



REVIEW OF INLAND TANK BARGE CARGO AUTHORITY

Procedure Number: C1-40

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Purpose

To establish the procedures for reviewing inland tank barges for the carriage of bulk liquid hazardous material cargoes, generating the appropriate cargo lists, and producing a Cargo Authority Attachment (CAA) as needed.

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 C1-40.

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1. Applicability

This Plan Review Guideline (PRG) is applicable to tank barges carrying cargoes regulated under Subchapters D and O on inland routes.

2. Instructions

Using applicable portions of references (a) through (c), the submitter shall provide sufficient documentation and plans to indicate compliance with the applicable 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.

3. References

- a. 46 CFR Subchapter O, Part 151
- b. 46 CFR Subchapter D, Parts 30 through 39
- c. 46 CFR Subchapter I, Parts 90 through 92

4. General Guidance

- a. If the request for cargo authority involves the construction, alteration, or modification of a new or existing vessel, verify that MSC has received an approved Application for Inspection.
- b. Determine vessel route, operating subchapter and desired cargo authority:
 - (1) If the vessel's route is oceans, this instruction does not apply. Refer to PRG C1-42.
 - (2) If the barge will carry liquefied gas cargoes, refer to PRG C1-41.
 - (3) If the Cargo Authority is being completed in conjunction with a Vapor Control System (VCS) Review, refer to PRG C1-46 to ensure proper submission.
 - (4) Using the Bulk Liquid Cargo Authority Flow Chart (attached) and the guidance below, determine what operating subchapters apply.
 - (i) An inland tank barge certificated under Subchapter D may carry any bulk liquid cargo listed in Table 30.25-1 of reference (b) or Table 2 of 46 CFR Part 153, subject to the flammability (Grade A, B, etc) and density constraints shown on the vessel's Certificate of Inspection (COI).
 - (ii) An inland tank barge certificated under Subchapter I may carry any non-flammable bulk liquid cargo listed in Table 2 of 46 CFR Part 153, subject to the density constraints shown on the vessel's Certificate of

Inspection (COI).

- (iii) An inland tank barge certificated under Subchapter O must also be reviewed and inspected to the requirements of Subchapter D, or Subchapter I, depending on the flammability of the desired cargoes.
 - (a) An inland tank barge certificated under Subchapters D and O may carry any bulk liquid cargo listed in Table 30.25-1 of reference (b) or Table 2 of 46 CFR Part 153, subject to the flammability and density constraints shown on the vessel's COI, and those specified hazardous cargoes listed in Table 151.05 of reference (a), subject to the minimum carriage requirements reflected in the table.
 - (b) An inland tank barge certificated under Subchapters I and O may carry any non-flammable bulk liquid cargo listed in Table 2 of 46 CFR Part 153, subject to the density constraints listed on the vessel's COI and those specified hazardous cargoes listed in Table 151.05 reference (a), subject to the minimum carriage requirements reflected in the table.

c. Determine whether a CAA is required:

- (1) Vessels carrying only Subchapter D cargoes that do not have a VCS, do not need a CAA.
- (2) Vessels carrying Subchapter O cargoes or vapor controlling any cargo do need a CAA

d. The following cargoes must be listed on the vessel's CAA:

- (1) Any cargo listed in Table 151.05 of reference (a), see 46 CFR 151.04(c).
- (2) Any cargo authorized for vapor control, see 33 CFR 154.2150 (b)(2)

Note: prior to the August 2013 VCS reg updates, this requirement was contained in 46 CFR 39.10-13(d).

NOTE: 46 CFR 151.04-1 (c) requires that a vessel's COI be endorsed with the name of the Subchapter O cargoes authorized for carriage, and 33 CFR 154.2150 (b)(2) requires that facilities transfer vapors only to or from vessels that have COIs endorsed for each cargo intended for transfer. The CAA is the currently accepted means for streamlining this endorsement. However, at the OCMI's discretion, any COI endorsement that meets this standard could be deemed acceptable.

e. A Tank Group Characteristic Loading Form (TGCLF) must be completed for each vessel, as outlined in the next section.

5. Tank Group Characteristics Loading Form

The TGCLF is available at our [webpage](#).

