

MSC Guidelines for Review of Oceangoing Tank Barge Cargo Authority

Procedure Number: C1-42

Revision Date: 08/01/2018



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Purpose:

The purpose of this document is to provide guidance and information regarding the submission of the Tank Group Characteristics Loading Form for Oceangoing Tank Barges to request the generation of a Cargo Authority Attachment (CAA).

References:

- a. 46 CFR Subchapter O, Part 153
 - b. International Convention for the Prevention of Pollution from Ships (MARPOL), 1973, as modified by the Protocol of 1978 (2017 Edition)
 - c. International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (2016)
 - d. Navigation and Vessel Inspection Circular (NVIC) 03-06, "Guidance on Implementation of Revisions to MARPOL Annex II and The IBC Code"
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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. Please refer to the Procedure Number C1-42.

Email: MSC@uscg.mil

Phone: 202-795-6731

Website: <http://www.dco.uscg.mil/msc>

Responsibilities:

Using applicable portions of references (a) through (d), 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, all plans and information specified in these guidelines should be submitted as one complete package through a single point of contact for the project.

General Guidance:

- Reference (b) is split into six Annexes, of which the first two concern the carriage of liquids in bulk. Annex I pertains strictly to vessels carrying oil, while MARPOL Annex II concerns the carriage of chemicals. Reference

MSC Guidelines for Review of Oceangoing Tank Barge Cargo Authority

Procedure Number: C1-42

Revision Date: 08/01/2018

- (c), also known as The IBC Code, was created to provide the specific construction requirements for vessels carrying Noxious Liquid Substances (NLS) under Annex II of MARPOL. The IBC Code categorizes chemicals into Category X, Y, and Z NLS, and Other Substances (OS), with Category X being the most hazardous. The requirements for the construction of chemical carriers are based upon the category of the substances to be carried as well as specific safety requirements pertaining to certain cargoes.
- Following the latest updates to the IBC Code, the Coast Guard published NVIC 03-06 which states that all oceangoing vessels carrying NLS and built after January 1, 2007 must comply with the IBC Code and U.S. Regulations. Vessels carrying NLS and built before January 1, 2007 must meet the IBC Code if they wish to continue trading internationally, however they may continue trading domestically under the requirements of 46 CFR 153 if they surrender all international certificates and do not pass through the waters of a foreign administration.
 - An Oceangoing Tank Barge Cargo Authority Attachment package shall be submitted 30 days prior to anticipated vessel voyage to ensure proper processing of the request. The package shall include:
 - A formal email or letter with request details such as vessel name, vessel identification number, and vessel route.
 - If the vessel's route is rivers, lakes, bays, and sounds, this instruction does not apply. Refer to Process Review Guide C1-40 for Inland Tank Barge Cargo Authorities.
 - If the vessel will carry liquefied gas cargoes, refer to Process Review Guide C1-41 for Gas Carrier Barge Cargo Authorities.
 - The appropriate Tank Group Characteristics Loading Form (TGCLF) for oceans routes. If the vessel is an Annex I Oil Barge, then no TGCLF is necessary. Ensure your formal email or letter specifies that your vessel is an Annex I Oil Barge if you are not submitting a TGCLF.
 - **Note:** To carry any NLS cargoes internationally, the vessel will also need a vessel specific Procedures and Arrangements Manual. If the Procedures and Arrangements Manual will be submitted to the MSC, please refer to PRG C1-44.
 - If the vessel is reviewed and certificated to carry NLS and classed by ABS, you must submit the ABS stability letter.
 - The MSC does not typically edit CAAs for discrepancies in vessel information. The MSC will, upon request of the owner, remove cargoes

MSC Guidelines for Review of Oceangoing Tank Barge Cargo Authority

Procedure Number: C1-42

Revision Date: 08/01/2018

that require shortened inspection intervals. The owner/operator is required to request an update to a vessel's CAA from the MSC when there is a physical change to the vessel or erroneous information previously provided that would change the cargoes it can carry.

Specific Topics:

