific hours of service or crew endurance management regulatory text if it seeks to implement such requirements.

V. Incorporation by Reference

Material proposed for incorporation by reference appears in §§ 136.112, 137.110, 138.110, 139.112, 141.105, 142.120, 143.120, and 144.110. You may inspect this material at U.S. Coast Guard Headquarters where indicated under **ADDRESSES**. Copies of the material are available from the sources listed in §§ 136.112, 137.110, 138.110, 139.112, 141.120, 142.115, 143.120, and 144.110. Before publishing a binding rule, we will submit this material to the Director of the **Federal Register** for approval of the incorporation by reference.

VI. Regulatory Analyses

We developed this proposed rule after considering numerous statutes and executive orders related to rulemaking. Below, we summarize our analyses based on 13 of these statutes or executive orders.

A. Regulatory Planning and Review

Executive Orders 13563 and 12866 direct agencies to assess the costs and benefits of available regulatory alternatives and, if regulation is necessary, to select regulatory approaches that maximize net benefits (including potential economic, environmental, public health and safety effects, distributive impacts, and equity). Executive Order 13563 emphasizes the importance of quantifying both costs and benefits, of reducing costs, of harmonizing rules, and of promoting flexibility. This rule has been designated a ''significant regulatory action'' although not economically significant, under section 3(f) of Executive Order 12866. Accordingly, the rule has been reviewed by the Office of Management and Budget. A preliminary Regulatory Analysis (RA) is available in the docket where indicated under the ''Public Participation and Request for Comments'' section of this preamble. A summary of the RA follows:

This rulemaking would implement section 415 of the Coast Guard and Maritime Transportation Act of 2004. The intent of the proposed rule is to promote safer work practices and reduce casualties on towing vessels by ensuring that inspected towing vessels adhere to prescribed safety standards and adopted safety management systems. This proposed rule was developed in cooperation with the Towing Vessel Safety Advisory Committee (TSAC). The Coast Guard recognizes that establishing minimum standards for the towing vessel industry is necessary. Vessel operation, maintenance, and design must insure the safe conduct of towing vessels. The proposed rule would improve the safety and efficiency of the towing vessel industry.

In this NPRM, the Coast Guard proposes to require towing vessels subject to this rulemaking to be part of a safety management system or be subject to an alternative annual Coast Guard inspection regime. The proposed rule would require companies that operate inspected towing vessels to create a Towing Safety Management System (TSMS), continue with existing systems that comply with the provisions of the International Safety Management (ISM) Code, another system the Coast Guard determines to be equivalent to the TSMS, or be subject to an annual, Coast Guard inspection regime. The Coast Guard believes this rulemaking would create an environment that encourages safe practices.

This proposed rule would allow each towing vessel organization to customize its approach to meeting the requirements of the regulations, while it provides continuous oversight using audits, surveys, inspections, and reviews of safety data. This would improve the safety of towing vessels and provide greater flexibility and efficiency for towing vessel operators. As a result of this rulemaking, operators would be able to call upon third parties or the Coast Guard to conduct compliance activities when and where they are needed. *See* the ''Discussion of Proposed Rule'' section for a detailed discussion of this proposed rule and see the RA for a detailed discussion of costs, benefits and alternatives considered. Table 1 summarizes the impacts of this rulemaking.

TABLE 1—SUMMARY OF AFFECTED POPULATION, COSTS AND BENEFITS

Category	NPRM
Applicability	All U.S. flag towing vessels engaged in pushing, pulling, or hauling alongside, with exceptions for work boats and limited service towing vessels.
Affected Population	5,208 vessels, 1,059 companies.
Costs* ($ millions, 7% discount rate)	$18.4 (annualized), $129.5 (10-year).
Benefits ($ millions, 7% discount rate)	$28.5 (annualized), $200.1 (10-year).
Unquantified Benefits	Reduced congestion and delays from lock, bridge and waterway closures.

* These costs include the high estimate of industry costs plus government costs.

Affected Population

We estimate that 1,059 owners and operators (companies) would incur additional costs from this rulemaking. The rulemaking would affect a total of 5,208 vessels owned and operated by these companies. Our cost assessment includes existing and new vessels.

Costs

We estimated low and high costs to reflect the potential range of cost inputs for certain requirements, based on various sources of data, as discussed in the RA. During the initial phase-in period (years 1 and 2), we estimate the annual cost to industry of the rulemaking to range from $4.2 million to $5.7 million (non-discounted). After the initial phase-in, the annual costs to industry range from $10.9 million to $29.1 million (non-discounted). We estimate the total present value cost to industry over the 10-year period of analysis to range from $100.7 million to $119.9 million, discounted at 7 percent, and from $129.1 million to $153.9 million, discounted at 3 percent. Over the period of analysis, we estimate the annualized costs to industry range from

$14.3 million to $17.1 million at 7 percent and range from $15.1 million to $18.0 million at 3 percent. Table 2 summarizes the costs of this proposed rule to industry.

TABLE 2—INDUSTRY COST SUMMARY OF PROPOSED RULE

[$ millions]

Year	Undiscounted		Discounted			
	Low	High	7%		3%	
			Low	High	Low	High
1	$4.2	$5.5	$3.9	$5.2	$4.1	$5.4
2	4.3	5.7	3.8	5.0	4.1	5.4
3	10.9	12.2	8.9	10.0	9.9	11.2
4	12.1	13.4	9.2	10.3	10.7	11.9
5	14.6	16.4	10.4	11.7	12.6	14.2
6	16.7	18.2	10.9	12.1	13.8	15.2
7	23.7	29.1	14.8	18.1	19.3	23.7
8	23.7	29.1	13.8	16.9	18.7	23.0
9	23.7	29.1	12.9	15.8	18.2	22.3
10	23.7	29.1	12.1	14.8	17.7	21.7
Total *	157.4	187.9	100.7	119.9	129.1	153.9
Annualized	.....	.....	14.3	17.1	15.1	18.0

* Values may not total due to rounding.

We anticipate that the government will incur costs. For towing vessels that choose to comply with annual Coast Guard inspections, the government will incur costs to conduct those inspections. For other vessels choosing the TSMS option to comply, the government will incur costs to review applications for a TSMS, conduct random boardings and compliance examinations, and oversee third parties. We estimate the total present value cost to government over the 10-year period of analysis to be $9.6 million discounted at 7 percent and $12.0 million discounted at 3 percent. Annualized government costs are about $1.4 million under both 7 percent and 3 percent discount rates. We estimate the combined total 10-year present value cost of the rulemaking to industry and government to range from $110.3 million to $129.5 million, discounted at 7 percent, and from $141.1 million to $165.9 million, discounted at 3 percent. The combined annualized costs to industry and government range from $15.7 million to $18.4 million at 7 percent and from $16.5 million to $19.4 million at 3 percent.

Economic Impacts of Towing Vessel Casualties

Towing vessel casualties are incidents (*i.e.*, accidents) that involve the towing vessel and possibly other vessels such as barges, other commercial vessels, and recreational vessels. Towing vessel accidents can cause a variety of negative economic impacts, including loss of life, injuries, property damage, delays on transportation infrastructure, and damage to the environment.

Based on Coast Guard Marine Information for Safety and Law Enforcement (MISLE) data for the recent period of 2002–2007, towing vessel accidents are associated with 23 fatalities per year. Towing vessel accidents also result in an average of 146 reportable injuries per year (for the period of 2002–2007). Table 3 summarizes some of the negative impacts resulting from towing vessel accidents.

TABLE 3—NEGATIVE IMPACTS FROM TOWING VESSEL ACCIDENTS (2002–2007)

Impact	Average per year
Fatalities	23.
Injuries	146.
Accidents Causing Property Damage of $250,001 or more.	156.
Property Damage from Accidents of $250,001 or more.	$63.5 million.
Oil Spills	26.
Amount of Oil Spilled	184,717 gallons.
Congestion and Delays from lock, bridge and waterway closures.	Not quantified *.

* We present detailed information on delay and congestion impacts resulting from towing vessel accidents in the Regulatory Analysis available in the docket.

Benefits of the Towing Vessel Proposed Rule

The Coast Guard developed the requirements in the proposed rule by researching both the human factors and equipment failures that caused towing vessel accidents. We believe that the proposed rule would comprehensively address a wide range of causes of towing vessel accidents and supports the main goal of improving safety in the towing industry. The primary benefit of the proposed rule is an increase in vessel safety and a resulting decrease in the risk of towing vessel accidents and their consequences.

Based on Coast Guard investigation findings for towing vessel accident cases from 2002–2007, we estimate that the proposed rule would lead to significant reductions in fatalities, injuries, property damaged, and oil spilled. These improvements in safety are expected to occur over a 10-year period as the various provisions of the proposed rule are phased-in. We estimate total 10-year discounted benefits at $200.1 million discounted at 7 percent and $256.2 million discounted at 3 percent. Over the same period of analysis, we estimate annualized benefits of the proposed rule to be $28.5 million at a 7 percent discount rate and about $30.0 million at a 3 percent discount rate, respectively. Table 4 displays the monetized benefits of this proposed rule associated with reducing fatalities, injuries, property damage, and oil spilled, resulting from towing vessel accidents. During the phase-in period, we assume that companies take this

time to implement the proposed rule and obtain their initial certificates of inspection. Therefore, we assign no benefits to those years.

TABLE 4—TOTAL BENEFITS

[$ millions]*

Year	Undiscounted	Discounted	
		7%	3%
1	$0.0	$0.0	$0.0
2	0.0	0.0	0.0
3	25.9	21.1	23.7
4	38.2	29.1	33.9
5	39.2	28.0	33.8
6	40.3	26.8	33.7
7	41.3	25.7	33.6
8	42.4	24.7	33.5
9	42.4	23.1	32.5
10	42.4	21.6	31.5
Total	312.0	200.1	256.2
Annualized		28.5	30.0

* Values may not total due to rounding.

Unquantified Benefits

These estimates do not include the value of benefits that we have not quantified, including preventing delays and congestion due to towing vessel accidents. We are unable to monetize the value of preventing other consequences of towing vessel accidents, including delays and congestion, due to a lack of data and information. However, as discussed in the Regulatory Analysis available in the docket, the potential value of other benefits could be substantial if towing vessel accidents cause long waterway, bridge, or road closures.

Avoided Delays and Waterway Disruptions

Every day, tons of goods worth millions of dollars transit the nation's waterways and the highways and railroads that pass alongside and over them. Towing vessel accidents that disrupt any one or more of these modes can be costly. The incident reports show that delays can range from a couple of hours for a damage assessment to a month or longer if a bridge has suffered major damage. For large accidents that result in long delays, the economic consequences may include the following:

- Productivity losses and operating costs for stalled barge and other traffic;
- Delays in the acquisition of production inputs that can impact timely operation of manufacturing or other processes;
- Blockages of U.S. exports that can result in decreased revenue from importing foreign companies;
- Loss of quality for industries dealing with time sensitive products or products with a limited shelf life, such as commercial fishing seafood processors, seafood dealers, or other food processors and manufacturers; and
- Reduced recreational opportunities, resulting in social welfare losses.

One example of a towing vessel accident having severe economic consequences on both traffic and the local economy is the collision of a barge with the Interstate 40 Bridge in Webbers Falls, Oklahoma, on May 26, 2002. The bridge was severely damaged and was closed for repairs for two months. The Interstate 40 Bridge is a major east-west route for both commercial and passenger traffic and carried approximately 22,000 vehicles per day. *See* the Regulatory Analysis, and the ''Report of the U.S. Coast Guard—American Waterways Operators Bridge Allision Work Group'' published in May 2003, both are available in the docket for additional details of this accident.

Towing vessel incidents are also known to result in blockages of rivers, port entrances, and other channels. This causes disruptions and delays to not only the towing industry, but other users of the waterways such as tankers, container ships, and recreational craft. The delay in use of the waterways can range from minutes (in the case of a grounding) to several days (in the case of an oil spill or an event that caused major damage to a lock or dam).

An example of an accident at a lock and dam involved the towboat Elizabeth M in January 2005. The Elizabeth M lost control of its barges shortly after exiting the Montgomery Locks and Dam on the Ohio River, south of Pittsburgh. The towboat and barges were swept over the dam and sunk in the waters below the dam, resulting in 4 fatalities. (*See* the ''Report of Investigation Sinking of the M/V ELIZAB[E]TH M (Official Number # 262962) and Six Barges with Four Fatalities on January 09, 2005 at the Montgomery Locks and Dam on the Ohio River at Mile Marker 31.7'' in the docket for additional details of this accident). According to Army Corps of Engineer records, the Montgomery Locks and Dam were closed for 28 hours after this incident. Additionally, restrictions on night travel as well as oil and chemical cargo continued for weeks after the incident. The use of an assist vessel to maneuver tows around the sunken barges and towboat at the foot of the dam was also required for several weeks.[1]

Based on data supplied by the Army Corps of Engineers, an average of 70.7 lock closures occurred because of towing vessel accidents over the past 6 years, causing an average of 209.6 hours of closures annually for the same period, with an average duration of the delay 3.0 hours (Table 5). For the same period, an average of nine events annually caused a lock closure of more than 6 hours (Table 6). Based on information from the Army Corps of Engineers, 6 hours or less is considered to be within the range of a normal operating delay. Over the past 6 years, towing vessel accidents involving locks have caused an average of 99.7 hours of delay beyond the 6-hour normal operating delay. For an event that causes over 6 hours of delay, the average duration of the delay over the 6-year

[1] U.S. Army Corps of Engineers, Pittsburgh District, ''Recovery Operations Expected to Start at Montgomery Lock,'' January 19, 2005.

period is 11.3 hours, with some causing double or quadruple that amount.

TABLE 5—NUMBER & DURATION OF LOCK DELAYS CAUSED BY TOWING VESSEL ACCIDENTS

Year	Number of events	Hours of delay	Average delay per event
2002	76	149.7	2.0
2003	64	182.9	2.9
2004	95	212.7	2.2
2005	59	375.6	6.4
2006	46	118	2.6
2007	84	218.5	2.6
6-Year Average	70.7	209.6	3.0

Source: USACE data on lock delays caused by towing vessel accidents provided in December 2008.

TABLE 6—NUMBER & DURATION OF LOCK DELAYS CAUSED BY TOWING VESSEL ACCIDENTS

[Exceeding 6 Hours]

Year	Number of events (exceeding 6 hours)	Hours of delay (exceeding 6 hours)	Average delay per event
2002	6	39.2	6.5
2003	11	71.59	6.5
2004	10	70.71	7.1
2005	11	274.46	25.0
2006	5	41.49	8.3
2007	10	100.47	10.0
6-Year Average	8.8	99.7	11.3

Source: USACE data on lock delays caused by towing vessel accidents provided in December 2008.

Other towing vessel accidents with large damages have occurred outside of the period of our benefit analysis. We do not include these accidents in the estimate of monetized benefits usually because the investigation is still pending or the impact details of the accident are still being developed. For example, in July 2008, a barge being pushed by a tow released 420,000 gallons of number 6 fuel oil in the Mississippi River near New Orleans, closing 100 miles of the Mississippi River to traffic for several days. The full value of clean up and response costs are still being tabulated for this event, but some estimates of the impact on the New Orleans economy range as high as $275 million per day. This event has been used by the Coast Guard in testimony before Congress to support the need for greater towing vessel safety.

Comparison of Costs to Benefits

The high estimate for total industry and government costs is $18.4 million (annualized at a 7% discount rate). The estimate for monetized benefits is $28.5 million (annualized at a 7% discount rate), based on the mitigation of risks from towing vessel accidents in terms of lives lost, injuries, oil spilled, and property damage. Subtracting the monetized costs from the monetized benefits yields a net benefit of $10.1 million. We also identified, but did not monetize, other benefits from reducing the risk of accidents that have secondary consequences of delays and congestions on waterways, highways, and railroads.

Overall, the regulatory analysis indicates that the preferred alternative provides owners and operators of towing vessels the ability to customize compliance to their individual business models, move the industry into inspected status, and improve safety.

Alternatives

The Coast Guard considered other alternatives to the current preferred alternative proposed in this NPRM. Alternative 1 would require that all towing vessels obtain and implement a TSMS and the Coast Guard would rely on third parties to audit and survey vessels to demonstrate compliance. Beyond an initial inspection, the Coast Guard would limit enforcement to review of evidence provided by third parties and owners and operators. Alternative 2 would require a traditional Coast Guard inspection, with no allowance for a TSMS or third party. Alternative 3 would require towing vessels to operate with a TSMS and undergo audits and surveys, but would not include part 140 requirements.

Alternative 1 has quantified benefits that only exceed costs by a small margin (0.1 million). Alternatives 2–3 have quantified costs that exceed quantified benefits thus resulting in net costs. A summary of the costs and benefits of the alternatives are presented in Table 7.

TABLE 7—SUMMARY OF ALTERNATIVES

[$ millions, 7% discount rate]

Alternative	Summary	Annualized cost	Annualized benefits	Net benefits or net costs *
Preferred Alternative (proposed in this NPRM)	Allow TSMS and third party review or Coast Guard inspection to demonstrate compliance.	$18.4	$28.5	$10.1
Alternative 1	Require TSMS for all towing vessels.	32.4	32.5	0.1
Alternative 2	Coast Guard inspection only. No third party	31.1	30.0	−1.1
Alternative 3	Require TSMS but no Part 140 requirements	31	28.3	−2.7

* Net benefits do not include unquantified congestion and delay benefits.

The RA available in the docket includes an analysis of the costs of this rulemaking by requirement and provides an assessment of potential monetized, quantified and non-quantified benefits of this rulemaking. The RA also contains details and analysis of other alternatives considered for this rulemaking.

B. Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601–612), we have considered whether this proposed rule would have a significant economic impact on a substantial number of small entities. The term ''small entities'' comprises small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000.

A combined Regulatory Analysis and Initial Regulatory Flexibility Analysis discussing the impact of this proposed rule on small entities is available in the docket where indicated under the ''Public Participation and Request for Comments'' section of this preamble.

Based on available data, we determine that more than 92 percent of the businesses affected are small by the Small Business Administration (SBA) size standards. We analyzed revenue impacts on the initial phase-in and annual recurring costs of this proposed rule.

For the preferred alternative proposed in this NPRM, we determined that 25 percent of the small businesses would incur a significant economic impact (more than 1 percent impact on revenue) during the phase-in period in years 1 and 2. For the impact of annual recurring costs, we determined that potentially 49 percent of small businesses would incur a significant economic impact depending on the year.

In the ''Regulatory Planning and Review'' section of this NPRM, we summarized and compared the costs and benefits of other alternatives to the current preferred alternative proposed in this NPRM. Table 8 compares the impacts on small entities of the alternatives to the preferred alternative proposed in this NPRM for the phase-in period costs (years 1 and 2) and maximum recurring costs.

TABLE 8—ECONOMIC IMPACT OF ALTERNATIVES CONSIDERED ON SMALL ENTITIES

Alternative	Summary	Percentage of small entities with more than 1 percent cost impact on revenue	
		Phase-in costs	Recurring costs (maximum)
Preferred Alternative (proposed in this NPRM).	Allow TSMS and third party review or Coast Guard inspection to demonstrate compliance.	25%	49%
Alternative 1	Require TSMS for all towing vessels	72%	54%
Alternative 2	Coast Guard inspection only. No third party	71%	72%
Alternative 3	Require TSMS, but no Part 140 requirements	72%	50%

At this time, we have determined that this proposed rule would have a significant economic impact on a substantial number of small entities under section 605(b) of the Regulatory Flexibility Act. We are interested in the potential impacts from this proposed rule on small businesses and we request public comment on these potential impacts. If you think that your business, organization, or governmental jurisdiction qualifies as a small entity and that this rulemaking would have a significant economic impact on it, please submit a comment to the Docket Management Facility at the address under **ADDRESSES**. In your comment, explain why, how, and to what degree you think this rule would have an economic impact on you.

C. Assistance for Small Entities

Under section 213(a) of the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104–121), we want to assist small entities in understanding this proposed rule so that they can better evaluate its effects on them and participate in the rulemaking. If the proposed rule would affect your small business, organization, or governmental jurisdiction and you have questions concerning its provisions or options for compliance, please consult Mr. Michael Harmon, Project Manager, CGHQ–1210, Coast Guard, telephone 202–372–1427. The Coast Guard will not retaliate against small entities that question or complain about this rule or any policy or action of the Coast Guard.

Small businesses may send comments on the actions of Federal employees who enforce, or otherwise determine compliance with, Federal regulations to the Small Business and Agriculture Regulatory Enforcement Ombudsman and the Regional Small Business Regulatory Fairness Boards. The Ombudsman evaluates these actions annually and rates each agency's responsiveness to small business. If you wish to comment on actions by employees of the Coast Guard, call 1–888–REG–FAIR (1–888–734–3247).

D. Collection of Information

This proposed rule would call for a collection of information under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501–3520). As defined in 5 CFR 1320.3(c), ''Collection of Information'' comprises reporting, recordkeeping, monitoring, posting, labeling, and other, similar actions. The title and description of the information collections, a description of those who must collect the information, and an estimate of the total annual burden follow. The estimate covers the time for reviewing instructions, searching existing sources of data, gathering and maintaining the data needed, and completing and reviewing the collection.

Title: Towing Vessels—Title 46 CFR Subchapter M.

Summary of the Collection of Information: Owners and operators of inspected towing vessels would be required to either develop and maintain documentation for their safety management system and arrange periodic audits and surveys through third-party organizations, or to demonstrate compliance with the proposed Subchapter M to Coast Guard inspectors. Additional documentation would be required to obtain a Certificate of Inspection for each vessel, comply with crew and vessel operational safety standards, vessel equipment and system standards, procedures and schedules for routine tests and inspections of towing vessels and their onboard equipment and systems. The new requirements for third-party auditors and surveyors include obtaining Coast Guard approval and renewing it periodically. The Coast Guard would be burdened by reviewing required reports, conducting compliance examinations of towing vessels and overseeing third-party auditors and surveyors through approval and observation.

Need for Information: The information is necessary for the proper administration and enforcement of the proposed towing vessel inspection program.

Proposed Use of Information: The Coast Guard would use this information to document that towing vessels meet inspection requirements of Subchapter M.

Description of the Respondents: The respondents are the owners and operators of towing vessels, third-party auditors and surveyors, and the Coast Guard that would be required to complete various forms, reports and keep reports.

Number of Respondents: The number of respondents in the first year and recurring annually is 1,059 for owners and operators of 5,208 towing vessels and 175 third-party organizations.

Frequency of Response: Respondents would have to report and keep records with varying frequencies. The frequency of each regulation creating a new burden for corresponding respondents is detailed in the Regulatory Analysis.

Burden of Response: The burden of response for each regulation varies. Details are shown in the Regulatory Analysis with related assumptions and explanations both for the private sector respondents and the Coast Guard.

Estimate of Total Annual Burden: The estimated total annual burden for the initial phase-in (2) years (Years 1 and 2) and the first year after that phase-in period (Year 1) is 278,260 hours. This rule would create a new burden of 251,626 hours for the private sector and 26,634 hours for the Coast Guard for the first 3 years.

As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), we will submit a copy of this proposed rule to the Office of Management and Budget (OMB) for its review of the collection of information.

We ask for public comment on the proposed collection of information to help us determine how useful the information is; whether it can help us perform our functions better; whether it is readily available elsewhere; how accurate our estimate of the burden of collection is; how valid our methods for determining burden are; how we can improve the quality, usefulness, and clarity of the information; and how we can minimize the burden of collection.

If you submit comments on the collection of information, submit them both to OMB and to the Docket Management Facility where indicated under **ADDRESSES**, by the date under **DATES**.

You need not respond to a collection of information unless it displays a currently valid control number from OMB. Before the Coast Guard could enforce the collection of information requirements in this proposed rule, OMB would need to approve the Coast Guard's request to collect this information.

E. Federalism

A rule has implications for federalism under Executive Order 13132, Federalism, if it has a substantial direct effect on State or local governments and would either preempt State law or impose a substantial direct cost of compliance on them.

It is well settled that States may not regulate in categories reserved for regulation by the Coast Guard. It is also well settled, now, that all of the categories covered in 46 U.S.C. 3306, 3703, 7101, and 8101 (design, construction, alteration, repair, maintenance, operation, equipping, personnel qualification, and manning of vessels), as well as the reporting of casualties and any other category in which Congress intended the Coast Guard to be the sole source of a vessel's obligations, are within the field foreclosed from regulation by the States. (*See* the decision of the Supreme Court in the consolidated cases of *United States* v. *Locke* and *Intertanko* v. *Locke,* 529 U.S. 89, 120 S.Ct. 1135 (March 6, 2000).) This proposed rule covers all of the foreclosed categories, as it establishes regulations covering a new category of inspected vessels. Because the States may not regulate within these categories, preemption under Executive Order 13132 is not an issue.

F. Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531–1538) requires Federal agencies to assess the effects of their discretionary regulatory actions. In particular, the Act addresses actions that may result in the expenditure by a State, local, or Tribal government, in the aggregate, or by the private sector of $100,000,000 (adjusted for inflation) or more in any 1 year. Though this proposed rule would not result in such an expenditure, we do discuss the effects of this rule elsewhere in this preamble.

G. Taking of Private Property

This proposed rule would not effect a taking of private property or otherwise have taking implications under Executive Order 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights.

H. Civil Justice Reform

This proposed rule meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, Civil Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

I. Protection of Children

We have analyzed this proposed rule under Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. This rule is not an economically significant rule and would not create an environmental risk to health or risk to safety that might disproportionately affect children.

J. Indian Tribal Governments

This proposed rule does not have Tribal implications under Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, because it would not have a substantial direct effect on one or more Indian Tribes, on the relationship between the Federal Government and Indian Tribes, or on the distribution of power and responsibilities between the Federal Government and Indian Tribes.

K. Energy Effects

We have analyzed this proposed rule under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. We have determined that it is not a ''significant energy action'' under that order. Though it is a ''significant regulatory action'' under Executive Order 12866, it is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The Administrator of the Office of Information and Regulatory Affairs has not designated it as a significant energy action. Therefore, it does not require a Statement of Energy Effects under Executive Order 13211.

L. Technical Standards

The National Technology Transfer and Advancement Act (NTTAA) (15 U.S.C. 272 note) directs agencies to use voluntary consensus standards in their regulatory activities unless the agency provides Congress, through the OMB, with an explanation of why using these standards would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (*e.g.,* specifications of materials, performance, design, or operation; test methods; sampling procedures; and related management systems practices) that are developed or adopted by voluntary consensus standards bodies.

This proposed rule uses the following voluntary consensus standards:

American Boat and Yacht Council (ABYC)

H–22—Electric Bilge Pump Systems, (2005)
H–24—Gasoline Fuel Systems, (2007)
H–25—Portable Fuel Systems for Flammable Liquids, (2003)
H–32—Ventilation of Boats Using Diesel Fuel, (2004)
H–33—Diesel Fuel Systems, (2005)
P–1—Installation of Exhaust Systems for Propulsion and Auxiliary Engines, (2002)
H–2—Ventilation of Boats Using Gasoline, (2000)
P–4—Marine Inboard Engines and Transmissions, (2004)
E–11—AC & DC Electrical Systems on Boats, (2003)

American Bureau of Shipping (ABS)

Rules for Building and Classing Steel Vessels for Service on Rivers and Intracoastal Waterways, (2007).

Rules for Building and Classing Steel Vessels Under 90 Meters (295 Feet) in Length, (2006).

American National Standards Institute (ANSI)

ANSI/ASQC 9001–2000, (2000).

International Maritime Organization

IMO Resolution A.760(18), Symbols Related to Life-Saving Appliances and Arrangements, (1993).

IMO Resolution A.520(13), Code of Practice for the Evaluation, Testing and Acceptance of Prototype Novel Life-Saving Appliances and Arrangements, (1993).

IMO Resolution A.688(17) Fire Test Procedures For Ignitability of Bedding Components, (1991).

International Organization for Standardization (ISO)

ISO Standard 14726: 2008 Ships and marine technology-Identification colours for the content of piping systems, (2008).

ISO Standard 9001–2000; Quality management systems—Requirements, (2000).

National Fire Protection Association (NFPA)

NFPA 10 (Chapter 7), Standard on Portable Fire Extinguishers, (2007)
NFPA 1971—Standard on Protective Ensembles for Structural Fire-Fighting and Proximity Fire-Fighting, (2007)
NFPA 750—Standard on Water Mist Fire Protection Systems, (2006)
NFPA 2001 Standard on Clean Agent Fire Extinguishing Systems, (2008)
NFPA 302–1998—Fire Protection Standard for Pleasure, and Commercial Motor Craft, (1998)
NFPA 70–2002—National Electric Code (NEC), (2002)

Society of Automotive Engineers (SAE)

SAE J1475–1996—Hydraulic Hose Fitting for Marine Applications, (1996)
SAE J1942–2005—Hose and Hose Assemblies for Marine Applications, (2005)

Underwriters Laboratories

UL 217—Single and Multiple Station Smoke Detectors, (2006)
UL 1275—Flammable Storage Cabinet, (2005)
UL 1104—Standards for Marine Navigation Lights, (1998)

The proposed sections that reference these standards, and the locations where these standards are available, are listed above in Section V. ''Incorporation by Reference.''

The Coast Guard also developed technical standards specifically for proposed subchapter M. They are used because we did not find specific voluntary consensus standards that could be adopted in this rule. Certain technical standards were developed in cooperation with TSAC. As an example, the TSMS was developed based on TSAC's recommendations for a safety management system appropriate for towing vessels. Requirements for third-party organizations also were developed specifically for this subchapter to ensure that individuals conducting activities authorized by this proposal have the appropriate experience with towing vessels. If you are aware of voluntary consensus standards that might apply, please identify them in a comment to the Docket Management Facility at the address under **ADDRESSES** and explain why they should be used.

M. Environment

We have analyzed this proposed rule under Department of Homeland Security Management Directive 023–01 and Commandant Instruction M16475.lD, which guide the Coast Guard in complying with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321–4370f), and have made a preliminary determination that this action is one of a category of actions that do not individually or cumulatively have a significant effect on the human environment. A preliminary environmental analysis checklist supporting this determination is available in the docket where indicated under the ''Public Participation and Request for Comments'' section of this preamble. This proposed rule involves regulations concerning the training of maritime personnel, regulations concerning documentation, inspection and equipping of vessels and regulations concerning vessel operation safety standards. This action falls under section 2.B.2, figure 2–1, paragraphs (34) (c) and (d) of the Instruction and under section 6(a) of the ''Appendix to National Environmental Policy Act: Coast Guard Procedures for Categorical Exclusions, Notice of Final Agency Policy'' (67 FR 48243, July 23, 2002). We seek any comments or information that may lead to the discovery of a significant environmental impact from this proposed rule.

List of Subjects

46 CFR Part 2

Marine safety, Reporting and recordkeeping requirements, Vessels.

46 CFR Part 15

Reporting and recordkeeping requirements, Seamen, Vessels.

46 CFR Part 136

Incorporation by reference, Reporting and recordkeeping requirements, Towing vessels.

46 CFR Part 137

Incorporation by reference, Marine safety, Reporting and recordkeeping requirements, Towing vessels.

46 CFR Part 138

Incorporation by reference, Marine safety, Reporting and recordkeeping requirements, Towing vessels.

46 CFR Part 139

Incorporation by reference, Reporting and recordkeeping requirements, Towing vessels.

46 CFR Part 140

Marine safety, Occupational health and safety, Penalties, Reporting and recordkeeping requirements, Towing vessels.

46 CFR Part 141

Incorporation by reference, Marine safety, Occupational health and safety, Reporting and recordkeeping requirements, Towing vessels.

46 CFR Part 142

Fire prevention, Incorporation by reference, Marine safety, Reporting and recordkeeping requirements, Towing vessels.

46 CFR Part 143

Hazardous materials transportation, Incorporation by reference, Marine safety, Reporting and recordkeeping requirements, Towing vessels.

46 CFR Part 144

Incorporation by reference, Marine safety, Reporting and recordkeeping requirements, Towing vessels.

For the reasons discussed in the preamble, the Coast Guard proposes to amend 46 CFR parts 2 and 15 and add 46 CFR subchapter M, consisting of parts 136, 137, 138, 139, 140, 141, 142, 143, and 144, as follows:

46 CFR Chapter I

PART 2—VESSEL INSPECTIONS

1. The authority citation for part 2 continues to read as follows:

Authority: 33 U.S.C. 1903; 43 U.S.C. 1333; 46 U.S.C. 2110, 3103, 3205, 3306, 3307, 3703; 46 U.S.C. Chapter 701; E.O. 12234, 45 FR 58801, 3 CFR, 1980 Comp., p. 277; Department of Homeland Security Delegation No. 0170.1. Subpart 2.45 also issued under the Act Dec. 27, 1950, Ch. 1155, secs. 1, 2, 64 Stat. 1120 (*see* 46 U.S.C. App. Note prec. 1).

§ 2.10–25 [Amended].

2. In § 2.10–25, in the definition of ''Sea-going towing vessel'', after the second occurrence of the word ''alongside'', add the phrase '', that has been issued a certificate of inspection under the provisions of subchapter I of this chapter''.