The TGCLF may be submitted for multiple vessels, provided that all characteristics are identical. The submitter is expected to complete all sections of the TGCLF based on the vessel's actual design and construction. Each item should be completed, subject to the following guidance:

- a. Vessel Information: the vessel name(s), official number(s), shipyard and hull number(s) must match all the information in the request and any available vessel files.
- b. Bulk Liquid Cargo Authority and Bulk Liquid Cargo Conditions of Carriage: the data in these sections may be found on the vessel's COI for existing vessels. For new vessels, this information can be found on the Plan Review Information Sheet (PRIS).
- c. Cargo Tank Group Characteristics: The information in this section should reflect the vessel's design and construction. Most of the information on the TGCLF relates to the minimum carriage requirements contained within 46 CFR Table 151.05 and as defined in 46 CFR 151.05-1. Any additional options should be verified by plan review as follows:
 - (1) Tank group designation: This may be any single character label to identify a set of tanks with identical characteristics. Commonly, the designation "A" is used for barges with only one tank group. Additional groups ("B", "C", etc) may be included as needed. For example, a vessel's centerline cargo tanks may comprise Tank Group A, and the wing cargo tanks may comprise tank group B.
 - (2) Tanks in group: All cargo and slop tanks should be accounted for. Tanks should be listed individually. For example, enter "#1P/S, #2P/S, #3P/S" vice "All Tanks."
 - (3) Flammability Grade: Only one grade may be selected and includes all lower grades. For example, a vessel authorized to carry Grade A cargoes can carry all grades, whereas a vessel authorized to carry Grade D cargoes can carry only Grades D and E cargoes.
 - (4) Cargo Identification-Pressure: Tanks that carry cargoes at a pressure in excess of 10 psig measured at the top of the tank are considered "pressurized." For pressure vessel cargo tanks, structural review is conducted by the machinery branch (E1).
 - (5) Cargo Identification-Temperature: If the vessel will carry elevated temperature cargoes, the TGCLF should also indicate a means for temperature control (item 4 on the TGCLF), and tank heating (151.40-1).
 - (6) Maximum Cargo Density: The Maximum Cargo Density should be the Maximum Slack Load Cargo Density, which is the heaviest cargo that can be

carried in a partial load. It will be listed on the PRIS and CAA.

- (7) Hull Type: Only one type may be selected and includes all lower types. For example, a Type II vessel can carry cargoes requiring a Type II or Type III hull, but not those cargoes requiring a Type I hull.
- (8) Cargo Segregation-Tanks: For double-hull vessels, 1ii should be selected. For tank barges, 2ii may be selected because an 18" cofferdam is required between the tanktop and the cargo pump.
- (9) Tanks-Type: More than one box may be checked. For example, for Integral Gravity tanks, both the "Integral" and "Gravity" tanks should be selected. For independent and/or pressure tanks, MSC's Machinery Branch will conduct the structural review.
- (10) Tanks-Venting: Select the appropriate box for tank venting. Most vessels with VCS have pressure-vacuum venting.
- (11) Height of Vent Header Above Centerline: Enter the height in feet.
- (12) Tanks-Gauging Devices: If the vessel has a vapor control system, closed gauging is most likely.
- (13) Cargo Transfer-Piping: Refer to table 46 CFR 56.04-2 for piping types.
- (14) Cargo Transfer Control: Refer to 46 CFR 151.20-5 for cargo system valving requirements.
- (15) Environmental Control-Tanks: "NR," means that the tank group is suitable only for those cargoes, which require no environmental control in the tanks. For inerted or padded tanks, select the correct boxes based on 46 CFR 151.25-1.
- (16) Environmental Control-Cargo Handling Space: "NA," means that no cargo control space exists. This is commonly the case for inland barges, and can be verified easily by checking the GA. If the barge has a cargo control space, but has no environmental control in that space, enter "NR." If the barge has a cargo control space, and has natural or forced ventilation, check the corresponding box.
- (17) Fire Protection Provided: If fire protection is provided, enter the type (i.e. "Portable," or "B-II").
- (18) Electrical Hazard Group: "NA" means that the hazardous area contains a piece of electrical equipment with no assigned hazard group. If this criterion is selected, the vessel will only be authorized to carry those cargoes with an "NA" listed in Column (j) of 46 CFR 151 Table 1. If the hazardous area contains equipment that has been assigned a hazard group, and the hazard group has been verified by MSC's Electrical Branch, enter the appropriate

