144-001

Are stability letters to be issued? If so is that authority retained by the CG? If not, how are we documenting stability issues particularly centers of gravity? NVIC 3-89 may be pointed to, and to some extent the guidance for presenting information to operators for fishing vessels found in Enclosure 1 of NVIC 5-86 may be sources to point to or draw from.

No. A stability letter issued by the Coast Guard is not required. However, any operating restrictions or directions necessary for the vessel's master or officer in charge of the navigation watch to ensure stability of the vessel (see §140.605) must be documented in a clear and concise manner and maintained onboard the vessel. The development of these restrictions and the concise and easily understood documentation of these restrictions is to be evaluated by an individual or entity qualified to do so (see §144.140). Certain vessels with complex loading and stability conditions may require a Trim and Stability booklet, while others may be best served by a set of operating instructions. Vessel designers are encouraged to review the discussion and general guidance found in Enclosure (1) of NVIC 3-89 Guidelines for Presentation of Stability Information for Operating Personnel when developing operating instructions related to stability in order to provide masters and officers in charge of a navigational watch with sufficient guidance to comply with the requirement of §140.605.

Received 1 August 2016

Answered 14 May 2018, updated 07 October 2020

144-003
By whom and how should the "weight and moment history of changes" be maintained as required in 46 CFR §144.315?

The vessel's owner or managing operator should maintain this documentation. For new vessels that must comply with the requirements of 46 CFR §144.315, the owner or managing operator should ensure the vessel's lightweight characteristics are clearly documented by the individual or entity which verifies compliance with stability standards. That information and subsequent documentation of weight and moment history may be held in any format so long as it is clear to the surveying entity that weight changes are recorded and calculations have been completed which show the effect of the weight movement, addition, or removal on the vessel's previously documented centers of gravity. A tabular format to record the approved lightweight characteristics and changes thereto is used by the USCG:

Known	Known	Known/Unknown
Mm/dd/yy	Mm/dd/yy	Date
Remove (2) mm engines	Last stability test	Description
Nnn.nnn lbs.	Nnn.nnn lbs.	Displacement/Weight
N.nn ft.	N.nn ft.	LCG (from AP)
N.nn ft.	N.nn ft.	TCG (from CL)
N.nn ft.	N.nn ft.	VCG (above BL)

Received 1 August 2016
Answered 14 May 2018, updated 07 October 2020

144-004
Can I use multiple authorized individuals or entities to conduct the design verification required by 46 CFR §144.135?

Yes, however, as discussed in FAQ 144-005 while there may be more than one person who is employed to help perform a verification of compliance with design standards. The verification of compliance with design standards must include, *inter alia*, the statement required and the identification of the individual or entity who conducted the verification (46 CFR §144.145(b)(4) and (5)). In other words, the one individual or one entity who is identified as required by 46 CFR §144.145(b)(5) must take responsibility for the whole verification of compliance with design standards by making the statement required in 46 CFR §144.145(b)(4). A PE can sign off on or stamp the plan review work performed by qualified people under his or her employ or supervision.
Received 1 August 2016
Answered 14 May 2018, updated 07 October 2020

144-005
1) What evidence must be provided to the surveying entity (the TPO or Coast Guard marine inspector) to prove that an authorized entity or individual has completed verification of compliance with design standards?
2) Is it intended that there is one document that serves as verification for all plans, drawings, schematics, and calculations related to a specific construction, repair, or alteration project? That is, does the authorized entity or individual verify the design of the vessel as a whole?

1) A cover letter or statement from the authorized entity or individual that addresses the items listed in 46 CFR §144.145(b) would be sufficient objective evidence that the design has been verified.
2) Yes. While it is acceptable for multiple entities, or individuals to conduct verification of portions of a vessel design or alteration, 46 CFR §144.145(b)(4) requires that the authorized entity or individual attest to the fitness of the vessel for service. This cannot be done unless one entity or individual can review all related plans, drawings, schematics, and calculations related to the design or repair to ascertain if the vessel is fully fit for service. For more information see FAQ 144-004.
Received 1 August 2016
Answered 14 May 2018, updated 07 October 2020

144-007
As a vessel owner or managing operator, what are my record keeping responsibilities with regard to verified plans?

