

APPENDICES



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APPENDIX A

GRANDFATHERING PROVISIONS

A.1 PURPOSE

The purpose of this Appendix is to authorize specific circumstances under which interpretations of the tonnage regulations may be applied that predate the interpretations promulgated by changes to this MTN.

A.2 DISCUSSION

This MTN is intended to provide sufficient interpretive information to enable correct and consistent application of the tonnage measurement regulations. While the MSC's goal is to ensure the interpretive information is clear and keeps pace with the evolution of vessel designs, the MSC recognizes that designers and measurement organizations may apply reasonable interpretations of the regulations that are subsequently superseded by changes to the MTN. The MSC's position is that once tonnages have been certified using reasonable interpretations of the regulations, it is not necessary to remeasure a vessel for the purpose of applying later interpretations, unless requested by the vessel's owner. Further, in order to provide relief to owners who are having vessels designed or redesigned on the basis of interpretations that are subsequently superseded, the MSC considers that grandfathering should be extended to such vessels, and to identical sister vessels.

A.3 GRANDFATHERING AUTHORIZATION

Interpretations of the tonnage regulations that immediately predate the interpretations promulgated by a change to this MTN may be applied at the option of the vessel's owner, for vessels in any of the following three categories:

- (a) A vessel for which tonnages have not been certified and which was contracted for on or before the date of the MTN change.
- (b) A vessel for which tonnages have been certified, but which has undergone modifications that were contracted for on or before the date of the MTN change.
- (c) A sister vessel that is identical from the standpoint of tonnage measurement to a vessel described in either Section A.3(a) or Section A.3(b) above.

A vessel for which tonnages have already been certified should not be remeasured for the purpose of applying the latest interpretations of this MTN, except upon request by the vessel's owner and at the owner's expense.

A.4 CONSIDERATION OF OTHER VESSELS

The MSC recognizes that there may be unique circumstances under which grandfathering should be extended to vessels other than those described in Section A.3 above. The MSC will give consideration to requests to extend grandfathering to other vessels. Such requests must be made in writing to the Commanding Officer, MSC, and must be accompanied by information detailing the specific stage of design and/or construction of the vessel on the date of the MTN change that promulgated the superseded interpretations.

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APPENDIX B

DISCUSSION OF CHANGES

SUBPART B - CONVENTION MEASUREMENT

1. **Section 69.53 – End Opening** The definition was clarified to reflect that the term "Recess" is defined in Section 69.53.
2. **Section 69.53 – Gross Tonnage** The definition was revised to reflect that the expression "GT ITC" is sometimes used to refer to the gross tonnage assigned under the convention measurement system.
3. **Section 69.53 – Net Tonnage** The definition was revised to reflect that the expression "NT ITC" is sometimes used to refer to the net tonnage assigned under the convention measurement system.
4. **Section 69.61(b) – Space Opposite End Openings** A note was added to this section to clarify that when an opening is protected by an overhanging roof, the 1/2 breadth set-in requirement is applied by measuring to the outermost edge of the covering. This approach is consistent with the approach taken by a decision letter dated 3/31/2000.
5. **Section 69.61(d) – Covered Space in Way of Side Openings** The section was revised and an additional figure added to clarify that an interior bulkhead within a structure could limit the extent to which space can be excluded.
6. **Section 69.67 – Marking of Cargo Spaces** The section was clarified to reflect that the use of marking requirements of Section 69.119(p)(3) applies only to the methods for making the markings permanent, and not to the size of the letters and/or visibility requirements (which are different).
7. **Section 69.85 – Reduced Gross Tonnage** The section was corrected to reflect that there are wording differences between the two remarks authorized by IMO for the two different instances where reduced gross tonnage is authorized.
8. **Editorial Clarifications and Corrections** - Editorial clarifications and corrections were incorporated throughout the document.

SUBPART C - STANDARD MEASUREMENT

1. **Section 69.103 – Enumerated Deck** The definition was revised to clarify that the term "between deck" refers to space between the line of the tonnage deck and line of the uppermost complete deck, as well as to the space between enumerated decks above the tonnage deck. Refer to the definition of "between deck" in the tonnage regulations prior to the 1989 revision.
2. **Section 69.103 – Ordinary Floors** A definition was added for ordinary floors, which is consistent with the definition for ordinary frames.