rating (“I-A”, “I-B”, “I-C”, or “I-D”). This Electrical Hazard group is based on the “Maximum Experimental Safe Gap (MESG)” meaning that the electrical component may cause an explosion, but that it would be contained within the housing of the electrical equipment, and that the housing would not have any openings larger than the MESG. (The MESG is the largest opening that can exist and still prevent an explosion from moving from one side of a barrier to the other. The size of the gap is dependent on the amount of energy release by the explosion, which is dependent on the physical properties of the gas). Some equipment is “intrinsically safe”, meaning that it does not generate enough energy to create an explosion. Intrinsically safe equipment is treated as not existing in the hazardous area. If no electrical hazard exists in the hazardous area, enter “NR”. If no hazardous area plan has been submitted, select “NA” or the request may be held in abeyance pending submittal of the hazardous area plan.

(19) Temperature Control: If the vessel has an approved thermal fluid heater or other heating system, enter “Yes.”

d. Special 46 CFR 151 Design and Material Requirements: Select those rules that the vessel meets.

(1) 151.40 Temperature or Pressure Control Installations: If “Yes” is entered in the temperature control field, specify which form of temperature control is installed.

(2) 151.50 Special Requirements: Review the requirements for each paragraph to verify compliance. NOTE: Some items require extensive plan review or impose additional requirements.

(i) Carriage of the following cargoes prohibits the carriage of any other cargoes: Anti-knock compounds, Alkylene (ethylene or propylene) oxides, Inorganic acids (sulfuric, hydrochloric, and phosphoric).

(3) 151.55 Special Material Requirements: Any materials identified as prohibited shall not be used in components that contact the cargo or its vapor during routine operation. Note: Many of these requirements are duplicated in 151.56. Ensure that 151.55 and 151.56 reflect the same materials.

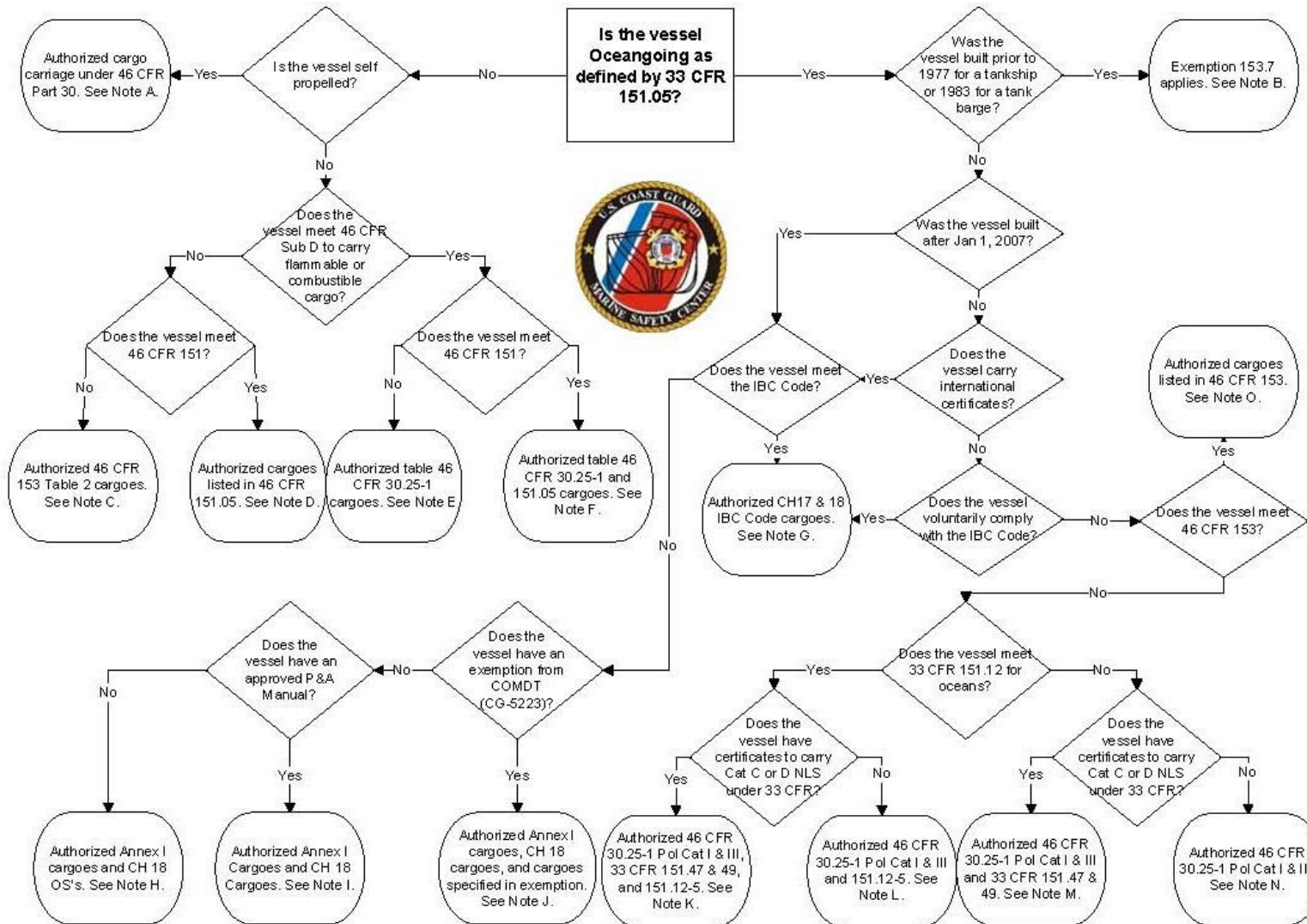
(4) 151.56 Prohibited Materials of Construction: Select those rules referring to materials which are not used in components that contact the cargo or its vapor during routine operation. Note: Many of these requirements are duplicated in 151.55. Ensure that 151.55 and 151.56 reflect the same materials.