PART 15—MANNING REQUIREMENTS

3. The authority citation for part 15 continues to read as follows:

Authority: 46 U.S.C. 2101, 2103, 3306, 3703, 8101, 8102, 8103, 8104, 8105, 8301, 8304, 8502, 8503, 8701, 8702, 8901, 8902, 8903, 8904, 8905(b), 8906 and 9102; and Department of Homeland Security Delegation No. 0170.1.

§ 15.501 [Amended].

4. In § 15.501(b), remove the word ''Emergency'' and add, in its place, the word ''emergency''.

5. Revise § 15.505 to read as follows:

§ 15.505 Changes in the certificate of inspection.

All requests for changes in manning as indicated on the certificate of inspection must be to:

(a) The Officer in Charge, Marine Inspection (OCMI) who last issued the certificate of inspection; or

(b) The OCMI conducting the inspection, if the request is made in conjunction with an inspection for certification.

§ 15.510 [Amended].

6. In § 15.510, remove the word ''therefrom''.

§ 15.520 [Amended].

7. In § 15.520(b), remove the word ''OCMI'' and add, in its place, the words ''Officer in Charge, Marine Inspection (OCMI)''.

§ 15.610 [Amended].

8. In § 15.610(b)(2), remove the number ''12'' and add, in its place, the word ''four''.

9. Add § 15.535 to subpart D to read as follows:

§ 15.535 Towing vessels.

(a) The requirements in this section for towing vessels apply to a towing vessel certificated under subchapter M of this chapter.

(b) Except as provided in this paragraph, 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 licensed as master or mate (pilot) of towing vessels or as master or mate of vessels of greater than 200 gross register tons holding either an endorsement on his or her license for towing vessels or a completed Towing Officer's Assessment Record (TOAR) signed by a designated examiner indicating that the officer is proficient in the operation of towing vessels. This does not apply to any vessel engaged in assistance towing, or to any towing vessel of less than 200 gross register tons engaged in exploiting offshore minerals or oil if the vessel has sites or equipment so engaged as its place of departure or ultimate destination.

(c) Any towing vessel operating in the pilotage waters of the Lower Mississippi River must be under the control of an officer who holds a first-class pilot's license or endorsement for that route, or who meets the requirements of either paragraph (c)(1) or (2) of this section as applicable:

(1) To operate a towing vessel with tank barges, or a tow of barges carrying hazardous materials regulated under part N or O of this subchapter, an officer in charge of the towing vessel must have completed at least 12 round trips over this route as an observer, with at least 3 of those trips during hours of darkness, and at least 1 round trip of the 12 within the last 5 years.

(2) To operate a towing vessel without barges, or a tow of uninspected barges, an officer in charge of the towing vessel must have completed at least four round trips over this route as an observer, with at least one of those trips during hours of darkness, and at least one round trip of the four within the last 5 years.

10. Add 46 CFR subchapter M, consisting of parts 136 through 144, to read as follows:

SUBCHAPTER M—TOWING VESSELS

PART 136—CERTIFICATION

PART 137—VESSEL COMPLIANCE

PART 138—TOWING SAFETY MANAGEMENT SYSTEMS (TSMS)

PART 139—THIRD-PARTY ORGANIZATIONS

PART 140—OPERATIONS

PART 141—LIFESAVING

PART 142—FIRE PROTECTION

PART 143—MACHINERY AND ELECTRICAL SYSTEMS AND EQUIPMENT

PART 144—CONSTRUCTION AND ARRANGEMENT

PART 136—CERTIFICATION

Subpart A—General

Sec.

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136.245 Permit to carry excursion party or temporary extension or alternation of route.
136.250 Load lines.

Authority: 46 U.S.C. 3103, 3301, 3306, 3308, 3316, 8104, 8904; 33 CFR 1.05; DHS Delegation 0170.1.

Subpart A—General

§ 136.100 Purpose.

This part sets out the applicability for subchapter M and describes the requirements for obtaining and renewing a Certificate of Inspection (COI).

§ 136.105 Applicability.

(a) This subchapter is applicable to all U.S.-flag towing vessels as defined in § 136.110 engaged in pushing, pulling, or hauling alongside, except:

(1) A vessel less than 26 feet (8 meters) in length measured from end to end over the deck (excluding the sheer), unless pushing, pulling, or hauling a barge that is carrying dangerous or hazardous materials;

(2) A vessel engaged in one or more of the following:

(i) A vessel used for assistance towing;

(ii) A vessel towing recreational vessels for salvage; or

(iii) A vessel transporting or assisting the navigation of recreational vessels within and between marinas and marina facilities, within a limited geographic area, as defined by the local Captain of the Port (COTP).

(3) Work boats operating exclusively within a worksite and performing intermittent towing within the worksite;

(4) Seagoing towing vessels over 300 gross tons subject to the provisions of Subchapter I of this chapter;

(5) A vessel inspected under other subchapters of this chapter that may perform occasional towing;

(6) A public vessel that is owned or bareboat chartered and operated by the United States, or by a State or political subdivision thereof, or by a foreign nation, except when the vessel is engaged in commercial service.

(7) A vessel which has surrendered its Certificate of Inspection (COI) and is laid up, dismantled, or otherwise out of service; and

(8) A propulsion unit used for the purpose of propelling or controlling the direction of a barge where the unit is controlled from the barge, not normally manned, and not utilized as an independent vessel.

(b) A vessel that is otherwise exempt from inspection may request application of this part.

§ 136.110 Definitions.

ABS Rules means the standards developed and published by the American Bureau of Shipping regarding the design, construction and certification of commercial vessels.

Accepted Safety Management System means a safety management system deemed by the Coast Guard to be equivalent to the requirements of this subchapter.

Accommodation space means any:

(1) Messroom;
(2) Lounge;
(3) Sitting area;
(4) Recreation room;
(5) Quarters;
(6) Toilet space;
(7) Shower room;
(8) Galley;
(9) Berthing space;
(10) Clothing-changing room; and
(11) A similar space open to individuals.

Approved third party means a third party approved by the Coast Guard in accordance with part 139 of this subchapter.

Assistance towing means towing a disabled vessel for consideration.

Audit means a systematic, independent, and documented examination to determine whether activities and related results comply with planned arrangements and whether these arrangements are implemented effectively and are suitable to achieve stated objectives. This examination includes a thorough review of appropriate reports, documents, records and other objective evidence to verify compliance with applicable requirements.

(1) The audit may include, but is not limited to:

(i) Examining records;

(ii) Asking responsible persons how they accomplish specific tasks;

(iii) Observing persons performing required tasks;

(iv) Examining equipment to insure proper maintenance and operation; and

(v) Checking training records and work environments.

(2) The audit may be limited to random selection of a representative sampling throughout the system that presents the auditor with sufficient objective evidence of system compliance.

Berthing space means a space that is intended to be used for sleeping and is provided with installed bunks and bedding.

Bollard pull means the maximum static pulling force that a towing vessel can exert on another vessel or an object when its propulsion engines are applying thrust at maximum horsepower.

Change in ownership means any change resulting in a change in the day-to-day operational control of an approved third party organization that conducts audits and surveys, or a change that results in a new entity holding more than 50 percent of the ownership of the approved third party organization.

Class Rules means the standards developed and published by a classification society regarding the design, construction and certification of commercial vessels.

Class II piping systems means those piping systems identified as class II in Table 56.04–2 of Subchapter F of this Chapter.

Coastwise means a route that is not more than 20 nautical miles offshore on any of the following waters:

(1) Any ocean;
(2) The Gulf of Mexico;
(3) The Caribbean Sea;
(4) The Bering Sea;
(5) The Gulf of Alaska; or
(6) Such other similar waters as may be designated by a Coast Guard District Commander.

Cold water means water where the monthly mean low water temperature is normally 15 degrees Celsius (59 degrees Fahrenheit) or less.

Conflict of Interest means a conflict between an individual's or an organization's private interests and the interests of another party with whom they are providing a service to or for, or in a capacity which serves the public good.

Consideration means an economic benefit, inducement, right, or profit

including pecuniary payment accruing to an individual, person, or entity, but not including a voluntary sharing of the actual expenses of the voyage, by monetary contribution or donation of fuel, food, beverage, or other supplies.

Crewmember means all persons carried on board the vessel to provide navigation and maintenance of the vessel, its machinery, systems, and arrangements essential for propulsion and safe navigation, maintaining the tow, or to provide services to other persons aboard and shall not be construed as controlling the status of any person carried on board for purposes of 46 U.S.C. 30104.

Deficiency means a failure to meet minimum requirements of the vessel inspection laws or regulations.

Disabled vessel means a vessel that needs assistance, whether docked, moored, anchored, aground, adrift, or under way, but does not mean a barge or any other vessel not regularly operated under its own power.

Downstreaming means approaching a moored barge from upstream and landing with tow knees square against the upstream end of the barge.

Drydock means hauling out a vessel or placing a vessel in a drydock or slipway for an examination of all accessible parts of the vessel's underwater body and all through-hull fittings and appurtenances.

Element means a component of the safety management system, including policies, procedures, or documentation required to ensure a functioning towing safety management system.

Engine room means the enclosed area where any main-propulsion engine is located. It comprises all deck levels within that area.

Essential system means a system that is required to ensure a vessel's survivability, maintain safe operation, control the vessel, or ensure safety of on-board personnel, including systems for:

(1) Detection or suppression of fire;

(2) Emergency dewatering or ballast management;

(3) Navigation;

(4) Internal and external communication;

(5) Vessel control, including propulsion, steering, maneuverability and their essential auxiliaries (*e.g.*, lube oil, fuel oil, cooling water pumps, machinery space ventilation);

(6) Emergency evacuation and abandonment;

(7) Lifesaving;

(8) Control of a tow; and

(9) Any other marine engineering system identified in an approved Towing Safety Management System (TSMS) identified by the cognizant Officer in Charge, Marine Inspection (OCMI) as essential to the vessel's survivability, maintaining safe operation, controlling the vessel, or ensuring safety of onboard personnel.

Excepted vessel means a towing vessel that is:

(1) Used solely for any one or combination of the following services:

(i) Within a limited geographic area, such as a fleeting area for barges or a commercial facility, and used for restricted service, such as making up or breaking up larger tows;

(ii) For harbor-assist;

(iii) For response to emergency or pollution; or

(2) Exempted by the cognizant Officer in Charge, Marine Inspection (OCMI).

Existing towing vessel means a towing vessel, subject to inspection under this subchapter, that is not a new towing vessel, as defined in this section.

External Audit means an audit conducted by a party with no direct affiliation to the vessel or owner or managing operator being audited.

Fixed fire-extinguishing system means:

(1) A carbon dioxide system that satisfies 46 CFR subpart 76.15 and is approved by the Coast Guard;

(2) A manually operated, clean agent system that satisfies National Fire Protection Association (NFPA) Standard 2001 (incorporated by reference in § 136.112 of this subchapter) and is approved by the Coast Guard; or

(3) A manually operated, water mist system that satisfies NFPA Standard 750 (incorporated by reference in § 136.112 of this part) and is approved by the Coast Guard.

Fleeting area means a limited geographic area where individual barges are moored or assembled to make a tow. The barges are not in transport, but are temporarily marshaled and waiting for pickup by different vessels that will transport them to various destinations.

Fully attended means that a person who is appropriately trained to monitor and operate engineering equipment is located in the engine room at all times while the vessel is underway.

Galley means a space containing appliances with cooking surfaces that may exceed 121 degrees Celsius (250 degrees Fahrenheit) such as ovens, griddles, and deep fat fryers.

Great Lakes means a route on the waters of any of the Great Lakes and of the St. Lawrence River as far east as a straight line drawn from Cap de Rosiers to West Point, Anticosti Island, and west of a line along the 63rd meridian from Anticosti Island to the north shore of the St. Lawrence River.

Gross Tons means the gross ton measurement of the vessel under 46 U.S.C. chapter 145, Regulatory Measurement. For a vessel measured under only 46 U.S.C. chapter 143, Convention Measurement, the vessel's gross tonnage measured under 46 U.S.C. chapter 143 is used to apply all thresholds expressed in terms of gross tons.

Harbor of Safe Refuge means a port, inlet, or other body of water normally sheltered from heavy seas by land and in which a vessel can navigate and safely moor. The suitability of a location as a harbor of safe refuge will be determined by the cognizant Officer in Charge, Marine Inspection, and varies for each vessel, dependent on the vessel's size, maneuverability, and mooring gear.

Harbor-assist means the use of a towing vessel during maneuvers to dock, undock, moor, or unmoor a vessel or to escort a vessel with limited maneuverability.

Horsepower means the horsepower stated on the Certificate of Inspection (COI), which is the sum of the manufacturer's listed brake horsepower for all installed propulsion engines.

Independent means the equipment is arranged to perform its required function regardless of the state of operation, or failure, of other equipment.

Inland Waters means the navigable waters of the United States shoreward of the Boundary Lines as described in 46 CFR part 7, excluding the Great Lakes and, for towing vessels, excluding the Western Rivers.

Internal Audit means an audit that is conducted by a party which has a direct affiliation to the vessel or owner or managing operator being audited.

International Voyage means a voyage between a country to which SOLAS applies and a port outside that country. A country, as used in this definition, includes every territory for the international relations of which a contracting government to the convention is responsible or for which the United Nations is the administering authority. For the U.S., the term ''territory'' includes the Commonwealth of Puerto Rico, all possessions of the U.S., and all lands held by the U.S. under a protectorate or mandate. For the purposes of this subchapter, vessels are not considered as being on an ''international voyage'' when solely navigating the Great Lakes and the St. Lawrence River as far east as a straight line drawn from Cap des Rosiers to West Point, Anticosti Island and, on the north side of Anticosti Island, the 63rd meridian.

Lakes, bays, and sounds means a route on any of the following waters:

(1) A lake other than the Great Lakes;

(2) A bay;

(3) A sound; or

(4) Such other similar waters as may be designated by the cognizant Coast Guard District Commander.

Length means the horizontal distance measured from end to end over the deck, excluding the sheer. Fittings and attachments are not included in the length measurement.

Limited coastwise means a route that is not more than 20 nautical miles from a harbor of safe refuge.

Limited geographic area means a local area of operation, usually within a single harbor or port. The local Captain of the Port (COTP) determines limited geographic areas for each zone.

Machinery space means any enclosed space that either contains an installed, internal combustion engine, machinery, or systems that would raise the ambient temperature above 45 degrees Celsius in all environments the vessel operates in.

Major conversion means a conversion of a vessel that, as determined by the Coast Guard, substantially changes the dimensions or carrying capacity of the vessel, changes the type of vessel, substantially prolongs the life of the vessel, or otherwise changes the vessel such that it is essentially a new vessel.

Major non-conformity means an identifiable deviation which poses a serious threat to personnel, vessel safety, or a serious risk to the environment, and requires immediate corrective action, including the lack of effective and systematic implementation of a requirement of the Towing Safety Management System (TSMS).

Managing operator means an organization or person, such as the manager or the bareboat charterer of a vessel, who has assumed the responsibility for operation of the vessel from the ship owner and who, on assuming responsibility, has agreed to take over all the duties and responsibilities imposed by this subchapter.

New towing vessel means a towing vessel, subject to inspection under this subchapter, that:

(1) Was contracted for, or the keel which was laid on or after, [EFFECTIVE DATE OF FINAL RULE];

(2) Underwent a major conversion that was initiated on or after [EFFECTIVE DATE OF FINAL RULE]; or

(3) Is built without a contract, the keel laying date will be used to determine applicability.

Non-conformity means a situation where objective evidence indicates a non-fulfillment of a specified requirement.

Objective evidence means quantitative or qualitative information, records, or statements of fact pertaining to safety or to the existence and implementation of a safety management system element, which is based on observation, measurement, or testing that can be verified. This may include, but is not limited to towing gear equipment certificates and maintenance documents, training records, repair records, Coast Guard documents and certificates, surveys, or class society reports.

Oceans means a route that is more than 20 nautical miles offshore on any of the following waters:

(1) Any ocean;

(2) The Gulf of Mexico;

(3) The Caribbean Sea;

(4) The Bering Sea;

(5) The Gulf of Alaska; or

(6) Such other similar waters as may be designated by the cognizant Coast Guard District Commander.

Officer in Charge, Marine Inspection (OCMI) means an officer of the Coast Guard designated as such by the Coast Guard and who, under the direction of the Coast Guard District Commander, is in charge of a marine inspection zone, described in part 3 of this chapter, for the performance of duties with respect to the inspection, enforcement, and administration of vessel safety and navigation laws and regulations. The ''cognizant OCMI'' is the OCMI who has immediate jurisdiction over a vessel for the purpose of performing the duties previously described.

Oil or hazardous materials in bulk, as used in this subchapter, means that the towing vessel tows, pushes, or hauls alongside tank barge(s) certificated under subchapters D or O of this chapter.

Operating station means the principal steering station on the vessel, or the barge being towed or pushed, from which the vessel is normally navigated.

Owner means the owner of a vessel, as identified on the vessel's certificate of documentation or state registration.

Policy means a specific statement of principles or guiding philosophy that demonstrates a clear commitment by management; a statement of values or intent that provides a basis for consistent decision making.

Power and lighting circuit means a branch circuit as defined in NFPA 70–2002–National Electric Code (NEC) (incorporated by reference in § 136.112 of this subchapter) Article 100 that serves any essential system, a distribution panel, lighting, motor or motor group, or group of receptacles. Where multiple loads are served, the circuit is considered to be the conductor run that will carry the current common to all the loads. ''Power limited circuit'' conductors under Article 725 of the NEC and ''instrumentation'' conductors under Article 727 of the NEC are not considered to be power and lighting circuits.

Pressure vessel means a closed tank, cylinder or vessel containing gas, vapor or liquid, or a combination thereof, under pressure.

Procedure means a specification of a series of actions, acts, or operations which must be executed in the same manner in order to achieve a uniform approach to compliance with applicable policies.

Propulsor means a device (*e.g.,* propeller, water jet) which imparts force to a column of water in order to propel a vessel, together with any equipment necessary to transmit the power from the propulsion machinery to the device (*e.g.,* shafting, gearing, *etc.*).

Recognized Classification Society means the American Bureau of Shipping (ABS) or other classification society recognized by Coast Guard in accordance with Part 8 of this chapter.

Recognized hazardous conditions means conditions that are:

(1) Generally known among persons in the towing industry as causing, or likely to cause, death or serious physical harm to persons exposed to those conditions; and

(2) Routinely controlled in the towing industry.

Rivers means a route on any river, canal, or other similar body of water designated by the cognizant Officer in Charge, Marine Inspection.

Safety Management System means a structured and documented system enabling owner or managing operator and vessel personnel to effectively implement the owner or managing operator's safety and environmental protection policies and that is routinely exercised and audited in a way that ensures the policies and procedures are incorporated into the daily operation of the vessel.

Skiff means a small auxiliary boat carried onboard a towing vessel.

SOLAS means the International Convention for Safety of Life at Sea, 1974, as amended.

Survey means an examination of the vessel, its systems and equipment to verify compliance with applicable regulations, statutes, conventions, and treaties.

Terminal gear means the additional equipment or appurtenances at either end of the hawser or tow cable that connect the towing vessel and tow together and may include such items as

thimbles, chafing gear, shackles, pendants and bridles.

Third-party organization means an organization approved by the Coast Guard to conduct independent verification that Towing Safety Management Systems or towing vessels comply with applicable requirements contained in this subchapter.

Tow means a combination of a towing vessel and one or more barges or a vessel not under its own power.

Towing vessel means a commercial vessel engaged in or intending to engage in the service of pulling, pushing, or hauling along side, or any combination of pulling, pushing, or hauling along side.

Towing Vessel Record (TVR) means a book, notebook, or electronic record used to document events required by this subchapter.

Travel time means the time that it takes for a crewmember to proceed to the towing vessel, inclusive of periods spent on commercial and non commercial carriers, transferring between carriers, layovers, and other delays.

Unsafe practice means a habitual or customary action or way of doing something which creates significant risk of harm to life, property, or the marine environment; or which contravenes a recognized standard of care contained in law, regulation, applicable international convention or international, national or industry consensus standard.

Warm water means water where the monthly mean low water temperature is normally more than 15 degrees Celsius (59 Fahrenheit).

Western Rivers means the Mississippi River, its tributaries, South Pass, and Southwest Pass, to the navigational demarcation lines dividing the high seas from harbors, rivers, and other inland waters of the United States, and the Port Allen-Morgan City Alternate Route, and that part of the Atchafalaya River above its junction with the Port Allen-Morgan City Alternate Route including the Old River and the Red River, and those waters specified in 33 CFR 89.25.

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

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 shipyards, owner's yards, or lay-down areas used by marine construction projects.

Work space means any area on the vessel where the crew may be present while on duty and performing their assigned tasks.

§ 136.112 Incorporation by reference.

Certain material is incorporated by reference into this part with the approval of the Director of the **Federal Register** under 5 U.S.C 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Coast Guard must publish notice of change in the **Federal Register** and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal regulations/ibr_locations.html.* Also, it is available for inspection at U.S. Coast Guard, Office of Design and Engineering Standards (CG–521), 2100 Second Street, SW., Washington, DC 20593–0001, and is available from the sources listed in paragraph (b) of this section.

(b) The material approved for incorporation by reference in this part and the sections affected are:

National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02269–9101	
NFPA 750—Standard on Water Mist Fire Protection Systems, 2006	136.110
NFPA 2001—Standard on Clean Agent Fire Extinguishing Systems, 2008	136.110
NFPA 70–2002–National Electric Code (NEC), 2002	136.110
International Maritime Organization (IMO), 4, Albert Embankment, London, SE1 7SR, United Kingdom	
Resolution A. 520(13), Code of Practice for the Evaluation, Testing and Acceptance of Prototype Novel Life-Saving Appliances and Arrangements, 1983	136.115

§ 136.115 Equivalents.

(a) The Coast Guard may approve any arrangement, fitting, appliance, apparatus, equipment, calculation, information, or test, which provides a level of safety equivalent to that established by specific provisions of this subchapter. Requests for approval must be submitted to the Coast Guard via the cognizant Officer in Charge, Marine Inspection (OCMI). If necessary, the Marine Safety Center may require engineering evaluations and tests to demonstrate the equivalence of the substitute.

(b) The Coast Guard may accept compliance with the provisions of the International Convention for Safety of Life at Sea (SOLAS), 1974, as amended, applicable to the vessel's size and route as an equivalent to compliance with applicable requirements of this subchapter. Requests for a determination of equivalency for a particular vessel must be submitted to the Marine Safety Center via the cognizant OCMI.

(c) The Coast Guard may approve a novel lifesaving appliance or arrangement as an equivalent if it has performance characteristics at least equivalent to the appliance or arrangement required under this subchapter and has been evaluated and tested under International Maritime Organization (IMO) Resolution A.520(13) (incorporated by reference by § 136.112 of this part), Code of Practice for the Evaluation, Testing and Acceptance of Prototype Novel Life-Saving Appliances and Arrangements.

(d) The Coast Guard may accept alternative compliance arrangements in lieu of specific provisions of the Towing Safety Management System (TSMS) for the purpose of determining that an equivalent safety management system is in place onboard a vessel. The Coast Guard may consider the size and corporate structure of a vessel's management when determining the acceptability of an equivalent system. Requests for determination of equivalency must be submitted to Coast Guard via the cognizant OCMI.

(e) Alternate compliance arrangements must be documented within the TSMS applicable to the vessel.

§ 136.120 Special consideration.

Based on review of relevant information and the Towing Safety Management System applicable to the vessel, the cognizant Officer in Charge, Marine Inspection (OCMI) who issues the Certificate of Inspection may give

special consideration to authorizing departures from the specific requirements, when unusual circumstances or arrangements warrant such departures and an equivalent level of safety is provided.

§ 136.130 Options for obtaining certification of a towing vessel.

(a) *TSMS or annual Coast Guard inspections.* This subchapter provides two options for obtaining a Certificate of Inspection for a towing vessel. The first option is annual inspection of the towing vessel by the Coast Guard, as discussed in §§ 136.150 through 136.165, part 137, and parts 140 through 144. The second option is to comply with the requirements for use of a towing safety management system (TSMS) and for use of approved third parties, as discussed in § 136.210 and parts 137 through 144 of this subchapter. Regardless of the option chosen, the Coast Guard is responsible for issuing a towing vessel Certificate of Inspection and may board a vessel at any time to verify compliance and take appropriate action. An owner or operator choosing the annual inspection option under §§ 136.150 through 136.170 may use a management system, vessel operations manual, or logbook to meet this subchapter's recordkeeping requirements.

(b) *Specifying option.* When submitting an application for a Certificate of Inspection, the owner or operator must specify which option he or she chooses for each particular towing vessel. Owners or operators may choose separate options for separate vessels within their fleet.

(c) *Changing option.* Requests to change options during the period of validity of an existing Certificate of Inspection must be accompanied by a new application to the OCMI for a new Certificate of Inspection. If the requirements for the new option are met, the OCMI will issue the vessel a new Certificate of Inspection.

(d) *Drydock examinations.* The option chosen for obtaining a vessel's Certificate of Inspection does not impact the frequency of required drydock examinations. Underwater inspections in lieu of a drydock (UWILD) can be used to obtain a Certificate of Inspection regardless of which option is chosen.

§ 136.140 Application for a Certificate of Inspection (COI).

Owners and operators must submit a written application for an inspection for certification to the cognizant OCMI. To renew a Certificate of Inspection (COI), owners and operators must submit an application at least 30 days before the expiration of the towing vessel's current certificate. Form CG–3752, Application for Inspection of U.S. Vessel, must be submitted to the OCMI at or nearest to the port where the vessel is located. When renewing a COI, the owner or operator must schedule an inspection for certification within the 3 months before the expiration date of the current COI.

§ 136.145 Inspection for certification.

(a) *Frequency of inspections.* After receiving an application for inspection, the OCMI will inspect a towing vessel located in his or her jurisdiction at least once every 5 years. The OCMI must ensure that every towing vessel is of a structure suitable for its intended route. If the OCMI deems it necessary, he or she may direct the vessel to be put in motion and may adopt any other suitable means to test the towing vessel and its equipment.

(b) *Nature of inspections.* The inspection for certification will include an inspection of the structure, pressure vessels, machinery and equipment. The inspection will ensure that the vessel is in satisfactory condition and fit for the service for which it is intended, and that it complies with the applicable regulations for such vessels. It will include inspections of the structure, pressure vessels and their appurtenances, piping, main and auxiliary machinery, electrical installations, lifesaving appliances, fire detecting and extinguishing equipment, pilot boarding equipment, and other equipment. The inspection will also determine that the vessel is in possession of a valid certificate issued by the Federal Communications Commission, if required. The inspector will also examine the vessel's lights, means of making sound signals, and distress signals, to ensure that they comply with the requirements of the applicable statutes and regulations. The inspector will also examine the vessel's pollution prevention systems and procedures.

(c) *Time of issuance of Certificate of Inspection.* The OCMI will issue a vessel a new Certificate of Inspection upon completing the inspection for certification.

§ 136.150 Annual and periodic inspections.

(a) *Annual inspection.* A towing vessel subject to subchapter M and choosing the Coast Guard option, or required to have the Coast Guard option, must undergo an annual inspection within 3 months before or after each anniversary date, except as specified in paragraph (b) of this section.

(1) Owners and operators must contact the cognizant OCMI to schedule an inspection at a time and place which he or she approves. No written application is required.

(2) Annual inspections will be similar to the inspection for certification but will cover less detail unless the cognizant marine inspector finds deficiencies or determines that a major change has occurred since the last inspection. If the cognizant marine inspector finds deficiencies or that a major change to the vessel has occurred, he or she will conduct a more detailed inspection to ensure that the vessel is in satisfactory condition and fit for the service for which it is intended. If the vessel passes the annual inspection, the marine inspector will endorse the vessel's current Certificate of Inspection.

(3) If the annual inspection reveals deficiencies in a vessel's maintenance, the owner or operator must make any or all repairs or improvements within the time period specified by the OCMI.

(4) Nothing in this subpart limits the marine inspector from conducting such tests or inspections he or she deems necessary to be assured of the vessel's seaworthiness.

(b) *Periodic inspection.* If an owner or operator chooses the Coast Guard inspection option, his or her vessel must undergo a periodic inspection within 3 months before or after the second or third anniversary of the date of the vessel's Certificate of Inspection. This periodic inspection will take the place of an annual inspection.

(1) Owners and operators must contact the cognizant OCMI to schedule an inspection at a time and place the OCMI approves. No written application is required.

(2) The scope of the periodic inspection is the same as that for the inspection for certification, as specified in § 136.145. The OCMI will ensure that the vessel is in satisfactory condition and fit for the service for which it is intended. If the vessel passes the periodic inspection, the marine inspector will endorse the vessel's current Certificate of Inspection.

(3) If the periodic inspection reveals deficiencies in a vessel's maintenance, the owner or operator must make any or all repairs or improvements within the time period specified by the OCMI.

(4) Nothing in this subpart limits the marine inspector from conducting such tests or inspections he or she deems necessary to be assured of the vessel's seaworthiness.

§ 136.165 Certificate of Inspection: conditions of validity.

To maintain a valid Certificate of Inspection, an owner or operator who chooses the Coast Guard option must complete the annual and periodic inspections within the periods specified in § 136.150(a) and (b), and the cognizant OCMI must endorse the vessel's Certificate of Inspection.

§ 136.170 Compliance for the Coast Guard option.

All owners or managing operators of more than one towing vessel required to have a Certificate of Inspection (COI) by this subchapter and choosing the Coast Guard inspection option, must ensure that each vessel under their ownership or control is issued a valid Certificate of Inspection (COI) according to the following schedule:

(a) Within 3 years of the effective date of this subchapter, 25 percent of the towing vessels must have onboard valid COIs;

(b) Within 4 years of the effective date of this subchapter, 50 percent of the towing vessels must have onboard valid COIs;

(c) Within 5 years of the effective date of this subchapter, 75 percent of the towing vessels must have onboard valid COIs; and

(d) Within 6 years of the effective date of this subchapter, 100 percent of the towing vessels must have onboard valid COIs.

§ 136.175 Approved equipment.

Where equipment in this subchapter is required to be of an approved type, such equipment requires the specific approval of the Coast Guard. A listing of approved equipment and materials may be found online at *http://cgmix.uscg.mil/equip/default.aspx.* Each Officer in Charge, Marine Inspection (OCMI) may be contacted for information concerning approved equipment and materials.

§ 136.180 Appeals.

Any person directly affected by a decision or action taken under this subchapter, by or on behalf of the Coast Guard, may appeal in accordance with § 1.03 in subchapter A of this chapter.

Subpart B—Certificate of Inspection

§ 136.200 Certificate required.

(a) A towing vessel may not be operated without having onboard a valid Certificate of Inspection (COI) issued by the U.S. Coast Guard.

(b) Each towing vessel certificated under the provisions of this subchapter must be in full compliance with the terms of the COI.

(c) If necessary to prevent delay of the vessel, a temporary COI may be issued to a towing vessel pending the issuance and delivery of the regular COI. The temporary COI must be carried in the same manner as the regular COI and is equivalent to the regular COI that it represents.

(d) A towing vessel on a foreign voyage between a port in the United States and a port in a foreign country, whose COI expires during the voyage, may lawfully complete the voyage without a valid COI provided the voyage is completed within 30 days of expiration and the certificate did not expire within 15 days of sailing on the foreign voyage from a U.S. port.

§ 136.203 Compliance for the TSMS option.

All owners or managing operators of more than one towing vessel required to have a Certificate of Inspection (COI) by this subchapter must ensure that each vessel under their ownership/control is issued a valid Certificate of Inspection (COI) according to the following schedule:

(a) Within 1 year of issuance of the Towing Safety Management System (TSMS) Certificate under § 138.305 of this subchapter, 25 percent of the towing vessels under their ownership/control must have onboard valid COIs;

(b) Within 2 years of issuance of the TSMS Certificate under § 138.305 of this subchapter, 50 percent of the towing vessels under their ownership/control must have onboard valid COIs;

(c) Within 3 years of issuance of the TSMS Certificate under § 138.305 of this subchapter, 75 percent of the towing vessels under their ownership/control must have onboard valid COIs; and

(d) Within 4 years of issuance of the TSMS Certificate under § 138.305 of this subchapter, 100 percent of the towing vessels under their ownership/control must have onboard valid COIs.

§ 136.205 Description.

A towing vessel's Certificate of Inspection describes the vessel, route(s) that it may travel, minimum manning requirements, minimum safety equipment carried, horsepower, and other information pertinent to the vessel's operations as determined by the Officer in Charge, Marine Inspection.

§ 136.210 Obtaining or renewing a Certificate of Inspection (COI).

(a) A Certificate of Inspection (COI) is obtained or renewed through the U.S. Coast Guard by making application to the cognizant Officer in Charge, Marine Inspection (OCMI) of the marine inspection zone in which the towing vessel is principally operated, or in which the owner or managing operator maintains management offices.