Vessel owners and operators should keep a complete set of verified plans that clearly reflect the "as built" condition of the vessel and any major modifications or alterations. These plans may be used to demonstrate compliance with design standards throughout the life of the vessel. Therefore, those assuming new ownership of an existing vessel should try to obtain a complete set of plans as part of the purchase agreement.
Received 1 August 2016
Answered 14 May 2018

144-009
Who is the "Coast Guard" in this case? Language is otherwise directive to point to MSC or Commandant. Unlike other subchapters no language exists to point readers to whom.

For the purpose of §144.140, the Coast Guard is whichever unit performs the verification of compliance with design standards, normally either the MSC or the OCMI.
Received 1 August 2016
Answered 14 May 2018, updated 07 October 2020

144-012
Plans for my towing vessel are marked "Verified" by the MSC, is this different than plans marked "Approved" for other inspected vessels such as tank barges?

To align with the language of Subchapter M, the Coast Guard will use the term "Verified" to indicate any plan, drawing, schematic, calculation, or other document which have been reviewed and accepted by the Coast Guard as demonstrate a vessel's design, repair, or alteration complies with design standards for the vessel.
Received 1 August 2016
Answered 14 May 2018

144-013
What percentage of wastage will be allowed, what minimum scantlings are required, what minimum plate thickness will be required?

Minimum scantlings and plate thickness are defined by the structural standards used for the vessel's design and construction. Wastage limits are fairly consistent throughout the marine industry and have not deviated much from those given in NVIC 7-68 for steel. Class standards has this as well (for example, see ABS Rules Part 7, Appendix, Section 4, Table 2, steel wastage allowances for conventional vessels under 90 meters in length shows wastage limits of 25% for main deck, bottom, and keel plating, sheer and bilge strakes; 30% for side shell plating, forecastle and internals and bulkheads. Other class societies have either the same or similar allowable limits).
Received June 2016
Answered 14 May 2018

144-014
Guidance is needed as to what is necessary to demonstrate vessel stability if it is questioned by a TPO or the Coast Guard.

If the stability of the vessel is questioned by either the TPO or the Coast Guard, §144.300(b)(1) cannot be satisfied and the owner or operator must be able to show compliance with either §§144.300(b)(2) or 144.300(b)(3). §144.300(b)(2) allows OCMIs to witness operational testing, to determine whether the vessel has adequate stability and handling characteristics. §144.300(b)(3) offers owners and managing operators an opportunity to present documentation, records, and/or calculations to the Coast Guard to prove adequate stability.
Received June 2016
Answered 25 May 2018, updated 07 October 2020

144-015
Is this necessary for vessels that have installed fire protection systems, such as Sapphire, that require oxygen to operate?

Yes. The Sapphire system uses Novec 1230 as an agent which removes the heat element from the fire tetrahedron and does not require oxygen to operate. However, 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.
Received June 2016
Answered 17 September 2019

144-016
When a vessel designed to tow astern is repowered with a resulting change in horsepower, must stability to be re-evaluated?

Yes, vessels that are equipped to tow astern must be evaluated against the towline pull criteria found at 46 CFR part 173, subpart E which is dependent not only on the vessel's geometry but upon the vessel's available shaft power (horsepower). Therefore, regardless of resulting weight changes, changes to available horsepower may trigger a review of the vessel's stability. Further, for existing vessels, attempting to demonstrate satisfactory stability in accordance with §144.300(b)(3), any documentation or evaluation should include details and analysis related to the towline trip criteria.
Received June 2016
Answered 14 May 2018, updated 07 October 2020

144-017
What are the vessel subdivision and watertight bulkhead requirements?

There are no subdivision requirements for a new vessel or an existing vessel associated with unanticipated internal flooding. However, for a new vessel to be certificated for service on a lakes, bays, and sounds, limited coastwise, coastwise, or oceans route, the applicable structural standard (i.e. ABS Rules for Building and Classing Steel Vessels Under 90M in Length) requires the fitting of a watertight collision bulkhead on all vessels not less than 50 ft in length (Pt. 3, Ch. 2, Sec. 7). Further, the engine room is to be enclosed by watertight bulkheads extending to the bulkhead deck. Chain lockers are to be watertight as well.