3. **Section 69.103 – Partial Deck** The definition was revised to correct an inconsistency that was introduced when the definition was added in Change 5. Specifically, the definition had incorrectly characterized partial decks as those resting on bottom floors, whereas, in effect, the presence of the floors creates partial decks on either side of the floors. The revised definition is now consistent with language in Section 69.109(o)(1) regarding treatment of partial decks.

4. **Section 69.103 - Uppermost Complete Deck, Paragraph (a)** The definition was revised to stipulate that: 1) the uppermost complete deck must be bounded by the vessel's hull; and 2) openings or other deck discontinuities of certain characteristics violate the "stem to stern" and "side to side" criteria, thereby invalidating a deck from qualifying as the uppermost complete deck. The former change is for clarity, and is consistent with language included in both the underlying statute and the tonnage regulations prior to the 1989 revision. Concerning the latter change, a description of the specific deck discontinuities, and the rationale for why each is listed, is as follows:

- a. Middle Line Openings - This item was included in the list of deck discontinuities only for emphasis, as it is also listed in paragraph (c) of the definition.
- b. Other Through Deck Openings - The criteria provide for considering only larger uncovered openings as invalidating a deck as the uppermost complete deck. Ignoring openings of all sizes that have a covering above is based on decision letters dated 10/1/1945, 5/26/1949 and 4/29/1966, as well as language contained in Section 69.113(e) referring to treatment of deckhouse spaces that are open to the under-deck spaces below. Ignoring smaller openings that do not have a covering above is based on decision letters dated 5/26/1949, 8/10/1956, 1/14/1964 and 5/9/1967, as well as the requirements of Section 69.117(e), which provides minimum size criteria for uncovered middle line openings. For the rationale behind selecting the 10% criterion (as opposed to some other size criterion) for larger uncovered openings, refer to the discussion of paragraph 4(c)(2) below.
- c. Deck Recesses - Two criteria were specified in order for a deck recess that is not "through hull" to be considered as invalidating a deck as the uppermost complete deck: a depth criterion and an area criterion. These are described in more detail below. Also, a clarifying note was added to reflect that recesses bounded by the vessel's hull do not invalidate the deck. Interpretation in a contrary manner could cause many vessels of complex hull geometry (e.g., SWATHs with large openings between the bows and sterns of the respective hulls) to be measured as open vessels, even though the vessels have continuous weathertight decks fully bounded by the hull. This supersedes a decision letter dated 4/16/1965, which ruled that the absence of a continuous athwartship deck at the fore and aft ends of a catamaran violates the "side to side" criterion.
 - (1) The 5 foot depth criterion is consistent with a decision letter dated 1/4/1966 that provided for ignoring a 3'9" deep well, and the criteria for treatment of uncovered spaces of Section 69.59 for convention measurement. It is also consistent with decision letters dated 3/8/1922, 5/29/1945 and 2/28/1947, all of which recognized that cockpits do not invalidate a deck from consideration as the uppermost complete deck.
 - (2) The 10% area criterion was established as an appropriate breakpoint that aligns with past practice and decision letters, and which can be consistently applied to a wide variety of different vessel configurations. A decision letter dated 3/15/1971 ruled that a LASH vessel (which resembles a dock ship without a stern gate) had to be measured as an open vessel. A decision letter dated 4/29/1966 ruled that a large uncovered hatchway in the main deck of a container vessel invalidated the deck as an enumerated deck. Decision letters dated 3/8/1922, 5/29/1945, 2/28/1947, 5/26/1949, 9/9/1993, 12/2/1993 and 3/1/1994 recognized that smaller deck recesses like cockpits, swimming pools and stern notches do not invalidate a deck from

consideration as the uppermost complete deck. The 10% criterion represents a reasonable value that is consistent with these decision letters.

- d. Wrap-Around Notches - This item was added based on decision letters dated 3/17/1971 and 6/23/1980, and an oversight letter dated 9/24/1987, all of which allowed a single combination side and stern notch to cause the associated deck to violate the requirement that it extend from stem to stern and side to side at all points of its length. The 1% criteria is a generalization of the criteria of these letters, and obviates the need for measuring to the under-deck framing and for providing a minimum midpoint width measurement of 1 foot. The 10 foot length criterion is retained, although the requirement that the length extend from the line of the ordinary framing of the hull is deleted, for consistency with the underlying statute and to simplify application of the criterion. The 2 foot width criterion is similarly retained, though it is generalized to allow the width criterion to be met at any point along the notch. When taken together, these criteria provided for "wrap-around" notches of sufficient size to cause the creation of a superstructure space from what would have otherwise been a space below the uppermost complete deck, consistent with what has been authorized in the past.