(b) The following documentation must be submitted:

(1) A completed Form CG 3752, ''Application for Inspection of U.S. Vessel'';

(2) Objective evidence that the owner or managing operator and vessel are in compliance with the Towing Safety Management System (TSMS) requirements of part 138 of this subchapter if a TSMS is applicable to the vessel;

(3) For initial certification—

(i) Objective evidence that the vessel's structure and stability, and essential systems comply with the applicable requirements contained in this subchapter for the intended route and service. This objective evidence may be in the form of a report issued by an approved third party or other means acceptable to the Coast Guard; and

(ii) Vessel particular information.

(4) For vessels utilizing the TSMS option, objective evidence that the vessel is equipped, maintained, and surveyed in compliance with §§ 137.200 and 137.300 of this subchapter; and

(5) A description of any modifications to the vessel.

(c) A towing vessel currently classed by a recognized classification society will be deemed to be in compliance with the design, construction, stability, equipment, and survey requirements of this subchapter.

(d) A towing vessel with a valid load line certificate issued in accordance with Subchapter E of this chapter may be deemed in compliance with the structural, drydocking, and stability requirements of this subchapter. The frequency of drydockings must meet the standards set forth in § 137.310 of this subchapter.

(e) A towing vessel with a valid International Safety Management Code certificate issued by a recognized classification society will be deemed in compliance with the TSMS requirements of this subchapter.

§ 136.215 Period of validity.

(a) A Certificate of Inspection (COI) for a towing vessel is valid for 5 years from the date of issue.

(b) A COI is invalid upon the expiration or revocation of the owner or managing operator Towing Safety Management System Certificate or International Safety Management Code Certificate.

(c) A COI may be suspended and withdrawn or revoked by the cognizant Officer in Charge, Marine Inspection at any time for noncompliance with the requirements of this subchapter.

§ 136.220 Posting.

(a) The original Certificate of Inspection (COI) must be framed under glass or other transparent material and posted in a conspicuous place onboard the towing vessel.

(b) If posting is impractical, such as in an open boat, the COI must be kept onboard in a weathertight container and readily available.

§ 136.225 Temporary certificate.

If necessary to prevent delay of the towing vessel, a temporary Certificate of Inspection (COI), Form CG–854, may be issued by the cognizant Officer in Charge, Marine Inspection (OCMI), pending the issuance and delivery of the regular COI. Such temporary COI must be carried in the same manner as the regular COI.

§ 136.230 Routes permitted.

(a) The area of operation for each towing vessel and any necessary operational limits are determined by the cognizant Officer in Charge, Marine Inspection (OCMI) and recorded on the vessel's Certificate of Inspection (COI). Each area of operation, referred to as a route, is described on the COI under the major headings ''Oceans,'' ''Coastwise,'' ''Limited Coastwise,'' ''Great Lakes,'' ''Lakes, Bays, and Sounds,'' or ''Rivers,'' as applicable. Further limitations imposed or extensions granted are described by reference to bodies of waters, geographical points, distances from geographical points, distances from land, depths of channel, seasonal limitations, and similar factors.

(b) Operation of a towing vessel on a route of lesser severity than those specifically described or designated on the COI is permitted unless expressly prohibited on the COI. The general order of severity of routes is: Oceans; coastwise; limited coastwise; Great Lakes; lakes, bays, and sounds; and rivers. The cognizant OCMI may prohibit a vessel from operating on a route of lesser severity than the primary route on which a vessel is authorized to operate, if local conditions necessitate such a restriction.

(c) When designating a permitted route or imposing any operational limits on a towing vessel, the cognizant OCMI may consider:

(1) The route-specific requirements of this subchapter;

(2) The performance capabilities of the vessel based on design, scantlings, stability, subdivision, propulsion, speed, operating modes, maneuverability, and other characteristics;

(3) The suitability of the vessel for nighttime operations and use in all weather conditions;

(4) Vessel operations in globally remote areas or severe environments not covered by this subchapter. Such areas may include, but are not limited to, polar regions, remote islands, areas of extreme weather, and other remote areas where timely emergency assistance cannot be anticipated; and

(5) The Towing Safety Management System applicable to the vessel, if the vessel has a TSMS.

§ 136.235 Certificate of Inspection (COI) amendment.

(a) An amended Certificate of Inspection (COI) may be issued at any time by the cognizant Officer in Charge, Marine Inspection (OCMI). The amended COI replaces the original, but the expiration date remains the same as that of the original. An amended COI may be issued to authorize and record a change in the dimensions, gross tonnage, owner, managing operator, manning, persons permitted, route permitted, conditions of operations, or equipment of a towing vessel, from that specified in the current COI.

(b) A request for an amended COI must be made to the cognizant OCMI by the owner or managing operator of the towing vessel at any time there is a change in the character of the vessel or in its route, equipment, ownership, operation, or similar factors specified in its current COI.

(c) Prior to the issuance of an amended COI, the cognizant OCMI may require that the owner or managing operator of the towing vessel provide an audit report. The report must:

(1) Be from an approved third-party organization and prepared in accordance with parts 138 and 139 of this subchapter; and

(2) Consider the change in the character of a vessel or in its route, equipment, ownership, operation, or similar factors specified in its current COI.

§ 136.240 Permit to proceed.

Permission to proceed to another port for repairs may be required for a towing vessel that is no longer in compliance with its Certificate of Inspection (COI). This may include damage to the vessel, failure of an essential system, or failure to comply with a regulation, including failure to comply with the Towing Safety Management System (TSMS) requirements, if appropriate.

(a) The vessel may proceed to another port for repair, if:

(1) In the judgment of the owner, managing operator, or master, the trip can be completed safely;

(2) If utilizing a TSMS, the TSMS addresses the condition of the vessel that has resulted in non-compliance and the necessary conditions under which the vessel may safely proceed to another port for repair;

(3) If utilizing a TSMS, the vessel proceeds as provided in the TSMS and does not tow while proceeding unless the owner or managing operator determines that it is safe to do so; and

(4) The owner or managing operator must notify the cognizant Officer in Charge, Marine Inspection (OCMI) in whose zone the non-compliance occurs or is discovered before the vessel proceeds and any other OCMI zones through which the vessel will transit.

(b) If utilizing a TSMS and this TSMS does not address the condition of the vessel that has resulted in non-compliance and the necessary conditions under which the vessel may safely proceed to another port for repair, the owner, managing operator, or master must apply to the cognizant OCMI in whose zone the non-compliance occurs or is discovered for permission to proceed to another port for repairs as follows:

(1) The application may be made electronically, in writing, or verbally. The cognizant OCMI may require a written description, damage surveys, or other documentation to assist in determining the nature and seriousness of the non-compliance;

(2) The vessel will not engage in towing, unless the cognizant OCMI determines it is safe to do so; and

(3) The permit may be issued by the Coast Guard on Form CG–948, ''Permit to Proceed to Another Port for Repairs,'' or in letter form and will state the conditions under which the vessel may proceed to another port for repair.

(c) The cognizant OCMI may require inspection of the vessel by a Coast Guard Marine Inspector or examination by an approved third-party surveyor prior to the vessel proceeding.

§ 136.245 Permit to carry excursion party or temporary extension or alternation of route.

(a) A towing vessel must obtain approval to engage in an excursion prior to carrying a greater number of persons than permitted by the Certificate of Inspection (COI) or a temporary extension or alteration of area of operation.

(b) The vessel may engage in an excursion, if:

(1) In the opinion of the owner, managing operator, or master the operation can be undertaken safely;

(2) If utilizing a TSMS, the TSMS addresses the temporary excursion

operation contemplated, the necessary conditions under which the vessel may safely conduct the operation, including the number of persons the vessel may carry, the crew required, and any additional lifesaving or safety equipment required;

(3) If utilizing a TSMS, the vessel proceeds as provided in the TSMS; and

(4) The owner, managing operator, or master notifies the cognizant Officer in Charge, Marine Inspection (OCMI) at least 48 hours prior to the temporary excursion operation. The cognizant OCMI may require submission of the pertinent provisions of the TSMS applicable to the vessel for review and onboard verification of compliance. If the cognizant OCMI has reason to believe that the TSMS applicable to the vessel is insufficient for the intended excursion, additional information requested and/or additional requirements may be imposed.

(c)(1) If a TSMS applicable to the vessel does not address the temporary excursion operation, then the owner or managing operator must submit an application to the cognizant OCMI. The application must state the intended route, number of passengers or guests, and any other conditions applicable to the excursion that exceed those specified in the COI.

(2) The cognizant OCMI may issue Form CG–949, ''Permit To Carry Excursion Party'' or a letter. The cognizant OCMI will indicate on the permit the conditions under which it is issued, the number of persons the vessel may carry, the crew required, any additional lifesaving or safety equipment required, the route for which the permit is granted, and the dates on which the permit is valid. The application may be made electronically, in writing, or verbally.

(d) The vessel may not engage in towing during the excursion, unless the cognizant OCMI determines it is safe to do so.

(e) The cognizant OCMI may require inspection of the vessel by a Coast Guard Marine Inspector, or examination by an approved third party.

§ 136.250 Load lines.

Each towing vessel operating outside the Boundary Line (as set forth in 46 CFR part 7) is subject to Subchapter E ''Load Lines'' as follows:

(a) On international voyages: If 79 feet (24 meters) or more in length and built on or after July 21, 1968, or 150 gross tons and over if built before that date;

(b) On domestic voyages, including Great Lakes: If 79 feet (24 meters) or more in length and built on or after January 1, 1986, or 150 gross tons and over if built before that date.

PART 137—VESSEL COMPLIANCE

Subpart A—General

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Authority: 46 U.S.C. 3103, 3301, 3306, 3308, 3316, 8104, 8904; 33 CFR 1.05; DHS Delegation 0170.1.

Subpart A—General

§ 137.100 Purpose.

This part describes the procedures owners or managing operators of towing vessels must use to demonstrate compliance with the requirements of this subchapter.

§ 137.105 Definitions.

The definitions provided in § 136.110 of this subchapter apply to this part.

§ 137.110 [Reserved]

§ 137.115 Issuance of Certificate of Inspection (COI).

The owner or managing operator of a towing vessel must demonstrate that the vessel complies with this part to be eligible for Certificate of Inspection (COI) in accordance with § 136.210 of this subchapter.

§ 137.120 Responsibility for compliance.

(a) The owner and managing operator must ensure that the towing vessel is in compliance with this subchapter and other applicable laws and regulations at all times.

(b) Non-conformities and deficiencies must be corrected in a timely manner in order to prevent harm to life, property, and the marine environment.

§ 137.125 Towing Safety Management System (TSMS).

If a Towing Safety Management System (TSMS) is applicable to the towing vessel, the TSMS must:

(a) Include policies and procedures to ensure compliance with this part; and

(b) Provide objective evidence that documents compliance with the TSMS.

§ 137.130 Program for vessel compliance for the TSMS option.

The owner or managing operator of a towing vessel choosing to utilize a TSMS must implement a program for vessel compliance. Each program must include:

(a) Owner or managing operator policy regarding the survey of towing vessels;

(b) Procedures for conducting towing vessel surveys, as described in this part;

(c) Procedures for reporting and correcting non-conformities and deficiencies;

(d) Identification of individual(s), and their qualifications, responsible for the management of the program; and

(e) Documentation of compliance activities.

§ 137.135 Reports and documentation required for the TSMS option.

(a) Reports detailing surveys of a towing vessel conducted by an approved third party must include:

(1) Vessel name;

(2) Other vessel identifier such as official number or state number;

(3) Name and business address of owner or managing operator;

(4) Date(s) of the survey;

(5) Date the Report of Survey was issued if different than the date the survey was concluded;

(6) Name of the surveyor;

(7) Name and business address of the approved third party the surveyor represents;

(8) Signature of the surveyor;

(9) A list or description of the items examined or witnessed;

(10) A descriptive listing of all non-conformities identified during the survey including those which were corrected during the course of the survey;

(11) A descriptive listing of:

(i) All non-conformities remaining at the end of the survey;

(ii) The required corrective action(s);

(iii) The latest date of required corrective action, not to exceed thirty days from date of discovery; and

(iv) Means by which the approved third party will verify that satisfactory corrective action has occurred.

(12) Identification of items that need to be repaired or replaced before the vessel continues in service; and

(13) A statement that the vessel complies with the applicable requirements of this subchapter and is fit for service and route, subject to correction of non-conformities.

(b) For a vessel subject to an audited program, the owner or managing operator must provide objective evidence of compliance with this part in accordance with the Towing Safety Management System applicable to the vessel.

Subpart B—Surveys for Certification for the TSMS Option

§ 137.200 Frequency of survey.

The owner or managing operator of a towing vessel must document compliance with this subpart as follows:

(a) Prior to obtaining the vessel's initial Certificate of Inspection (COI), the owner or managing operator must provide to the Coast Guard a report of a survey as described in § 137.215 that demonstrates that the vessel complies with the survey requirements of this part.

(b) For re-issuance of the vessel's COI:

(1) Provide objective evidence of a periodic survey as described in § 137.205 of this part; or

(2) Provide objective evidence of an audited program as described in § 137.210 of this part.

§ 137.205 Periodic survey.

(a) The owner or managing operator of a towing vessel who demonstrates compliance through a periodic survey must:

(1) Have the vessel surveyed annually by an approved third-party surveyor;

(2) Ensure the survey is conducted in accordance with 137.215;

(3) Ensure the survey is conducted within 3 months of the anniversary of the issuance of the Certificate of Inspection;

(4) Ensure the Towing Safety Management System (TSMS) applicable to the vessel includes policies and procedures for complying with this section; and

(5) Make the applicable sections of the TSMS available to the surveyor.

(b) The approved third party must issue a report which meets the requirements of § 137.135 of this part.

§ 137.210 Audited program.

(a) The owner or managing operator of a towing vessel may demonstrate vessel compliance through an audited program. The Towing Safety Management System applicable to the vessel must include:

(1) Procedures for surveying and testing contained in § 137.215 of this part;

(2) Equipment, systems, and onboard procedures to be surveyed;

(3) Identification of items that need repair or replacement before the vessel continues in service;

(4) Procedures for documenting and reporting non-conformities and deficiencies;

(5) Procedures for reporting and correcting major non-conformities;

(6) The responsible person(s) in management who has the authority, to:

(i) Stop all vessel operations pending correction of non-conformities and deficiencies;

(ii) Oversee vessel compliance activities; and

(iii) Track and verify that non-conformities and deficiencies were corrected.

(7) Procedures for recordkeeping.

(b) The owner or managing operator is not required to survey the items as described in § 137.220 of this part as one event, but may survey items on a schedule over time, provided that the interval between successive surveys of any item does not exceed 1 year, unless otherwise prescribed.

(c) Prior to placement into an audited program, a towing vessel must successfully complete an initial audit by an approved third party. Then, the vessel must be audited in accordance with the provisions of part 138 of this subchapter.

(d) If the cognizant Officer in Charge, Marine Inspection (OCMI) has reason to believe that an audited program is deficient, that OCMI may:

(1) Require an audit or survey of the vessel in the presence of a representative of the cognizant OCMI;

(2) Increase the frequency of the audits; or

(3) Require that the vessel comply with the periodic survey requirements of § 137.205 of this part.

(4) Require any specific action within his power and authority deemed appropriate.

(5) For continued deficient audits, remove the vessel and or owner or managing operator from the TSMS system.

§ 137.215 General conduct of survey.

(a) When conducting a survey of a towing vessel as required by this subpart, the surveyor must determine that the item or system functions as designed, is free of defects or modifications that reduce its effectiveness, is suitable for the service intended, and functions safely in a manner consistent for vessel type, service and route.

(b) The survey must address the items in § 137.220 of this part as applicable, and include:

(1) A review of certificates and documentation held on the vessel;

(2) Visual examination and tests of the vessel and its equipment and systems in order to confirm that their condition is properly maintained and that proper quantities are onboard;

(3) Observation of drills or training to determine that the program of drills and training is carried out properly; and

(4) Visual examination to confirm that unapproved modifications were not made to the vessel or its equipment.

(c) The thoroughness and stringency of the survey will depend upon the condition of the vessel and its equipment.

(d) The owner or managing operator must notify the cognizant Officer in Charge, Marine Inspection (OCMI) when the condition of the vessel, its equipment, systems, or operations, create an unsafe condition.

(e) The cognizant OCMI may require that the owner or managing operator provide for the attendance of an approved third-party surveyor or auditor to assist with verifying compliance with this part.

§ 137.220 Scope.

The owner or managing operator of a towing vessel must examine or have examined the following systems, equipment, and procedures to ensure that the vessel and its equipment are suitable for the service for which the vessel is certificated:

(a) *Towing Safety Management System (TSMS).* (1) Verify that the vessel is enrolled in a TSMS that complies with part 138 of this subchapter;

(2) Verify that the policies and procedures applicable to the vessel are available to the crew;

(3) Verify that internal and external audits are conducted in accordance with the approved TSMS; and

(4) Verify that recordkeeping requirements are met.

(b) *Hull structure and appurtenances.* Verify that the vessel complies with part 144 of this subchapter and examine the condition, and where appropriate, witness the operation of the following:

(1) All accessible parts of the exterior and interior of the hull, the watertight bulkheads, and weather decks;

(2) All watertight closures in the hull, decks, and bulkheads, including through hull fittings and sea valves;

(3) Superstructure, masts, and similar arrangements constructed on the hull;

(4) Railings and bulwarks and their attachments to the hull structure;

(5) The presence of guards or rails in dangerous places;

(6) All weathertight closures above the weather deck and the provisions for drainage of sea water from the exposed decks;

(7) Watertight doors, verifying local and remote operation and proper fit;

(8) All accessible interior spaces to ensure that they are adequately ventilated and drained, and that means of escape are maintained and operate as intended; and

(9) Vessel markings.

(c) *Machinery, fuel, and piping systems.* Verify that the vessel complies with applicable requirements contained in part 143 of this subchapter and examine the condition, and where appropriate, witness the operation of the following:

(1) Engine control mechanisms, including primary and alternate means, if the vessel is equipped with alternate means, of starting machinery, directional controls, and emergency shutdowns;

(2) All machinery essential to the routine operation of the vessel, including generators and cooling systems;

(3) All fuel systems, including fuel tanks, tank vents, piping, and pipe fittings;

(4) All valves in fuel lines, including local and remote operation;

(5) All overboard discharge and intake valves and watertight bulkhead pipe penetration valves;

(6) Means provided for pumping bilges; and

(7) Machinery shut-downs and alarms.

(d) *Steering systems.* Examine the condition and, where appropriate, witness the operation of the following:

(1) Steering systems and equipment ensuring smooth operation;

(2) Auxiliary means of steering, if installed; and

(3) Alarms.

(e) *Pressure vessels and boilers.* Examine, maintain, repair, and test unfired pressure vessels and boilers in accordance with subpart C of part 143 of this chapter.

(f) *Electrical.* Verify vessel complies with applicable requirements contained in part 143 of this subchapter and examine the condition and, where appropriate, witness the operation of the following:

(1) All cables, as far as practicable, without undue disturbance of the cable or electrical apparatus;

(2) Circuit breakers, including testing by manual operation;

(3) Fuses, including ensuring the ratings of fuses are suitable for the service intended;

(4) All generators, motors, lighting fixtures, and circuit interrupting devices;

(5) Batteries including security of stowage;

(6) Electrical apparatus, which operates as part of or in conjunction with a fire detection or alarms system installed onboard the vessel, to ensure operation in case of fire; and

(7) All emergency electrical systems, including any automatic systems if installed.

(g) *Lifesaving.* Verify vessel complies with applicable requirements contained in part 141 of this subchapter and examine the condition of lifesaving equipment and systems as follows:

(1) Vessel is equipped with the required number of lifejackets, work vests, and immersion suits;

(2) Serviceable condition of each lifejacket, work vest, and marine buoyant device;

(3) Each lifejacket, other personal floatation device, and other lifesaving device found to be defective and incapable of repair, was destroyed;

(4) Each item of lifesaving equipment found to be defective has been repaired or replaced;

(5) Each piece of expired lifesaving equipment has been replaced;

(6) Operation of each rescue boat and its launching appliance and survival craft launching appliance in accordance with Subchapter W of this chapter;

(7) Servicing of each inflatable liferaft, inflatable buoyant apparatus, and inflatable lifejacket as required by Subchapter W of this chapter;

(8) Operation of each hydrostatic release unit as required by Subchapter W of this chapter; and

(9) Vessel's crew conducted abandon ship and man overboard drills under simulated emergency conditions.

(h) *Fire protection.* Verify vessel complies with applicable requirements contained in part 142 of this subchapter and examine or verify fire protection equipment and systems as follows:

(1) Vessel is equipped with the required fire protection equipment for the vessel's route and service;

(2) Examinations, testing, and maintenance as required by § 142.240 of this subchapter are performed; and

(3) Training requirements of § 142.245 of this subchapter are carried out.

(i) *Towing gear.* Verify vessel complies with applicable requirements contained in parts 140 and 143 of this subchapter and examine or verify the condition, and where appropriate, the operation of the following:

(1) Deck machinery including controls, guards, alarms and safety features;

(2) Hawsers, wires, bridles, push gear, and related vessel fittings for damage or wear; and

(3) Vessel complies with 33 CFR part 164, if applicable.

(j) *Navigation equipment.* Verify vessel complies with applicable requirements contained in part 140 of this subchapter and examine or verify the condition and, where appropriate, the operation of the following:

(1) Navigation systems and equipment;

(2) Navigation lights;

(3) Navigation charts or maps appropriate to the area of operation and corrected up to date;

(4) Operation of equipment and systems necessary to maintain visibility through the pilothouse windows; and

(5) Vessel complies with 33 CFR Part 164, if applicable.

(k) *Sanitary examination.* Examine quarters, toilet and washing spaces, galleys, serving pantries, lockers, and similar spaces to ensure that they are clean and decently habitable.

(l) *Unsafe practices.* (1) Verify that all observed unsafe practices, fire hazards, and other hazardous situations are corrected, and all required guards and protective devices are in satisfactory condition; and

(2) Ensure that bilges and other spaces are free of excessive accumulation of oil, trash, debris, or other matter that might create a fire hazard, clog bilge pumping systems, or block emergency escapes.

(m) *Vessel personnel.* Verify that the:

(1) Vessel is manned in accordance with the vessel's Certificate of Inspection;

(2) Crew is maintaining vessel logs and records in accordance with applicable regulations and the TSMS appropriate to the vessel;

(3) Crew is complying with the crew safety and personnel health requirements of part 140 of this subchapter;

(4) Crew has received training required by parts 140, 141, and 142 of this subchapter; and

(5) Vessel complies with part 140 of this subchapter.

(n) *Prevention of oil pollution.* Examine the vessel to ensure compliance with the oil pollution

prevention requirements set forth in § 140.655 of this subchapter.

(o) *Miscellaneous systems and equipment.* Examine all items in the vessel's outfit, such as ground tackle, markings, and placards, which are required to be carried by the regulations in this subchapter.

Subpart C—Drydock and Internal Structural Surveys

§ 137.300 Documenting compliance for the TSMS option.

The owner or managing operator of a towing vessel must document compliance with this subpart as follows:

(a) Except as provided in paragraph (c) of this section, the owner or managing operator must provide to the Coast Guard a report of a survey as described in § 137.215 of this part that demonstrates that the vessel complies with the drydock and internal structural survey requirements of this part, prior to obtaining the vessel's initial Certificate of Inspection (COI).

(b) For re-issuance of the vessel's COI:

(1) Provide objective evidence of a periodic survey as described in § 137.310 of this part; or

(2) Provide objective evidence of an audited program as described in § 137.315 of this part.

(c) Objective evidence of compliance with the load line assignment, certification, and marking requirements in subchapter E (Load lines) of this chapter must be provided as described in § 137.320 of this part.

§ 137.305 Intervals for drydock and internal structural examination.

(a) Regardless of the option chosen to obtain a COI, each towing vessel must undergo a drydock examination and internal structural examination at the following intervals:

(1) A vessel that is exposed to salt water more than 6 months in any 12-month period since the last survey must undergo a drydock and an internal structural survey at least twice every 5 years, with not more than 36 months between drydockings; and

(2) A vessel that is exposed to salt water not more than 6 months in any 12-month period since the last survey must undergo a drydock and an internal structural survey at least once every 5 years.

(b) The cognizant Officer in Charge, Marine Inspection may require further examination of the vessel whenever damage or deterioration to hull plating or structural members is discovered or suspected that may affect the seaworthiness of a vessel. This may include examination of the vessel on drydock, including:

(1) Internal structural examination of any affected space of a vessel, including fuel tanks;

(2) Removal of the vessel from service to assess the extent of the damage and to effect permanent repairs; or

(3) Adjusting the drydock examination intervals to monitor the vessel's structural condition.

§ 137.310 Periodic survey for the TSMS option.

(a) The owner or managing operator of a towing vessel may demonstrate that the vessel complies with § 137.330 of this part by having an approved third-party surveyor conduct a survey of the vessel.

(b) The survey must be conducted at the intervals prescribed in § 137.305 of this part.

(c) The Towing Safety Management System (TSMS) applicable to the vessel must include policies and procedures for complying with this section.

(d) The applicable sections of the TSMS must be made available to the surveyor conducting the survey.

(e) The drydock and internal structural survey must be documented in a report that complies with the information required in § 137.205(b) of this part.

§ 137.315 Audited program for the TSMS option.

(a) The owner or managing operator of a towing vessel may demonstrate compliance with this subpart through an audited program. The Towing Safety Management System (TSMS) applicable to the vessel must include:

(1) An examination that meets the requirements contained in § 137.325 of this part;

(2) Qualifications of the personnel authorized to carry out examinations that are comparable to the requirements of an approved third-party surveyor as provided for in § 139.130 of this subchapter;

(3) Procedures for documenting and reporting non-conformities and deficiencies;

(4) Procedures for reporting and correcting major non-conformities;

(5) Identification of a responsible person in management who has the authority to stop all vessel operations pending correction, oversee vessel compliance activities, and track and verify the correction of non-conformities and deficiencies; and

(6) Identification of objective evidence that supports the completion of all elements of a vessel's drydock and internal structural examinations.

(b) The third-party organization responsible for auditing the TSMS must be notified whenever activities related to credit drydocking or internal structural examinations are to be carried out.

(c) The interval between examinations of each item may not exceed the applicable interval described in § 137.305 of this part.

(d) Prior to commencing work, the owner or managing operator must notify the cognizant Officer in Charge, Marine Inspection (OCMI) of the zone within which activities related to credit drydocking or internal structural surveys are to be carried out.

(e) If the OCMI described in paragraph (d) of this section has reason to believe that an audited program of drydock and internal structural survey is deficient, s/he may:

(1) Require an audit of ongoing drydocking procedures and documentation applicable to the vessel in the presence of a representative of the cognizant OCMI;

(2) Increase the frequency of the audits; or

(3) Require a survey by an approved third party.

(4) Require any specific action within his power and authority deemed appropriate.

(5) For continued deficiencies, remove the vessel and/or owner or managing operator from the TSMS system.

§ 137.320 Vessels holding a valid load line certificate.

(a) A towing vessel with a valid load line certificate issued by a Recognized Classification Society will meet the requirements of this section.

(b) The cognizant OCMI may request copies of all pertinent load line survey documentation to include the last two periodic surveys.

§ 137.325 General conduct of survey for the TSMS option.

(a) When conducting a survey of a towing vessel as required by this subpart, the surveyor must determine that the hull and related structure and components are free of defects, deterioration, damage, or modifications that reduce effectiveness, and that the vessel is suitable for route and service.

(b) The survey must address the items in § 137.330 of this part as applicable, and include:

(1) Access to internal spaces as appropriate;

(2) Visual survey of the external structure of the vessel to confirm that the condition is properly maintained; and

(3) Visual survey to confirm that unapproved modifications were not made to the vessel.

(c) The thoroughness and stringency of the survey will depend upon the condition of the vessel.

(d) The owner or managing operator must notify the cognizant Officer in Charge, Marine Inspection (OCMI) when the condition of the vessel creates an unsafe condition.

(e) The cognizant OCMI may require that the owner or managing operator provide for the attendance of an approved third-party surveyor or auditor to assist with verifying compliance with this subpart.

§ 137.330 Scope of drydock examination.

(a) This regulation applies to all towing vessels covered by this subchapter. The drydock examination must be conducted while the vessel is hauled out of the water or placed in a drydock or slipway. The Coast Guard inspector or surveyor conducting this examination must:

(1) Examine the exterior of the hull, including bottom, sides, headlog, and stern; all appendages for damage, fractures, wastage, pitting, or improper repairs.

(2) Examine each tail shaft for bends, cracks, and damage, including the sleeves or other bearing contact surface(s) on the tail shaft for wear. The tail shaft need not be removed for examination if these items can otherwise be properly evaluated;

(3) Examine rudders for damage; upper and lower bearings for wear; and rudder stock for damage or wear. Rudders need not be removed for examination if these items can be properly evaluated without doing so;

(4) Examine propellers for cracks and damage;

(5) Examine exterior components of the machinery cooling system for leaks, damage, or deterioration;

(6) Open and examine all sea chests, thru-hull fittings, and strainers for damage, deterioration, or fouling; and

(7) On wooden vessels, pull fastenings as required for examination.

(b) An internal structural examination/survey required by this part may be conducted while the vessel is afloat or out of the water. It consists of a complete examination of the vessel's main strength members, including the major internal framing, the hull plating and planking, voids, and ballast, cargo, and fuel oil tanks. Where the internal framing, plating, or planking of the vessel is concealed, sections of the lining, ceiling, or insulation may be removed or the parts otherwise probed or exposed to determine the condition of the hull structure. Fuel oil tanks need not be cleaned out and internally examined if the general condition of the tanks is determined to be satisfactory by external examination.

§ 137.335 Underwater survey in lieu of drydocking.

(a) This section applies to all towing vessels subject to this subchapter. If a Towing Safety Management System (TSMS) is applicable to the vessel, the TSMS may include policies and procedures for employing and documenting an underwater survey in lieu of drydocking (UWILD). A UWILD may be conducted if:

(1) No obvious damage or defects in the hull adversely affecting the seaworthiness of the vessel are present;

(2) The vessel has been operated satisfactorily since the last drydocking;

(3) The vessel is less than 15 years of age;

(4) The vessel has a steel or aluminum hull; and

(5) The vessel is fitted with an effective hull protection system.

(b) The owner or operator must submit an application at least 90 days before the vessel's next required drydock examination. The application must include:

(1) The procedure for carrying out the underwater survey;

(2) The time and place of the underwater survey;

(3) The method used to accurately determine the diver's or remotely operated vehicle (ROV)'s location relative to the hull;

(4) The means for examining all through-hull fittings and appurtenances;

(5) The condition of the vessel, including the anticipated draft of the vessel at the time of the survey;

(6) A description of the hull protection system; and

(7) The name and qualifications of any third party examiner, if used.

(c) If a vessel is 15 years old or older, the Commandant may approve an underwater survey instead of a drydock examination, at alternating intervals. The owner or operator must submit an application to the OCMI at least 90 days before the vessel's next required drydock examination. The owner or operator may follow this option if—

(1) The vessel is qualified under paragraphs (a)(1), (2), (4), and (5) of this section;

(2) The application includes the information described in paragraphs (b)(1) through (7) of this section; and

(3) During the vessel's drydock examination preceding the underwater survey, a complete set of hull gauging was taken which indicated that the vessel was free from appreciable hull deterioration.

(d) After the drydock examination required by paragraph (c)(3) of this section, the OCMI will submit a recommendation for future underwater surveys, the results of the hull gauging, and the results of the Coast Guard's drydock examination to Commandant for review.

PART 138—TOWING SAFETY MANAGEMENT SYSTEMS (TSMS)

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Authority: 46 U.S.C. 3103, 3301, 3306, 3308, 3316, 8104, 8904; 33 CFR 1.05; DHS Delegation 0170.1.

Subpart A—General

§ 138.100 Purpose.

The purpose of this part is to prescribe requirements for owners or managing operators of towing vessels who adopt a Towing Safety Management System (TSMS) to comply with the requirements of this subchapter.

§ 138.105 Definitions.

The definitions provided in § 136.110 of this subchapter apply to this part.

§ 138.110 Incorporation by reference.

Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Coast Guard must publish notice of change in the **Federal Register** and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal regulations/ibr_locations.html.* Also, it is available for inspection at U.S. Coast Guard, Office of Design and Engineering Standards (CG–521), 2100 Second Street, SW., Washington, DC 20593–0001, and is available from the sources listed in paragraph (b) of this section.

(b) The material approved for incorporation by reference in this part and the sections affected are:

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION (ISO), 1, CH. DE LA VOIE-CREUSE, CASE POSTALE 56, CH–1211 GENEVA 20, SWITZERLAND

9001–2000, 2000	138.310

§ 138.115 Compliance.

Owners or managing operators of towing vessels must obtain the Towing Safety Management System Certificate issued under § 138.305 of this part no later than [DATE 2 YEARS AFTER EFFECTIVE DATE OF FINAL RULE] if they do not want to be subject to an annual, Coast Guard inspection regime.

Subpart B—Towing Safety Management System (TSMS)

§ 138.200 Safety management.