For a new vessel on a rivers or intracoastal waterway route, there are no subdivision requirements, but if there are watertight bulkhead fitted, those bulkheads designated as watertight must meet prescriptive requirements. Any deviations from the selected structural standard used are subject to approval by the Marine Safety Center. See §144.205.
Received June 2016
Answered 27 Aug 2018, updated 07 October 2020

144-018
With regard to stability, is the GICW (Gulf Intracoastal Waterway) considered "Protected" or "Partially Protected"?

Generally, the GICW waters are designated as protected waters. However, certain segments of the GICW are designated as partially protected waters by the cognizant OCMI because of the open water characteristics of portions of rivers, estuaries, harbors, lakes and similar areas. Check with the cognizant OCMI to identify partially protected waters in areas through which vessels plan to transit.
Received June2016
Answered Aug 2018

144-019 & 144-028
Will NVIC 10-82 "Acceptance of Plan Review and Inspection Tasks Performed by the American Bureau of Shipping (ABS) for New Construction or Major Modifications of U.S. Flag Vessels" stay in effect for class towing vessels?

No. The option for an authorized class society (ACS) to perform a verification of compliance in §144.140 is given by regulation in subchapter M, therefore, NVIC 10-82 does not apply for vessels certificated under Subchapter M.
Received 01 & 29 August 2016
Answered 17 September 2019, updated 07 October 2020

144-020
Will existing vessels who do not utilize handrails on the outer most portion of the main deck be required to add them or equivalent?

The requirements of §144.800 and the rest of Subpart H should be applied to existing vessels to the extent considered reasonable and practicable.
Received 28 July 2016
Answered 14 May 2018, updated 07 October 2020

144-021
What are the different requirements for watertight and weathertight integrity by route?

The requirements contained in §144.320 are closely aligned with those stipulated for vessel operational safety contained in §140.610. Refer to the Notice of Final Rulemaking for more details. §140.610(c) requires the master to ensure that all hatches and openings of the hull and deck (i.e. closure devices, as referred to in §144.320(b)) are kept tightly closed except: (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. It is with these provisions in mind that the last sentence of §144.320(b) refers to route: "These devices must be suitable for the intended route."

While §140.610 does not apply to an existing towing vessel until July 20, 2018 or the date that vessel is issued a COI (§140.105), whichever is earlier, the requirements of §144.320 are intended to help mitigate the risk of uncontrolled water ingress and to facilitate run-off of water on deck.

If a vessel is assigned a load line, watertight and weathertight integrity requirements for the conditions of load line assignment would take precedence.
Received 13 June 2016
Answered 27 August 2018, updated 07 October 2020

144-022
Is there a standard for gaging requirements?

For an existing vessel, minimum requirements for hull thickness measurements (a.k.a. "gagings") should follow recommendations given in NVIC 7-68.
For a new vessel, 46 CFR §144.205(d) requires the structural standard selected to be applied throughout the vessel including maintenance, alteration, and repair. This requirement therefore extends to minimum requirements for thickness measurements (gagings) provided in the standard selected (e.g., for a new vessel that selected the ABS Under 90 meter Steel vessel rules, the gaging requirements in Part 7, Chapter 3, section 2/5.1.15(a) would apply). Deviations are subject to approval by the Marine Safety Center.

Please see "Structural Standards" under the "Construction and Arrangement" link at TugSafe Central on the TVNCOE website (www.dco.uscg.mil/tvncoe).
Received 21 June 2016
Answered 27 August 2018, updated 07 October 2020

144-023

What are the subdivision requirements for towing vessels? What are the scantling requirements? What will be required for electrical penetrations of watertight bulkheads on existing vessels?

New TVs must comply with ABS standards for both subdivision and scantlings, whether the ABS Under 90M SVR or the ABS River Rules apply depending upon the certification for service (i.e., route). Standards of another recognized classification society may also be used. Any deviations from the selected structural standard used are subject to approval by the MSC. See §144.205.

Received 21 July 2016

Answered 14 May 2018, updated 07 October 2020

144-024
Please clarify the applicability requirements of §144.305 so that all verifying entities consistently apply the stability requirements contained in part 170, and part 174.