5. **Section 69.103 - Uppermost Complete Deck, Paragraph (f)** The definition was revised for consistency with the changes to the definition of "partial deck".

6. **Section 69.109(c) - Identifying the Tonnage Deck** - This section was revised to clarify that the decks referred to are those decks that qualify for enumeration under the provisions of Section 69.109(d).

7. **Section 69.109(d) - Enumerating the Decks to Identify the Second Deck From the Keel** This section was revised for clarity and consistency with the changes to the revised definition for "Uppermost Complete Deck" in Section 69.103. The changes are also consistent with a decision letter dated 11/29/1963, which allowed large (5' X 11') openings in a deck running through a "side to side tank". They supersede decision letters that required decking to surround an interior opening in order for the deck to be enumerated. These include a decision letter dated 3/28/1966 (which allowed large openings through an interior deck without disqualifying the deck as an enumerated deck provided there was decking around the opening), a decision letter dated 5/17/1949 (which disallowed a 1.45' deck width around the opening), and a decision letter dated 3/28/1966 (which allowed a 5' deck width around the opening).

8. **Section 69.109(e) - Identifying the Line of the Tonnage Deck** This section was revised to provide references to appropriate procedures for situations where the vessel is measured as an open vessel or where the tonnage deck is the uppermost complete deck. Additional changes were made for consistency with changes to Section 69.111(b), and to clarify that volume of spaces between the line of the tonnage deck and the higher portions of that deck may be included in the superstructure tonnage, as would be the case for a vessel with two or fewer decks. Finally, the 3 foot criterion of Section 69.111(c) for ignoring steps in the uppermost complete deck was added.

9. **Section 69.109(n) - Outside Shaft Tunnel and Other Recesses** This section was revised to provide for not including volumes of outside shaft tunnels and other hull recesses in tonnage through adjustment of breadth measurements, rather than subtracting the volumes outright. This is consistent with the approach used in Section 69.109(q). Also, a clarifying note was added to reflect that the volumes of portions of recesses in the uppermost complete deck that are below the line of the uppermost complete deck are included in between-deck and/or under-deck tonnage. This is based on a decision letters dated 3/8/1922, 6/18/1968 and 10/21/1999, and is consistent with the approach used for measuring open vessels, where volume below the line of the uppermost complete deck is included in tonnage, notwithstanding the fact that it is exposed to the sea and weather. While decision letters dated 9/6/1940, 5/29/1945 and 2/28/1947 allowed for exemption of spaces associated with swimming pools and cockpits, the spaces were above the line of the uppermost complete deck in all cases.

10. **Section 69.109(p) - General Requirements on Ordinary Frames** This section was revised for consistency with changes to Section 69.109(q), and to clarify that the requirements are general in nature, and apply to all hull forms.
11. **Section 69.109(p)(3)(i) - General Requirements** This section was revised to reflect the correct reference to the section on adjusting breadth measurements.
12. **Section 69.109(p)(3)(vi) - Transition Between Side and Bottom Frames** This section was revised to address situations where the penetration of one frame by another marks the boundary between a bottom and side ordinary framing system, based on decision letters dated 5/20/2004 and 6/14/2004.
13. **Section 69.109(q) - Unconventional Hull Forms** This section was generalized to address hull forms other than multihulls, since the same principles apply to some monohull vessels of unconventional hull form.
14. **Section 69.109(q)(1) - Identify Tonnage Deck** This section and the associated figure were revised for consistency with the changes to Section 69.109(c) regarding deck enumeration. Also, the section was clarified to reflect that the watertight bottom skin (or "wet deck") may be considered part of the tonnage deck or uppermost complete deck, as provided for by a decision letter dated 12/15/1981.
15. **Section 69.109(q)(2) - Establishing Tonnage Length** This section was generalized to address conventional stem/stern geometries as well as complex geometries.
16. **Section 69.109(q)(4) - Identifying Ordinary Frames** This section was revised to delete reference to monohull vessels, for consistency with the changes to Section 69.109(p). Also, item (ii) under this section was clarified to reflect that both the deep and the shallow frames are considered ordinary frames in a sequence of qualifying alternating deep and shallow frames.
17. **Section 69.109(q)(5) - Establishing the Unadjusted Line of the Ordinary Frames** Reference to the tonnage deck was deleted in the figure associated with this section, since this information is unnecessary and could lead to confusion.
18. **Section 69.109(q)(6)(ii) - Evaluate Each Vertical Location** This section was restructured into two subsections, in order to address more completely the different permutations of offset adjustment changes when proceeding from the bottom of the vessel to the line of the uppermost complete deck, and to allow "credit" for some deep framing when the offset adjustments increase. This latter situation, addressed by Section 69.109(q)(6)(ii)(b), arises when there are qualifying portions of deep frames that are above the inflection point between tumblehome and flare of the hull shell. The "credit" allowed is analogous to that allowed for vessels of conventional hull forms. For example, refer to the figure in Section 69.109(p)(1)(iv), for which offset adjustments increase when proceeding upward from the bottom of the vessel, and yet "credit" is still allowed for the associated framing.
19. **Sections 69.109(q)(6)(iii) - Offset Adjustments Increase** This section was deleted, and its contents incorporated into Section 69.109(q)(6)(ii).
20. **Section 69.109(q)(6)(iv) - Evaluate Frame Discontinuities** This section was deleted, since frame discontinuities of all kinds have been extensively addressed in recent changes to Section 69.109(p).
21. **Section 69.109(q)(7) - Adjusting Breadth Measurements** The correct figure is shown for this section. Due to a previous editing error, the figure associated with this section was incorrectly shown below Section 69.109(q)(8), and a figure that had been superseded was shown in its place.