All towing vessels must be operated in compliance with an owner- or managing operator-implemented Towing Safety Management System or be subject to an annual, Coast Guard inspection regime.

§ 138.205 Purpose of Towing Safety Management System (TSMS).

(a) The purpose of a safety management system is to establish policies, procedures, and required documentation to ensure the owner or managing operator meets its established goals while ensuring continuous compliance with all regulatory requirements. The safety management system must contain a method to ensure all levels of the organization are working within the framework.

(b) A Towing Safety Management System establishes and maintains:

(1) Management policies and procedures that serve as an operational protocol for all levels within management;

(2) Procedures to produce objective evidence that demonstrates compliance with the requirements of this subchapter;

(3) Procedures for an owner or managing operator to self-evaluate that ensure it is following its own policies and procedures and complies with the requirements of this subchapter;

(4) Arrangements for a periodic evaluation by an independent third party to determine how well an owner or managing operator and their towing vessels are complying with their stated policies and procedures, and to verify that those policies and procedures comply with the requirements of this subchapter; and

(5) Procedures for correcting problems identified by management personnel and third parties and facilitating continuous improvement.

§ 138.210 Objectives of Towing Safety Management System (TSMS).

The Towing Safety Management System (TSMS), through policies, procedures, and documentation must:

(a) *Demonstrate management responsibility.* The management must demonstrate that they implemented the policies and procedures as contained in the TSMS and the entire organization is adhering to their safety management program.

(b) *Document management procedures.* A TSMS must describe and document the owner or managing operator's organizational structure, responsibilities, procedures, and resources which ensure quality monitoring.

(c) *Ensure document and data control.* There must be clear identification of what types of documents and data are to be controlled, and who is responsible for controlling activities, including: Approval, issue, distribution, modification, removal of obsolete materials, and other related administrative functions.

(d) *Provide a process and criteria for selection of third parties.* Procedures for selection of third parties must exist that include how third parties are evaluated, including selection criteria.

(e) *Establish a system of recordkeeping.* Records must be maintained to demonstrate effective operation of the TSMS. This should include audit records, nonconformity reports and corrective actions, auditor qualifications, auditor training, and other records as considered necessary.

(f) *Identify and meet training needs.* Documented procedures for identifying training needs and providing training must be established and maintained.

(g) *Ensure adequate resources.* Identify adequate resources and procedures necessary to comply with the TSMS.

§ 138.215 Functional requirements of a Towing Safety Management System (TSMS).

The functional requirements of a Towing Safety Management System (TSMS) include:

(a) Policies and procedures to provide direction for the safe operation of the towing vessels and protection of the environment in compliance with applicable U.S. law, including the Code of Federal Regulations, and, if on an international voyage, applicable international conventions to which the United States is a party;

(b) Defined levels of authority and lines of communication between shoreside and vessel personnel;

(c) Procedures for reporting accidents and non-conformities;

(d) Procedures to prepare for and respond to emergency situations by shoreside and vessel personnel;

(e) Procedures for verification of vessel compliance with this subchapter;

(f) Procedures to manage contracted (vender safety) services.

(g) Procedures for internal auditing of the TSMS, including shoreside and vessels;

(h) Procedures for external audits;

(i) Procedures for management review of internal and external audit reports and correction of non-conformities; and

(j) Procedures to evaluate recommendations made by management personnel.

§ 138.220 Towing Safety Management System (TSMS) elements.

The Towing Safety Management System (TSMS) must include the elements listed in paragraphs (a) through (e) of this section. If an element listed is not applicable to an owner or managing operator, appropriate justification must be documented and is subject to acceptance by the third party.

(a) *Safety management system administration and management organization.* A policy must be in place that outlines the TSMS culture and how management intends to ensure compliance with this subpart. Supporting this policy, the following procedures and documentation must be included:

(1) *Management organization*—(i) *Responsibilities.* The management organization, authority, and responsibilities of individuals.

(ii) *Designated person.* Each owner or managing operator must designate in writing the shoreside person(s) responsible for ensuring the TSMS is implemented and continuously functions throughout management and the fleet, and the shoreside person(s) responsible to ensure that the vessels are properly maintained and in operable condition, including those responsible for emergency assistance to each towing vessel.

(iii) *Master Authority.* Each owner or managing operator must define the scope of the master's authority. The master's authority must provide for the ability to make final determinations on safe operations of the towing vessel. Specifically, it must provide the authority for the master to cease operation if an unsafe condition exists.

(2) *Audit Procedures.* (i) Procedures for conducting internal and external audits, in accordance with §§ 138.310 and 138.315 of this part.

(ii) *Procedures for identifying and correcting non-conformities.* The TSMS must contain procedures for any person working within the management to report non-conformities. The procedures must describe how an initial report should be made and the actions taken to follow up and ensure appropriate resolution.

(b) *Personnel.* Policies must be in place that cover the owner or managing operator's approach to managing its personnel, including, but not limited to, employment, training, and health and safety of personnel. Supporting these polices, the following procedures and documentation must be included:

(1) *Employment procedures.* The TSMS must contain procedures related to the employment of individuals. Procedures must be in place to ensure adequate qualifications of personnel, to include background checks, compliance with drug and alcohol standards, and that personnel are physically and mentally capable to perform required tasks.

(2) *Training of personnel.* The TSMS must contain a policy related to the training of personnel, including:

(i) New hire orientation;

(ii) Duties associated with the execution of the TSMS;

(iii) Execution of operational duties;

(iv) Execution of emergency procedures;

(v) Occupational health;

(vi) Crew safety; and

(vii) Training required by this Subchapter.

(c) *Verification of vessel compliance.* Policies must be in place that cover the owner or managing operator's approach for ensuring vessel compliance, including, but not limited to, policies on survey and maintenance, safety, the environment, security, and emergency preparedness. Supporting these policies, the following procedures and documentation must be included:

(1) *Maintenance and survey.* Procedures outlining the owner or managing operator's survey regime must specify all maintenance, examination, and survey requirements. Applicable documentation must be maintained for all activities for a period of 5 years.

(2) *Safety, environment, and security.* Procedures must be in place to ensure safety of property, the environment, and personnel. This must include procedures to ensure the selection of the appropriate vessel, including adequate maneuverability and horsepower, appropriate rigging and towing gear, proper management of the navigational watch, and compliance with applicable security measures.

(3) All procedures required by this subchapter must be contained within the TSMS.

(d) *Compliance with Subchapter M.* Procedures and documentation must be in place to ensure that each towing vessel complies with the operational, equipment, and personnel requirements of this subchapter.

(e) *Contracted (vendor safety) services.* Procedures must be in place to ensure the safety, effective management, and compliance with applicable regulations for contracted vessel towing services, including:

(1) Procedures to evaluate personnel qualifications;

(2) Procedures to evaluate adequacy of vessel capability, condition, and compliance with applicable regulations;

(3) Compatibility of Safety Management Systems; and

(4) Procedures to maintain objective evidence, as required by both organizations' safety management systems.

§ 138.225 Existing safety management systems.

(a) A safety management system which is fully compliant with the International Safety Management Code requirements of 33 CFR part 96 will be deemed in compliance with these requirements.

(b) Other safety management systems may be considered for acceptance as meeting the Towing Safety Management System (TSMS) requirements of this part. The Coast Guard may:

(1) Accept such system in full;

(2) Require modifications to the system as a condition of acceptance; or

(3) Reject the system.

(c) An owner or managing operator wishing to meet this section must submit documentation based on the initial audit and one full audit cycle of at least 3 years.

(d) The Coast Guard may elect to inspect equipment and records, including:

(1) Contents of the TSMS;

(2) Objective evidence of internal and external audits;

(3) Objective evidence that non-conformities were identified and corrected; and

(4) Objective evidence of vessel compliance with applicable regulations.

Subpart C—Documenting Compliance

§ 138.300 General.

(a) The owner and managing operator must have documentation that demonstrates compliance with the provisions of the Towing Safety Management System (TSMS) in order for any of its towing vessels to be eligible for a Certificate of Inspection.

(b) The owner or managing operator will be issued a TSMS Certificate when it is deemed in compliance with the TSMS requirements.

§ 138.305 Towing Safety Management System (TSMS) Certificate.

(a) A Towing Safety Management System (TSMS) Certificate is obtained through an approved third party.

(b) A TSMS Certificate is valid for 5 years from the date of issue, unless suspended, revoked or rescinded as provided in § 138.305(d) and (e).

(c) The TSMS Certificate must include a list of the owner or managing operator's vessels found in compliance with the TSMS.

(d) A TSMS Certificate may be suspended or revoked by the Coast Guard at any time for non-compliance with the requirements of this part.

(e) The third party that issued the TSMS Certificate may rescind the certificate for non-compliance with the requirements of this part.

(f) A copy of the TSMS Certificate must be maintained on each towing vessel that has been issued a TSMS and on file at the owner or managing operator's shoreside office.

§ 138.310 Internal Audits for Towing Safety Management System (TSMS) Certificate.

(a) Internal management audits must be conducted annually, within 3 months of the anniversary issuance of the Towing Safety Management System (TSMS) Certificate, to ensure the owner or managing operator is effectively

implementing all elements of their TSMS.

(b) The internal management audit must ensure that management has implemented the TSMS throughout all levels of the organization, including audits of all the owner or managing operator's towing vessels to ensure implementation at the operational level.

(c) The results of internal audits must be documented and maintained for a period of 5 years and made available to the Coast Guard upon request.

(d) Internal auditors:

(1) Must have knowledge of the management, its safety management system, and the standards contained in this subchapter;

(2) Must have completed an International Organization for Standardization (ISO) 9001–2000 (incorporated by reference in § 138.105 of this subchapter) internal auditor/assessor course or Coast Guard recognized equivalent;

(3) May not be the designated person, or any other person, within the organization that is responsible for development or implementation of the TSMS; and

(4) Must be independent of the procedures being audited.

§ 138.315 External Audits for Towing Safety Management System (TSMS) Certificate.

External audits for obtaining and renewing a Towing Safety Management System (TSMS) Certificate are conducted by an approved third party auditor and must include both management and vessels as follows:

(a) *Management audits.* (1) Prior to the issuance of an owner or managing operator's initial and subsequent renewals of a TSMS Certificate, an external management audit must be conducted by an approved third party auditor.

(2) A mid-period external management audit must be conducted between the 27th and 33rd month of the certificate's period of validity.

(b) *Vessel audits.* (1) An external audit of all vessels subject to the owner or managing operator's TSMS must be conducted prior to the issuance of the initial TSMS Certificate.

(2) An external audit of all vessels must be conducted during the 5-year period of validity of the TSMS certificate. The vessels must be selected randomly and distributed as evenly as possible.

(c) *Audit results.* The results of the external audit must be documented and maintained for a period of 5 years and made available to the Coast Guard or the external auditor upon request.

Subpart D—Audits

§ 138.400 General.

All safety management systems are subject to internal and external audits to assess the management and vessel compliance with the Towing Safety Management System and the vessel standards requirements of this subchapter.

§ 138.405 Conduct of internal audits.

(a) Internal audits are conducted by, or on behalf of, the management and may be performed by a designated employee or by contracted individual(s) who conduct the audit as if an employee of the owner or managing operator.

(b) Internal audits are not necessarily conducted as one event; they can be taken in segments over time.

(c) Internal audits must be of sufficient depth and breadth to ensure the owner or managing operator established adequate procedures and documentation to comply with the Towing Safety Management System (TSMS) requirements of this part, that the TSMS was implemented throughout all levels of the organization, and that the owner or managing operator's vessels comply with this subchapter and the TSMS.

(e) The auditor must have the authority to examine documentation, question personnel, examine vessel equipment, witness system testing, and observe personnel training as necessary to verify TSMS effectiveness.

§ 138.410 Conduct of external audits.

(a) External audits must be conducted by an approved third party auditor and cover all elements of the Towing Safety Management System (TSMS) requirements of Subchapter M of this chapter, but may be conducted on a sampling basis of each of those TSMS elements.

(b) External audits must be of sufficient depth and breadth to ensure the owner or operating manager effectively implemented its TSMS throughout all levels of the organization, including onboard its vessels.

(c) The auditor must be provided access to examine any requested documentation, question personnel, examine vessel equipment, witness system testing, and observe personnel training, as necessary to verify TSMS effectiveness.

(d) The auditor may broaden the scope of the audit if:

(1) The TSMS is incomplete or not effectively implemented;

(2) Conditions found are not consistent with the records; or

(3) Unsafe conditions are identified.

(e) The auditor may verify compliance with vessel standards and TSMS requirements through a review of objective evidence such as checklists, invoices, and reports, and may conduct a visual ''sampling'' onboard the vessels to determine whether or not the conditions onboard the vessel are consistent with the records reviewed.

(f) All samples must be statistically valid.

Subpart E—Coast Guard or Organizational Oversight and Review

§ 138.500 Notification prior to audit.

(a) The owner or managing operator of a towing vessel must notify the Coast Guard prior to conducting a third-party audit.

(b) The Coast Guard may require that a Coast Guard representative accompany the auditor during part, or all, of an external audit.

(c) The Coast Guard may conduct an audit of the owner or managing operator or its towing vessels.

§ 138.505 Submittal of audit results.

The results of any external audit of the owner or managing operator's compliance with § 138.210 of this part and each of their towing vessels audits must be submitted to the Coast Guard.

§ 138.510 Required attendance.

(a) The Coast Guard may require a third-party's attendance at the vessel or the office of the owner or managing operator if there is evidence that a Towing Safety Management System (TSMS), for which a TSMS Certificate was issued, is not in compliance with the provision of this part.

(b) The third party and the owner or managing operator may be required to explain or otherwise demonstrate areas of the TSMS.

(c) The Coast Guard will not bear any of the costs for a third party's attendance at the vessel or the office of the owner or managing operator when complying with this provision.

PART 139—THIRD-PARTY ORGANIZATIONS

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Authority: 46 U.S.C. 3103, 3301, 3306, 3308, 3316, 8104, 8904; 33 CFR 1.05; DHS Delegation 0170.1.

§ 139.100 Purpose.

This part states the requirements applicable to approved third-party organizations that conduct audits and surveys for towing vessels as required by this subchapter.

§ 139.105 Definitions.

The definitions provided in § 136.110 of this subchapter apply to this part.

§ 139.110 Organizations not subject to further approval.

(a) A recognized classification society, as defined by 46 CFR 8.100, meets the requirements of an approved third-party organization for the purposes of this part.

(b) Recognized classification societies must ensure that employees providing services under this part hold proper qualifications for the particular type of service being performed.

§ 139.112 Incorporation by reference.

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Coast Guard must publish notice of change in the **Federal Register** and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.* Also, it is available for inspection at U.S. Coast Guard, Office of Design and Engineering Standards (CG–521), 2100 Second Street, SW., Washington, DC 20593–0001, and is available from the sources listed in paragraph (b) of this section.

(b) The material approved for incorporation by reference in this part and the sections affected are:

American National Standards Institute (ANSI), 1819 L Street, NW., Suite 600, Washington, DC 20036

ANSI/ASQC Q9001–2000, 2000 139.120

International Organization for Standardization (ISO), 1, ch. de la Voie-Creuse, Case postale 56, CH–1211 Geneva 20, Switzerland

ISO 9001–2000, 2000 139.130

§ 139.115 General.

(a) The Coast Guard approves third-party organizations to carry out functions related to ensuring that towing vessels comply with provisions of this subchapter. Organizations may be approved to:

(1) Conduct audits of a Towing Safety Management System (TSMS), and the vessels to which the TSMS applies, to verify compliance with the applicable provisions of this subchapter.

(2) Issue TSMS Certificates to the owner or managing operator who is in compliance with part 138 of this subchapter.

(3) Conduct surveys of towing vessels to verify compliance with the applicable provisions of this subchapter.

(4) Issue survey reports detailing the results of surveys, carried out in compliance with part 137 of this subchapter.

(b) The Coast Guard will approve third-party organizations that:

(1) Are independent of the owner or managing operator and vessels that they audit or survey;

(2) Operate within a quality management system acceptable to the Coast Guard;

(3) Ensure that the organization's auditors and surveyors are qualified and maintain continued competence; and

(4) Demonstrate the ability to carry out the responsibilities of approval.

(c) The Coast Guard may designate an organization to be an approved third party when that organization provides objective evidence that its program meets the requirements of this subchapter.

(d) A list of approved third-party organizations will be maintained by the Coast Guard, and made available upon request.

§ 139.120 Application for approval as a third-party organization.

An organization, which may include a business entity or an association, desiring to be approved as a third-party organization under this part must submit a written request to Coast Guard, 2100 Second Street, SW., Washington, DC 20593–0001. The organization must provide the following information:

(a) A description of the organization, including the ownership, structure, and organizational components.

(b) A general description of the clients being served or intended to be served.

(c) A description of the types of work performed by the organization or by the principals of the organization in the past, noting the amount and extent of such work performed within the previous 3 years.

(d) Objective evidence of an internal quality system based on American National Standards Institute/American Society of Quality Control Q9001–2000 (ANSI) (incorporated by reference in § 138.105 of this chapter) or an equivalent quality standard.

(e) Organization procedures and supporting documentation describe processes used to perform the audit and records to show system effectiveness.

(f) Copies of checklists, forms, or other tools to be used as guides or for recording the results of audits and/or surveys.

(g) Organization procedures for appeals and grievances.

(h) The organization's code of ethics applicable to the organization and its auditors and/or surveyors.

(i) A list of the organization's auditors and/or surveyors who meet the requirements of § 139.130 of this subchapter. This list must include the experience, background, and qualifications for each auditor and/or surveyor.

(j) A description of the organization's means of assuring continued competence of its personnel.

(k) The organization's procedures for terminating or removing auditors and/or surveyors.

(l) A description of the organization's apprentice or associate program for auditors and/or surveyors.

(m) A statement that the Coast Guard may inspect the organization's facilities and records and may accompany auditors and/or surveyors in the performance of duties related to the requested approval.

(n) Disclosure of any potential conflicts of interest.

(o) A statement that the organization, its managers, and employees engaged in audits and/or surveys are not, and will not be involved in any activities which could result in a conflict of interest or otherwise limit the independent judgment of the auditor and/or surveyor or organization.

(p) Any additional information that the applicant deems pertinent.

§ 139.125 Approval of third-party organizations.

(a) The Coast Guard will review the request and notify the organization in writing whether the requested approval is granted.

(b) If a request for approval is denied, the Coast Guard will inform the organization of the reasons for the denial and will describe what

corrections are required for an approval to be granted.

(c) An approval for a third-party organization that meets the requirements of this part will expire:

(1) Five years after the last day of the month in which it is granted;

(2) When the third-party organization gives notice that it will no longer offer towing vessel audit and/or survey services;

(3) When revoked by the Coast Guard; in accordance with § 139.150 or;

(4) On the date of a change in ownership of the third-party organization for which approval was granted.

§ 139.130 Qualifications of auditors and surveyors.

(a) A prospective auditor must demonstrate the skills and experience necessary to assess compliance with all requirements of subchapter M of this chapter.

(b) Auditors must meet the following qualifications:

(1) High school diploma or equivalent;

(2) Four years of experience working on towing vessels or other relevant marine experience such as Coast Guard marine inspector, military personnel with relevant maritime experience, or marine surveyor;

(3) Successful completion of an International Organization for Standardization (ISO) 9001–2000 (incorporated by reference in § 139.112 of this part) lead auditor/assessor course or Coast Guard recognized equivalent;

(4) Successful completion of a required training course for the auditing of a Towing Safety Management System; and

(5) Audit experience, as demonstrated by one of the following:

(i) Documented experience in auditing the ISM Code or the American Waterways Operators Responsible Carrier Program, consisting of at least two management audits and six vessel audits within the past 5 years; or

(ii) Successful completion of a required auditor apprenticeship, consisting of at least one management audit and three vessel audits under the direction of a lead auditor.

(c) Surveyors must meet the following qualifications:

(1) High school diploma or equivalent; and

(2) Four years of experience working on towing vessels as master, mate (pilot), or engineer; or

(3) Other relevant marine experience such as Coast Guard marine inspector, military personnel with relevant maritime experience, marine surveyor, experience on vessels of similar operating and physical characteristics; or

(4) Marine surveyor accredited by the National Association of Marine Surveyors, Society of Accredited Marine Surveyors, or other accreditation acceptable to the Coast Guard.

§ 139.135 Addition and removal of auditors and surveyors.

(a) An approved third-party organization must maintain a list of current and former auditors and surveyors.

(b) To add an auditor or surveyor, the organization must submit the experience, background and qualifications to the Coast Guard for approval.

(c) The Coast Guard must be notified when an auditor or surveyor is removed from employment.

§ 139.140 Renewal of third-party organization approval.

(a) To renew an approval, a third-party organization must submit a written request to the address listed in § 139.120 of this part.

(b) For the request to be approved, the Coast Guard must be satisfied that the applicant continues to fully meet approval criteria.

(c) The Coast Guard may request any additional information necessary to properly evaluate the request.

§ 139.145 Suspension of approval.

(a) The Coast Guard may suspend the approval of a third-party organization approved under this part whenever the Coast Guard determines that the approved third-party organization does not comply with the provisions of this part. The Coast Guard must:

(1) Notify the approved third-party organization in writing of the intention to suspend the approval;

(2) Provide the details of the third-party organization's failure to comply with this part; and

(3) Advise the third-party organization of the time period, not to exceed 60 days, within which the third-party organization must correct its failure to comply with this part. If the third-party organization fails to correct its failure to comply with this part within the time period allowed, the approval will be suspended.

(b) The Coast Guard may partially suspend the approval of a third-party organization. This may include suspension of an individual auditor or surveyor or suspension of the authority of the third-party organization to carry out specific duties whenever the Coast Guard determines that the provisions of this part are not complied with. The Coast Guard must:

(1) Notify the approved third-party organization in writing of its intention to partially suspend the approval;

(2) Provide the details of the failure of the auditor or surveyor to comply with this part; and

(3) Advise the third-party organization of the time period, not to exceed 60 days, within which the third-party organization must ensure that the auditor or surveyor corrects his/her failure to comply with this part. If the third-party organization fails to correct the failure of the auditor or surveyor to comply with this part within the time period allowed, the approval will be partially suspended with respect to such auditor or surveyor.

§ 139.150 Revocation of approval.

The Coast Guard may revoke the approval of a third-party organization if the organization has demonstrated a pattern or history of:

(a) Failure to comply with this part;

(b) Substantial deviations from the terms of the approval granted under this part; or

(c) Failures, including ethics, conflicts of interest or performance, that indicate to the Coast Guard that the third-party organization is no longer capable of carrying out its duties as an approved third-party organization.

§ 139.155 Appeals of suspension or revocation of approval.

Anyone directly affected by a decision to suspend or revoke an approval granted under this part may appeal the decision to the Coast Guard in accordance with the provisions of 46 CFR part 1.

§ 139.160 Coast Guard oversight activities.

At any time the Coast Guard may:

(a) Inspect a third-party organization's records;

(b) Conduct interviews of auditors or surveyors to aid in the evaluation of the organization;

(c) Assign personnel to observe or participate in audits or surveys;

(d) Observe audits or surveys conducted by the third-party organization;

(e) Request that the owner or managing operator make available, a copy of the Towing Safety Management System (TSMS); or

(f) Require a revision of the TSMS if it is determined that requirements of this subchapter are not met.

(g) Require a replacement for a third-party auditor for noncompliance or poor performance.

§ 139.165 Documentation.

(a) Each approved third-party organization must retain the results of each survey or audit conducted under its approval, including:

(1) The names of the auditors and/or surveyors;

(2) The results of each audit or survey conducted;

(3) Documentation showing continuing actions relative to an audit or survey, such as resolution of deficiencies and non-conformities; and

(4) Results of audits of the third party organization.

(b) Records required by this part must be retained for a period of 5 years.

§ 139.170 Required attendance.

(a) The Coast Guard may require a third-party organization's attendance at a towing vessel or the offices of the owner or managing operator in the following circumstances:

(1) When there is evidence that the Towing Safety Management System (TSMS) for which a TSMS Certificate was issued is not in compliance with the provisions of part 138 of this subchapter.

(2) When there is objective evidence that a towing vessel that was surveyed by a third party is not in compliance with the requirements of this subchapter.

(b) The Coast Guard will not bear any costs for a third party organization's attendance at the vessel or the offices of the owner or managing operator when complying with this provision.

PART 140—OPERATIONS

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Authority: 46 U.S.C. 3103, 3301, 3306, 3308, 3316, 8104, 8904; 33 CFR 1.05; DHS Delegation 0170.1.

Subpart A—General

§ 140.100 Purpose.

This part contains the health, safety, and operational requirements for towing vessels and the crewmembers serving onboard them.

§ 140.105 Definitions.

The definitions provided in § 136.110 of this subchapter apply to this part.

Subpart B—General Operational Safety

§ 140.200 Towing Safety Management System (TSMS).

If a Towing Safety Management System (TSMS) is applicable to the vessel, the TSMS must:

(a) Include policies and procedures to ensure compliance with this part; and

(b) Provide objective evidence that documents compliance with the TSMS.

§ 140.205 General vessel operation.

(a) A vessel must be operated in accordance with applicable laws and regulations and in such a manner as to afford protection against hazards to life, property, and the environment.

(b) Towing vessels with a TSMS must be operated in accordance with the TSMS applicable to the vessel.

(c) Vessels must be manned in accordance with the Certificate of Inspection (COI). Manning requirements are contained in part 15 of this chapter.

(d) Each crewmember that is required to hold a Merchant Mariner Credential (MMC) must have the credential onboard and available for examination at all times when the vessel is operating.

(e) All individuals who are not required to hold an MMC permitted onboard the vessel must have and present on request a valid personal identification that meets the requirements set forth in 33 CFR 101.105.

§ 140.210 Responsibilities of the master and crew.

(a) The safety of the towing vessel is the responsibility of the master and includes:

(1) Adherence to the provisions of the Certificate of Inspection (COI);

(2) Compliance with the applicable provisions of this subchapter;

(3) Compliance with Towing Safety Management System (TSMS) applicable to the vessel, if one is applicable; and

(4) Supervision of all persons onboard in carrying out their assigned duties.

(b) If the master believes it is unsafe for the vessel to proceed, that an operation endangers the vessel or crew, or that an unsafe condition exists, the master must ensure that adequate corrective action is taken and must not proceed until it is safe to do so.

(c) Nothing in this subpart shall be construed in a manner which limits the master or mate (pilot), at his or her own responsibility, from diverting from the route prescribed in the COI or taking such steps as he deems necessary and prudent to assist vessels in distress or for other emergency conditions.

(d) It is the responsibility of the crew to:

(1) Adhere to the provisions of the COI;

(2) Comply with the applicable provisions of this subchapter;

(3) Comply with the TSMS applicable to the vessel, if the vessel has a TSMS;

(4) Ensure that the master is made aware of all known aspects of the condition of the vessel, including:

(i) Those vessels being pushed, pulled, or hauled alongside; and

(ii) Equipment and other accessories used for pushing, pulling, or hauling along side other vessels.

(5) Report unsafe conditions to the master and take the most effective action to prevent accidents.

Subpart C—[Reserved]

Subpart D—Crew Safety

§ 140.400 Personnel records.

(a) The master of each towing vessel must keep an accurate list of crewmembers and their positions.

(b) The master must maintain a list of individuals carried onboard the vessel.

(c) The date and time that a navigation watchstander, including master, mate (pilot), and lookout assumes a watch and is relieved of a watch must be recorded in the towing vessel record (TVR) or the official logbook, or in accordance with the TSMS applicable to the vessel. If an engineering watch is maintained, comparable records documenting the engineering watch are required.

§ 140.405 Emergency duties and duty stations.

(a) Any towing vessel with alternating watches (shift work) or overnight accommodations must identify the duties and duty stations of each person onboard during an emergency, including:

(1) Responding to fires and flooding;

(2) Responding to emergencies that necessitate abandoning the vessel;

(3) Launching survival craft and rescue boats;

(4) Taking action during heavy weather;

(5) Taking action in the event of a person overboard;

(6) Taking action relative to the tow;

(7) Taking action in the event of failure of propulsion, steering, or control system;

(8) Managing individuals onboard who are not crewmembers;

(9) Managing any other event or condition which poses a threat to life, or property; and

(10) Responding to other special duties essential to addressing emergencies as determined by the TSMS applicable to the vessel, if a TSMS is used.

(b) The emergency duties and duty stations required by this section must be posted at the operating station and in a conspicuous location in a space commonly visited by crewmembers. If posting is impractical, such as in an open boat, they may be kept onboard in a location readily available to the crew.

§ 140.410 Safety orientation.

(a) Upon initial employment, or prior to getting underway for the first time on a particular towing vessel, each crewmember must receive a safety orientation on the following subjects:

(1) His or her duties in an emergency;

(2) The location, operation, and use of lifesaving equipment;

(3) Prevention of falls overboard;

(4) Personal safety measures;

(5) The location, operation, and use of Personal Protective Equipment;

(6) Emergency egress procedures;

(7) The use and operation of watertight and weathertight closures;

(8) Responsibilities to provide assistance to individuals that are not crewmembers;

(9) How to respond to emergencies relative to the tow; and

(10) Awareness of, and expected response to, any other hazards inherent to the operation of the towing vessel which may pose a threat to life, property, or the environment.

(b) The safety orientation provided to crewmembers who received a safety orientation on another vessel may be modified to cover only those areas unique to the new vessel on which service will occur.

(c) Safety orientations and other crew training must be documented in the towing vessel record (TVR), official logbook, or in accordance with the TSMS applicable to the vessel. The entry must include the following information:

(1) Date of the safety orientation or training;

(2) General description of the safety orientation or training topics;

(3) Name of individual(s) providing the orientation or training; and

(4) Name(s) of the individual(s) receiving the safety orientation or training.

§ 140.415 Orientation for individuals that are not crewmembers.

(a) Individuals, that are not crewmembers, onboard a towing vessel must receive a safety orientation prior to getting underway or as soon as practicable thereafter to include:

(1) The location, operation, and use of lifesaving equipment;

(2) Emergency procedures;

(3) Methods to notify crewmembers in the event of an emergency; and

(4) Prevention of falls overboard.

(b) [Reserved]

§ 140.420 Emergency drills and training.

(a) The master of a towing vessel must ensure that drills are conducted and instructions are given to ensure that all crewmembers are capable of performing the duties expected of them during emergencies. This includes abandoning the vessel, recovering persons from the water, responding to onboard fires and flooding, or responding to other threats to life, property, or the environment.

(b) Each drill must, as far as practicable, be conducted as if there was an actual emergency.

(c) Unless otherwise stated, each crewmember must receive the training required by this section annually.

(d) The following training or drills are required:

(1) Safety orientation, as required by § 140.410 of this part;

(2) Emergency drills and training, as required by this section;

(3) Training on response to fires, as required by § 142.245 of this subchapter;

(4) Training on launching of a skiff, if listed as an item of emergency equipment to abandon ship or man overboard recovery;

(5) If installed, training on the use of davit-launched liferafts; and

(6) If installed, training on how each rescue boat must be launched, with its assigned crew aboard, and maneuvered in the water as if during an actual man overboard situation.

(e) *Alternative forms of instruction.* (1) Training as required by this part may be conducted by viewing electronically or digitally formatted training materials followed by a discussion led by someone familiar with the subject matter. This instruction may occur either onboard or off the vessel.

(2) Training may be performed in accordance with the TSMS applicable to the vessel, provided that it meets the minimum requirements of this section.

(f) *Participation in drills and training.* As far as practicable, drills must take place onboard the vessel. They must include:

(1) Participation by all crewmembers; and

(2) Actual use of, or simulating the use of, emergency equipment.

(g) *Recording of drills and training.* Drills and training must be recorded in the towing vessel record or official logbook, or in accordance with the TSMS applicable to the vessel. The record must include the date of the drill and training, a description of the drill scenario and training topics, and the personnel involved.

§ 140.425 Fall overboard protection.

(a) The owner or managing operator of a towing vessel must establish procedures to address fall overboard prevention and recovery of persons in the water, including, but not limited to:

(1) Personal protective equipment;

(2) Safely working on the tow;

(3) Safety while line handling;

(4) Safely moving between the vessel and a tow, pier, structure, or other vessel; and

(5) Use of retrieval equipment.

(b) The owner, managing operator, and master must ensure that all persons onboard comply with the policies and procedures in this section.

§ 140.430 Wearing of work vests.

Personnel dispatched from the vessel or that are working in an area on the exterior of the vessel without rails and guards must wear a lifejacket meeting requirements in 46 CFR 141.340, an immersion suit meeting requirements in 46 CFR 141.350, or a work vest approved by the Commandant under 46 CFR subpart 160.053. When worn at night, the work vest must be equipped with a light that meets the requirements of 46 CFR 141.340(c)(a). Work vests may not be substituted for the lifejackets required by 46 CFR part 141.

(b) Each storage container containing a work vest must be marked ''WORK VEST.''

§ 140.435 First aid equipment.