The table below, **"*Subchapter S Applicability for New Towing Vessels,"*** outlines the applicability of the stability standards in Subchapter S by the vessel's intended route of operations. Only certain provisions in Part 170 are applicable to all vessels. Additionally, when subparts B and E of Part 173 are referenced, the intent is that these only apply to vessels equipped and/or engaged in these operations.

Subchapter S Applicability for New Towing Vessels

Stability Route	Applicable Sections and Subparts
All	Part 170, Subpart B – "Definitions", Subpart I - "Free Surface" and §§170.090 and 170.285 provide administrative and technical direction for all verifying entities.
All	Part 170, Subparts F and G apply; where reference is made to the Coast Guard or the Marine Safety Center, the verifying entity is responsible.
All	Part 173, Subpart E is required for a vessel equipped for towing astern.
Protected waters	§170.173(e)(2) applies.
Partially protected waters	§§170.170 and 170.173(e)(1) apply.
Exposed waters or assigned a Load Line	§§170.170 and 174.145 apply.

Received 28 July 2016
Answered 14 May 2018, updated 07 October 2020

144-025
We note Table 144.140 allows for verification of compliance with design standards by a P.E., class society, or the USCG. If requested, would the USCG accept a variety of compliance documentation from these entities (for various systems), or does one of these entities need to produce all of the documentation for any given vessel?

One individual or one entity must make the statement that the "vessel is suitable for the intended service and route" (§144.145(b)(4)) and, therefore, takes responsibility for all of the reviews performed that determine the design meets the applicable standards. The reviews may be performed by different entities.
Received 26 August 2016
Answered 14 May 2018, updated 07 October 2020

144-027
For a vessel whose keel was laid before July 20, 2017 – an existing vessel, Table 144.135(c) appears to imply that existing vessels that are still under construction on July 20, 2018, will have some systems that were not required to be verified prior to installation.

Table 144.135 applies to a new installation that is not a "replacement in kind." It does not apply to existing vessels that are still under construction after July 20, 2018. However, the scenario outlined in the question is correct – an existing vessel under construction on July 20, 2018 is not required to undergo a verification prior to installation. In any case, prior to the issue of the Certificate of Inspection, all systems must meet Subchapter M requirements for an existing vessel. An existing vessel not completed by July 20, 2018 should be handled on a case-by-case basis.

For more information see CVC-WI-015 Determinations for a Vessel's Keel Laid Date or Similar Stage of Construction.
Received 26 August 2016
Answered 27 August 2018, Updated 07 October 2020

144-029
How will the Coast Guard disseminate policy and guidance for towing vessels subject to Subchapter M, both class and non-class?

Policy letters and other guidance will be disseminated through the USCG Towing Vessel National Center of Expertise (TVNCOE), which can be accessed using the following URL: https://www.dco.uscg.mil/tvncoe/
Received 29 August 2016
Answered 14 May 2018

144-031
46 CFR §144.145(e) contradicts what is currently policy/procedure IAW NVIC 10-82. Will this be for non-class vessels only?

No. NVIC 10-82 does not apply to any certificated vessels under Subchapter M. For more information, see FAQs 144-019 and 144-028.
Received 29 August 2016
Answered 17 September 2019, updated 07 October 2020

144-032
Is the verification of compliance with design standards, as described in 46 CFR §144.145, similar to plan review and approval conducted for other inspected vessels?

Yes. The verification of compliance with design standards is the process in which an authorized entity, as described in 46 CFR §144.140, verifies that proposed construction plans for a towing vessel comply with all applicable standards. Towing vessels subject to Subchapter M must have their construction or modification plans verified for compliance with design standards prior to construction or modification.
Received September 2016
Answered 19 October 2016, updated 07 October 2020

144-033
What is the difference between design verification and plan review by a Professional Engineer or Authorized Classification Society under NVICs 10-82 or 10-92?

When verification of compliance with design standards is conducted by a licensed professional engineer (PE) in accordance with 46 CFR §144.140, this work is not conducted under the guidance of Navigation and Vessel Inspection Circular 10-92, CH 2 *Coast Guard Recognition of Registered Professional Engineer Certification of Compliance with Coast Guard Requirements.* Plans, drawings, schematics, calculations or other documents used to verify compliance with design standards need not be submitted to the Coast Guard for final approval or authorization.