22. **Section 69.109(q)(8) - Treatment of Wet Deck Area** Refer to the discussion of the change to Section 69.109(q)(7).

23. **Section 69.111(b) - Identifying the Line of the Uppermost Complete Deck** This section was revised as follows:

- a. The section was revised to clarify that only longitudinal steps (as opposed to transverse steps) are taken into account when establishing the line of the uppermost complete deck.
- b. The section was revised to clarify that deck discontinuities that are ignored in establishing which deck is the uppermost complete deck are similarly ignored when establishing the line of the tonnage deck. This is to ensure that small deck discontinuities such as cockpits are not used to treat a space as a superstructure space that should be treated as a between-deck or under-deck space. This interpretation is consistent language with language in the underlying statute, which considers "breaks or poops" as spaces "on the upper deck".
- c. Requirements were included for evaluating when a longitudinal step (or portion thereof) can be used as the basis for establishing the line of the uppermost complete deck. Specifically, the deck must be at least 3 feet in length across the breadth of the vessel. The 3 foot criterion is based on decision letters dated 12/26/2000, 2/2/2001, 3/29/2001 and 5/6/2003, which applied to stern steps only, although the criterion has been generalized to prohibit such a step from being used for this purpose anywhere along the length of the vessel's hull. The requirement that the deck run continuously across the breadth of the vessel is based on a decision letter dated 5/6/2003, and is necessary to comply with language in the underlying statute regarding "breaks, or poops, or other permanent closed-in space on the upper deck", which is the basis for treating superstructure spaces differently from other spaces: in other words, there must be a continuous deck to create a break in this first place. This approach is also consistent with the approach used in Section 69.53 for establishing the "Line of the Upper Deck". Alternate criteria that have not been documented in decision letters (such as requiring the length of a step to exceed one frame spacing) are superseded.

24. **Section 69.113(b) - Method of Calculating Tonnage** This section was revised to include a statement referencing the section for calculating tonnage of standard geometric shapes.

25. **Section 69.113(c) - Treatment of Stepped Decks / Sides** A note was added to this section to clarify that an uncovered space above the line of the uppermost complete deck (such as a cockpit in a break deck) is not included in measurement, based on decision letters dated 5/29/1945, 2/28/1947 and 6/18/1968.

26. **Section 69.117(b)(8) - Water Closets** This section was revised to highlight the fact that water closet spaces contained within passenger spaces occupied by more than one person may be exempted, as reflected in a decision letter dated 1/23/1999. A 1989 rulemaking changed the criterion from "public space" to "use by more than one person", in effect superseding the position taken by decision letters dated 11/04/1946, 11/21/1950 and 4/14/1952.

27. **Section 69.117(c)(2) - Definition of Passenger Space** This section was revised to clarify that exempted passenger space cannot serve a dual purpose (e.g., the space cannot be used by the crew), and must be accessible to passengers at all times, based on decision letters dated 10/5/1932, 1/21/1966 and 6/15/1995.