(a) Each towing vessel must be equipped with an industrial type first aid cabinet or kit, appropriate to the size of the crew and operating conditions. Each towing vessel operating on oceans, coastwise, or Great Lakes routes must have a means to take blood pressure readings, splint broken bones, and apply large bandages for serious wounds.

(b) Each towing vessel with alternating watches (shift work) and overnight accommodations must be provided with an Automatic External Defibrillator (AED).

(c) At least two crewmembers must be trained in the use of an AED carried onboard.

Subpart E—Safety and Health

§ 140.500 General.

(a) No later than 3 years after the effective date of a final rule, the owner or managing operator must implement a health and safety plan. The plan must include recordkeeping procedures. Records must document compliance with this part.

(b) The owner, managing operator, and master must ensure that all persons onboard a towing vessel comply with the health and safety plan.

§ 140.505 General health and safety requirements.

(a) The owner or managing operator must implement procedures for reporting unsafe conditions and must have records of the activities conducted under this section.

(b) All vessel equipment must be used in accordance with the manufacturer's recommended practice and in a manner that minimizes risk of injury or death. This includes machinery, deck machinery, towing gear, ladders, embarkation devices, cranes, portable tools, and safety equipment.

(c) All machinery and equipment that is not in proper working order (including missing or malfunctioning guards or safety devices) must be removed; made safe through marking, tagging, or covering; or otherwise made unusable.

(d) Personal Protective Equipment (PPE)—(1) Appropriate PPE must be made available and on hand for all personnel engaged in an activity that requires the use of PPE.

(2) PPE must be suitable for the vessel's intended service; meet the standards of 29 CFR 1910 subpart I; and be used, cleaned, maintained, and repaired in accordance with manufacturer's requirements.

(3) All individuals must wear PPE appropriate to the activity being performed.

(4) All personnel engaged in an activity must be trained in the proper use, limitations, and care of the PPE specified by this subpart.

(e) The vessel, including crew's quarters and the galley, must be kept in a sanitary condition.

§ 140.510 Identification and mitigation of health and safety hazards.

(a) The owner or managing operator must implement procedures to identify and mitigate health and safety hazards, including but not limited to the following hazards:

(1) Tools and equipment, including deck machinery, rigging, welding and cutting, hand tools, ladders, and abrasive wheel machinery found onboard the vessel;

(2) Slips, trips, and falls;

(3) Working aloft;

(4) Hazardous materials;

(5) Confined space entry;

(6) Blood-borne pathogens and other biological hazards;

(7) Electrical;

(8) Noise;

(9) Falls overboard;

(10) Vessel embarkation and disembarkation (including pilot transfers);

(11) Towing gear, including winches, capstans, wires, hawsers and other related equipment;

(12) Personal hygiene; and

(13) Sanitation and safe food handling.

(b) As far as practicable, the owner or managing operator must implement other types of safety control measures before relying on Personal Protective Equipment. These controls may include administrative, engineering, source modification, substitution, process change or controls, isolation, ventilation, or other controls.

§ 140.515 Training requirements.

(a) All crewmembers must be provided with health and safety information and training that includes:

(1) Content and procedures of the owner or managing operator's health and safety plan;

(2) Procedures for reporting unsafe conditions;

(3) Proper selection and use of Personal Protective Equipment (PPE) appropriate to the vessel operation;

(4) Safe use of equipment including deck machinery, rigging, welding and cutting, hand tools, ladders, and abrasive wheel machinery found onboard the vessel;

(5) Hazard communication and cargo knowledge;

(6) Safe use and storage of hazardous materials and chemicals;

(7) Confined space entry;

(8) Respiratory protection;

(9) Lockout/Tagout procedures;

(b) Individuals, other than crewmembers, must be provided with sufficient information or training on hazards relevant to their potential exposure on or around the vessel.

(c) Crewmember training required by this section must be conducted as soon as practicable, but not later than 5 days after employment.

(d) Refresher training must be repeated annually and may be conducted over time in modules covering specific topics. Refresher training may be less comprehensive, provided that the information presented is sufficient to provide employees with continued understanding of work place hazards. The refresher training of persons subject to this subpart must include the information and training prescribed in § 140.515 of this section.

(e) The owner, managing operator, or master must determine the appropriate training and information to provide to each individual permitted on the vessel who is not a crewmember, relative to the expected risk exposure of the individual.

(f) All training required in this section must be documented in owner or managing operator records.

§ 140.520 Personnel hazard exposure and medical records.

(a) The owner or managing operator must:

(1) Maintain medical records for each employee for at least 6 years following employment;

(2) Ensure that access is provided in a reasonable time, place, and manner, whenever an employee, or a person designated in writing to represent the employee, requests access to a record. If the owner or managing operator cannot reasonably provide access to the record within 15 working days, the owner or managing operator must apprise the employee or designated representative of the reason for the delay and the earliest date when the record can be made available.

(b) Whenever an employee requests access to his or her employee medical records, and a physician representing the owner or managing operator believes that direct employee access to information contained in the records regarding a specific diagnosis of a terminal illness or a psychiatric condition could be detrimental to the employee's health, the owner or managing operator may inform the employee that access will be provided only to a designated representative of the employee having specific written consent, and may deny the employee's request for direct access to this information only. Where a designated representative with specific written consent requests access to information so withheld, the owner or managing operator must ensure the access of the designated representative to this information, even when it is known that the designated representative will give the information to the employee.

Subpart F—Vessel Operational Safety

§ 140.600 Applicability.

This subpart applies to all towing vessels unless otherwise specified. Certain vessels remain subject to the navigation safety regulations in 33 CFR part 164.

§ 140.605 Vessel stability.

(a) A towing vessel with a stability letter must be maintained and operated in accordance with its stability letter.

(b) A towing vessel without a stability letter must be maintained and operated so the watertight integrity and stability of the vessel is not compromised.

(c) Prior to getting underway, and at all other times necessary to ensure the safety of the vessel, the master must determine that the vessel complies with all applicable stability requirements in the vessel's trim and stability book, stability letter, COI, and Load Line Certificate. The vessel will not get underway until the master determines that the vessel complies with these requirements.

§ 140.610 Hatches and other openings.

(a) All towing vessels must be operated in a manner that minimizes the risk of down-flooding and progressive flooding.

(b) The master must ensure that all watertight and weathertight hatches, doors, and other openings function properly.

(c) Hatches and openings of the hull and deck must be kept tightly closed except:

(1) When access is needed through the opening for transit;

(2) When operating on rivers with a tow, if the master determines the safety of the vessel is not compromised; or

(3) When operating on lakes, bays, and sounds, without a tow during calm weather, and only if the master determines that the safety of the vessel is not compromised.

(d) Where installed, all watertight doors in watertight bulkheads must be closed during the operation of the vessel, unless they are being used for transit between compartments; and

(e) When downstreaming, all exterior openings at the main deck level must be closed.

§ 140.615 Tests and inspections.

(a) This section applies to a towing vessel not subject to 33 CFR 164.80.

(b) Prior to getting underway, the master of the vessel must examine and test the steering gear, signaling whistle, propulsion control, towing gear, navigation lights, navigation equipment, and communication systems of the vessel. This examination and testing does not need to be conducted more than once in any 24-hour period.

(c) The results of the inspection must be recorded in the towing vessel record or official logbook, or in accordance with the TSMS applicable to the vessel.

§ 140.620 Navigational safety equipment.

(a) This section applies to a towing vessel not subject to the requirements of 33 CFR 164.82.

(b) The owner, managing operator, or master of each towing vessel must maintain the required navigational-safety equipment in a fully-functioning, operational condition.

(c) Navigational safety equipment that fails during a voyage must be repaired at the earliest practicable time. The owner, managing operator, or master must consider the state of the equipment (along with such factors as weather, visibility, traffic, and the dictates of good seamanship) when deciding whether it is safe for the vessel to proceed.

(d) The failure and subsequent repair or replacement of navigational-safety equipment must be recorded. The record must be made in the official log, towing vessel record, or in accordance with the Towing Safety Management System applicable to the vessel.

§ 140.625 Navigation underway.

(a) This section applies to all towing vessels. Certain towing vessels are also subject to the requirements of 33 CFR 164.78.

(b) At all times, the movement of a towing vessel and its tow must be under the direction and control of a master or mate (pilot) properly licensed under subchapter B of this chapter.

(c) The master or mate (pilot) must ensure that the towing vessel and its tow are operated in a manner that does not pose a threat to life, property, or the environment. Special attention should be paid to:

(1) The velocity and direction of currents in the area being transited;

(2) Tidal state;

(3) Prevailing visibility and weather conditions;

(4) Density of marine traffic;

(5) Potential damage caused by the vessel's own wake or that of its tow;

(6) The danger of each closing visual or radar contact;

(7) Water depth or river stage upon the route and at mooring location;

(8) Air draft relative to bridges and overhead obstructions;

(9) Bridge transits;

(10) Lock transits;

(11) Other navigation hazards such as logs, wrecks or other obstructions in the water;

(12) Handling characteristics of the vessel and tow; and

(13) Magnetic variation and deviation errors of the compass, if installed.

§ 140.630 Lookout.

(a) Throughout the trip or voyage the master and mate (pilot) must assess the requirement for a lookout. A lookout should be added when necessary to:

(1) Maintain a state of vigilance with regard to any significant change in the operational environment;

(2) Appraise the situation and the risk of collision/allision;

(3) Anticipate stranding and other dangers to navigation; and

(4) Detect any other potential hazards to safe navigation.

(b) In determining the requirement for a lookout, the person in charge of the navigation watch must take full account of relevant factors including, but not limited to: State of weather, visibility, traffic density, proximity of dangers to navigation, and the attention necessary

when navigating in areas of increased vessel traffic.

§ 140.635 Navigation watch assessment.

(a) This section applies to all towing vessels. Additionally, some vessels remain subject to the requirements of 33 CFR 164.80.

(b) Prior to getting underway or assuming a navigation watch, the person in charge of the navigation watch must conduct a navigation assessment for the intended route. The navigation assessment shall be used to assess operational risks, maintain situational awareness, and anticipate and manage workload demands. The assessment must consider the following factors:

(1) Compliance with applicable provisions of the Towing Safety Management System applicable to the towing vessel, if the vessel has a TSMS;

(2) Waterway conditions, including anticipated current direction and speed, water depth, vessel traffic, and information contained in relevant notice(s) to mariners;

(3) Existing and forecasted weather for the intended route;

(4) Maneuvering characteristics of the towing vessel and tow, taking into account tow configuration, horsepower, and any auxiliary steering units and assist vessels;

(5) Potential waterway obstacles such as bridges, dams and locks, wrecks and other obstructions, reported shoaling, and a determination as to whether adequate air-draft clearance, under-keel clearance, and horizontal clearance exist;

(6) Anticipated workload caused by the nature of the towing vessel's functions, immediate operating requirements, and anticipated maneuvers;

(7) Any other relevant standard, procedure or guidance relating to watchkeeping arrangements and fitness for duty;

(8) The knowledge and qualifications of crewmembers who are assigned as members on watch;

(9) The experience and familiarity of crewmembers with the towing vessel's equipment, procedures, and maneuvering capability;

(10) The activities taking place onboard the towing vessel and the tow;

(11) Availability of assistance to be summoned immediately to the pilothouse when necessary;

(12) The operational status of pilothouse instrumentation and controls, including alarm systems;

(13) Size of the towing vessel and tow and the field of vision available from the operating station;

(14) The configuration of the pilothouse, to the extent that such configuration may inhibit a member of the watch from detecting by sight or hearing any external development; and

(15) Any special conditions not covered above that impact the safety of navigation.

(c) At each change of the navigation watch, the oncoming watch must ensure that the navigation risk assessment is current and valid.

(d) The assessment must be updated as necessary, such as when changes occur to the tow configuration, route, weather or other routine conditions.

(e) When an assessment is updated, the person in charge of the navigation watch must ensure that any changes are communicated to other watchstanders.

(f) The assessment must be recorded in the Towing Vessel Record (TVR), official log, or, if the vessel has aTowing Safety Management System (TSMS), then in accordance with the TSMS applicable to the vessel. The entry must include: The date and time of the assessment, the name of the individual making the assessment, and the starting and ending points of the voyage or trip that the assessment covers.

§ 140.640 Pilothouse resource management.

This section applies to all towing vessels.

(a) The person in charge of the navigation watch must:

(1) Ensure that other members of the navigation watch:

(i) Share a common understanding of the navigational risks associated with the intended trip or voyage, and of agreed procedures of transit;

(ii) Understand the chain of command and the way decisions are made and responded to; and

(iii) Understand how and when to share information critical to the safety of the vessel throughout the trip or voyage.

(2) Ensure that the planned route is:

(i) Clearly displayed (in print or electronically) on charts or maps as appropriate in the pilothouse;

(ii) Continuously available to crewmembers with duties related to the safe navigation of the towing vessel, to verify any question or uncertainty on the course to be followed or to identify hazards to safe navigation; and

(iii) Updated as necessary at any change of watch, route, condition, and operational requirements during the voyage or trip.

(3) Ensure that watch change procedures provide a review of:

(i) Information critical to the safety of voyage (trip);

(ii) Procedures used to identify hazards to navigation; and

(iii) Information sharing procedures.

(4) Avoid handing over the watch if:

(i) There is reason to believe that the oncoming watchstander is not capable of carrying out the watchkeeping duties effectively; or

(ii) The night vision of the oncoming watchstander has not fully adjusted prior to assuming a night watch.

(b) Prior to assuming duties as person in charge of the navigation watch, a person must:

(1) Verify the planned route, taking into consideration all pertinent information to anticipate hazards to navigation safety;

(2) Verify the operational condition of the towing vessel; and

(3) Verify that there are adequate personnel available to assume the watch.

(c) If at any time the licensed mariner on watch is to be relieved when a maneuver or other action to avoid any hazard is taking place, the relief of that licensed mariner shall be deferred until such action has been completed.

§ 140.645 Navigation safety training.

(a) Prior to assuming duties related to the safe navigation of a towing vessel, each crewmember must receive training to ensure that they are familiar with:

(1) Watchstanding terms and definitions;

(2) Duties of a lookout;

(3) Communication with other watchstanders;

(4) Change of watch procedures;

(5) Procedures for reporting other vessels or objects; and

(6) Watchstanding safety.

(b) Crewmember training must be recorded in the towing vessel record or official logbook, or, if the vessel has a Towing Safety Management System (TSMS), then in accordance with the TSMS applicable to the vessel.

§ 140.650 Operational readiness of lifesaving and fire suppression and detection equipment.

The owner, managing operator, or master of a towing vessel must ensure that the vessel's lifesaving and fire suppression and detection equipment complies with the applicable requirements of parts 141 and 142 of this subchapter and are in good working order.

§ 140.655 Prevention of oil and garbage pollution.

(a) Each towing vessel must be operated in compliance with:

(1) Applicable sections of the Federal Water Pollution Control Act, including Section 311 of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1321);

(2) Applicable sections of The Act to Prevent Pollution from Ships (33 U.S.C. 1901 *et seq.*); and

(3) Parts 151, 155, and 156 of 33 CFR, as applicable.

(b) Each towing vessel must be capable of preventing all oil and fuel spills from reaching the water during transfers by:

(1) Pre-closing of the scuppers/freeing ports, if the towing vessel is so equipped;

(2) Using fixed or portable containment of sufficient capacity to contain the most likely spill; or

(3) Pre-deploying sorbent material on the deck around vents and fills.

(c) No person may intentionally drain oil or hazardous material into the bilge of a towing vessel from any source.

§ 140.660 Vessel security.

Each towing vessel must be operated in compliance with:

(a) The Maritime Transportation Security Act of 2002 (46 U.S.C. chapter 701); and

(b) 33 CFR parts 101 and 104, as applicable. Subpart G—Navigation and Communication Equipment.

§ 140.700 Applicability.

This subpart applies to all towing vessels unless otherwise specified. Certain towing vessels will also remain subject to the navigation safety regulations in 33 CFR part 164.

§ 140.705 Charts and nautical publications.

(a) This section applies to a towing vessel not subject to the requirements of 33 CFR 164.72.

(b) A towing vessel must carry adequate and up-to-date information and equipment for the intended voyage, including:

(1) Charts, including electronic charts acceptable to the Coast Guard, of appropriate scale to make safe navigation possible. Towing vessels operating on the western rivers must have maps of appropriate scale issued by the Army Corps of Engineers (ACOE) or river authority;

(2) ''U.S. Coast Pilot'' or similar publication;

(3) Coast Guard light list; and

(4) Towing vessels that operate on the western rivers must have river stage(s) or Water Surface Elevations (WSE) as appropriate to the trip or route, as published by the U.S. Army Corps of Engineers, or a river authority must be available to the person in charge of the navigation watch.

(c) Extracts or copies from the publications listed in paragraph (b) of this section may be carried, so long as they are applicable to the route.

§ 140.710 Marine radar.

Requirements for marine radar are set forth in 33 CFR 164.72.

§ 140.715 Communications equipment.

(a) Towing vessels must meet the communications requirements of 33 CFR part 26 and 33 CFR 164.72, as applicable.

(b) Towing vessels not subject to the provisions of 33 CFR part 26 and 33 CFR 164.72 must have a Very High Frequency-Frequency Modulated (VHF–FM) radio installed and capable of monitoring VHF–FM Channels 13 and 16, except when transmitting or receiving traffic on other VHF–FM channels, when participating in a Vessel Traffic Service (VTS), or when monitoring a channel of a VTS. The VHF–FM radio must be installed at the operating station and connected to a functioning battery backup.

(c) All towing vessels must have at least one properly operating handheld VHF–FM radio in addition to the radios otherwise required.

§ 140.720 Navigation lights, shapes, and sound signals.

Each towing vessel must be equipped with navigation lights, shapes, and sound signals in accordance with the International Regulations for Prevention of Collisions at Sea (COLREGS) or 33 CFR part 84 as appropriate to its area of operation.

§ 140.725 Additional navigation equipment.

(a) This section applies to all towing vessels. Some vessels will also remain subject to the requirements of 33 CFR 164.72.

(b) Towing vessels must be equipped with the following equipment, as applicable to the area of operation:

(1) Fathometer (except Western Rivers);

(2) Search light, controllable from the vessel's main steering station and capable of illuminating objects at a distance of at least two times the length of the tow;

(3) Electronic position-fixing device, satisfactory for the area in which the vessel operates, if the towing vessel engages in towing seaward of the navigable waters of the U.S. or more than 3 nautical miles from shore on the Great Lakes;

(4) Magnetic compass or an illuminated swing-meter (Western rivers vessels only). The compass or swing-meter must be readable from the towing vessel's main steering station; and

(5) Certain towing vessels must also meet the Automatic Identification System requirements of 33 CFR 164.46.

Subpart H—Towing Safety

§ 140.800 Applicability.

This subpart applies to all towing vessels unless otherwise specified. Certain vessels will remain subject to the navigation safety regulations in 33 CFR parts 163 and 164.

§ 140.801 Towing gear.

The owner, managing operator, or master of a towing vessel must ensure that:

(a) The strength of each component used for securing the towing vessel to the tow and for making up the tow is adequate for its intended service.

(b) The size, material, and condition of towlines, lines, wires, push gear, cables, and other rigging used for making up a tow or securing the towing vessel to a tow must be appropriate for:

(1) The horsepower or bollard pull of the vessel;

(2) The static loads and dynamic loads expected during the intended service;

(3) The environmental conditions expected during the intended service; and

(4) The likelihood of mechanical damage.

(c) Emergency procedures related to the tow have been developed and appropriate training provided to the crew for carrying out their emergency duties.

§ 140.805 Towing safety.

Prior to getting underway, and giving due consideration to the prevailing and expected conditions of the trip or voyage, the person in charge of the navigation watch for a towing vessel must ensure that:

(a) The barges or vessels making up the tow are properly configured and secured;

(b) Equipment, cargo, and industrial components onboard the tow are properly secured and made ready for transit;

(c) The towing vessel is safely and securely made up to the tow; and

(d) The towing vessel has appropriate horsepower or bollard pull and is capable of safely maneuvering the tow.

§ 140.810 Towing of barges.

The requirements of 33 CFR part 163 also apply to certain towing vessels.

§ 140.815 Examination of towing gear.

(a) The owner, managing operator, or master of a towing vessel must ensure that a visual examination of all towing gear is conducted prior to placing it into service and at least once every 30 days while in service. The visual

examination must include, but is not limited to:

(1) Towlines, bridles, face wires, spring lines, push gear, and other components used for towing or pushing;

(2) Wires, shackles, and other components used for making up a tow; and

(3) Winches, bits, cleats, and other towing vessel components.

(b) Any component found to be unsuitable must be removed from service or repaired prior to use.

§ 140.820 Recordkeeping for towing gear.

(a) The results of the visual examination, as outlined in § 140.815 of this subpart, must be documented in the Towing Vessel Record or official logbook, or, if the vessel has a Towing Safety Management System (TSMS), then in accordance with the TSMS applicable to the vessel.

(b) A record of the type, size, and service of each towline, bridle, face wire, and spring line must be available to the Coast Guard or third-party auditor for inspection.

Subpart I—Vessel Records

§ 140.900 Marine casualty reporting.

Each towing vessel must comply with the requirements of part 4 of this chapter for reporting marine casualties and retaining voyage records.

§ 140.905 Official logbooks.

(a) The following vessels are required by 46 U.S.C. 11301 to have an official logbook:

(1) A vessel of the United States, except one on a voyage from a port in the United States to a port in Canada, if the vessel is:

(i) On a voyage from a port in the United States to a foreign port; or

(ii) Of at least 100 gross tons and on a voyage between a port in the United States on the Atlantic Ocean and one on the Pacific Ocean.

(2) [Reserved]

(b) The Coast Guard furnishes, without fee, to masters of vessels of the United States the official logbook as Form CG–706B or CG–706C, depending on the number of persons employed as crew. The first several pages of this logbook list various acts of Congress governing logbooks and the entries required in them.

(c) When a voyage is completed, or after a specified time has elapsed, the master must file the official logbook containing required entries with the cognizant Officer in Charge, Marine Inspection at or nearest the port where the vessel may be.

§ 140.910 Towing vessel records.

(a) This section applies to a towing vessel other than a vessel operating only in a limited geographic area or a vessel required by § 140.905 of this subpart to maintain an official logbook.

(b) A towing vessel subject to this section must maintain a Towing Vessel Record (TVR) or, if the vessel has a Towing Safety Management System (TSMS), then other record as provided in accordance with the TSMS applicable to the towing vessel.

(c) The TVR must include a chronological record of events as required by this subchapter. They may be electronic or paper.

(d) Except as required by 46 CFR 140.900 and 144.905, records do not need to be filed with the Coast Guard, but must be kept available for review by the Coast Guard upon request. Records, unless required to be maintained for a longer period by statute or other Federal regulation, must be retained for at least 1 year after the date of the latest entry.

§ 140.915 Items to be recorded.

The following list of items must be recorded in the official log, Towing Vessel Record (TVR) or, if the vessel has a Towing Safety Management System (TSMS), then the TSMS applicable to the towing vessel:

(a) Personnel records, in accordance with § 140.400 of this part;

(b) Safety orientation, in accordance with § 140.410 of this part;

(c) Record of drills and training, in accordance with § 140.420 of this part;

(d) Operative navigational-safety equipment, in accordance with § 140.620 of this part;

(e) Navigation Assessment, in accordance with § 140.635 of this part;

(f) Navigation safety training, in accordance with § 140.645 of this part; and

(g) Towing gear, in accordance with § 140.820 of this part.

(h) Oil residue discharges and disposals, in accordance with § 140.655.

Subpart J—Penalties

§ 140.1000 Statutory penalties.

Violations of the provisions of this subchapter will subject the violator to the applicable penalty provisions of Subtitle II of Title 46, and Title 18, United States Code.

§ 140.1005 Suspension and revocation.

An individual is subject to proceedings under the provisions of 46 U.S.C. 7703 and part 5 of this chapter with respect to suspension or revocation of a license, certificate, document, or credential if the individual holds a license, certificate of registry, merchant mariner document, or merchant mariner credential and;

(a) Commits an act of misconduct, negligence or incompetence;

(b) Uses or is addicted to a dangerous drug; or

(c) Violates or fails to comply with this subchapter or any other law or regulation intended to promote marine safety.

PART 141—LIFESAVING

Subpart A—General

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141.370 Miscellaneous lifesaving requirements for towing vessels.
141.375 Visual distress signals.
141.380 Emergency position indicating radiobeacon (EPIRB).
141.385 Line throwing appliance.

Authority: 46 U.S.C. 3103, 3301, 3306, 3308, 3316, 8104, 8904; Sec. 609 of Pub. L. 111–281; 33 CFR 1.05; DHS Delegation 0170.1.

Subpart A—General

§ 141.100 Purpose.

This part contains requirements for lifesaving equipment, arrangements, systems, and procedures on towing vessels.

§ 141.105 Applicability.

(a) This part applies to all towing vessels subject to this subchapter.

(b) A towing vessel on an international voyage, subject to the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, must meet the applicable requirements in subchapter W of this chapter.

(c) Towing vessels in compliance with SOLAS will be deemed in compliance with this part.

§ 141.110 Organization of this part.

(a) Certain sections in this part contain functional requirements. Functional requirements describe the desired objective of the regulation. A towing vessel must meet the applicable functional requirements.

(b) Certain sections may also contain a prescriptive option to meet the functional requirements. A towing vessel that meets the prescriptive option will have complied with the functional requirements.

(c) If an owner or managing operator chooses to meet the functional requirement through means other than the prescriptive option, the means must be accepted by the cognizant Officer in Charge, Marine Inspection or, if the vessel has a Towing Safety Management System (TSMS), then by an approved third-party organization and documented in the TSMS applicable to the vessel.

§ 141.115 Definitions.

The definitions provided in § 136.110 of this subchapter apply to this part.

§ 141.120 Incorporation by reference.

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register, in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. To enforce any edition other than that specified in paragraph (b) of this section, the Coast Guard must publish notice of the change in the **Federal Register** and make the material available for inspection. All approved material is available at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–521), 2100 Second Street, SW., Washington, DC 20593–0001, or from the sources indicated in paragraph (b) of this section, or at the National Archives and Records Administration (NARA). For more information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal regulations/ibr_locations.html.*

(b) The material approved for incorporation by reference in this part and the sections affected are:

International Maritime Organization (IMO)	
Resolution A.760(18)—Symbols related to Life-Saving Appliances and Arrangements, 1993	141.340

Subpart B—General Requirements for Towing Vessels

§ 141.205 Towing Safety Management System (TSMS).

If a Towing Safety Management System (TSMS) is applicable to the towing vessel, the TSMS must:

(a) Include policies and procedures to ensure compliance with this part; and

(b) Provide objective evidence that documents compliance with the TSMS.

§ 141.215 [Reserved]

§ 141.220 General provisions.

(a) Unless otherwise specified, all lifesaving equipment must be of an approved type.

(b) Where equipment in this subpart is required to be of an approved type, such equipment requires the specific approval of the Coast Guard. A listing of approved equipment and materials may be found at *http://cgmix.uscg.mil/equipment.* Each cognizant Officer in Charge, Marine Inspection (OCMI) may be contacted for information concerning approved equipment and materials.

§ 141.225 Alternative requirements.

(a) A towing vessel may meet the requirements of this part by being equipped with appropriate alternate arrangements or equipment as permitted by this subpart and, for vessels with a TSMS, documented in the TSMS applicable to the vessel.

(b) The cognizant Officer in Charge, Marine Inspection (OCMI) may require a towing vessel to carry specialized or additional lifesaving equipment if:

(1) The cognizant OCMI determines that the conditions of the voyage render the requirements of this part inadequate; or

(2) The vessel is operated in globally remote areas or severe environments not covered under this part. Such areas may include, but are not limited to, Polar Regions, remote islands, areas of extreme weather, and other remote areas where timely emergency assistance cannot be anticipated.

§ 141.230 Readiness.

The master must ensure that all lifesaving equipment is properly maintained and ready for use at all times.

§ 141.235 Examination, testing, and maintenance.

(a) All lifesaving equipment must be tested and maintained in accordance with the minimum requirements of § 199.190 of this chapter and, if the vessel has a Towing Safety Management System (TSMS), with the TSMS applicable to the towing vessel.

(b) The records of tests and examinations must be maintained in accordance with the TSMS applicable to the towing vessel, if the vessel has a TSMS, or with the towing vessel record or the vessel's official logbook. The following minimum information is required:

(1) The dates when tests and examinations were performed, the number and/or other identification of each unit tested and examined, and the name(s) of the person(s) and/or third-party auditor conducting the tests and examinations.

(2) Receipts and other records documenting these tests and examinations must be retained and made available upon request.

§ 141.240 Requirements for training crews.

Training requirements are contained in part 140 of this subchapter.

Subpart C—Lifesaving Requirements for Towing Vessels

§ 141.305 Survival craft requirements for towing vessels.

(a) *General purpose.* Survival craft provide a means for survival when evacuation from the towing vessel is necessary. The craft and related equipment should be selected so as to provide for the basic needs of the crew, such as shelter from life threatening elements, until rescue resources are expected to arrive, taking into account the scope and nature of the towing vessel's operations.

(b) *Functional requirements.* A towing vessel's survival craft must meet the functional requirements of paragraphs (b)(1) through (5) of this section. The design, testing, and examination scheme for meeting these functional requirements must be submitted as part of any Towing Safety Management System (TSMS) issued under part 138 of this chapter. Survival craft must:

(1) Be readily accessible;

(2) Have an aggregate capacity to accommodate the total number of individuals onboard, as specified in paragraph (c) of this section;

(3) Provide a means for sheltering its complement appropriate to the route;

(4) Provide minimum equipment for survival if recovery time is expected to be greater than 24 hours; and

(5) Be marked so that an individual not familiar with the operation of the specific survival craft has sufficient guidance to utilize the craft for its intended use.

(6) By 2015, no survival craft may be approved unless the craft ensures that no part of an individual is immersed in water.

(c) *Prescriptive requirements.* Compliance with the functional requirements of paragraph (b) of this section may be met by meeting the prescriptive requirements of this paragraph.

(1) Except as provided in paragraphs (c)(2) through (5) of this section, each towing vessel must carry the survival craft specified in Table 141.305 of this section, as appropriate for the towing vessel, in an aggregate capacity to accommodate the total number of individuals onboard. Equipment requirements are based on the area in which a towing vessel is operating, not the route for which it is certificated; however, the towing vessel must be equipped per the requirements of its certificated route at the time of certification.

TABLE 141.305—SURVIVAL CRAFT

	Area of operation						
	Limited geographic area	Rivers	Great Lakes and LBS		Coastwise and Ltd. coastwise		Oceans
			< 3 miles from shore	> 3 miles from shore	< 3 miles from shore	> 3 miles from shore	
COLD WATER OPERATION							
Buoyant Apparatus	[1]	.....	.....	.....	.....	.....	.....
Life Float	[1]	.....	.....	.....	.....	.....	.....
Inflatable Buoyant Apparatus	[1]	[2 4 5 6] 100%	[2] 100%	.....	[2] 100%	.....	.....
Inflatable Liferaft with SOLAS A Pack	[1]	.....	.....	.....	.....	.....	100%
Inflatable Liferaft with SOLAS B Pack	[1]	.....	.....	100%	.....	100%	.....
WARM WATER OPERATION							
Buoyant Apparatus	[1]	[2 4 5 6] 100%	[2] 100%	[2] 100%	[2] 100%	.....	.....
Life Float	[1]	.....	.....	.....	.....	.....	.....
Inflatable Buoyant Apparatus	[1]	.....	.....	.....	.....	.....	.....
Inflatable Liferaft with SOLAS A Pack	[1]	.....	.....	.....	.....	.....	100%
Inflatable Liferaft with SOLAS B Pack	[1]	.....	.....	.....	.....	[3] 100%	.....

[1] Unless survival craft requirements are determined to be necessary by the cognizant OCMI or a TSMS applicable to the towing vessel.
[2] A skiff may be substituted for all or part of required equipment if capable of being launched within five minutes under all circumstances (*see* § 141.330).
[3] IBA may be accepted or substituted if the vessel carries a 406 MHz Cat 1 EPIRB meeting 47 CFR Part 80.
[4] A towing vessel may be exempt from this requirement if it carries a 406 MHz Cat 1 EPIRB meeting 46 CFR 47 Part 80.
[5] A towing vessel designed for pushing ahead when operating on rivers and canals need not carry survival craft if a TSMS applicable to the towing vessel contains procedures for evacuating crewmembers onto the tow or other safe location.
[6] Not required for towing vessels operating within 1 mile of shore unless determined to be necessary by the cognizant OCMI or a TSMS applicable to the towing vessel.

(2) A towing vessel may continue to use a survival craft, other than an inflatable liferaft, installed onboard the vessel before [EFFECTIVE DATE OF FINAL RULE] provided it is of the same type as required in Table 141.305 of this section, as appropriate for the vessel type and maintained in good and serviceable condition.

(3) A towing vessel may continue to use an inflatable liferaft installed onboard the vessel before [EFFECTIVE DATE OF FINAL RULE], provided it is equipped with the equipment pack required in Table § 141.305 of this section, as appropriate for the vessel type and maintained in good and serviceable condition.