Similarly, when verification of compliance with design standards is conducted by a classification society in accordance with 46 CFR §144.145, the work is not conducted under the guidance of Navigation and Vessel Inspection Circular 10-82, CH 2 *Acceptance of Plan Review and Inspection Tasks Performed by the American Bureau of Shipping for New Construction or Major Modifications of U.S. Flag Vessels*. Notification to the Coast Guard of the verification activities conducted by the authorized classification society need not be made to the Marine Safety Center.
Received September 2016
Answered 19 October 2016, updated 07 October 2020

144-034
Can I still use the Coast Guard survey option if I have used a PE or Authorized Classification Society to conduct design verification?

Yes, provided that proof of design verification is presented to the Coast Guard at the time which Form CG-3752, "Application for Inspection of U.S. Vessel" is filed with the cognizant OCMI. The OCMI may conduct further review of plans in order to determine objective evidence that the design complies with applicable requirements.
Received September 2016
Answered 23 November 2016, updated 07 October 2020

144-035
Can I use multiple individuals or entities to provide objective evidence of compliance with applicable requirements?

Yes, provided that each individual or entity clearly identify which plans, drawings, schematics, calculations, or other documents were verified including the information required by 46 CFR §144.145(b)(1)-(5). However, since vessel stability, structures, and systems are often interrelated, it is the owner or managing operator's responsibility to inform the individuals or entities verifying the plans of any changes in related plans. Compliance with the requirements of 46 CFR §144.145 (b) may appear on the verified document itself, or in a cover letter. In either case, the verification must be accompanied by the signed and date seal or stamp of the authorized entity. If the verification statement is contained in a cover letter, the letter must also include a list of all applicable plans by number, title, and revision or alteration. An original signature, certification and seal or stamp will not be required on copies of each document provided that the certification is legible; however if the certification is done with a raised seal on an original plan, the information contained thereon must also be reproducible on all copies.
Received September 2016
Answered 19 November 2016, updated 07 October 2020

144-036
I wish to have the Coast Guard conduct design verification, how do I start the process?

If the owner or managing operator chooses the Coast Guard option, he must first submit Form CG-3752, "Application for Inspection of U.S. Vessel," to the cognizant OCMI where the construction will take place. The local OCMI will then provide guidance as to which plans are required for submission and identify which, if any, will be forwarded to the MSC for review.

If the owner or managing operator chooses the external TSMS option, plans must be provided to the OCMI and the TPO conducting the survey.

If the owner or managing operator chooses the internal TSMS option, plans must be provided to the OCMI and made available to the TPO conducting audits.
Received September 2016
Answered 19 October 2016, updated 07 October 2020

144-037
What is the rule on rails or chains on the gunwales and how narrow is too narrow?

The requirements of §144.800(a) and (b) refer to the case in which there are space limitations (i.e., in the horizontal dimension) that make the installation of handrails impractical and is included to provide for the need for safe transit of personnel in such locations. This will be determined at the discretion of the OCMI.
Received 15 September 2016
Answered 27 August 2018, updated 07 October 2020

144-038
Can I re-plate my hull with thicker steel?

Yes. The desire to re-plate with thicker steel can be motivated by steel plate availability as well as by a desire to improve resistance to contact deformation. In most cases, there is no problem associated with replacing existing plate with thicker steel plate, but, for an existing vessel, the requirement for satisfactory service insofar as structural adequacy is concerned §144.200(b) would be applicable. For a new vessel, the structural standard selected would be applicable (§144.205(d)).
Any changes to hull steel plate thickness require documentation of weight and moment changes as required by §144.315. Deviations are subject to approval by the Marine Safety Center.
Received 15 September 2016
Answered 27 August 2018, updated 07 October 2020

144-039

1) Can an existing towing vessel, which has selected the TSMS option, be expected to meet new vessel standards?

2) Are the requirements for means of emergency escape under §144.500 applicable to existing vessels?

1) No. An existing vessel cannot be required to meet new vessel standards in situations where the regulations provide separate standards for each. However, an existing vessel is not precluded from voluntarily adopting new vessel standards.

2) §144.500 discusses three potential paths for addressing means of escape:

1. Two means of escape are required where practicable in each space where crew may be quartered or normally employed.
2. A single means of escape is required if a space meets the provisions of §144.515.
3. Arrangements on an existing vessel may be retained if it is impracticable or unreasonable to provide two means of escape.