28. **Section 69.117(c)(3) - Restrictions on Location** This section was revised to clarify that passenger space that rests on a break deck that is part of the uppermost complete deck does not qualify for exemption as passenger space, based on a decision letter dated 3/29/2004 and definitions of "Uppermost Complete Deck"

and "Line of the Uppermost Complete Deck" established in a 1989 rulemaking. This is consistent with language in the underlying statute, which limits such exemptions to space "constructed entirely above the first deck, which is not a deck to the hull". The interpretations of decision letters dated 6/24/1930 and 11/27/1946, allowing such a space to be exempted, are superseded. Also, a six inch criterion was specified for the minimum height of a passenger deck above the uppermost complete deck, based on past practice and decision letters dated 11/27/1946, 9/28/1988 and 2/18/1999.

29. **Section 69.117(d)(1) - General** This section was divided into three new subsections, as follows:

- a. **Section 69.117(d)(1)(i) - Structure Divided into Compartments** This subsection retains requirements from previous Section 69.117(d)(1) regarding structures divided into compartments.
- b. **Section 69.117(d)(1)(ii) - Progression of Open Space Between and Within Structures** This subsection retains requirements from previous Section 69.117(d)(1) prohibiting open space progression from one structure into another.
- c. **Section 69.117(d)(1)(iii) - Treatment of Spaces Outside of Boundary Bulkheads** This subsection adds new requirements to address treatment of exterior spaces that are covered by a deck above. These requirements treat any covered space that is eligible for exclusion under the convention measurement system as open space, regardless of whether or not the space is fitted with means designed for securing cargo or stores. This permits the use of an uncovered end or side opening that would not otherwise meet the requirements of Section 69.117(d)(2) or (8) to nonetheless allow exemption of open space, and provides for exterior spaces under deck overhangs to not be included in the gross tonnage, consistent with past practice. The requirements of this new subsection are based, in part, on a decision letter dated 5/5/2004, and supersede several approaches used in the past, including the deck height set-in "rule" described in decision letters dated 8/30/1951, 9/30/1965 and 8/31/1979. This "rule" dates to a time when cover plates were prohibited for "intermediate" bulkhead openings, and is overly restrictive.

30. **Section 69.117(d)(3)(i) - Establishing Compartment Boundaries** This section was revised for consistency with new Sections 69.117(d)(1)(iii) and 69.117(d)(3)(ii)(1)(a) to reflect that the outermost edge of the deck overhead delineates the compartment boundary for situations where an exterior bulkhead bounding the compartment is absent. Also, the figure for this section was revised to better illustrate how compartments are defined, without reference to whether or not the individual compartments are open or closed.

31. **Section 69.117(d)(3)(ii)(1) - Opening Location** This section was divided into two new subsections, as follows:

- a. **Section 69.117(d)(3)(ii)(1)(a) - Interior vs. Exterior Openings** This subsection defines what constitutes an interior bulkhead opening, as opposed to an exterior bulkhead opening. This distinction is important, since under 46 CFR 69.117(d)(3), qualifying 3' X 4' and 4' X 5' openings can be installed in longitudinal interior bulkheads, whereas they cannot be installed in longitudinal exterior bulkheads. The definition uses internationally recognized definitions of excluded spaces under the convention measurement system to form the basis for this determination. It allows qualifying end and side openings to be installed in bulkheads directly exposed to weather, while prohibiting a simple overhanging deck from being used to allow what is clearly an exterior bulkhead opening to be considered as an interior bulkhead opening. Also, a note was added to clarify that a previously applied deck height set-in "rule" is no longer applicable (refer to the discussion of new Section 69.117(d)(1)(iii)).