(4) An approved lifeboat may be substituted for any survival craft required by this section, provided it is arranged and equipped in accordance with part 199 of this chapter.

(5) Each towing vessel operating within a limited geographic area need not carry a survival craft unless it is determined to be necessary by the cognizant Officer in Charge, Marine Inspection, or a TSMS applicable to the towing vessel.

(6) By 2015, no survival craft may be approved unless the craft ensures that no part of an individual is immersed in water.

§ 141.310 Stowage of survival craft.

Survival craft may be stowed in accordance with the Towing Safety Management System applicable to the towing vessel, but must, at a minimum, meet the requirements of § 199.130 of this chapter, as far as is practicable on existing towing vessels.

§ 141.315 Marking of survival craft and stowage locations.

Survival craft may be marked in accordance with the Towing Safety Management System applicable to the vessel, but must, at a minimum, meet the requirements of §§ 199.176 and 199.178 of this chapter.

§ 141.320 Inflatable survival craft placards.

Every towing vessel equipped with an inflatable survival craft must have approved placards or otherwise post instructions for launching and inflating inflatable survival craft in conspicuous places near each inflatable survival craft for the information of persons onboard.

§ 141.325 Survival craft equipment.

(a) Each item of survival craft equipment must be of good quality, effective for the purpose it is intended to serve, and secured to the craft.

(b) Each towing vessel carrying a lifeboat must carry equipment in accordance with 46 CFR 199.175.

(c) Each life float and buoyant apparatus must be fitted with a lifeline, pendants, a painter, and floating electric water light approved under subpart 161.010 of this chapter.

§ 141.330 Other survival craft.

A skiff may be substituted for all or part of the approved survival craft as permitted by Table 141.305 (in § 141.305) of this part. The skiff must meet the following requirements:

(a) Must be capable of being launched within 5 minutes under all circumstances.

(b) Must be of suitable size for all persons onboard;

(c) Must not exceed the loading specified on the capacity plate;

(d) Must not contain modifications affecting the buoyancy or structure of the skiff;

(e) Must be of suitable design for the vessel's intended service; approval by the Coast Guard is not required; and

(f) Must be marked in accordance with 46 CFR part 178 and 46 CFR 199.176.

(g) By 2015, no survival craft may be approved unless the craft ensures that no part of an individual is immersed in water.

§ 141.335 Personal lifesaving requirements for towing vessels.

Personal lifesaving requirements are summarized in Table 141.335 of this section. Equipment requirements are based on the area in which a vessel is operating, not the route for which it is certificated.

TABLE 141.335—PERSONAL LIFESAVING EQUIPMENT

	Area of Operation						
	Limited geographic area	Rivers	Great Lakes and LBS		Coastwise and Ltd. coastwise		Oceans
			< 3 miles from shore	> 3 miles from shore	< 3 miles from shore	> 3 miles from shore	
Lifejackets	1 per person	1 per person onboard. In addition, for vessels with berthing aboard, 1 per watch stander located at each watch station.					
Immersion Suits			1 per person onboard. In addition, *see* 141.350(a)(2).				
Work Vests	Required to be worn when dispatched from the towing vessel or working without rails and guard on the exterior of the vessel.						

§ 141.340 Lifejackets.

Each towing vessel must meet the requirements of 46 CFR 199.70(b) and (d), except that:

(a) A lifejacket meeting the requirements of 46 CFR 199.620(c) is acceptable.

(b) Child lifejackets are not required.

(c) For towing vessels with berthing aboard, a sufficient number of additional lifejackets must be carried so that a lifejacket is immediately available for persons at each normally manned watch station.

(d) If a Towing Safety Management System (TSMS) is applicable to the towing vessel, the TSMS may provide for an appropriate, alternative number of lifejackets for the vessel, but there must be at least one lifejacket for each person onboard. Any TSMS applicable to the towing vessel must specify the number and location of lifejackets in such a manner as to facilitate immediate accessibility at normally occupied spaces including, but not limited to, accommodation spaces and watch stations.

(e) The requirements of 46 CFR 199.70(b)(2)(iii) do not apply to stowage positions for lifejackets, other than lifejackets stowed in a berthing space or stateroom.

(f) Each lifejacket container must also be marked in block capital letters and numbers with the minimum quantity, identity, and, if sizes other than adult or universal sizes are used on the vessel, the size of the lifejackets stowed inside the container. The equipment may be identified in words or with the appropriate symbol from IMO Resolution A.760(18) incorporated by reference in § 141.120 of this part); and

(g) Where, due to the particular arrangements of the vessel, the lifejackets under paragraph (a) of this section could become inaccessible, any TSMS applicable to the vessel may include suitable alternative arrangements.

(h) A lifejacket light described in 46 CFR 199.620(e) may be used on vessels that are not in international service.

§ 141.345 Lifejacket placards.

(a) Placards containing instructions for the donning and use of the lifejackets aboard the vessel must be posted in conspicuous places for all persons onboard.

(b) If there is no suitable mounting surface, the lifejacket placards must be available to all persons onboard for familiarization.

§ 141.350 Immersion suits.

(a) *General.* Except for a towing vessel operating on rivers or in a limited geographic area, each towing vessel operating north of 32 degrees North latitude or south of 32 degrees South latitude must carry the number of immersion suits as prescribed in this subsection:

(1) At least one immersion suit, approved under subpart 160.171 of this chapter, must be the appropriate size for each person onboard, as noted in Table 141.335 (in § 141.335) of this part; and

(2) In addition to the immersion suits required under paragraph (a)(1) of this section, each watch station, work station, and industrial work site must have enough immersion suits to equal the number of persons normally on watch in, or assigned to, the station or site at one time. However, an immersion suit is not required at a station or site for a person whose cabin or berthing area (and the immersion suits stowed in that location) is readily accessible to the station or site.

(3) If a TSMS is applicable to the towing vessel, the TSMS may provide for an appropriate, alternative number of immersion suits for the vessel, but there must be at least one immersion suit of the appropriate size for each person onboard if the towing vessel is required to carry them as prescribed in paragraph (a)(1) of this section. Any TSMS applicable to the towing vessel must specify the number and location of the immersion suits in such a manner as to facilitate immediate accessibility at normally occupied spaces, including

but not limited to, accommodation spaces and watch stations.

(b) *Attachments and Fittings.* Immersion suits must carried on towing vessels must meet the requirements of 46 CFR 199.70(c) and (d).

§ 141.360 Lifebuoys.

(a) A towing vessel must have one or more lifebuoys as follows:

(1) A towing vessel less than 26 feet length must carry a minimum of one lifebuoy of not less than 510 millimeters (20 inches) in diameter;

(2) A towing vessel of at least 26 feet, but less than 79 feet, in length must carry a minimum of three lifebuoys located in positions to be spread around the vessel where personnel are normally present. Lifebuoys must be at least 610 millimeters (24 inches) in diameter;

(3) A towing vessel 79 feet or more in length must carry four lifebuoys, plus one lifebuoy on each side of the primary operating station and one lifebuoy at each alternative operating station if the vessel is so equipped. Lifebuoys must be at least 610 millimeters (24 inches) in diameter; or

(4) If a Towing Safety Management System (TSMS) is applicable to the towing vessel, the TSMS may provide for an appropriate, alternative number of lifebuoys for the vessel. Any TSMS applicable to the towing vessel must specify the number and location of lifebuoys in such a manner as to facilitate rapid deployment of ring buoys from exposed decks, including the pilot house.

(b) Each lifebuoy on a towing vessel must meet the requirements of 46 CFR 199.70(a), except that:

(1) Lifebuoys must be orange in color, if on a vessel on an oceans or coastwise route.

(2) At least two lifebuoys on a towing vessel greater than 26 feet must be fitted with a floating electric water light approved under subpart 161.010 of this chapter. If the towing vessel is limited to daytime operation, no floating electric water light is required. The floating electric water light may not be attached to the lifebuoys fitted with lifelines.

(3) Each lifebuoy with a floating electric water light must have a lanyard of at least 910 millimeters (3 feet) in length, but not more than 1,830 millimeters (6 feet), securing the water light around the body of the ring buoy.

(4) Each floating electric water light on a vessel carrying only one lifebuoy must be attached by the lanyard with a corrosion-resistant clip to allow the water light to be quickly disconnected from the ring buoy. The clip must have a strength of at least 22.7 kilograms (50 pounds).

§ 141.365 Means for recovery of persons in the water.

If a Towing Safety Management System (TSMS) is applicable to the towing vessel, the TSMS must include procedures for the prompt recovery of a person from the water and for the training of crewmembers responsible for recovery in effectively implementing such procedures.

§ 141.370 Miscellaneous lifesaving requirements for towing vessels.

Miscellaneous lifesaving requirements are summarized in Table 141.370 of this section. Equipment requirements are based on the area in which a towing vessel is operating, not the route for which it is certificated.

TABLE 141.370—MISCELLANEOUS LIFESAVING EQUIPMENT

	Area of operation						
	Limited geographic area	Rivers	Great Lakes and LBS		Coastwise and Ltd. Coastwise		Oceans
			< 3 miles from shore	> 3 miles from shore	< 3 miles from shore	> 3 miles from shore	
Visual Distress Signals (§ 141.375).	3 and 3	3 and 3	3 and 3	6 and 6; or 12 parachute flares.	3 and 3	6 and 6; or 12 parachute flares.	6 and 6; or 12 parachute flares.
EPIRBS (§ 141.380)	.....	.....	.....	Yes	.....	Yes	Yes, Type Accepted Category 1.
Line Throwing Appliances (§ 141.385).	.....	.....	.....	.....	.....	.....	Yes, 1.

§ 141.375 Visual distress signals.

(a) *Operating on oceans and other bodies of water.* A towing vessel operating on oceans, coastwise, limited coastwise, Great Lakes, or lakes, bays and sounds must carry:

(1) Six hand red flare distress signals, as approved under 46 CFR subpart 160.021 or other standard specified by the Coast Guard; and

(2) Six hand orange smoke distress signals, as approved under 46 CFR 160.037 or other standard specified by the Coast Guard.

(b) *Operating on rivers and other bodies of water.* A towing vessel operating on rivers or western rivers, and not more than 3 nautical miles from shore upon limited coastwise, great lakes or lakes, or bays and sounds, must carry:

(1) Three hand red flare distress signals, as approved under 46 CFR subpart 160.021 or other standard specified by the Coast Guard.

(2) Three hand orange smoke distress signals, as approved under 46 CFR subpart 160.037 or other standard specified by the Coast Guard.

(c) *Operating in limited geographic areas.* A towing vessel operating in a limited geographic area must carry:

(1) Three hand red flare distress signals approved under 46 CFR subpart 160.021 or other standard specified by the Coast Guard.

(2) Three hand orange smoke distress signals, as approved under 46 CFR subpart 160.037 or other standard specified by the Coast Guard.

(d) *Substitutions.* (1) A rocket parachute flare, as approved under 46 CFR subpart 160.036 or other standard specified by the Coast Guard, may be substituted for any of the hand red flare distress signals, as required under paragraph (a) or (b) of this section; or

(2) One of the following may be substituted for any of the hand orange smoke distress signals, as required under paragraph (a) or (b) of this section:

(i) A rocket parachute flare, as approved under 46 CFR subpart 160.036 or other standard specified by the Coast Guard;

(ii) A hand red flare distress signal, as approved under 46 CFR subpart 160.021

or other standard specified by the Coast Guard; or

(iii) A floating orange smoke distress signal, as approved under 46 CFR subpart 160.022 or other standard specified by the Coast Guard.

(e) *Exemption.* A vessel operating in a limited geographic area on a short run limited to approximately 30 minutes away from the dock is not required to carry distress flares and smoke signals under this section.

(f) *Stowage.* Each pyrotechnic distress signal carried to meet this section must be stowed in one of the following:

(1) A portable watertight container carried at the operating station. Portable watertight containers for pyrotechnic distress signals must be of a bright color and must be clearly marked in legible contrasting letters at least 12.7 millimeters (0.5 inches) high with ''DISTRESS SIGNALS''; or

(2) A pyrotechnic locker secured above the freeboard deck, away from heat, in the vicinity of the operating station.

§ 141.380 Emergency position indicating radiobeacon (EPIRB).

(a) Each towing vessel operating on oceans, coastwise, limited coastwise, or beyond 3 nautical miles from shore upon the Great Lakes must carry a Category 1, 406 MHz satellite Emergency Position Indicating Radio Beacon (EPIRB) which meets the requirements of 47 CFR part 80.

(b) When the towing vessel is underway, the EPIRB must be stowed in its float-free bracket with the controls set for automatic activation and be mounted in a manner so that it will float free if the towing vessel sinks.

(c) The name of the towing vessel must be marked or painted in clearly legible letters on each EPIRB, except on an EPIRB in an inflatable liferaft.

(d) The owner or managing operator must maintain valid proof of registration.

§ 141.385 Line throwing appliance.

Each towing vessel operating in oceans service must have a line throwing appliance approved under subpart 160.040 of this chapter.

(a) *Stowage.* The line throwing appliance and its equipment must be readily accessible for use.

(b) *Additional equipment.* The following equipment for the line throwing appliance is required:

(1) The equipment on the list provided by the manufacturer with the approved appliance; and

(2) An auxiliary line that—

(i) Is at least 450 meters (1,500 feet) long; and

(ii) Has a breaking strength of at least 40 kilonewtons (9,000 pounds-force); and

(iii) Is, if synthetic, of a dark color or certified by the manufacturer to be resistant to deterioration from ultraviolet light.

PART 142—FIRE PROTECTION

Subpart A—General

Sec.

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142.350 Fire Axe.

Authority: 46 U.S.C. 3103, 3301, 3306, 3308, 3316, 8104, 8904; 33 CFR 1.05; DHS Delegation 0170.1.

Subpart A—General

§ 142.100 Purpose.

This part describes the requirements for fire suppression and detection equipment and arrangements on towing vessels.

§ 142.105 Applicability.

This part applies to all towing vessels subject to this subchapter.

§ 142.110 Definitions.

The definitions provided in § 136.110 of this subchapter apply to this part.

§ 142.115 Incorporation by reference.

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Coast Guard must publish notice of change in the **Federal Register** and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal regulations/ibr_locations.html.* Also, it is available for inspection at U.S. Coast Guard, Office of Design and Engineering Standards (CG–521), 2100 Second Street, SW., Washington, DC 20593–0001, and is available from the sources listed in paragraph (b) of this section.

(b) The materials approved for incorporation by reference in this part and the sections affected are:

National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02269–9101	
NFPA 10 (Chapter 7)—Portable Fire Extinguishers, 2007	142.240
NFPA 1971—Standard on Protective Ensembles for Structural Fire-Fighting and Proximity Fire-Fighting, 2007	142.345
Underwriters Laboratories Standard, 12 Laboratory Drive, Research Triangle Park, NC 27709–3995	
UL 217—Single and Multiple Station Smoke Detectors	142.335
UL 1275—Flammable Storage Cabinet	142.225

Subpart B—General Requirements for Towing Vessels

§ 142.200 Towing Safety Management System (TSMS).

If a Towing Safety Management System (TSMS) is applicable to the towing vessel, the TSMS must:

(a) Include policies and procedures to ensure compliance with this part; and

(b) Provide objective evidence that documents compliance with the TSMS.

§ 142.205 Vessels built to alternate standards.

(a) Towing vessels that comply with The International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended will be deemed to be in compliance with this part.

(b) Alternate standards may be used where it can be shown that they provide an equivalent level of safety and performance.

§ 142.210 Alternate arrangements or equipment.

(a) A towing vessel may comply with the requirements of this subpart by being equipped with appropriate alternate arrangements or equipment as permitted by this subpart and documented in the Towing Safety Management System applicable to the towing vessel.

(b) The cognizant Officer in Charge, Marine Inspection (OCMI) may require a towing vessel to carry specialized or additional fire protection, suppression, or detection equipment if:

(1) The cognizant OCMI determines that the conditions of the voyage render the requirements of this part inadequate; or

(2) The towing vessel is operated in globally remote areas or severe environments not covered under this part. These areas may include, but are not limited to, Polar Regions, remote islands, areas of extreme weather, and other remote areas where timely emergency assistance cannot be anticipated.

§ 142.215 Approved equipment.

(a) All hand-portable fire extinguishers, semi-portable fire-extinguishing systems, and fixed fire-extinguishing systems must be of an approved type.

(b) Where equipment in this subpart is required to be of an approved type, such equipment requires the specific approval of the Coast Guard. A listing of approved equipment and materials may be found online at *http://cgmix.uscg.mil/equip*. Each cognizant Officer in Charge, Marine Inspection (OCMI) may be contacted for information concerning approved equipment and materials.

§ 142.220 Fire hazards to be minimized.

Each towing vessel must be maintained and operated so as to minimize fire hazards and to ensure the following:

(a) All bilges and void spaces are kept free from accumulation of combustible and flammable materials and liquids;

(b) Storage areas are kept free from accumulation of combustible materials insofar as practicable; and

(c) Internal combustion engine exhaust ducts and galley exhaust ducts are insulated with noncombustible insulation if less than 450 mm (18 inches) away from combustibles.

§ 142.225 Storage of flammable or combustible products.

(a) A towing vessel that has paints, coatings, or other flammable or combustible products onboard must have a designated storage area.

(b) The storage area may be any room or compartment that is free of ignition sources. A flammable storage cabinet that satisfies Underwriters Laboratories Standard (UL) 1275 (incorporated by reference in § 142.105 of this part) may be used, or other suitable steel container that provides an equivalent level of protection. If a flammable storage cabinet or steel container is used, it must be secured to the vessel so that it does not move.

(c) A B–II portable fire extinguisher must be located near the storage area. This is in addition to the portable fire extinguishers required by Table 142.305 (in § 142.305) of this part.

§ 142.230 Hand-portable fire extinguishers and semi-portable fire-extinguishing systems.

(a) Hand-portable fire extinguishers and semi-portable fire-extinguishing systems are classified by a combination letter and Roman numeral. The letter indicates the type of fire which the unit could be expected to extinguish, and the Roman numeral indicates the relative size of the unit.

(b) For the purpose of this subchapter, all required hand-portable fire extinguishers and semi-portable fire-extinguishing systems must include Type B classification, suitable for extinguishing fires involving flammable liquids, grease, *etc.*

(c) The number designations for size run from ''I'' for the smallest to ''V'' for the largest. Sizes I and II are hand-portable fire extinguishers; sizes III, IV, and V are semi-portable fire-extinguishing systems, which must be fitted with hose and nozzle or other practical means to cover all portions of the space involved. Examples of the sizes for some of the typical hand-portable fire extinguishers and semi-portable fire-extinguishing systems appear in Table 142.230(c) of this section.

TABLE 142.230(c)—PORTABLE AND SEMI-PORTABLE EXTINGUISHERS

Classification	Foam, liters (gallons)	Carbon dioxide, kilograms (pounds)	Dry chemical, kilograms (pounds)
B–I	4.75 (1.25)	2 (4)	1 (2)
B–II	9.5 (2.5)	7 (15)	4.5 (10)
B–III	45 (12)	16 (35)	9 (20)
B–IV	75 (20)	23 (50)	13.5 (30)
B–V	125 (33)	45 (100)	23 (50)

(d) All hand-portable fire extinguishers and semi-portable fire-extinguishing systems must have a permanently attached name plate giving the name of the item, the rated capacity in gallons, quarts, or pounds, the name and address of the approving person or firm, and the manufacturer's identifying mark.

§ 142.235 Fixed fire-extinguishing systems.

(a) When a fixed fire-extinguishing system is installed on a towing vessel, it must be a type approved by the Coast Guard.

(b) If the system is a carbon-dioxide type, then it must be designed and installed in accordance with subpart 76.15 of this chapter.

§ 142.240 Examination, testing, and maintenance.

(a) All fire suppression and detection equipment and systems on board a towing vessel must be tested and maintained in accordance with the attached nameplate, manufacturer's approved design manual or as otherwise provided in any Towing Safety Management System (TSMS) applicable to the vessel.

(b) The records of examinations and tests must be recorded in accordance with any TSMS applicable to the vessel, the towing vessel record, or the vessel's official logbook. The following minimum information is required:

(1) For tests: the dates when tests and examinations were performed, the number and/or other identification of each unit tested and examined, and the name(s) of the person(s) and/or third-party auditor conducting the tests and examinations; and

(2) Receipts and other records generated by these tests and examinations must be retained for at least 1 year after the expiration of the COI and made available upon request.

(c) All hand-portable fire extinguishers, semi-portable fire-extinguishing systems, fire detection systems, and fixed fire-extinguishing systems, including ventilation, machinery shutdowns, and dampers onboard the vessel, must be tested or examined at least once every 12 months, as prescribed in paragraph (d) of this section.

(d) *Tests and examinations.* (1) Portable fire extinguishers must be tested in accordance with the examinations, maintenance procedures, and hydrostatic pressure tests required by Chapter 7 of NFPA 10, Portable Fire Extinguishers (incorporated by reference in § 142.105 of this subchapter), with the frequency as specified by NFPA 10. In addition, carbon dioxide and Halocarbon portable fire extinguishers must be refilled when the net content weight loss exceeds that specified for fixed systems in Table 142.240 of this section.

(2) Semi-portable and fixed gas fire-extinguishing systems must be inspected and tested, as required by Table 142.240 of this section, in addition to the tests required by §§ 147.60 and 147.65 of subchapter N of this chapter.

(3) Flexible connections and discharge hoses on all semi-portable extinguishers and fixed gas extinguishing systems must be inspected and tested in accordance with § 147.65 of this chapter;

(4) All cylinders containing compressed gas must be tested and marked in accordance with § 147.60 of this chapter;

(5) All piping, controls, valves, and alarms must be examined; and the operation of controls, alarms, and ventilation shutdowns for each fixed fire-extinguishing system and detecting system must be verified, to determine that the system is operating properly;

(6) The fire main system must be charged, and appropriate pressure must be verified at the most remote and highest outlets;

(7) All fire hoses must be examined and subjected to a test pressure equivalent to the maximum service pressure;

(8) All smoke and fire detection systems, including sensors and alarms must be tested; and

(9) All fire hoses which are defective and incapable of repair must be destroyed.

TABLE 142.240—SEMI-PORTABLE AND FIXED FIRE EXTINGUISHING SYSTEMS

Type system	Test
Carbon dioxide	Weigh cylinders. Recharge if weight loss exceeds 10 percent of weight of charge. Test time delays, alarms, and ventilation shutdowns with carbon dioxide, nitrogen, or other nonflammable gas as stated in the system manufacturer's instruction manual. Examine hoses and nozzles to be sure they are clean.
Halon	Weigh cylinders. Recharge if weight loss exceeds 5 percent of weight of charge. If the system has a pressure gauge, recharge if pressure loss (adjusted for temperature) exceeds 10 percent. Test time delays, alarms, and ventilation shutdowns with carbon dioxide, nitrogen, or other nonflammable gasses stated in the system manufacturer's instruction manual. Examine hoses and nozzles to be sure they are clean.
Dry Chemical (cartridge operated)	Examine pressure cartridge and replace if end is punctured or if determined to have leaked or is in an unsuitable condition. Examine hose and nozzle to see if they are clear. Insert charged cartridge. Ensure dry chemical is free flowing (not caked) and extinguisher contains full charge.
Dry chemical (stored pressure)	See that pressure gauge is within operating range. If not, or if the seal is broken, weigh or otherwise determine that extinguisher is fully charged with dry chemical. Recharge if pressure is low or dry chemical is needed.
Foam (stored pressure)	See that pressure gauge, if so equipped, is within the operating range. If not, or if the seal is broken, weigh or otherwise determine that extinguisher is fully charged with foam. Recharge if pressure is low or foam is needed. Replace premixed agent every 3 years.
Halocarbon	Recharge or replace if weight loss exceeds 5 percent of weight of charge, or if pressure loss exceeds 10 percent of specified gauge pressure, adjusted for temperature.
Inert gas	Recharge or replace if cylinder pressure loss exceeds 5 percent of specified gauge pressure, adjusted for temperature.
Water mist	Maintain system in accordance with the maintenance instructions in the system manufacturer's design, installation, operation, and maintenance manual.

§ 142.245 Requirements for training crews to respond to fires.

(a) *Drills and instruction.* The master of a towing vessel must ensure that each crewmember participates in fire fighting drills and receives instruction at least once each month. The instruction may coincide with the drills, but is not required. All crewmembers must be familiar with their fire fighting duties, and, specifically how to:

(1) Fight a fire in the engine room and elsewhere onboard the towing vessel, including how to—

(i) Operate all of the fire-extinguishing equipment onboard the towing vessel;

(ii) Stop any mechanical ventilation system for the engine room and effectively seal all natural openings to the space to prevent leakage of the extinguishing agent; and

(iii) Operate the fuel shut-off(s) for the engine room.

(2) Activate the general alarm.

(3) Report inoperative alarm systems and fire detection systems; and

(4) Don a fireman's outfit and a self-contained breathing apparatus, if the vessel is so equipped.

(b) *Alternative form of instruction.* Video training, followed by a discussion led by someone familiar with the contingencies listed in paragraph (a) of this section, is an acceptable, alternative form of instruction. This instruction may occur either onboard or off the towing vessel.

(c) *Participation in drills.* Drills must take place onboard the towing vessel as if there were an actual emergency. They must include:

(1) Participation by all crewmembers;

(2) Breaking out and using, or simulating the use of, emergency equipment;

(3) Testing of all alarm and detection systems; and

(4) Putting on protective clothing by at least one person, if the towing vessel is so equipped.

(d) *Safety orientation.* The master must ensure that each crewmember who has not participated in the drills required by paragraph (a) of this section and received the instruction required by that paragraph receives a safety orientation within 24 hours of reporting for duty. The safety orientation must cover the particular contingencies listed in paragraph (a) of this section.

(e) *Recording.* Training must be recorded in accordance with the provisions of part 140 of this subchapter.

Subpart C—Equipment Requirements

§ 142.300 General.

Excepted vessels, as defined in § 136.110 of this subchapter, need not comply with the provisions of §§ 142.315 through 142.340 of this subpart.

§ 142.305 Fire-extinguishing equipment required.

(a) Towing vessels of 65 feet or less in length must carry at least the minimum number of hand-portable fire extinguishers set forth in Table 142.305(a) of this section.

TABLE 142.305(a)—HAND-PORTABLE FIRE EXTINGUISHERS

Length, feet	Minimum number of B–I hand portable fire extinguishers required [1]	
	No fixed fire-extinguishing system in machinery space	Fixed fire-extinguishing system in machinery space
Under 16	1	0
16 and over, but under 26 [2]	1	0
26 and over, but under 40	2	1
40 and over, but not over 65	3	2

[1] One B–II hand-portable fire extinguisher may be substituted for two B–I hand portable fire extinguishers.
[2] *See* § 136.105 Applicability concerning vessels under 26 feet.

(b)(1) Towing vessels of more than 65 feet in length must carry at least the minimum number of hand portable fire extinguishers set forth in Table 142.305(b)(1) of this section.

TABLE 142.305(b)(1)

Gross tonnage—		Minimum number of B–II hand portable fire extinguishers
Over	Not over	
	50	1
50	100	2
100	500	3
500	1,000	6
1,000		8

(2) In addition to the hand portable extinguishers required by paragraph (b)(1) of this section, one Type B–II hand-portable fire extinguisher must be fitted in the engine room for each 1,000 brake horsepower of the main engines or fraction thereof. A towing vessel is not required to carry more than six such extinguishers.

§ 142.310 Vessels contracted for prior to November 19, 1952.

(a) Towing vessels contracted for construction prior to November 19, 1952, must meet the applicable provisions of this part concerning the number and general type of equipment required.

(b) Existing lists of equipment and installations previously approved, but not meeting the applicable requirements for type approval, may be continued in service so long as they are in good condition.

(c) All new installations and replacements must meet the requirements of this part.

§ 142.315 Additional fire-extinguishing equipment requirements.

(a) A towing vessel that is:

(1) Certificated for rivers, lakes, bays, and sounds; or

(2) Certificated for limited coastwise, coastwise, oceans or waters beyond 3 nautical miles from shore on the Great Lakes, whose contract for construction was executed prior to August 27, 2003, must have:

(i) The minimum number of hand-portable fire extinguishers required by § 142.305 of this part; and

(ii) An approved B–V semi-portable fire-extinguishing system to protect the engine room; or

(iii) A fixed fire-extinguishing system installed to protect the engine room.

(b) A towing vessel whose contract for construction was executed on or after August 27, 2003, and is certificated for limited coastwise, coastwise, oceans, or beyond 3 nautical miles from shore on the Great Lakes, must be equipped with:

(1) The minimum number of hand-portable fire extinguishers required by § 142.305 of this part; and

(2) An approved B–V semi-portable fire-extinguishing system to protect the engine room; and

(3) A fixed fire-extinguishing system installed to protect the engine room.

(4) Paragraph (b) of this section does not apply to any towing vessel pushing a barge ahead or hauling a barge alongside when the barge's coastwise, limited coastwise, or Great Lakes route is restricted, as indicated on its Certificate of Inspection, so that the barge may operate ''in fair weather only, within 12 miles of shore'' or with words to that effect.

§ 142.325 Fire pumps, fire mains, and fire hoses.

Each towing vessel must have either a self-priming, power-driven, fixed fire pump, a fire main, and hoses and nozzles in accordance with paragraphs (a) through (d) of this section; or a portable pump, and hoses and nozzles, in accordance with paragraphs (e) and (f) of this section.

(a) A fixed fire pump must be capable of:

(1) Delivering water simultaneously from the two highest hydrants, or from both branches of the fitting if the highest hydrant has a Siamese fitting, at a pitot-tube pressure of at least 344 kilopascals (kPa), 50 pounds per square inch (psi), and a flow rate of at least 300 liters per minute (LPM), 80 gallons per minute (gpm), and

(2) Being energized remotely from a safe place outside the engine room and from the pump.

(b) All suction valves necessary for the operation of the fire main must be kept in the open position or capable of operation from the same place where the remote fire pump control is located.

(c) The fire main must have a sufficient number of fire hydrants with attached hose to reach any part of the machinery space using a single length of fire hose.

(d) The hose must be lined commercial fire hose, at least 40 millimeters (1.5 inches) in diameter, 15 meters (50 feet) in length, and fitted with a nozzle made of corrosion-resistant material capable of providing a solid stream and a spray pattern.

(e) The portable fire pump must be self-priming and power-driven, with—

(1) A minimum capacity of at least 300 LPM (80 gpm) at a discharge gauge pressure of not less than 414 kPa (60 psi), measured at the pump discharge;

(2) A sufficient amount of lined commercial fire-hose at least 40 mm (1.5 inches) in diameter and 15 meters (50 feet) in length, immediately available to attach to it so that a stream of water will reach any part of the vessel; and

(3) A nozzle made of corrosion-resistant material capable of providing a solid stream and a spray pattern.

(f) The pump must be stowed with its hose and nozzle outside of the machinery space.

§ 142.330 Fire detection in the engine room.

Each towing vessel must have a fire-detection system installed to detect engine room fires. A towing vessel whose construction was contracted for prior to January 18, 2000, may use an existing engine room monitoring system (with fire-detection capability) instead of a fire detection system, if the monitoring system is operable and complies with this section. The owner or managing operator must ensure that:

(a) Each detector, control panel, and fire alarm are approved under 46 CFR 161.002 or listed by an independent testing laboratory; except that, for an existing engine room monitoring system (with fire-detection capability), each detector must be listed by an independent testing laboratory.

(b) The system is installed, tested, and maintained in accordance with the manufacturer's design manual;

(c) The system is arranged and installed so a fire in the engine room automatically sets off alarms on a control panel at the primary operating station;

(d) The control panel includes:

(1) A power available light;

(2) Both an audible alarm to notify crew at the operating station of a fire, and visual alarms to identify the zone or zones of origin of the fire;

(3) A means to silence the audible alarm while maintaining indication by the visual alarms;

(4) A circuit-fault detector test-switch; and

(5) Labels for all switches and indicator lights, identifying their functions.

(e) The system draws power from two sources; switchover from the primary source to the secondary source may be either manual or automatic;

(f) The system serves no other purpose, unless it is an engine room monitoring system (with fire-detection capability) installed on a vessel whose contract for construction occurred prior to January 18, 2000; and

(g) The system is certified by a Registered Professional Engineer, or by a recognized classification society (under 46 CFR part 8), to comply with paragraphs (a) through (f) of this section.

§ 142.335 Smoke alarms in berthing spaces.

Each towing vessel must be equipped with a means to detect smoke in the berthing spaces and lounges that alerts individuals in those spaces. This may be accomplished via an installed detection system or by using individual battery-operated detectors meeting Underwriters Laboratories Standard 217 (incorporated by reference in § 142.105 of this subchapter). Detection systems or individual detectors must be kept operational at all times when the crew is onboard the towing vessel.

§ 142.340 Heat detector in galley.

Each new towing vessel equipped with a galley must have a heat detection system, which sounds an audible alarm at the operating station.

§ 142.345 Firemen's outfit.

