

MSC Guidelines for Review of Oceangoing Tank Barge Structures and Longitudinal Strength

Procedure Number T1-14

Revision Date: 07/01/03

- References
- a. ABS Rules for Building and Classing Steel Barges (1991), including all effective Rule Change Notices (RCNs)
 - b. 46 CFR Subchapter D, Tank Vessels
 - c. 46 CFR Subchapter I, Cargo and Miscellaneous Vessels
 - d. 46 CFR Subchapter O, Certain Bulk Dangerous Cargoes
 - e. NVIC 2-81, Ch. 1, Coast Guard Inspection Guidance Regarding Integrated Tug Barge Combinations
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Disclaimer

These guidelines were developed by the Marine Safety Center staff as an aid in the preparation and review of vessel plans and submissions. They were developed to supplement existing guidance. They are not intended to substitute or replace laws, regulations, or other official Coast Guard policy guidance. The responsibility to demonstrate compliance with all applicable laws and regulations still rests with the plan submitter. The Coast Guard and the U. S. Department of Homeland Security expressly disclaim liability resulting from the use of this document.

Contact Information

If you have any questions or comments concerning this document, please contact the Marine Safety Center by e-mail or phone. Please refer to the Procedure Number: T1-14

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- General Review Guidance
- ❑ If the vessel is new and not a sister vessel, has the Application for Inspection been submitted? In general, no plan review will occur until receipt of a copy of the Application.
 - ❑ Is it clearly stated what is desired from the MSC? Are all plans requiring Coast Guard review and/or approval submitted in triplicate? Are there any special or unusual requests involved?
 - ❑ Is the vessel being reviewed under NVIC 10-82? If yes, then MSC review of structure and longitudinal strength is not required. Note: under NVIC 10-82, the MSC must review and approve general arrangement plans.
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- Is the vessel being classed by ABS? If yes, check the vessel file for ABS letter/drawings or request from submitter/ABS. As stated in 46 CFR 31.10-1(c), CG considers ABS structural review for class as acceptable for showing compliance with US structural regulations.
- Ensure the following drawings (items) are submitted:
 - General Arrangements
 - Scantling plans, including deck bin scantling
 - Structures calculations
- Per 46 CFR 31.10-32, if the barge is constructed after September 6, 1977 and is greater than 300 feet in length, a loading manual must be submitted in accordance with 46 CFR 42.15-1(a) or 45.105(a). Review of this item is normally conducted as part of the final stability review.
- Verify that the hull, structural bulkheads, and decks are constructed of steel.
- For a vessel that has independent tanks, see the Gas Carrier Structures review guidelines.
- Calculate all vessel scantlings using the appropriate Part and Section of reference (a)
- For an integrated tug-barge unit,
 - Determine type of unit, Pushing Mode or Dual Mode. (See reference (e) for more details.)
 - Check the calculations for longitudinal strength: Section 20.7.
 - Check the structure of the connection: Section 20.13 (Also, see reference (e) for more details on required calculations.)
 - Check scantling requirements for tug and barge: Section 20.9
 - Check calculations of still water bending moments and shear forces: Section 20.11
 - For units > 400 feet, verify and check loading manual: Section 20.15

Definitions

Pushing Mode ITB: ITBs where the tug remains in the combined configuration or has the capability to remain in the combined configuration under the environmental conditions that a ship of comparable size could anticipate on a comparable route. Pushing Mode ITB tugs, in general, are not equipped or capable of separating from the barge and towing on a hawser. Safety regulations and statutory requirements dependent on tonnage measurements are applicable to

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Pushing Mode ITBs as determined by the aggregate tonnage of the ITB combination.

Dual Mode ITB: ITBs where the tug is similar to a conventional tug and is equipped to tow by hawser. The Dual Mode ITB can operate in either the combined configuration or tow on a hawser. The Dual Mode ITB tug can separate safely from the barge and shift to the hawser towing configuration at designated sea states. For inspection purposes, the tug and barge of a Dual Mode ITB will be considered as separate vessels. The specially designed connection system will be considered as part of the barge for purposes of review and inspection.