(5) 151.58 Required Materials of Construction: Select those rules referring to materials which are used in the construction of the cargo containment system or other components contact the cargo or its vapor during routine operation.

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.

Tank Vessel Bulk Liquid Cargo Authority Flow Chart



Notes for Tank Vessel Bulk Liquid Cargo Authority Flow Chart

- A. Vessel can carry cargoes listed in 46 CFR 30.25-1 subject to the density and flammability limits on the vessel's COI. To carry a category A, B, or C NLS the vessel must meet 46 CFR 153. The vessel may also carry certain Category C & D NLSs regulated by 33 CFR Part 151 for existing oceangoing tank vessels certified for domestic routes only. The requirements for carriage are contained in 33 CFR 151.35 – 151.45.
- B. For oceangoing tank barges built prior to July 1, 1983, Subpart B (Design and Equipment) of 46 CFR 153 may be waived if the vessel meets all of the requirements in 46 CFR Parts 30-34 and 151 that apply to the cargo. This waiver applies only for domestic voyages and those NLS cargoes which do not require Type I containment. Certain exemptions also apply to tank ships built prior to December 27, 1977. A cargo list should be issued to the vessel based on table 46 CFR 151.05.
- C. This vessel is not regulated under Subchapter D or O and may carry cargoes listed in 46 CFR 153 Table 2.
- D. Subchapter O/I inland tank barge: can carry nonflammable/noncombustible cargoes in 46 CFR Table 151.05 ("No" in Fire Protection Required column) and subject to Tank Group Characteristics and cargo special requirements. Vessel may also carry those cargoes not regulated by Subchapters D or O listed in Table 2 of Part 153.
- E. Subchapter D inland tank barge: can carry cargoes in 46 CFR Table 30.25-1 subject to density and flammability/combustibility limits on COI. Vessel may also carry those cargoes not regulated by Subchapters D or O listed in Table 2 of Part 153.
- F. Subchapter O/D inland tank barge: can carry cargoes in 46 CFR Table 30.25-1 subject to the cargo density and flammability/combustibility limits on COI and 46 CFR Table 151.05 subject to Tank group Characteristics and cargo special requirements. Vessel may also carry those cargoes not regulated by Subchapters D or O listed in Table 2 of Part 153.
- G. Vessel may carry those cargoes listed in Appendix I of MARPOL Annex I, cargoes listed in Ch 18 of the IBC Code, and those Ch 17 cargoes for which the vessel meets the tank group characteristics. Vessel must meet both 46 CFR 153 and the IBC Code. Where US regulations conflict with international standards, the more prescriptive requirements shall be applied.
- H. Vessel may carry those cargoes listed in Appendix I of MARPOL Annex I and those cargoes listed as "Other Substances" in Ch 18 of the IBC Code.
- I. Vessel may carry those cargoes listed in Appendix I of MARPOL Annex I and those cargoes listed in Ch 18 of the IBC Code.
- J. Vessel may carry those cargoes listed in Appendix I of MARPOL Annex I, those cargoes listed in Ch 18 of the IBC Code, and those cargoes specified in the exemption from Commandant (CG-5223) as allowed by NVIC 03-06. Vessel is required to maintain a P&A Manual approved by the Marine Safety Center.
- K. Vessel may carry Pollution Category I&III cargoes listed in 46 CFR 30.25-1 and 33 CFR 151.47 and 151.49. A tank barge may also carry those cargoes listed in 46 CFR 151.12-5 if it meets 46 CFR 153.470, .486 and .490. Category C & D NLSs are regulated by 33 CFR Part 151 for existing oceangoing tank vessels certified for domestic routes only. The requirements for carriage are contained in 33 CFR 151.35 – 151.45. Cargoes listed with a pollution category of "I" are considered oils for the purpose of MARPOL 73/78 Annex I, and fall within the applicable sections of MARPOL. Cargoes listed with a pollution category of "III" are Appendix III (non-regulated) cargoes of MARPOL 73/78 Annex II. For oceangoing tankships built prior to July 1, 1986 carrying Category B or C NLS cargoes, certain sections of 46 CFR 153 may be waived. The requirements for this are contained in 46 CFR 153.483. This is referred to as a "Restricted Voyage Waiver" or "483 Waiver".
- L. Vessel may carry Pollution Category I&III cargoes listed in 46 CFR 30.25-1. A tank barge may also carry those cargoes listed in 46 CFR 151.12-5 if it meets 46 CFR 153.470, .486 and .490. Cargoes listed with a pollution category of "I" are considered oils for the purpose of MARPOL 73/78 Annex I, and fall within the applicable sections of MARPOL. Cargoes listed with a pollution category of "III" are Appendix III (non-regulated) cargoes of MARPOL 73/78 Annex II. For oceangoing tankships built prior to July 1, 1986 carrying Category B or C NLS cargoes, certain sections of 46 CFR 153 may be waived. The requirements for this are contained in 46 CFR 153.483. This is referred to as a "Restricted Voyage Waiver" or "483 Waiver".

