

# MSC Guidelines for Review of Inland/Ocean Tank Barge General Arrangements

Procedure Number: C1-16

Revision Date: September 16, 2016

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## **Purpose:**

The purpose of this document is to provide guidance and information regarding the submission of General Arrangements plans for an Oceangoing or Inland Tank Barge regulated under 46 CFR Subchapters D, I, and/or O.

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## **References:**

- a. International Convention for the Prevention of Pollution from Ships, 1973, and its Protocol of 1978 (MARPOL 73/78)
  - b. International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code), Chapter 3
  - c. 33 CFR Part 157
  - d. 46 CFR Subchapter D
  - e. 46 CFR Subchapter O
  - f. 46 CFR Subchapter I
  - g. Navigation and Vessel Inspection Circular (NVIC) 03-06
  - h. COMDT (CG-CVC) Policy Letter 16-04, "Conditional Occupancy of Unmanned Barges Forming Part of an Articulated Tug Barge (ATB) Combination"
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## **Contact Information:**

If you have any questions or comments concerning this document, please contact the Marine Safety Center (MSC) by email or phone, and refer to Plan Review Guide Number C1-16.

Email: [MSC@uscg.mil](mailto:MSC@uscg.mil)

Phone: 202-795-6731

Website: <http://homeport.uscg.mil/msc>

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## Responsibilities:

Using applicable portions of references (a) through (h), 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.

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## General Guidance:

- ❑ If the vessel is new and not a sister vessel, has the Application for Inspection submitted? In general, plan review may not occur until a copy of the Application is received.
  - ❑ Does the submission include all necessary information to demonstrate compliance with the applicable requirements? At a minimum, submissions should include the following:
    - An inboard profile which shows the location of all watertight transverse bulkheads, decks, and openings in these decks and bulkheads.
    - An outboard profile which shows the profile of the vessel and indicates the load line, design waterline, draft marks, bulkhead and freeboard decks.
    - A plan view of each deck which identifies all spaces. Openings that are considered downflooding points must be identified.
    - A reference which allows for the determination of the locations of all tanks, holds, watertight bulkheads, downflooding points, etc. for use in stability calculations.
  - ❑ Does the submission clearly state what is desired from MSC?
  - ❑ Are all plans requiring Coast Guard review and/or approval submitted in triplicate (if submittal is in hard copy)?
  - ❑ Are there any special/unusual requests or a time critical element involved?
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## General Review Guidance

- ❑ Will the barge be manned or unmanned?
    - Reference (h) offers guidance and additional requirements for unmanned barges that are part of an Articulated Tug Barge Unit (ATB) which may be occasionally occupied by crewmembers from the towing vessel to perform non-navigational tasks.
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- Under which subchapter(s) is the barge to be regulated and certificated? (See 46 CFR 151.01-10 for specific guidance)
    - Subchapter D applies to **manned and unmanned** barges, on any route, that carry cargoes listed in 46 CFR Table 30.25-1.
    - Subchapter I applies to **manned and unmanned barges**, on any route, that carry cargoes that are **not flammable or combustible**.
    - Subchapter O applies to **unmanned, inland** tank barges that carry cargoes listed in 46 CFR Table 151.05;
      - If the cargoes to be carried are **flammable or combustible** as indicated by a fire protection requirement in the table, then both Subchapters O and D apply. (151.01-10(b))
      - If the cargoes to be carried are **not flammable or combustible** as indicated by a fire protection requirement in the table, then Subchapters O and D 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))
    - For **manned, inland** barges which carry a cargo listed in 46 CFR Table 151.05, Commandant (CG-ENG-5) will consider the case individually and determine what subchapters apply. (151.01-10(e))
    - In accordance with reference (g), the IBC Code (reference (b)) applies to **manned and unmanned oceangoing tank barges** which carry cargoes listed in Chapter 17 of the IBC code, regardless of whether or not the barge will trade internationally.
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## Vessels regulated under Subchapter D or Subchapters O and D:

- Double Bottom
  - For an **inland** barge, a double bottom shall be fitted in accordance with 33 CFR 157.10d(d)(2) [2 foot requirement].
  - For an **oceangoing** barge, a double bottom shall be fitted in accordance with 33 CFR 157.10d(c)(2).

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- Double Side (**inland** tank barges)
  - A double side shall be fitted as follows (46 CFR 151.15-3(d) and 33 CFR 157.10d(d)(1)):
    - Type I hull: 4 feet from the side shell and box end  
25 feet from the headlog at the bow, for lead barge
    - Type II hull: 3 feet from the side shell and box end  
25 feet from the headlog at the bow, for lead barge
    - Type III and  
All others: 2 feet from the side shell
  
- Double Side (**oceangoing** tank barges)
  - A double side shall be fitted as follows (46 CFR 153.230-232, 33 CFR 157.10d, and IBC Code 2.6):
    - Type I hull: B/5 from the side shell
    - Type II/III hulls: In accordance with 33 CFR 157.10(d)(c), but not less than 76 cm (29.9 in) from the side shell
  
- Size and arrangements of cargo tanks and Hypothetical Oil Outflow (**oceangoing barges**)

The size and arrangement of cargo tanks shall comply with the criteria in MARPOL 73/78, Regulation 23, as required by 33 CFR 157.20.
  