Received 5 December 2016
Answered 17 January 2017, updated 07 October 2020

144-040

Will dampers (either automatic or manual) over vents, openings, fans, etc. be required to secure ventilation in machinery spaces?

No. Dampers, whether automatic or manual, are a means, and not the only means, that can be provided to close vents, openings, etc. into machinery spaces.
Received 05 December 2016
Answered 14 May 2018

144-041

How will OCMIs know about new construction in their zone so as they can perform oversight inspection for CG option vessels under Subchapter M?

There is no specific requirement in Subchapter M regarding new construction oversight or reporting to either the Coast Guard or the TPO. Table 144.135 requires that new vessels undergo verification of design standards prior to the COI being issued. However, deviations from verified design standards may be required to be corrected in accordance with verified construction plans, causing additional expense and delays to a vessel entering service.
Received 19 January 2017
Answered 20 Mar 2017, updated 07 October 2020

144-042 and 144-044
§144.105 references certain sections that apply to just new construction. That site references §§ 144.420 and 144.910. I do not see those two listed in the Sub M regulations.

Thank you for bringing this to our attention. This error has been identified and is on a list of edits to be made in a future round of 46 CFR tech amendments
Received February 2017
Answered 21 June 2017

144-045
46 CFR §144.205 Structural standards for a new vessel, states new vessels must comply with the standards established by ABS as indicated in Table 144.205(a). Is there a standard for existing vessels to require qualified welders for repairs after 20 July 2017? 46 CFR §144.200, structural standards for an existing vessel, does not clearly specify.

No, but, for certain existing vessels, such as Load Line vessels, welder qualifications are subject to the requirements of the Load Line Assigning Authority. See FAQ 136-033, which addresses welder qualifications for both existing and new vessels.
Received 14 March 2017
Answered 27 August 2017

144-046
Seeking clarification on the term "heater" in §144.515(b). Does this refer to objects such as portable space heaters providing direct heat? Or does it mean literally any source of heating, including permanently installed baseboard or wall-mounted radiators/vents used to control temperature in living spaces?

46 CFR §144.515(b) states that only one means of escape is required from a space where there is no stove, heater, or other source of fire in the space. The intent of this requirement is that there is no source of fire in the space. A portable heater with an open flame, resistance coil, or fuel source is considered a source of fire. An installed baseboard or wall-mounted radiator or vent used for temperature control in living spaces should not be considered a source of fire.
Received 17 March 2017
Answered 4 August 2017, updated 07 October 2020

144-048
What will the CG accept for structural repair requirements if an existing towing vessel was built to oversize scantlings?

The Coast Guard recognizes some towing vessels were not required to be built to a Coast Guard accepted construction standard such as American Bureau of Shipping (ABS) rules.

Repairs should be completed to the standard to which the vessel was built.

However, requests for increased wastage allowance may be submitted in writing to the local OCMI. Request should offer suitable verification, including objective evidence showing the vessel's scantlings, (frames, girders, plating, etc), should be considered oversized when compared to accepted construction standard(s), such as ABS.

NVIC 7-68 may be referenced for further clarification.
Received 09 June 2017
Answered 13 September 2017

144-049
How do I request that the Coast Guard issue a verification of compliance with design standards (Statement of Verification) as required by 46 CFR §144.145(a)?

The Coast Guard will sign a Statement of Verifications only when the Coast Guard, either the local OCMI or MSC, has completed the design verification process for all plans, drawings, calculations, or other support documents for a vessel. OCMIs and vessel representatives are encouraged to use enclosure (2) of Marine Safety Center Technical Note (MTN) 01-17 *Guidance on Verification of Compliance with Design Standards for Subchapter M Towing Vessels* to document design verification information. Any format addressing all aspects of 46 CFR §144.145(b) is appropriate; however a completed enclosure (2) of the MTN is preferred for simplicity. If all aspects of the vessel's design will be verified by the MSC. Vessel representatives are encouraged to request the MSC provide the Statement of Verification. If the OCMI will conduct some amount of design verification, the OCMI should complete the form following completion of all items.
Received 8 November 2017
Answered 17 September 2019, updated 07 October 2020