(a) Each towing vessel 79 feet or more in length operating on oceans and coastwise routes that does not have an installed fixed fire-extinguishing system must have:

(1) At least two firemen's outfits that meet National Fire Protection Association (NFPA) 1971, Protective Ensemble for Structural Fire Fighting (incorporated by reference in § 142.115 of this subchapter).

(2) Two self-contained breathing apparatus of the pressure demand, open circuit type that are approved by the Mine Safety and Health Administration (MSHA) and by the National Institute for Occupational Safety and Health (NIOSH), under 42 CFR part 84. The breathing apparatus must have a minimum 30-minute air supply and full facepiece.

(b) [Reserved].

§ 142.350 Fire axe.

Each towing vessel must be equipped with at least one fire axe that is readily accessible for use from the exterior of the vessel.

PART 143—MACHINERY AND ELECTRICAL SYSTEMS AND EQUIPMENT

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Authority: 46 U.S.C. 3103, 3301, 3306, 3308, 3316, 8104, 8904; 33 CFR 1.05; DHS Delegation 0170.1.

Subpart A—General

§ 143.100 Purpose.

This part contains requirements for the design, installation, and operation of primary and auxiliary machinery and electrical systems and equipment on towing vessels.

§ 143.105 Applicability.

This part applies to all towing vessels subject to this subchapter.

§ 143.110 Organization of this part.

(a) Certain sections in this part contain functional requirements. Functional requirements describe the desired objective of the regulation. A towing vessel must meet the applicable functional requirements.

(b) Certain sections may also contain a prescriptive option to meet the functional requirements. A towing vessel that meets the prescriptive option will have complied with the functional requirements.

(c) If an owner or managing operator chooses to meet the functional requirement through means other than the prescriptive option, the means must be accepted by the cognizant OCMI or an approved third-party organization and documented in any TSMS applicable to the vessel.

§ 143.115 Definitions.

The definitions provided in § 136.110 of this subchapter apply to this part.

§ 143.120 Incorporation by reference.

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. To enforce an edition other than that specified in paragraph (b) of this section, the Coast Guard must publish notice of the change in the **Federal Register** and the material must be available for inspection. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal regulations/ibr_locations.html.* Also, all materials are available at the U.S. Coast Guard, Office of Design and Engineering Standards (CG–521), 2100 Second Street SW., Washington, DC 20593–0001, or from the sources indicated in this section.

(b) The material approved for incorporation by reference in this part and the sections affected are:

American Boat and Yacht Council (ABYC), 3069 Solomons Island Road, Edgewater, MD 21037–1416	
E–11—AC & DC Electrical Systems on Boats, 2003	143.520
H–2—Ventilation of Boats Using Gasoline, 2000	143.520
H–22—Electric Bilge Pump Systems, 2005	143.520
H–24 — Gasoline Fuel Systems, 2007	143.520
H–25—Portable Fuel Systems for Flammable Liquids, 2003	143.285, 143.520
H–32—Ventilation of Boats Using Diesel Fuel, 2004	143.520
H–33—Diesel Fuel Systems, 2005	143.520
P–1—Installation of Exhaust Systems for Propulsion and Auxiliary Engines, 2002	143.520
P–4—Marine Inboard Engines and Transmissions, 2004	143.520
American Bureau of Shipping (ABS), ABS Plaza, 16855 Northchase Drive, Houston, TX 77060	
Rules for Building and Classing Steel Vessels for Service on Rivers and Intracoastal Waterways, 2007	143,210, 143.430, 143.515, 143.535, 143.545, 143.550

Rules for Building and Classing Steel Vessels Under 90 Meters (295 Feet) in Length, 2006	143.210, 143.340, 143.430, 143.515, 143.535, 143.540, 143.545, 143.550
International Organization for Standardization (ISO), 1 rue de varembe', Case postale 56, CH–1211 Geneve 20, Switzerland	
ISO Standard 14726: 2008 Ships and marine technology—Identification colours for the content of piping systems, 2008	143.270
National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02269–9101	
NFPA 302–1998—Fire Protection Standard for Pleasure, and Commercial Motor Craft, 1998	143.285
NFPA 70–2002—National Electric Code (NEC) articles 240, 430, and 450, 2002	143.340, 143.350
Society of Automotive Engineers (SAE), 400 Commonwealth Drive, Warrendale, PA 15096–0001	
SAE J1475–1996—Hydraulic Hose Fitting for Marine Applications, 1996	143.285
SAE J1942–2005—Hose and Hose Assemblies for Marine Applications, 2005	143.285
Underwriters Laboratories, 12 Laboratory Drive, Research Triangle Park, NC 27709–3995	
UL 1104—Standards for Marine Navigation Lights, 1998	143.315

Subpart B—Requirements for All Towing Vessels

§ 143.200 Applicability.

(a) This subpart applies to all towing vessels subject to this subchapter.

(b) Where indicated, excepted towing vessels as defined in § 136.110 need not comply with the provisions of this part.

§ 143.205 Towing Safety Management System (TSMS).

If a Towing Safety Management System (TSMS) is applicable to the towing vessel, the TSMS must:

(a) Include policies and procedures to ensure compliance with this part; and

(b) Provide objective evidence that documents compliance with the TSMS.

§ 143.210 Vessels built to class.

(a) Except as noted in paragraph (b) of this section:

(1) A towing vessel classed by the American Bureau of Shipping (ABS) (incorporated by reference in § 143.120 of this part) in accordance with their rules, and as appropriate for the intended service and routes, is considered in compliance with the mechanical and electrical standards of this part.

(2) A towing vessel built and equipped to conform to ABS rules (incorporated by reference in § 143.120 of this part) appropriate for the intended service and routes, but not currently classed, may be deemed to be in compliance with this part, provided that the vessel continues to conform to ABS rules.

(b) *Additional requirements.* A towing vessel that complies with paragraph (a) of this section must also comply with the following requirements:

(1) A towing vessel that moves oil or hazardous materials in bulk must meet the class requirements described in subpart D of this part.

(2) A towing vessel must meet the potable water requirements in § 143.225 of this part.

(3) A towing vessel must meet the pilothouse alerter requirements in § 143.325 of this part.

(4) A towing vessel must meet the towing machinery requirements of § 143.330 of this part.

§ 143.215 Alternate design considerations.

Machinery or electrical equipment or systems of a novel design, unusual form, or special materials which cannot be reviewed or approved in accordance with this part, may be approved by the Commanding Officer, Marine Safety Center. It must be shown by systematic analysis, based on engineering principles, that the machinery or electrical equipment or system provides an equivalent level of safety. The owner shall submit detailed plans, material component specifications, and design criteria, including the expected vessel service and operating environment, to the Marine Safety Center.

§ 143.220 General.

(a) Machinery and electrical systems must be designed and maintained to provide for safe operation of the vessel and safety of persons onboard under normal and emergency conditions.

(b) The crew of each towing vessel must be able to demonstrate the ability to operate primary and auxiliary machinery and electrical systems under normal and emergency conditions. This includes, but is not limited to, responses to alarms and operation of propulsion and steering in the event of failure.

(c) Propulsion machinery, including main engines, reduction gears, shafting, bearings, and electrical equipment and systems, must:

(1) Be maintained to ensure proper operation;

(2) Be suitable for route and service; and

(3) Have suitable propulsion controls to provide the operator full control at the primary operating station.

(d) Repairs and minor alterations to existing towing vessels must be made in accordance with this part. New installations on or after [date after a final rule takes effect] that are not ''replacements in kind'' on an existing towing vessel must comply with subparts C and D of this part, if applicable.

§ 143.225 [Reserved]

§ 143.230 Guards for exposed hazards.

Exposed hazards, such as gears or rotating machinery, must be properly protected by a cover, guard, or rail.

§ 143.235 Machinery space fire prevention.

(a) All seals and gaskets must be properly maintained to prevent flammable liquid leaks in the machinery space.

(b) Machinery space bilges must be kept free of excessive accumulation of oil.

(c) Piping and machinery components that exceed 65.5 °C (150 °F), including fittings, flanges, valves, exhaust manifolds, and turbochargers, must be insulated. Measures must be in place to prevent flammable liquid piping leaks from coming into contact with these components.

(d) Flammable and combustible materials must not be stored in machinery spaces, unless they are stored in a suitable container that meets the requirements of § 142.225 of this subchapter.

§ 143.240 Control and monitoring requirements.

(a) Each towing vessel must have a means to monitor and control the amount of thrust, rudder angle, and (if applicable), direction of thrust at the primary operating station.

(b) Each towing vessel equipped with rudder(s) must have a means to monitor and control the position of the rudder(s) at the primary operating station.

§ 143.245 Alarms and monitoring.

(a) Each towing vessel must have a reliable means to provide notification when an emergency condition exists or an essential system develops problems that require attention. The following must be equipped with alarms:

(1) Main engine lubricating oil pressure;

(2) Main engine cooling water temperature;

(3) Main engine fuel oil pressure;

(4) Auxiliary generator engine lubricating oil pressure;

(5) Auxiliary generator engine cooling water temperature;

(6) Auxiliary generator fuel pressure;

(7) Bilge high levels;

(8) Hydraulic steering fluid levels, if applicable; and

(9) Low fuel level, if fitted with a day tank (*see* § 143.275).

(b) Alarms must:

(1) Be visible and audible at the operating station;

(2) Function when primary electrical power is lost;

(3) Have a means to test actuation at the operating station;

(4) Continue until they are acknowledged; and

(5) Not interfere with night vision at the operating station.

(c) The following systems must be equipped with gauges visible at the operating station:

(1) Main engine lubricating oil pressure;

(2) Main engine cooling water temperature;

(3) Auxiliary generator engine lubricating oil pressure;

(4) Auxiliary generator engine cooling water temperature; and

(5) Hydraulic steering fluid pressure, if the vessel is equipped with hydraulic steering systems.

(d) On excepted towing vessels, as defined in § 136.110 of this subchapter, the alarms required by this section may be located in the engine room, provided that an audible summary alarm is provided in the pilothouse and that communication exits between the pilothouse and the engine room that functions when ship service power is not available.

§ 143.250 General alarms.

(a) *Applicability.* This section applies to all towing vessels that are not an excepted vessel as defined in § 136.110 of this subchapter.

(b) *Purpose.* To provide a reliable and effective means of notifying all persons onboard the towing vessel of an emergency.

(c) Each towing vessel must be fitted with a general alarm that:

(1) Has a contact maker at the operating station that can notify persons onboard in the event of an emergency;

(2) Is capable of notifying persons in any accommodation, work space, and the engine room;

(3) Has installed, in the engine room and any other area where background noise makes a general alarm hard to hear, a supplemental flashing red light that is identified with a sign that reads: ''Attention General Alarm—When Alarm Sounds or Flashes Go to Your Station''; and

(4) Is tested at least once each week.

(d) A public-address (PA) system or other means of alerting all persons on the towing vessel may be used in lieu of the general alarm in paragraph (c) of this section if the system:

(1) Is capable of notifying persons in any accommodation, work space, and the engine room;

(2) Complies with paragraph (c)(3) of this section;

(3) Can be activated from the operating station; and

(4) Is tested at least once each week.

§ 143.255 Communication requirements.

(a) *Applicability.* This section applies to all towing vessels subject to this subchapter that are not an excepted towing vessel as defined in § 136.110 of this subchapter.

(b) *Communication system.* Each towing vessel must be fitted with a communication system between the pilothouse and the engine room that:

(1) Consists of either fixed or portable equipment, such as a sound-powered telephone, portable radios, or other reliable method of voice communication, with a main or reserve power supply that is independent of the electrical system;

(2) Provides two-way voice communication and calling between the pilothouse and either the engine room or a location immediately adjacent to an exit from the engine room.

(c) *Exceptions.* Towing vessels with more than one propulsion unit and independent pilothouse control for all engines are not required to have internal communication systems.

(d) *Direct voice communication.* When the pilothouse engine controls and the access to the engine room are within 3 meters (10 feet) of each other and allow unobstructed visible contact between them, direct voice communication is acceptable instead of a communication system.

§ 143.260 Readiness and testing.

(a) *Functional requirements.* Essential systems or equipment must be regularly tested and examined. If a component is found unsatisfactory, it must be repaired or replaced. Test and examination procedures must be in accordance with manufacturer's instructions (if available) and the vessel's Towing Safety Management System, if the vessel has a TSMS. Tests and examinations must verify that the system or equipment functions as designed.

(b) *Prescriptive option.* The towing vessel must perform the tests in Table 143.260(c) of this section. The tests required by this section must be recorded in accordance with part 140 of this subchapter.

TABLE 143.260(c)—REQUIRED TESTS AND FREQUENCY

Tests of:	Frequency
Propulsion controls; ahead and astern at the operating station	Before the vessel embarks on a trip or voyage of more than 24 hours or when each new master takes command.
Steering controls at the operating station	Before the vessel embarks on a trip or voyage of more than 24 hours or when each new master takes command.
Pilothouse alerter system required by § 143.325 of this part, as applicable.	Weekly.
All alternate steering and propulsion controls including those required by subpart D of this part (if applicable).	Weekly.

TABLE 143.260(c)—REQUIRED TESTS AND FREQUENCY—Continued

Tests of:	Frequency
Alarm actuation circuits for alarms required by § 143.245 of this part, and if applicable, subpart D of this part.	Weekly.
Emergency communication, including any required by subpart D if applicable.	Weekly.
General alarm if the vessel is so equipped	Weekly.
Emergency lighting and power if the vessel is so equipped	At least once every 3 months.
Storage batteries if the vessel is so equipped, for emergency lighting and power.	At least once every 3 months.
Alarm setpoints	Annually using methods described in 46 CFR 61.40–10.
Pressure vessel safety valves	Annually.
All other essential systems	At least once every 3 months.

§ 143.270 System isolation and markings.

Electrical equipment, piping for flammable liquid, seawater cooling, or firefighting systems must be provided with isolation devices and markings as follows:

(a) Electrical equipment must be provided with circuit isolation and must be marked as described in § 143.305 of this part;

(b) Electrical panels or other enclosures containing more than one source of power must be fitted with a sign warning persons of this condition and identifying where to secure all sources;

(c) Piping for flammable liquid, seawater cooling, or firefighting systems must be fitted with isolation valves that are clearly marked by labeling or color coding that enables the crew to identify its function; and

(d) Any piping system that penetrates the hull below the waterline must be fitted with efficient and accessible means, located as close to the hull penetrations as is practicable, for preventing the accidental admission of water into the vessel either through such pipes or in the event of a fracture of such pipe. The valve must be clearly marked by labeling or color coding that enables the crew to identify its function.

(e) Color coding required by this section may be met by complying with coding standards contained in International Organization for Standardization (ISO) standard 14726 (incorporated by reference in § 143.120 of this part), or in accordance with the Towing Safety Management System applicable to the vessel.

§ 143.275 Fuel system requirements for towing vessels.

(a) Fuel systems for the towing vessel, main engine propulsion, and auxiliary generator systems must be maintained to ensure proper operation of the system.

(b) A continuous supply of clean fuel must be provided to all engines necessary for towing vessel control including the main propulsion engines and auxiliary generator engines.

(c) The fuel system must include filters or centrifuge. Where filters are used:

(1) A supply of spare fuel filters must be provided onboard; and

(2) Fuel filters must be examined and replaced in accordance with manufacturer's requirements.

(d) Towing vessels equipped with a day tank must be equipped with a low fuel level alarm that meets the requirements of § 143.245 of this part.

§ 143.280 Fuel shutoff requirements.

(a) *Applicability.* This section applies to all towing vessels subject to this subchapter that are not excepted towing vessels, as defined in § 136.110 of this subchapter.

(b) To stop the flow of fuel in the event of a break in the fuel line, a positive, remote fuel shutoff valve must be fitted on any fuel line that supplies fuel directly to an engine or generator prime mover.

(c) The valve must be near the source of supply (for instance, at the day tank, storage tank, or fuel-distribution manifold).

(d) The valve(s) must be operable from a safe place outside the space where the valve is installed.

(e) Each remote valve control should be marked in clearly legible letters, at least 25 millimeters (1 inch) high, indicating the purpose of the valve and the way to operate it.

§ 143.285 Additional fuel system requirements for towing vessels built after January 18, 2000.

(a) *Applicability.* This section applies to all towing vessels subject to this subchapter that are not excepted towing vessels, as defined in § 136.110 of this subchapter. Except for the components of an outboard engine or of a portable bilge or fire pump, each fuel system installed onboard the towing vessel must comply with this section.

(b) *Portable fuel systems.* The towing vessel must not incorporate or carry portable fuel systems, including portable tanks and related fuel lines and accessories, except when used for outboard engines or when permanently attached to portable equipment such as portable bilge or fire pumps. The design, construction, and stowage of portable tanks and related fuel lines and accessories must comply with the American Boat and Yacht Council (ABYC) H–25 (incorporated by reference in § 143.120 of this subchapter).

(c) *Vent pipes for integral fuel tanks.* Each integral fuel tank must meet the following:

(1) Each tank must have a vent that connects to the highest point of the tank, discharges on a weather deck through a bend of 180 degrees (3.14 radians), and is fitted with a 30-by-30-mesh corrosion-resistant flame screen. Vents from two or more fuel tanks may combine in a system that discharges on a weather deck. The net cross-sectional area of the vent pipe for the tank must be not less than 312.3 square millimeters (0.484 square inches), for any tank filled by gravity, but not less than that of the fill pipe for any tank filled under pressure.

(d) *Fuel piping.* Except as permitted in paragraphs (e)(1), (2), and (3) of this section, each fuel line must be seamless and made of steel, annealed copper, nickel-copper, or copper-nickel. Each fuel line must have a wall thickness of not less than 0.9 millimeters (0.035 inch) except that—

(1) Aluminum piping is acceptable on an aluminum-hull vessel if it is installed outside the engine room and is at least Schedule 80 in thickness; and

(2) Nonmetallic flexible hose is acceptable if it—

(i) Is used in lengths of not more than 0.76 meters (30 inches);

(ii) Is visible and easily accessible;

(iii) Does not penetrate a watertight bulkhead;

(iv) Is fabricated with an inner tube and a cover of synthetic rubber or other suitable material reinforced with wire braid; and

(v) Either,—

(A) If it is designed for use with compression fittings, is fitted with suitable, corrosion-resistant, compression fittings, or fittings compliant with Society of Automotive Engineers (SAE) J1475 (incorporated by reference in § 143.120 of this subchapter); or

(B) If it is designed for use with clamps, is installed with two clamps at each end of the hose. Clamps must not rely on spring tension and must be installed beyond the bead or flare or over the serrations of the mating spud, pipe, or hose fitting. Hose complying with SAE J1475 (incorporated by reference in § 143.120 of this subchapter), is also acceptable.

(3) Nonmetallic flexible hose complying with SAE J1942 (incorporated by reference in § 143.120 of this subchapter), is also acceptable.

(e) A towing vessel of less than 79 feet in length may comply with any of the following standards for fuel systems instead of those of paragraph (d) in this section:

(1) American Boat and Yacht Council (ABYC) H–33 (incorporated by reference in § 143.120 of this part);

(2) Chapter 5 of National Fire Protection Association (NFPA) 302 (incorporated by reference in § 143.120 of this part); or

(3) 33 CFR chapter I, subchapter S (Boating Safety).

§ 143.290 Piping systems and tanks.

Vessel piping and tanks that are exposed to the outside of the hull must be made of metal and maintained in a leak free condition.

§ 143.295 Bilge pumps or other dewatering capability.

Each towing vessel must have an installed bilge pump or another method for emergency dewatering, such as a portable pump with sufficient hose length. All bilge piping, whether installed or portable, must have a check/foot valve in each bilge suction that prevents unintended backflooding through bilge piping.

§ 143.300 Pressure vessels.

(a) Pressure vessels over 5 cubic feet in volume and over 15 PSI maximum allowable working pressure must be equipped with an indicating pressure gage (in a readily visible location) and with one or more spring-loaded relief valves. The total relieving capacity of such relief valves must be such as to prevent pressure in the receiver from exceeding the maximum allowable working pressure of the receiver, as established by the manufacturer, by more than 10 percent.

(b) Compressed air receivers must be examined and relief valves must be tested at least annually.

(c) Pressure vessels installed after [EFFECTIVE DATE OF FINAL RULE] must meet the requirements of § 143.540 of this part.

§ 143.305 Electrical systems, general.

(a) Electrical systems and equipment on board towing vessels must function properly and minimize system failures, fire hazards, and shock hazards to personnel.

(b) Installed electrical power source(s) must be capable of carrying the electrical load of the towing vessel under normal operating conditions.

(c) Electrical equipment must be marked with its respective current and voltage ratings.

(d) All panels, motors, and major electrical equipment must be marked with the location(s) of the designated isolating switch or circuit breaker. Individual circuit breakers on switchboards and distribution panels must be labeled with a description of the loads they serve.

(e) Electrical connections must be suitably installed to prevent them from coming loose through vibration or accidental contact.

(f) Electrical equipment and electrical cables must be suitably protected from wet and corrosive environments.

(g) Electrical components that pose an electrical hazard must be in an enclosure.

(h) Electrical conductors passing though watertight bulkheads must be installed so that the bulkhead remains watertight.

(i) When flexible cable is used to transmit power between the vessel and tow:

(1) The receptacles must be male and the flexible cable leads must be female; and

(2) The connection must be designed to prevent unintended separation.

§ 143.310 Shipboard lighting.

(a) Sufficient lighting suitable for the marine environment must be provided on towing vessels within crew working and living areas.

(b) Emergency lighting must be provided for all crew working and living areas internal to the towing vessel. Emergency lighting sources must provide for sufficient illumination under emergency conditions to facilitate egress from each space and must be either:

(1) Powered as described in § 143.340(b)(9) of this part;

(2) Automatic, battery-operated with a duration of no less than 3 hours; or

(3) Non-electric, phosphorescent adhesive lighting strips that are installed along escape routes and sufficiently visible to enable egress with no power.

(c) Each towing vessel must be equipped with at least two operable, portable, and battery-powered lights. One must be located in the pilothouse and the other at the access to the engine room.

§ 143.315 Navigation lights.

(a) Towing vessels more than 65 feet in length must use navigation lights that meet Underwriters Laboratories (UL) 1104 (incorporated by reference in § 143.120 of this part) or other standards specified by the Coast Guard.

(b) Towing vessels 65 feet or less in length may meet the requirements listed in 33 CFR 183.810 or paragraph (a) of this section.

Subpart C—Deferred Requirements for Existing Towing Vessels

§ 143.320 Applicability.

(a) This section applies to existing towing vessels, as defined in § 136.110 of this subchapter, that are not excepted towing vessels.

(b) A towing vessel to which this section applies need not comply with the requirements of this subpart until 5 years after the issuance of its first Certificate of Inspection (COI).

(c) Repairs and minor alterations to existing towing vessels must be made in accordance with Subpart B of this part. New installations on or after the date of issuance of the existing towing vessel's first (COI) that are not ''replacements in kind'' on that vessel must comply with subparts C and (if applicable) D of this part.

§ 143.325 Pilothouse alerter system.

(a) A towing vessel with overnight accommodations and alternating watches (shift work), when pulling, pushing or hauling along side one or more barges, must have an alarm to detect when its master or mate (pilot) becomes incapacitated. The alarm must:

(1) Have a method to detect possible incapacitation of the master and actuate in the pilothouse when this condition exists;

(2) Require acknowledgement in the pilothouse within 10 minutes;

(3) If not acknowledged within 10 minutes, promptly notify another crewmember; and

(4) Be distinct from any other alarm.

(b) A towing vessel need not comply with this section if a second person is provided in the pilothouse.

§ 143.330 Towing machinery.

(a) Towing machinery such as capstans, winches, and other mechanical devices used to connect the towing vessel to the tow must be designed and installed to maximize control of the tow.

(b) Towing machinery for towing astern must have sufficient safeguards to prevent the machinery from becoming disabled in the event the tow becomes out of line.

(c) Towing machinery used to connect the towing vessel to the tow must be suitable for its intended service. It must be capable of withstanding exposure to the marine environment, likely mechanical damage, static and dynamic loads expected during intended service, the towing vessel's horsepower, and arrangement of the tow.

(d) When a winch is used that has the potential for uncontrolled release under tension, a warning must be in place at the winch controls that indicates this. When safeguards designed to prevent uncontrolled release are utilized, they must not be disabled.

(e) Each owner or managing operator must develop procedures to routinely examine, maintain, and replace capstans, winches, and other machinery used to connect the towing vessel to the tow.

§ 143.335 Remote shutdowns.

(a) Each towing vessel must have a remote manual shutdown for each main propulsion engine and auxiliary generator engine, which can be operated from a location outside the machinery space where the engines are located.

(b) The fuel shutoff required by § 143.280(b) of this part may serve as the remote manual shutdown, provided each engine can be independently shutdown.

§ 143.340 Electrical power sources, generators, and motors.

(a) *Functional Requirements.* (1) Each towing vessel must have sufficient electrical power to provide for the applicable power needs for:

(i) Propulsion, steering and control systems;

(ii) Safety systems;

(iii) Navigation systems;

(iv) Control of the tow;

(v) Minimum conditions of habitability; and

(vi) Other installed or portable systems and equipment.

(2) Generators and motors must be suitably rated for the environment where they operate, marked with their respective ratings, and suitably protected against overcurrent.

(3) In the event of a main power source failure, a towing vessel, other than an excepted towing vessel, must have a means to power essential alarms, lighting, radios, navigation equipment, and any other essential system identified by an approved third party or the cognizant Officer in Charge, Marine Inspection (OCMI).

(b) *Prescriptive option to meet functional requirements.* (1) The owner or managing operator of each towing vessel must complete a load analysis that shows that the electrical power source is sufficient to power the sum of connected loads described in paragraph (a)(1) of this section utilizing an appropriate load factor for each load.

(2) Prior to implementation of this section, the owner or managing operator must complete the load analysis of paragraph (b)(1) of this section. A record of the analysis must be retained by the owner or managing operator and be available upon request of the approved third party or cognizant OCMI.

(3) The owner or managing operator must have procedures for the evaluation of additional electrical loads added to the towing vessel to ensure compliance with paragraph (a)(1) of this section.

(4) Installed generators or motors must have a data plate listing rated kilowatts and power factor (or current), voltage, and ambient temperature.

(5) Generators must be provided with overcurrent protection no greater than 115 percent of their rated current and utilize a distribution panel.

(6) Motors must be provided with overcurrent protection that meets article 430 of the National Electric Code (NEC) (incorporated by reference in § 143.120 of this subchapter). Steering motor circuits must be protected as per Part 4 Chapter 6 Section 2, Regulation 11 (except 11.7) of American Bureau of Shipping (ABS) Rules for Building and Classing Steel Vessels Under 90 Meters (295 feet) in Length, (incorporated by reference in § 143.120 of this part).

(7) Generators and motors installed in machinery spaces must be certified to operate in an ambient temperature of 50°C unless they are derated. When derating, divide the rated ambient temperature of the generator (in degrees Celsius) by 50°C and multiply the resulting factor by the maximum rated current of the generator. Each generator and motor, except a submersible-pump motor, must be in an accessible space which is adequately ventilated and as dry as practicable. It must be mounted above the bilges to avoid damage by splash and to avoid contact with low-lying vapors.

(8) A generator driven by a main propulsion unit (such as a shaft generator) which is capable of providing electrical power continuously, regardless of the speed and direction of the propulsion shaft, may be considered one of the power sources required by paragraph (a) of this section. Any vessel speed change or throttle movement must not cause electrical power interruption.

(9) Other than excepted towing vessels, each towing vessel that relies on electricity for power must be arranged so that the following loads can be energized from two independent sources of electricity:

(i) Alarms required by § 143.245 of this part;

(ii) Emergency egress lighting, unless the requirements of § 143.310(b)(2) or (3) of this part are met;

(iii) Navigation lights;

(iv) Pilothouse lighting;

(v) Any installed radios and navigation equipment; and

(vi) Any essential system identified by an approved third party or the cognizant Officer in Charge, Marine Inspection.

(vii) If a battery is used as the second source of electricity required of this subsection, it must be capable of supplying the loads for at least three hours.

§ 143.345 Electrical distribution panels and switchboards.

(a) Each distribution panel or switchboard on a towing vessel must be:

(1) In a location that is accessible, as dry as practicable, adequately ventilated, and protected from falling debris and dripping or splashing water;

(2) Totally enclosed and of the dead-front type; and

(3) Fitted with a drip shield, unless the switchboard or distribution panel is of a type mounted deck-to-overhead and is not subject to falling objects or liquids from above.

(b) Each switchboard accessible from the rear must be constructed to prevent a person's accidental contact with energized parts.

(c) Nonconductive mats or grating must be provided on the deck in front of each switchboard and, if it is accessible from the rear, on the deck behind the switchboard.

(d) Each un-insulated current-carrying part must be mounted on noncombustible, nonabsorbent, and high-dielectric insulating material.

(e) Equipment mounted on a hinged door of an enclosure must be constructed or shielded so that a person will not come into accidental contact with energized parts of the door-mounted equipment when the door is open and the circuit energized.

§ 143.350 Electrical overcurrent protection other than generators and motors.

(a) *Functional requirement.* Power and lighting circuits on towing vessels must be protected by suitable overcurrent protection. On a towing vessel, other than an excepted towing vessel as defined in § 136.110 of this subchapter, an overcurrent protection device must not be used for both essential and non-essential systems.

(b) *Prescriptive option to meet functional requirements.* (1) Cable and wiring used in power and lighting circuits must be protected by overcurrent protection that opens the circuit at the standard setting closest to 80 percent of the manufacturer's listed ampacity. Overcurrent protection setting exceptions allowed by the National Electric Code (NEC), Article 240 (incorporated by reference in § 143.120 of this subchapter) may be employed.

(2) If the manufacturer's listed ampacity is not known, table 310.16 of the NEC (incorporated by reference in § 143.120 of this part) must be used, assuming a temperature rating of 75 degrees and an assumed temperature of 50 degrees Celsius for machinery spaces and 40 degrees for other spaces.

(3) Overcurrent protection devices must be installed in a manner that will not open the path to ground in a circuit; only ungrounded conductors must be protected. Overcurrent protection must be coordinated such that an overcurrent situation is cleared by the nearest circuit breaker or fuse.

(4) Each transformer must have protection against overcurrent that meets article 450 of the NEC (incorporated by reference in § 143.120 of this part).

(5) On a towing vessel, other than an excepted vessel as defined in § 136.110 of this subchapter, essential systems and non-essential systems must not be on the same circuit or share the same overcurrent protective device.

§ 143.355 Electrical grounding and ground detection.

(a) Dual voltage electrical distribution systems on towing vessels must have the neutral suitably grounded. There must be only one connection to ground, regardless of the number of power sources. This connection must be at the main switchboard or distribution panel.

(b) On a metallic towing vessel, a grounded distribution system must be grounded to the hull. This grounded system must be connected to a common, non-aluminum ground plate. The ground plate must have only one connection to the main switchboard or distribution panel, and the connection must be readily accessible for examination.

(c) On a nonmetallic towing vessel, all electrical equipment must be grounded to a common ground. Multiple ground plates bonded together are acceptable.

(d) Each insulated grounding-conductor of a cable must be identified by one of the following means:

(1) Wrapping the cable with green braid or green insulation;

(2) Stripping the insulation from the entire exposed length of the grounding-conductor; or

(3) Marking the exposed insulation of the grounding-conductor with green tape or green adhesive labels.

(e) A towing vessel's hull may not carry current as a conductor, except for an impressed-current cathodic-protection system or a battery system to start an engine.

(f) Cable armor may not be used to ground electrical equipment or systems.

(g) Each receptacle outlet and attachment plug for a portable lamp, tool, or similar apparatus operating at 100 or more volts must have a grounding-pole and a grounding-conductor in the portable cord.

(h) In a grounded distribution system, only grounded, three-prong appliances may be used. Adaptors that allow an ungrounded, two-prong appliance to fit into a grounded, three-prong, receptacle must not be used.

(i) A suitable method must be in place to detect unintentional grounds.

§ 143.360 Electrical conductors, connections, and equipment.

(a) Each cable and wire on a towing vessel must:

(1) Have conductors with sufficient current-carrying capacity for the circuit in which it is used;

(2) Be suitably supported every 24 inches with metal supports and not installed with sharp bends;

(3) Be installed in a manner to prevent contact with personnel, mechanical hazards, and hazards from leaking fluids and must not be installed in bilges, locations where a piping leak would drip on them, across a normal walking path, or less than 24 inches from moving machinery;

(4) Have connections and terminations suitable for copper stranded conductors that retain the original electrical, mechanical, flame-retarding, and where necessary, fire-resisting properties of the conductor. If twist-on types of connectors are used, the connections must be made within an enclosure and the insulated cap of the connector must be secured to prevent loosening due to vibration. Twist-on type of connectors may not be used for making joints in cables, facilitating a conductor splice, or extending the length of a circuit;

(5) Be installed so as to avoid or reduce interference with radio reception and compass indication;

(6) Be protected from the weather;

(7) Be supported in order to avoid chafing or other damage;

(8) Be protected by metal coverings or other suitable means, if in areas subject to mechanical abuse;

(9) Be suitable for low temperature and high humidity, if installed in refrigerated compartments;

(10) Be located outside a tank, unless it supplies power to equipment in the tank; and

(11) If wire is installed in a tank, it must have sheathing or wire insulation compatible with the fluid in a tank.