- ❑ Generation of MARPOL Annex I Oil Barge Cargo Authority: Oil Tank Barges may carry those oils listed in Appendix I of MARPOL Annex I and 46 CFR Subchapter D. Many of these barges were built and certificated for international service prior to the implementation of NVIC 03-06. Prior to NVIC 03-06, these barges were allowed to carry all of the cargoes listed in 46 CFR 30.25-1, including Toluene, Xylenes, and Fatty Acid Methyl Ester (FAME). This was based on Regulation 14 of MARPOL Annex II 73/78 (pre-2006) as implemented by 33 CFR Part 151. Once MARPOL Annex II and the IBC Code changed and NVIC 03-06 took effect, cargoes previously considered "oil-likes" became regulated as NLS and are no longer authorized for carriage on Subchapter D/Annex I barges. Because of this, many Annex I Oil Barges have requested cargo exemptions from COMDT (CG-ENG-5) to continue to carry certain oil-like cargoes that are now NLS as long as the barge has an approved Procedures and Arrangements Manual (refer to PRG C1-44). Otherwise, Annex I Oil Barges can carry all of the cargoes listed in MARPOL Annex I, Appendix I.
- ❑ Complete and submit a 46 CFR 153 TGCLF or a MARPOL Annex II (IBC Code) TGCLF, both of which may be found on the MSC website (listed in the contact information of this PRG) by following the "Tank Vessel and Offshore Division" (MSC-3) hyperlink under "Organization." The TGCLF must accurately reflect the design and safety considerations of the barge and will be verified by both the MSC plan review process and the local OCMI.
 - An oceangoing tank barge which intends to hold international certificates must submit the MARPOL Annex II (IBC Code) TGCLF. This form may be downloaded on the TVO page of the MSC's website.
 - For clarification on which regulations apply to different barges and routes, please refer to the Vessel Cargo Authority Help tool or Cargo Authority Attachment Flow Chart on the MSC website for more information on CAA applicability.
 - The 46 CFR 153 TGCLF is strictly intended for an existing barge built prior to July 1, 1983 for domestic voyages and those NLS cargoes that do not require Type 1 containment.

MSC Guidelines for Review of Oceangoing Tank Barge Cargo Authority

Procedure Number: C1-42

Revision Date: 08/01/2018

- The TGCLF denotes applicable Code of Federal Regulations sections for the submitter to reference for each cargo tank group characteristic. Refer to <https://www.ecfr.gov> to view the most current regulations free of charge. For specific guidance on how to complete each part of the TGCLF, refer to attachment (1).
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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.

Attachments:

- (1) Guidance for Completion of the TGCLF

MSC Guidelines for Review of Oceangoing Tank Barge Cargo Authority

Procedure Number: C1-42

Revision Date: 08/01/2018

Attachment (1): Guidance to Completing TGCLF

- Cargo Tank Group Characteristics: The information in this section should reflect the vessel's design and construction. The following information is provided to facilitate completing the TGCLF and offers basic guidance:
 - 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 and would require additional copies of the TGCLF to be submitted. For example, a vessel's centerline cargo tanks may comprise Tank Group "A," and the wing cargo tanks may comprise tank group "B."
 - 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."
 - 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. **For a Subchapter D oceangoing barge, the highest grade of cargoes authorized will be Grade B due to the international testing standards for flame screens which limits vessels to the carriage of crude oil and petroleum products having a flashpoint of 60°C or less, and a Reid vapor pressure below atmospheric pressure. The testing standards can be found in IMO MSC/circ. 677, "Revised Standards for the Design, Testing and Locating of Devices to Prevent the Passage of Flame Into Cargo Tanks in Tankers."**
 - Maximum Cargo Density: The Maximum Cargo Density will be listed on the CAA and should be the Maximum Slack Load Cargo Density, which is the heaviest cargo that can be carried in a partial loading condition.
 - NLS Category Authorized: Ships built after January 1, 2007 will likely ask to carry X, Y, and Z cargoes since the stripping and construction requirements are the same for all categories of cargo. Only the tank washing and pre-wash requirements vary between the cargoes. For vessels built prior to January 1, 2007, the stripping and construction requirements vary depending on the categories of NLS being carried.
 - Procedures & Arrangements Manual Submitted to MSC: This means that a P&A Manual has been submitted **and** approved by the MSC, see PRG C1-44.
 - Other MARPOL Authority: Does the vessel meet MARPOL Annex I?

MSC Guidelines for Review of Oceangoing Tank Barge Cargo Authority

Procedure Number: C1-42

Revision Date: 08/01/2018

- **Ship 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.
 - **Cargo Tank Type:** The most common type is “Integral Gravity;” include the type verified by vessel plans.
 - **Cargo Tank Vent Type:** If the vessel has a vapor control system, PV venting is required.
 - **Cargo Tank Vent Height:** 46 CFR 153.350-153.353 lists the special requirements for P/V vent heights. 46 CFR 153 Table 1 specifies that the vessel must have a vent height that equals either the breadth of the ship divided by three (B/3), 4 meters, or “NR,” meaning “No Requirement,” depending on the cargoes carried. In turn, the IBC Code requires a height of 6 meters. Both 153 and the IBC Code allow you to substitute a 3 meter high velocity P/V valve in lieu of a B/3 or 6 meter P/V valve. If the vessel has a VCS, they must either have a B/3 low velocity P/V valve, a 6 meter low velocity P/V valve, or a 3 meter high velocity P/V valve. If they have none of these, they will only be able to carry the cargoes with “NR” listed in column “e” of 46 CFR 153 Table 1, and the open venting cargoes from the IBC Code.
 - **Tanks-Gauging Devices:** If the vessel has a vapor control system, closed gauging is required.
 - **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 153 Table 1. If the hazardous area contains equipment that has been assigned a hazard group, and the hazard group has been verified by the MSC electrical branch, enter the appropriate rating (“I-A”, “I-B”, “I-C”, or “I-D”). 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.” Refer to details of the hazardous area plan review. 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.
- **Fire Protection/Firefighting:** If a firefighting system is installed, then include that information on the TGCLF.