- b. **Section 69.117(d)(3)(ii)(1)(b) - Location on Bulkheads** This subsection retains requirements from previous Section 69.117(d)(3)(ii)(1).
32. **Section 69.117(d)(3)(ii)(3) - Obstructions to Interior Bulkhead Openings** The labeling in the figure for this section was corrected to reflect that only a single seat back obstructs the longitudinal bulkhead opening.
33. **Section 69.117(d)(3)(ii)(7) - Progression from Excluded Space** This new section was added to clarify that open space cannot progress into an interior compartment from an excluded space meeting the requirements of Section 69.117(d)(1)(iii)(1), unless the excluded space is also open under the provisions of Sections 69.117(d)(2) and/or (8).
34. **Section 69.117(d)(6')(ii) - Attachments and Penetrations** This section was clarified to remove the distinction between "bulkhead plugs" and "cover plate plugs". Also, the word "and" was replaced with the word "or" in the list of restrictions to make it clear that violation of any of the restrictions would render the tonnage opening invalid.
35. **Section 69.117(d)(6')(iii) - Cover Fasteners** This section was revised for clarity, and to correct an error in a reference to another section.
36. **Section 69.117(d)(6')(iv) - Reserved** Due to an editing error when Change 6 was developed, no subsection with this section number was included. Accordingly, this subsection has been included as "Reserved", to avoid confusion that might arise from renumbering the remaining subsections.
37. **Section 69.117(d)(8)(ii) - Additional Opening Requirements** This section was revised to clarify that an opposite side opening must be "in the clear" for space inboard of the opening to be exempted as open space.
38. **Section 69.117(g)(3) - Under-Deck** This section was revised to clarify that the tank tonnage length is divided into tonnage intervals corresponding to the associated under-deck tonnage intervals. Also, a limitation on the tank tonnage length was imposed for situations where the portions of the tank are outside the bounds of the under-deck tonnage length measurement, based on a decision letter dated 3/18/2004. This helps preclude exempting portions of the tank that are not included in the under-deck tonnage. Also, the subsections of this section were labeled.
39. **Section 69.117(g)(3)(i) - Show Tank and Under-Deck Stations** This section was revised to address the situation where a tank consists of a series of contiguous but distinct spaces of varying shapes and sizes, based on a decision letter dated 3/18/2004. Also, an illustrative figure was added.
40. **Section 69.117(g)(3)(ii) - Lay Out Zones of Influence** An illustrative figure was added to this section.
41. **Section 69.117(g)(3)(iii) - Identify Associated Under-Deck Stations** An illustrative figure was added to this section.
42. **Section 69.117(g)(3)(iv) - Superimpose Tank Sections on Under-Deck Sections** An illustrative figure was added to this section.
43. **Section 69.119(b) - General** A note was added to this section allowing certain deductible spaces to be included in tonnage upon request of the owner, based on a decision letter dated 12/20/1990.

44. **Editorial Clarifications and Corrections** - Editorial clarifications and corrections were incorporated throughout the document.

SUBPART D - DUAL MEASUREMENT

1. **Section 69.169(d) - Dry Cargo and Stores Spaces** This section was revised to clarify that a dry cargo and stores space is any space that is not occupied by liquids or used for the accommodation or berthing of passengers or crew. The part of this clarification regarding liquids is supported by decision letters dated 5/2/1966 and 3/7/1969. The part of this clarification regarding the accommodation or berthing of passengers or crew is supported by: 1) a statement in the legislative history for the underlying statute that the legislation "will in effect exempt all spaces in the tween-deck area other than spaces for the berthing or accommodation of passengers or crew"; and 2) decision letters dated 3/5/1968, 4/4/1968, 11/15/1968, 10/12/1972 and 12/26/1995.

2. **Section 69.169(e)(3) - Dry Cargo and Stores Spaces** This section was revised consistent with the change to Section 69.169(d).

SUBPART E - SIMPLIFIED MEASUREMENT

1. **Section 69.203 - Overall Breadth** For clarity, the acronym "B" was included adjacent to the heading "Overall Breadth", and the heading was removed from the associated figure.

2. **Section 69.203 - Overall Depth** For clarity, the acronym "D" was included adjacent to the heading "Overall Depth", and the heading was removed from the associated figure.

3. **Section 69.203 - Overall Length** This section was revised as follows:

- a. The section was expanded to include criteria for assessing when watertight bulwarks and similar structures are considered part of the buoyant hull volume and, therefore, included in the length measurement. The 10% length criterion represents a reasonable limit for which a pseudo-open structure like a bulwark can be considered a true extension of the vessel's hull, and is consistent with the 10% criterion (5% either side of amidships) used for evaluating deck discontinuities when establishing the depth dimension. The criterion addressing prohibiting hull penetrations such as hawsepipes ensures that bulwarks bounding spaces that flood simultaneous with the flooding of the upper deck are not considered to be an extension of the vessel's buoyant hull envelope.
- b. For clarity, the section was divided into two subsections, which separately address those hull attachments that are considered to be part of the buoyant hull envelope, and those that are not. The existing single figure was correspondingly divided into two separate figures, which were revised for clarity and/or to include amplifying information.
- c. For clarity, the acronym "L" was included adjacent to the heading "Overall Length".