(b) Extension cords may not be used as a permanent source of electrical power.

(c) Multi-outlet adapters may not be used to expand the capacity of a receptacle.

Subpart D—Requirements for Towing Vessels That Tow Oil or Hazardous Materials in Bulk

§ 143.400 General applicability.

This subpart applies to a towing vessel subject to this subchapter that moves barges carrying oil or hazardous materials in bulk.

(a) An existing towing vessel need not comply with the requirements of this subpart until 5 years after the issuance of its first Certificate of Inspection (COI).

(b) An excepted towing vessel, as defined in § 136.110 of this subchapter, is not required to comply with the requirements of this subpart.

§ 143.405 General requirements for propulsion, steering, and related controls.

(a) A towing vessel to which this subpart applies must have an alternate means to control the propulsion and steering system which shall:

(1) Be independent of the primary control required by § 143.240 of this part;

(2) Be located at or near the propulsion and steering equipment; and

(3) Be readily accessible and suitable for prolonged operation.

(b) A towing vessel to which this subpart applies must have a means to communicate between the operating station and the alternate propulsion and steering controls.

(c) A towing vessel to which this subpart applies must have a means to stop each propulsion engine and steering motor from the operating station.

(d) The means to monitor the amount of thrust, rudder angle, and (if applicable) direction of thrust must be independent of the controls required by § 143.240 of this part.

(e) The propulsion control system required by § 143.240 of this part must be designed so that, in the event of a single failure of any component of the system, propeller speed and direction of thrust are maintained or reduced to zero.

(f) On a towing vessel with an integrated steering and propulsion system, such as a Z-drive, the control system required by § 143.240 of this part must be designed so that, in the event of a single failure of any component of the system, propeller speed and direction of thrust are maintained or the propeller speed is reduced to zero.

(g) An audible and visual alarm must actuate at the operating station when:

(1) The propulsion control system fails;

(2) A non-follow up steering control system fails, if installed; and

(3) The ordered rudder angle does not match the actual rudder position on a follow-up steering control system, if installed. This alarm must have an appropriate delay and error tolerance to eliminate nuisance alarms.

(h) Alarms must be separate and independent of the control system required by § 143.240 of this part and function when primary electrical power is lost.

(i) A means of communication must be provided between the operating station and any crewmember(s) required to respond to alarms.

(j) The two sources of electricity required by § 143.340(a)(3) and (b)(9) of this part must be capable of powering electrical loads needed to maintain propulsion, steering, and related controls for not less than 3 hours.

(k) A towing vessel to which this subpart applies that uses propulsion, steering, or related controls that are directly reliant on electrical power, must have a means to automatically restore power to propulsion, steering, and related controls when the main power source fails.

(l) A towing vessel to which this subpart applies that uses propulsion, steering, or related controls that are directly reliant on stored energy, such as air or hydraulics, must:

(1) Have two independent, stored energy systems capable of maintaining propulsion, steering, and related controls; and

(2) If the stored energy system is recharged by electrical power, have sufficient stored energy available to provide time to switch electrical power sources without a loss of propulsion, steering, or related controls.

(m) After a power failure, electrical motors used to maintain propulsion and steering must automatically restart when power is restored, unless remote control starting is provided at the operating station.

§ 143.410 Propulsor redundancy.

(a) A towing vessel must be provided with at least two independent propulsors unless the requirements of § 143.420 are met.

(b) There must be independent controls for each propulsor at the operating station.

(c) In the event of a failure of a single propulsor, the remaining propulsor(s) must have sufficient power to maneuver the vessel to a safe location.

§ 143.420 Vessels with one propulsor.

(a) A towing vessel must have independent, duplicate vital auxiliaries. For the purpose of this section, vital auxiliaries are the equipment necessary to maintain the propulsion engine (*e.g.,* fuel, lubricating oil, and cooling pumps). In the event of a failure or malfunction of any single vital auxiliary, the propulsion engine must continue to provide propulsion adequate to maintain control of the tow.

(b) In the event of a failure, the corresponding independent duplicate vital auxiliary, described in paragraph (a) of this section, must automatically assume the operation of the failed unit.

(c) Propulsion engine fuel line(s) must meet the requirements of § 143.285, regardless of build date.

(d) A towing vessel must be provided with an independent, auxiliary steering system that:

(1) Has independent controls available at the operating station;

(2) Is immediately available upon the loss of main steering system;

(3) Is appropriate to maneuver the tow; and

(4) Remains operable in the event of any single failure that affects the main steering system. This does not apply to failures of the tiller, quadrant, or other equipment that serve the same purpose.

(e) For the purpose of this section, the place where isolation valves join the piping system, as by a flange, constitutes a single-failure point. The valve itself need not constitute a single-failure point if it has a double seal to prevent substantial loss of fluid under pressure.

§ 143.430 Alternative standards.

(a) In lieu of meeting this subpart, a towing vessel may comply with the American Bureau of Shipping (ABS) Steel rules for vessels under 90 meters (incorporated by reference in § 143.120 of this part) as follows:

(1) Sections 4–7–5 (class ACBU) and 4–3–5 (class R2); and

(2) A vessel that operates exclusively on rivers or intracoastal waterways need not meet 4–7–4/3.9 and the automatic day tank fill pump requirement of 4–7–4/25.3.

(b) A vessel meeting the alternative standards of this section must comply with § 143.435 of this subpart.

§ 143.435 Demonstration of compliance.

(a) The owner or managing operator of each towing vessel must devise test procedures that demonstrate compliance with the design and engineering requirements prescribed in this subpart.

(b) The tests required in paragraph (a) of this section must be satisfactorily conducted and witnessed by an approved third party or cognizant Officer in Charge, Marine Inspection (OCMI) prior to implementation date of this section. A record of the test must be retained by the owner or managing operator and be available upon request of the approved third party or cognizant OCMI.

Subpart E—New Towing Vessels

§ 143.500 Applicability.

This subpart applies to a new towing vessel, as defined in § 136.110 of this subchapter, unless it is an excepted vessel.

§ 143.505 Standards to be used.

(a) Except as noted in paragraph (b) of this section, a new towing vessel must be constructed using the standards specified in this part. The standard selected must be used in its entirety.

(b) An alternate standard may be considered by the Commanding Officer, Marine Safety Center where it can be shown that it provides an equivalent level of safety and performance.

§ 143.510 Plan approval.

Procedures for plan approval are contained in part 144 of this subchapter.

§ 143.515 Towing vessels built to American Bureau of Shipping rules.

(a) Except as noted in paragraph (b) of this section:

(1) A towing vessel classed by the American Bureau of Shipping (ABS) (incorporated by reference in § 143.120 of this part) in accordance with their rules as appropriate for the intended service and routes is considered in compliance with this subpart.

(2) A towing vessel built and equipped to conform to ABS

(incorporated by reference in § 143.120 of this subchapter) rules appropriate for the intended service and routes, but not currently classed, may be deemed to be in compliance with this subpart providing it can be shown that the vessel continues to conform to ABS rules.

(b) In addition to the requirements in paragraph (a) of this section, a new towing vessel:

(1) That moves barges carrying oil or hazardous materials in bulk must meet the class requirements described in § 143.430 of this part.

(2) Must meet the potable water requirements in § 143.530 of this part.

(3) Must meet the pilothouse alerter requirements in § 143.325 of this part.

(4) Must meet the towing machinery requirements of § 143.330 of this part.

§ 143.520 Towing vessels built to American Boat and Yacht Council (ABYC) standards.

(a) Except as noted in paragraph (b) of this section, a new towing vessel 65 feet (19.8 meters) or less in length built to conform with the American Boat and Yacht Council (ABYC) standards listed in this paragraph (Incorporated by reference in § 143.120 of this subchapter) is considered in compliance with this subpart.

(1) H–2–Ventilation of Boats Using Gasoline;

(2) H–22—Electric Bilge Pump Systems;

(3) H–24—Gasoline Fuel Systems;

(4) H–25—Portable Gasoline Fuel Systems for Flammable Liquids;

(5) H–32—Ventilation of Boats Using Diesel Fuel;

(6) H–33—Diesel Fuel Systems;

(7) P–1—Installation of Exhaust Systems for Propulsion and Auxiliary Engines; and

(8) P–4—Marine Inboard Engines and Transmissions

(9) ABYC E–11—AC & DC Electrical Systems on Boats.

(b) In addition to the requirements in paragraph (a) of this section, a new towing vessel 65 feet (19.8 meters) or less in length must meet the:

(1) Requirements of subpart B of this part;

(2) Requirements described in subpart D of this part if it moves oil or hazardous materials in bulk;

(3) Potable water requirements in § 143.530 of this part;

(4) Pilothouse alerter requirements in § 143.325 of this part; and

(5) Towing machinery requirements of § 143.330 of this part.

§ 143.525 Towing vessels not built to American Bureau of Shipping (ABS) rules or American Boat and Yacht Council (ABYC) standards.

A new towing vessel not built to American Bureau of Shipping rules or American Boat and Yacht Council standards must meet subparts B and C of this part and §§ 143.530 through 143.555 of this subpart.

§ 143.530 [Reserved]

§ 143.532 New towing vessels that move barges carrying oil or hazardous materials in bulk.

A new towing vessel that moves barges carrying oil or hazardous materials in bulk must meet the requirements in subpart D of this part.

§ 143.535 Pumps, pipes, valves, and fittings for essential systems.

(a) In lieu of meeting the requirements of § 143.285 of this part, a new towing vessel must meet the requirements of this section.

(b) Except as noted in paragraph (c) of this section pumps, pipes, valves, and fittings in essential systems on vessels must meet American Bureau of Shipping (ABS) rules for Steel Vessels under 90 Meters (incorporated by reference in § 143.120 of this part), Part 4, Chapter 4 as applicable.

(c) Pumps, pipes, valves, and fittings in essential systems on towing vessels operating exclusively on rivers or intracoastal waterways may meet ABS Rules for Steel Vessel on Rivers and Intracoastal Waterways (incorporated by reference in § 143.120 of this subchapter), Part 4, Chapter 3 as applicable in lieu of paragraph (b) of this section.

§ 143.540 Pressure vessels.

(a) In lieu of meeting the requirements of § 143.300 of this part, a new towing vessel must meet the requirements of this section.

(b) Pressure vessels over 5 cubic feet in volume and over 15 pounds per square inch maximum allowable working pressure on new towing vessels must meet American Bureau of Shipping Rules for Steel Vessels under 90 Meters (incorporated by reference in § 143.120 of this part), Part 4, Chapter 1, Section 1, Regulation 7.5.

§ 143.545 Steering systems.

(a) Except as noted in paragraph (b) of this section, steering systems on new towing vessels must meet American Bureau of Shipping (ABS) rules for Steel Vessels under 90 Meters (incorporated by reference in § 143.120 of this part), section 4–3–3, as applicable.

(b) Steering systems on new towing vessels operating exclusively on rivers or intracoastal waterways may meet ABS Rules for Steel Vessels on Rivers and Intracoastal Waterways (incorporated by reference in § 143.120 of this part), section 4–2–3 as applicable, in lieu of paragraph (a) of this section.

§ 143.550 Electrical installations.

(a) In lieu of meeting the requirements of §§ 143.340–360 of this part, a new towing vessel must meet the requirements of this section.

(b) Except as noted in paragraph (c) of this section, electrical installations on vessels must meet American Bureau of Shipping (ABS) Rules for Steel Vessels Under 90 Meters (incorporated by reference in § 143.120 of this part), chapter 4–6.

(c) Electrical installations on vessels operating exclusively on rivers or intracoastal waterways may meet ABS Rules for Steel Vessels on Rivers and Intracoastal Waterways (incorporated by reference in § 143.120 of this part), Part 4, Chapter 5 in lieu of paragraph (a) of this section.

PART 144—CONSTRUCTION AND ARRANGEMENT

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Authority: 46 U.S.C. 3103, 3301, 3306, 3308, 3316, 8104, 8904; 33 CFR 1.05; DHS Delegation 0170.1.

Subpart A—General

§ 144.100 Purpose.

This part details the requirements for design, construction and arrangement, and plan review and approval for towing vessels.

§ 144.105 Definitions.

The definitions provided in § 136.110 of this subchapter apply to this part.

§ 144.110 Incorporation by reference.

(a) Certain material is incorporated by reference into this part with the approval of the Director of the Federal Register under 5 U.S.C 552(a) and 1 CFR part 51. To enforce any edition other than that specified in this section, the Coast Guard must publish notice of change in the **Federal Register** and the material must be available to the public. All approved material is available for inspection at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal_register/code_of_federal regulations/ibr_locations.html.* Also, it is available for inspection at U.S. Coast Guard, Office of Design and Engineering Standards (CG–521), 2100 Second Street SW., Washington, DC 20593–0001, and is available from the sources listed in paragraph (b) of this section.

(b) The material approved for incorporation by reference in this part and the sections affected are:

American Bureau of Shipping (ABS), ABS Plaza, 16855 Northchase Drive, Houston, TX 77060	
Rules for Building and Classing Steel Vessels for Service on Rivers and Intracoastal Waterways, 2007	144.410
Rules for Building and Classing Steel Vessels Under 90 Meters (295 Feet) in Length, 2006	144.410
International Maritime Organization, (IMO). 4 Albert Embankment, London SE1 7SR	
Resolution A.688(17) Fire Test Procedures For Ignitability of Bedding Components, 1991	144.435

Subpart B—All Towing Vessels

§ 144.200 Applicability.

This subpart applies to all towing vessels subject to this subchapter.

§ 144.205 Towing Safety Management System (TSMS).

If a Towing Safety Management System (TSMS) is applicable to the vessel, the TSMS must:

(a) Include policies and procedures to ensure compliance with this part; and

(b) Provide objective evidence that documents compliance with the TSMS.

§ 144.210 General.

The construction and arrangement of the towing vessel must be suitable for the service and route of the vessel, including the welfare of the crew and control of the tow.

§ 144.215 Special consideration.

The cognizant Officer in Charge, Marine Inspection may give special consideration to the structural requirements for small vessels or vessels of an unusual design not contemplated by the rules of the American Bureau of Shipping or other recognized classification society.

§ 144.220 Verification of compliance.

A verification of compliance with established standards must be performed as follows:

(a) Prior to conducting a major conversion or alternation to the hull, machinery, or equipment that affect the safety of a new or existing towing vessel;

(b) For new installations, after [date final rule takes effect], that are not ''replacements in kind'' on an existing towing vessel; and

(c) Upon request of the Coast Guard.

§ 144.225 Qualifications.

(a) Verification of compliance with this part must be performed by a registered Professional Engineer (P.E.) licensed by one of the 50 states of the United States or the District of Columbia, or by a current, full time employee of the American Bureau of Shipping (ABS).

(b) The P.E. must ensure that he or she does not exceed the scope of his or her P.E. license.

(c) In the case of certifications by ABS employees, ABS must ensure the reviewer holds proper ABS qualifications for the particular type of review being conducted.

§ 144.230 Procedures for verification of compliance with construction and arrangement standards.

(a) Verification of compliance with construction and arrangement standards for towing vessels, when required, must be performed by an individual meeting the requirements of § 144.225 of this part.

(b) Objective evidence of compliance must be provided to the Coast Guard and include:

(1) A description of the towing vessel's intended service and route;

(2) The standards applied;

(3) Deviations from the standards used;

(4) A statement that the towing vessel is suitable for the intended service and route;

(5) The name, address, employer affiliation, license number, and state of licensure of the professional engineer making the verification; and

(6) Attestation by the builder that the vessel was built to plans.

(c) The verification must include a review and analyses of sufficient plans, drawings, schematics, and calculations to ensure the vessel complies with the standards used. The plans must be stamped or otherwise indicate that they have been reviewed by an individual meeting the requirements of § 144.225.

(d) A copy of the verified plans must be forwarded to the cognizant Officer in Charge, Marine Inspection in whose zone the work will be performed.

(e) A copy of the verified plans must be available at the construction site.

(f) Plans reviewed and approved by the American Bureau of Shipping need not be forwarded to the Coast Guard unless requested.

§ 144.235 Verification for sister vessels.

(a) A full verification of compliance is not required for sister towing vessels, provided that:

(1) The plans for the original vessels have already been verified as complying with this part;

(2) The owner authorizes their use for the new construction;

(3) The regulations or published standards have not changed since the original verification;

(4) The sister vessel is built to the same plans and equipped with the same machinery as the first vessel of the class, and has not been subsequently modified;

(5) The sister vessel is built in the same shipyard facility as the first vessel;

(6) For stability purposes, the sister vessel is delivered within 2 years of the stability test date of an earlier vessel in the class. If delivered later than 2 years, the sister vessel must undergo a deadweight survey to determine its actual light ship displacement and Longitudinal Center of Gravity (LCG). If the deadweight survey results are within 3 percent of the earlier vessel's approved light ship displacement and within 1 percent Length Between Perpendiculars (LBP) of the earlier vessel's approved light ship LCG, it may be accepted as a sister vessel and use the earlier vessel's approved light ship Vertical Center of Gravity (VCG); and

(7) If no vessel of the class previously underwent a stability test, then one vessel of the class must undergo a stability test in accordance with 46 CFR Part 170 Subpart F, and the sister vessel(s) must undergo a deadweight survey in accordance with paragraph (a)(6) of this section.

(b) A statement verifying sister status from an individual meeting the requirements of § 144.225 of this section must be retained and produced upon request.

§ 144.240 Marking of towing vessels.

(a) The hull of each documented towing vessel must be marked as required by part 67 of this chapter.

(b) The hull of each undocumented towing vessel must be marked with its name and hailing port.

(c) A towing vessel required to comply with §§ 144.315 and 144.415 must have the drafts of the vessel plainly and legibly marked up the stem and upon the sternpost or rudderpost or at any place at the stern of the vessel that is easily observed. The bottom of each mark must indicate the draft.

(d) Each towing vessel assigned a load line must have load line markings and deck line markings permanently scribed or embossed as required by subchapter E of this chapter.

(e) Watertight doors and watertight hatches must be marked on both sides in clearly legible letters at least 25 millimeters (1 inch) high: ''WATERTIGHT DOOR—KEEP CLOSED'' or ''WATERTIGHT HATCH—KEEP CLOSED''.

(f) All escape hatches and other emergency exits used as means of escape must be marked on both sides in clearly legible letters at least 50 millimeters (2 inches) high: ''EMERGENCY EXIT, KEEP CLEAR''.

Subpart C—Existing Towing Vessels

§ 144.300 Applicability.

This subpart applies to all existing towing vessels as defined in § 136.110 of this subchapter.

§ 144.305 General.

(a) Except as otherwise required in this part, an existing towing vessel must comply with the construction and arrangement standards that were applicable to the vessel prior to the implementation date of these regulations.

(b) Alterations or modifications made to the structure or arrangements of an existing towing vessel that are a major conversion, on or after the [effective date of regulations], must comply with the regulations of this part.

(c) Repairs conducted on an existing towing vessel, resulting in no significant changes to the original structure or arrangement of the vessel, must comply with the standards applicable to the vessel at the time of construction or as an alternative, with the regulations in this part.

§ 144.310 Structural standards.

(a) A existing towing vessel classed by the American Bureau of Shipping (ABS) in accordance with their rules as appropriate for the intended service and routes of the vessel, meets the structural standards of this subpart.

(b) A existing towing vessel with a valid load line certificate issued in accordance with Subchapter E of this chapter may be deemed in compliance with the structural requirements of this subpart.

(c) A existing towing vessel built to International Convention for Safety of Life at Sea (SOLAS) 1974, as amended, is considered to be in compliance with this part.

(d) A existing towing vessel built and equipped to conform to ABS rules appropriate for the intended service and routes, but not currently classed, may be deemed to be in compliance with this subpart, provided that the vessel continues to conform to ABS rules.

(e) The current standards of other recognized classification societies may be accepted upon approval by the Coast Guard.

(f) Classification by a recognized classification society is not required.

§ 144.315 Stability.

(a) This section applies to an existing towing vessel with a previously issued stability document.

(b) Each existing towing vessel operating under a previously issued stability document must continue to operate in accordance with the conditions specified therein and the requirements of this section.

(c)(1) A weight and moment history of changes to the vessel since approval of its light ship characteristics (displacement, Longitudinal Center of Gravity (LCG) and Vertical Center of Gravity (VCG)) shall be maintained. All weight modifications to the vessel (additions, removals, and relocations) shall be recorded in the history, along with a description of the change(s), when and where accomplished, moment arms, *etc.* After each modification, the light ship characteristics shall be recalculated.

(2) When the aggregate weight change (absolute total of all additions, removals, and relocations) is more than 2 percent of the vessel's approved light ship displacement, or the recalculated change in the vessel's light ship LCG is more than 1 percent of its length between perpendiculars (LBP), a deadweight survey shall be performed to determine the vessel's current light ship displacement and LCG. If the deadweight survey results are within 1 percent of the recalculated light ship displacement and within 1 percent LBP of the recalculated light ship LCG, then the recalculated light ship VCG can be accepted as accurate. If, however, the deadweight survey results are outside these tolerances, then the vessel must undergo a full stability test in accordance with 46 CFR 170 subpart F.

(3) When the aggregate weight change is more than 10 percent of the vessel's approved light ship displacement, the vessel must undergo a full stability test in accordance with 46 CFR Part 170 Subpart F.

(d) The cognizant Officer in Charge, Marine Inspection may restrict the route of an existing towing vessel based on concerns for the vessel's stability.

§ 144.320 Watertight integrity.

(a) An existing towing vessel must comply with the watertight integrity regulations which were applicable to the vessel on [EFFECTIVE DATE OF FINAL RULE], except that:

(1) Hatches, doors, vent closures, and other fittings affecting the watertight integrity of the vessel must be in place and operable;

(2) Decks and bulkheads designed to be watertight or weathertight must be maintained in that condition;

(3) Piping systems that penetrate the hull and tanks that are integral to the hull must be made of appropriate metal;

(4) Each existing towing vessel fitted with installed bulwarks around the exterior of the main deck must have sufficient freeing ports or scuppers or a

combination of freeing ports and scuppers to allow water to run off the deck quickly without adversely affecting the stability of the vessel; and

(5) Closure devices must be provided for cabin or hull penetrations, which open to the exterior of the vessel and which may allow water to enter the vessel. These devices must be suitable for the expected route.

(b) The cognizant Officer in Charge, Marine Inspection may require review of an existing towing vessel's watertight and weathertight integrity. This review may be performed by an individual meeting § 144.225 of this part. The review may include an examination of drawings or plans that show the original placement of decks and bulkheads.

§ 144.325 Visibility from pilothouse.

(a) Windows and other openings at the pilothouse of an existing towing vessel must be of sufficient size and properly located to provide a clear field of vision for safe operation in any condition.

(b) Means must be provided to ensure that windows immediately forward of the steering station in the pilothouse allow for adequate visibility to ensure safe navigation regardless of weather conditions. This may include mechanical means such as windshield wipers, defoggers, clear-view screens, or other such means, taking into consideration the intended route of the vessel.

§ 144.330 Emergency escape.

(a) Where practicable, each space on an existing towing vessel where crew may be quartered or normally employed must have at least two means of escape.

(b) The two required means of escape must be widely separated and, if possible, at opposite ends or sides of the space. Means may include normal and emergency exits, passageways, stairways, ladders, deck scuttles, doors, and windows.

(c) On an existing towing vessel of 65 feet (19.8 meters) or less in length, a window or windshield of sufficient size and proper accessibility may be used as one of the required means of escape from an enclosed space, provided it:

(1) Does not lead directly overboard;

(2) Is suitably marked; and

(3) Has a means to open a window or break a glass.

(d) Only one means of escape is required from a space where:

(1) The space has a deck area less than 30 square meters (322 square feet);

(2) There is no stove, heater, or other source of fire in the space;

(3) The means of escape is located as far as possible from a machinery space or fuel tank; and

(4) If an accommodation space, the single means of escape does not include a deck scuttle or a ladder.

(e) Existing arrangements may be retained if it is impracticable or unreasonable to provide two means of escape.

§ 144.335 Handrails and bulwarks.

(a) Rails or equivalent protection must be installed on existing towing vessels near the periphery of all decks accessible to crew. Equivalent protection may include lifelines, wire rope, chains, and bulwarks that provide strength and support equivalent to fixed rails.

(b) In areas where space limitations make deck rails impractical, such as at narrow catwalks in way of deckhouse sides, hand grabs may be substituted.

§ 144.340 Storm rails.

On existing towing vessels in ocean and coastwise service, suitable storm rails must be installed in all passageways and at the deckhouse sides where persons onboard might have normal access. Storm rails must be installed on both sides of passageways which are 6 feet or more in width.

§ 144.345 Guards in dangerous places.

An exposed hazard on existing towing vessels, such as gears and rotating machinery, must be protected by a cover guard or rail. This is not meant to restrict access to towing equipment such as winches, drums, towing gear or steering compartment equipment necessary for the operation of the vessel.

§ 144.350 Exhausts.

(a) Exhausts of internal-combustion engines, galley uptakes, and similar sources of ignition on existing towing vessels must be kept clear of and insulated from woodwork and other combustible matter.

(b) Each exhaust pipe from an internal combustion engine which is within reach of personnel must be insulated or otherwise guarded to prevent burns.

§ 144.355 Crew spaces.

(a) Overnight accommodations must be provided for crewmembers on an existing towing vessel if it is operated more than 12 hours in a 24-hour period, unless the crew is put ashore and the vessel is provided with a new crew.

(b) Crew accommodation spaces and work spaces must be of sufficient size, adequate construction, and with suitable equipment to provide for the safe operation of the vessel and the protection and accommodation of the crew in a manner practicable for the size, facilities, service, route, and modes of operation of the vessel.

(c) The deck above a crew accommodation space must be located above the deepest load waterline.

(d) Condition of the crew accommodations should consider the importance of crew rest. Factors to consider include: vibrations, ambient light, noise levels, and general comfort. Every effort should be made to ensure that quarters help provide a suitable environment for sleep and off-duty rest.

§ 144.360 Ventilation for accommodations.

(a) Each accommodation space on an existing towing vessel must be ventilated in a manner suitable for the purpose of the space.

(b) Existing towing vessels of more than 65 feet (19.8 meters) in length with overnight accommodations must have mechanical ventilation systems unless a natural system, such as opening windows, portholes, or doors, will provide adequate ventilation in ordinary weather.

(c) Means must be provided for stopping each fan in a ventilation system serving machinery spaces and for closing, in case of fire, each doorway, ventilator, and annular space around funnels and other openings into such spaces.

Subpart D—New Towing Vessels

§ 144.400 Applicability.

This subpart applies to new towing vessels as defined in § 136.110 this subchapter.

§ 144.405 Vessels built to class.

A new towing vessel classed by the American Bureau of Shipping in accordance with their rules as appropriate for the intended service and routes, meets the structural standards of this subpart.

§ 144.410 Structural standards.

(a) Except as provided by paragraphs (b) and (d) of this section, compliance with the construction and structural rules established by the American Bureau of Shipping is acceptable for the design and construction of a new towing vessel.

(1) For new towing vessels to be certificated for service on lakes, bays, and sounds, limited coastwise, coastwise, and oceans routes, American Bureau of Shipping (ABS) Rules for Building and Classing Steel Vessels Under 90 Meters (295 Feet) in Length (incorporated by reference in § 144.110 of this part) apply.

(2) For new towing vessels to be certificated for service on rivers or intracoastal waterways routes, ABS Rules for Building and Classing Steel Vessels for Service on Rivers and

Intracoastal Waterways (incorporated by reference in § 144.110 of this part) apply.

(b) The current standards of a recognized classification society, other than ABS may be used if they provide an equivalent level of safety.

(c) Classification by a recognized classification society is not required.

(d) Application may be made for use of alternative standards. Consideration of alternative standards will be given on a case-by-case basis upon review of vessel size, service, route, configuration, and other factors as deemed appropriate by the Commanding Officer, Marine Safety Center (MSC).

(e) The plans required by § 144.230 of this part must specify the standard to which the vessel is designed.

(f) The standard selected must be applied throughout the vessel including design, construction, installation, maintenance, alteration, and repair. Deviations are subject to approval by the Commanding Officer, MSC.

§ 144.415 Stability.

(a) Except as otherwise provided in paragraphs (b) and (c) of this section, each new towing vessel must meet the applicable stability requirements of part 170 and subpart E of part 173 of this chapter.

(b) For new towing vessels with a load line, the review, approval, and issuance of stability documentation (including stability tests) per §§ 170.110 and 170.120, and 170 subpart F must be done by the load line issuing authority. For new towing vessels without a load line, these functions must be done by an individual meeting the requirements of § 144.225 of this part.

(c)(1) Each new towing vessel certificated to operate on protected waters must meet the requirements of § 170.173(e)(2);

(2) Each new towing vessel certificated to operate on partially protected waters must meet the requirements of §§ 170.170 and 170.173(e)(1);

(3) Each new towing vessel certificated to operate on exposed waters or that requires a load line must meet the requirements of §§ 170.170 and 174.145.

(d) Each new towing vessel equipped for lifting must meet the requirements of subpart B of part 173 of this chapter.

(e)(1) A weight and moment history of changes to the vessel since approval of its light ship characteristics (displacement, Longitudinal Center of Gravity (LCG) and Vertical Center of Gravity (VCG)) shall be maintained. All weight modifications to the vessel (additions, removals, and relocations) shall be recorded in the history, along with a description of the change(s), when and where accomplished, moment arms, *etc.* After each modification, the light ship characteristics shall be recalculated.

(2) When the aggregate weight change (absolute total of all additions, removals, and relocations) is more than two percent of the vessel's approved light ship displacement, or the recalculated change in the vessel's light ship LCG is more than 1 percent of its length between perpendiculars (LBP), a deadweight survey shall be performed to determine the vessel's current light ship displacement and LCG. If the deadweight survey results are within 1 percent of the recalculated light ship displacement and within 1 percent LBP of the recalculated light ship LCG, then the recalculated light ship VCG can be accepted as accurate. If, however, the deadweight survey results are outside these tolerances, then the vessel must undergo a full stability test in accordance with 46 CFR 170 subpart F.

(3) When the aggregate weight change is more than 10 percent of the vessel's approved light ship displacement, the vessel must undergo a full stability test in accordance with 46 CFR part 170 subpart F.

(f) The cognizant Officer in Charge, Marine Inspection may restrict the route of a towing vessel based on concerns for the vessel's stability.

§ 144.420 Minimum standards.

Regardless of the construction and arrangements standards used, each new towing vessel must, as a minimum, meet the requirements of this subpart and subparts B and C of this part, as appropriate.

§ 144.425 Visibility.

(a) Each new towing vessel must be constructed in order to ensure a clear field of vision from the operating station. The field of vision must extend over an arc from dead ahead to at least 60 degrees on either side of the vessel.

(b) If towing astern, the primary steering station must be provided with a view aft.

(c) Means must be provided to ensure that windows immediately forward of the steering station in the pilothouse allow for adequate visibility to ensure safe navigation regardless of weather conditions. This may include mechanical means such as windshield wipers, defoggers, clear-view screens, or other such means, as appropriate for the intended route.

§ 144.430 Windows and portholes.

(a) Glass and other glazing materials used in windows of new towing vessels must be materials that will not break into dangerous fragments if fractured.

(b) Each window or porthole, and its means of attachment to the hull or the deckhouse, must be capable of withstanding the maximum expected load from wind and waves, due to its location on the vessel and the vessel's authorized route.

(c) Any covering or protection placed over a window or porthole that could be used as a means of escape must be able to be readily removed or opened from within the space.

§ 144.435 General fire protection.

(a) Each new towing vessel must be designed and constructed to minimize fire hazards as far as reasonable and practicable.

(b) Machinery and fuel tank spaces must be separated from accommodation spaces by bulkheads. Doors may be installed provided they are the self-closing type.

(c) Exhausts of internal-combustion engines, galley uptakes, and similar sources capable of starting a fire must be kept clear of and insulated from woodwork and other combustible matter.

(d) Paint lockers and similar compartments must be constructed of steel or be wholly lined with steel and comply with § 142.225 of this subchapter.

(e) Unless other means are provided to ensure that a potential waste receptacle fire would be limited to the receptacle, waste receptacles must be constructed of noncombustible materials with no openings in the sides or bottom.

(f) All mattresses must comply with either:

(1) The U.S. Department of Commerce Standard for Mattress Flammability (FF 4–72.16), 16 CFR part 1632, Subpart A and not contain polyurethane foam; or

(2) International Maritime Organization Resolution A.688(17) Fire Test Procedures For Ignitability of Bedding Components (incorporated by reference in § 144.110 of this part). Mattresses that are tested to this standard may contain polyurethane foam.

Dated: July 19, 2011.

Robert J. Papp, Jr.,

Admiral, U.S. Coast Guard, Commandant.

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