- Location of Spaces (**inland barges and oceangoing barges to which the IBC code does not apply**)
  - The galleys, living quarters, navigation spaces, general cargo spaces, boiler rooms, and enclosed spaces where sources of vapor ignition are normally present shall be segregated from cargo tanks by cofferdams, pump rooms, or tanks. (46 CFR 32.60-10)
  
- Location of Spaces (**oceangoing barges to which the IBC code applies**)
  - No accommodation or service spaces or control stations shall be located within the cargo area except over a cargo pump-room recess or pump-room recess that complies with SOLAS regulations II-2/4.5.1 to 4.5.2.4 and no cargo or slop tank shall be aft of the forward end of any accommodation. (IBC Code 3.2.1)
  
- Containment of deck spills
  - Deck coamings and enclosed areas shall be constructed in accordance with 33 CFR 155.310.

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- Miscellaneous space requirements
  - No oil or hazmat may be carried forward of the collision bulkhead. (33 CFR 155.470)
  - Slop tanks must be provided which meet the requirements of 33 CFR 157.15.
  - Cargo tank spaces shall extend to the main deck, with hatches and vents located on the weather deck. (46 CFR 32.60-10(b))
  - Pump rooms must be isolated from sources of vapor by gastight bulkheads. (46 CFR 32.60-20)
  
- **Manned barges**
  - The crew accommodations must be consistent with the principles underlying the requirements for crew accommodations of tankships of 100 gross tons or more. (46 CFR 32.40-60)
  - Two means of escape must be provided from accommodations, spaces normally manned, and machinery spaces, as required by 46 CFR 32.02-1.
  - Sleeping accommodations must meet the requirements listed in 46 CFR 32.40-20.
  - Each unit must have at least 1 toilet, 1 washbasin, and 1 shower or bathtub for every 8 persons who occupy sleeping spaces that do not have private or semi-private facilities attached. All facilities shall be constructed in accordance with 46 CFR 32.40-25.
  - Guardrails or bulwarks shall be constructed in accordance with 46 CFR 32.02-10.
  - Messrooms shall be constructed in accordance with 46 CFR 32.40-30.
  - Each unit carrying twelve or more persons on a voyage of more than 3 days requires a hospital space or a designated treatment or isolation room, in accordance with 46 CFR 32.40-35.
  - Laundry, recreation, and open deck spaces shall be provided in accordance with 46 CFR 32.40-40.

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## Vessels regulated under Subchapters O and I:

- Double Bottom (**All routes and not subject to the IBC Code**)
  - The double bottom height will be controlled by the ability of the submitter to show that the vessel can survive the applicable damage stability requirements. If fitted, a double bottom must have an inspection clearance of at least 15 inches in accordance with 46 CFR 151.15-3(d)(2).
  
- Double Bottom (**oceangoing and subject to the IBC Code**) (IBC 2.6)
  - Type I/II hulls: B/15 from the bottom shell plating, but never less than 76 cm
  - Type III hulls: No double bottom requirement
  
- Double Side (**inland or oceangoing and not subject to the IBC code**) (46 CFR 151.15-3(d))
  - Type I hull: 4 feet from the side shell and box end  
25 feet from the headlog at the bow, for lead barge
  - Type II hull: 3 feet from the side shell and box end  
25 feet from the headlog at the bow, for lead barge
  - Type III hull: No double side requirement
  
- Double Side (**oceangoing and subject to the IBC Code**) (IBC 2.6)
  - Type I hull: B/5 from the side shell plating
  - Type II hull: 76 cm (29.9 in) from the side shell plating
  - Type III hull: No double side requirement
  
- Containment of deck spills
  - Deck coamings and enclosed areas shall be constructed in accordance with 33 CFR 155.310.
  
- **Manned** barges
  - Two means of escape must be provided from accommodations, spaces normally manned, and machinery spaces, as required by 46 CFR 92.10-5.
  - No sleeping space may berth more than 4 persons. (46 CFR 92.20-20(b))
  - Each licensed officer shall be provided with a separate stateroom, where practicable. (46 CFR 92.20-20(a))
  - Sizing, spacing and lockers must be provided. (46 CFR 92.20-20(c)-(e))

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- Each unit carrying twelve or more persons on a voyage of more than 3 days requires a hospital space or a designated treatment or isolation room, in accordance with 46 CFR 92.20-35.
  - Guardrails or bulwarks shall be constructed in accordance with 46 CFR 92.25
  - Each unit must have at least 1 toilet, 1 washbasin, and 1 shower or bathtub for every 8 persons who occupy sleeping spaces that do not have private or semi-private facilities attached. All facilities shall be constructed in accordance with 46 CFR 92.20-25.
  - Messrooms shall be constructed in accordance with 46 CFR 92.20-30.
  - Laundry, recreation, and open deck spaces shall be provided in accordance with 46 CFR 92.20-40.
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## Vessels regulated under Subchapter O:

- ❑ Each tank must be fitted with an access opening, and each access must be sized and located according to the requirements of 46 CFR 151.15-3(d)(3) (**inland**) or 46 CFR 153.217; .219; .254, and .256. (**oceangoing**)
  - ❑ Openings to accommodation, service or control spaces must meet 46 CFR 153.201.
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## Definitions

Routes: Inland routes include vessel service on lakes, bays, sounds, rivers, and certain coastwise routes, including “special service voyages” and “limited coastwise, fair weather only.” Operation on the Great Lakes is not considered an inland route, unless specified in fair weather definition. Definitions for these terms can be found in the following sources:

Rivers:	46 CFR 30.10-61
Lakes, Bays, and Sounds:	46 CFR 30.10-41
Great Lakes:	46 CFR 30.10-33
Ocean:	46 CFR 30.10-45
Coastwise:	46 CFR 30.10-11
Special service voyages:	MSM, Volume IV, Chapter 6, Part F.3.g
Fair weather voyages:	MSM, Volume IV, Chapter 6, Part F.3.i

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## **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 guidance 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 the MSC, the unit responsible for implementing this guidance.