

# **REVIEW OF INLAND TANK BARGE STRUCTURES AND LONGITUDINAL STRENGTH**

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## **Purpose**

This Plan Review Guideline (PRG) is to explain the requirements for plan approval for structures and longitudinal strength plans from the MSC for an Inland Tank Barge regulated under 46 CFR Subchapter D, I, and/or O.

## **Contact Information**

If you have any questions or comments concerning this document, please contact the Marine Safety Center (MSC) by e-mail or phone. Please refer to Procedure Number **C1-12**.

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## **1. Applicability**

This Plan Review Guideline (PRG) is applicable to tank barges regulated under 46 CFR Subchapters D, I, and/or O that operate solely on inland waters.

Subchapter D applies to **manned and unmanned** barges that carry cargoes listed in 46 CFR Table 30.25-1.

Subchapter I may apply to:

- (a) **Manned and unmanned** barges that carry bulk liquid cargoes that are not flammable or combustible (see 151.01-10 for more information).

Subchapter O, **Part 151** applies to **unmanned** tank barges that carry cargoes listed in 46 CFR Table 151.05.

- (a) If the cargoes to be carried **are flammable or combustible** as indicated by the fire protection requirement in the table (column “m”), then both Subchapters O and D apply (151.01-10(b)).
- (b) If the cargoes to be carried **are not flammable or combustible** as indicated by the fire protection requirement in the table (column “m”), then Subchapters O or O and I apply. The option for applying D or I is left up to the barge owner. The owner must request I/O certification on the Application for Inspection; otherwise the barge will be regulated under D/O (151.01-10(c)).
- (c) Part 151 may apply to **manned** barges which carry a cargo listed in 46 CFR Table 151.05. For these barges, Commandant (CG-ENG-5) will consider the case individually and determine which subchapters apply (151.01-10(e)).

## **2. References**

- (a) ABS Rules for Building and Classing Steel Vessels for Service on Rivers and Intracoastal Waterways
- (b) [46 CFR Subchapter D](#)
- (c) [46 CFR Subchapter I](#)
- (d) [46 CFR Subchapter O](#)

## **3. Definitions**

[46 CFR 30.10](#) (Subchapter D)

[46 CFR 90.10](#) (Subchapter I)

[46 CFR 151.03](#) (Subchapter O, Part 151)

## **4. General Review Procedure**

Using applicable portions of references (a) through (d), the submitter shall provide sufficient documentation and plans to indicate compliance with the requirements. The submission shall be made electronically to the above email address or, if paper, in triplicate to the MSC’s address found on the above website. To facilitate plan review and project management, all plans and information specified in these guidelines should be submitted as one complete package through a single point of contact for the project. At a minimum, the submission should include:

- (a) Application for Inspection ([CG-3752](#) for existing vessels, [CG-3752A](#) for new construction).
- (b) General Arrangement & Midship Section drawing(s).
- (c) Scantling plans.
- (d) Structural calculations.
- (e) Any ABS approved plans, as noted in the sections below.
- (f) Per 46 CFR 31.10-32, Subchapter D barges greater than 300 ft must submit a loading manual that contains the information listed in 46 CFR 42.15-1(a) or 45.105(a). Review of this item is normally conducted in conjunction with the final stability review.
- (g) A statement clearly identifying what is desired from the MSC.
- (h) Any special/unusual requests.

If the vessel is being reviewed under NVIC 10-82, then MSC review of structural and longitudinal strength is not required. Plans must be sent to ABS in accordance with NVIC 10-82. Note: Under NVIC 10-82, the MSC must review and approve the general arrangement plan(s).

If the vessel is being classed by ABS, then ABS approval letters for structures and longitudinal strength and a single copy of ABS approved plans must be forwarded to the MSC. In accordance with 46 CFR 31.10-1(c) for Subchapter D barges or 46 CFR 92.01-10(a) for Subchapter I barges, the MSC's structural review will complement the items covered by ABS's review.

If the vessel is receiving a Load Line assignment from ABS, then ABS structural approval letters and a single copy of ABS approved plans must be forwarded to the MSC. In accordance with 46 CFR 31.10-1(c) for Subchapter D barges or 46 CFR 92.01-10(a) for Subchapter I barges, the MSC's structural review will complement the items covered by ABS's review.

## **5. General Review Guidance**

- (a) The hull, structural bulkheads, and decks must be constructed of steel.
- (b) Per 46 CFR 31.10-1(a) or 46 CFR 92.01-10, the vessel's structure must meet the requirements of reference (a):
  - a. Part 3-2-1 for tank barges and/or
  - b. Part 3-2-3 for barges intended to carry chemical cargoes in bulk.
- (c) Per 46 CFR 31.10-1(a) or 46 CFR 92.01-10, all vessels must meet the requirements of reference (a) for the following:
  - a. Structural arrangement: Part 3-2-1/5
  - b. Minimum midship section modulus: Part 3-2-1/7.7
  - c. Deck plating thickness: Part 3-2-1/9
  - d. Truss scantlings: Part 3-2-1/13
  - e. Web frame, girder, and stringer scantlings: Part 3-2-1/15

- f. Tank head for scantlings: Part 3-2-1/17
  - g. Bulkhead arrangement: Part 3-2-1/19.1
  - h. Construction of tank bulkheads: Part 3-2-1/19.3
  - i. Construction of watertight bulkheads: Part 3-2-1/19.5
  - j. Side shell and bottom plating: Part 3-2-1/21
  - k. Hatches and fittings: Part 3-2-1/23
- (d) For Type I and II Subchapter O barges, verify compliance with the pinnacle grounding requirements of 46 CFR 151.10-20(b) and Part 3-2-3/7.5.3 of reference (a).
- (e) While not required, a complete GHS or HECSALV model created from the lines, offsets, and structural details will expedite MSC's review.
- (f) Where reference (a) requires compliance with the ABS Rules for Building and Classing Steel Vessels (SVR) or the ABS Rules for Building and Classing Steel Vessels Under 90 Meters (295 Feet) in Length (Under 90m Rules), the ABS Rules for Building and Classing Marine Vessels (MVR) provide an equivalent level of safety and may be used instead.

## **6. Disclaimer**

This guidance is not a substitute for applicable legal requirements, nor is it itself a rule. It is not intended to nor does it impose legally-binding requirements on any party. It represents the Coast Guard's current thinking on this topic and may assist industry, mariners, the general public, and the Coast Guard, as well as other federal and state regulators, in applying statutory and regulatory requirements. You can use an alternative approach for complying with these requirements if the approach satisfies the requirements of the applicable statutes and regulations. If you want to discuss an alternative, you may contact MSC, the unit responsible for implementing this guidance.