MSC Guidelines for Review of Oceangoing Tank Barge Cargo Authority

Procedure Number: C1-42

Revision Date: 08/01/2018

- Special 46 CFR 153 Material Requirements: Select those rules which the vessel meets.
 - 153.236 Special Material Requirements: Any materials identified as prohibited shall not be used in components that contact the cargo or its vapor during routine operation. Refer to the bill of materials for the cargo piping systems.
 - 153.238 Required Materials of Construction: Select those rules referring to materials which are used in the construction of the cargo containment system or other components that contact the cargo or its vapor during routine operation. Note that to receive credit for a tank lining, the submitter must provide the manufacturer's specification indicating the cargoes compatible with the lining. If no specification is provided, do not indicate that a lining is installed.

- Special 46 CFR Part 153 and IBC Code Requirements. Select those rules which the vessel meets.
 - 153.252 Independent Cargo Tank: Select this if the cargo tank is independent from the hull structure.
 - 153.266 Tank Linings: Tank linings are a requirement for most acids and similarly corrosive cargoes. However, many tanks have a lining that prevents corrosion, but that does not meet the requirements to carry an acid or highly corrosive cargo. The submitter must provide the manufacturer's specifications for the lining stating what cargoes the lining will protect against. Since most vessels are built without the intention of carrying acids, it is optional for the submitter to provide this information. The submitter should only be required to provide it if they have specifically requested to carry a cargo that lists this special requirement.
 - 153.316/IBC 15.17 Pump Room Ventilation: **If the tank barge does not have a cargo pump room, it should automatically be credited for this section** and be allowed to carry cargoes listing this special requirement.
 - 153.336/IBC 15.18 Pump Room Requirement: **Vessels without a cargo pump room should be credited for this special requirement.**
 - 153.355 PV Venting System: This section requires that any tank vessel carrying cargoes that require PV venting must have a PV valve on the vapor header.
 - 153.370-.372/IBC 15.14 High Vapor Pressure Requirement: Both the CFR and the IBC code require that for high vapor pressure cargoes, the

MSC Guidelines for Review of Oceangoing Tank Barge Cargo Authority

Procedure Number: C1-42

Revision Date: 08/01/2018

- PV valve setting must be equal to or greater than the vapor pressure of the cargo at 45°C. This restriction is relaxed if the vessel is refrigerated.
- 153.408/ IBC 15.19 Overflow Control: Gauging submission must demonstrate compliance with this section. Vessels with VCS installed must meet this section in accordance with 46 CFR 39.2009.
 - 153.409/IBC 15.19.6 High Level Alarms: Gauging submission must demonstrate compliance with this section. Vessels with VCS installed must meet this section in accordance with 46 CFR 39.2003.
 - 153.440 Temperature Sensors: There are two parts to this section; a heated cargo tank must have a sensor at the bottom of the tank, and a refrigerated tank must have a sensor at both the top and bottom of the tank. Note: only cargoes requiring refrigeration will need both sensors.
 - 153.465 Flammable Vapor Detection: To be verified by the OCMI.
 - 153.488 High Melting Point NLS: This requires a heating system and double sides/bottoms.
 - 153.500 Inert Gas System: IG system must meet these requirements.
 - 153.501 Dry Inert Gas: IG must contain no more than 100 ppm water.
 - 153.515 Flammable Cargoes: This requires that the **cargo tank relief valve be set at no less than 3 PSIG** and that the void spaces be capable of being inerted.
 - 153.602 Cargoes Reactive with Water: This requires that the P/V valve be at least 6.6 ft from the deck. Since the vent height requirement for a high velocity P/V valve is 3 meters, most barges should meet this.
 - 153.525/IBC 15.12 Toxic Cargoes: These sections contain several requirements, the most important of which is that the **P/V valve setting be not less than 3PSIG**. The cargo pumps should be operable from the weather deck and any heat transfer systems must be external from the cargo system. Also check to make sure that fuel tanks and cargo tanks are not adjacent to each other.
 - 153. 526 Toxic Vapor Detectors: If selected, the OCMI must verify that the required vapor detectors are on board.
 - 153.527 Toxic Vapor Protection: If selected, the OCMI must verify that the required protection is kept and maintained on board.
- Specific Cargo Requirements listed in 46 CFR 153 and the IBC Code: These requirements listed in the last portion of the TGCLF apply to a small group of cargoes. The submitter should request these cargoes in their List of Cargoes Intended for Carriage and provide specific evidence of

MSC Guidelines for Review of Oceangoing Tank Barge Cargo Authority

Procedure Number: C1-42

Revision Date: 08/01/2018

compliance. Consult the relevant sections in the CFR & IBC Code for descriptions.