Notes for Tank Vessel Bulk Liquid Cargo Authority Flow Chart

- M. Vessel may carry Pollution Category I&III cargoes listed in 46 CFR 30.25-1 and 33 CFR 151.47 and 151.49. Category C & D NLSs are regulated by 33 CFR Part 151 for existing oceangoing tank vessels certified for domestic routes only. The requirements for carriage are contained in 33 CFR 151.35 – 151.45. Cargoes listed with a pollution category of “I” are considered oils for the purpose of MARPOL 73/78 Annex I, and fall within the applicable sections of MARPOL. Cargoes listed with a pollution category of “III” are Appendix III (non-regulated) cargoes of MARPOL 73/78 Annex II. For oceangoing tankships built prior to July 1, 1986 carrying Category B or C NLS cargoes, certain sections of 46 CFR 153 may be waived. The requirements for this are contained in 46 CFR 153.483. This is referred to as a “Restricted Voyage Waiver” or “483 Waiver”.
- N. Vessel may carry Pollution Category I&III cargoes listed in 46 CFR 30.25-1. Cargoes listed with a pollution category of “I” are considered oils for the purpose of MARPOL 73/78 Annex I, and fall within the applicable sections of MARPOL. Cargoes listed with a pollution category of “III” are Appendix III (non-regulated) cargoes of MARPOL 73/78 Annex II. For oceangoing tankships built prior to July 1, 1986 carrying Category B or C NLS cargoes, certain sections of 46 CFR 153 may be waived. The requirements for this are contained in 46 CFR 153.483. This is referred to as a “Restricted Voyage Waiver” or “483 Waiver”.
- O. Subchapter O/D oceangoing tankship or tank barge; can carry pollution category I and III cargoes in 46 CFR Table 30.25-1 subject to density and flammability/combustibility limits on COI and cargoes in 46 CFR 153 Table 1 subject to Tank Group Characteristics and cargo special requirements. For oceangoing tankships built prior to July 1, 1986 carrying Category B or C NLS cargoes, certain sections of 46 CFR 153 may be waived. The requirements for this are contained in 46 CFR 153.483. This is referred to as a “Restricted Voyage Waiver” or “483 Waiver”.