

MSC Guidelines for Review of a Subchapter O Endorsement Application

Procedure Number: C1-43

Revision Date: 07/05/2017

T.O. Phillips , CDR, Chief, Tank Vessel & Offshore Division

Purpose:

The purpose of this document is to provide guidance and information regarding the submission of applications for a Foreign Liquefied Gas Carrier Certificate of Compliance Endorsement, also known as a Subchapter O Endorsement (SOE).

References:

- a. 46 CFR Subchapter O, Part 154
 - b. IMO International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC) Code, Resolution MSC.5(48), as amended, 1993 Edition
 - c. IMO International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC) Code, Resolution MSC.370(93), as amended, 2016 Edition
 - d. CG-ENG Policy Letter 04-12, "Alternate Pressure Relief Valve Settings on Vessels Carrying Liquefied Gases in Bulk in Independent Type B and Type C Tanks," dated August 8, 2012
 - e. Marine Safety Manual (MSM), Volume II, Section D, Chapter 6
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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 C1-43.

Email: MSC@uscg.mil

Phone: 202-795-6731

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

Responsibilities:

Using applicable portions of reference (a), 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.

MSC Guidelines for Review of a Subchapter O Endorsement Application

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General Guidance, SOE Application:

- ❑ The documents listed below must be submitted to the MSC at least 30 days prior to the vessel's arrival into the United States or its territories.
- ❑ To apply for a Subchapter O Endorsement, in accordance with 46 CFR 154.22, the following documents must be submitted:
 - The vessel's valid IMO Certificate of Fitness (COF) with all attachments, including complete cargo list and tank plan
 - A description of the vessel
 - Specifications for the cargo containment system
 - A general arrangement plan of the vessel
 - A midship section plan of the vessel
 - Schematic plans of the liquid and vapor cargo piping
 - A firefighting and safety plan
 - If the applicant is requesting an endorsement for the carriage of ethylene oxide, a class society certification that the vessel meets 46 CFR 154.1725(a)(4),(5), and (7)
 - If the vessel is a new gas vessel, or an existing vessel that does not meet 46 CFR 154.12 (b), (c), or (d):
 - A certification from a class society that the vessel –
 - Has enhanced grades of steel meeting 46 CFR 154.170; and
 - Meets 46 CFR 154.701, or 46 CFR 154.703; and
 - The vessel's valid SOLAS Cargo Ship Safety Construction Certificate and Cargo Ship Safety Equipment Certificate, or the combined SOLAS Cargo Ship Safety Certificate
- ❑ A checklist, with the required documents, has been provided at the end of this document.
- ❑ If the total size of the email is 10 MB or greater, the email will not be received due to security restrictions. As an alternative, the required documentation may be submitted using the AMRDEC SAFE large file transfer utility. General instructions are provided below:
 - Using the internet, go to <https://safe.amrdec.army.mil/SAFE/>.
 - On the welcome screen, select the option for "Non-CAC Users."
 - In the "Description of File(s)" field, please type the vessel name, IMO number, and "Subchapter O Endorsement Application."
 - In the "Provide an email address to give access to" field, please include MSC@uscg.mil to ensure that the submission is properly processed by our system.
- ❑ **If the request is time critical**, please note this in the submittal by indicating the arrival date of the subject vessel.

MSC Guidelines for Review of a Subchapter O Endorsement Application

Procedure Number: C1-43

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SOE Administration:

- Following receipt of a complete SOE application, the MSC will:
 - Review all documents submitted above for accuracy and completeness.
 - Determine if any further documentation is necessary and communicate that to the submitter.
 - Generate the SOE and approval letter for the subject vessel.
 - Share the SOE and approval letter with the local Officer in Charge of Marine Inspections (OCMI).
 - Email the approval letter to the submitter.
 - The local OCMI will conduct a Certificate of Compliance (COC) examination.
 - After the successful completion of the vessel's COC examination, the local OCMI will issue the SOE.
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SOE Updates:

- It is not necessary to resubmit a SOE application to the MSC for a vessel name change. The cognizant OCMI may update the name on the SOE at the next COC exam.
- Following expiration, the SOE may be reissued by the local OCMI at the vessel's next U.S. port call, as long as nothing on the vessel's International COF has changed.
- An updated SOE is necessary when a vessel has undergone a modification that results in a change in any of the following:
 - List of authorized cargoes
 - Cargo containment system, including, but not limited to:
 - MARV settings
 - Minimum design temperatures
 - Addition of deck tanks

MSC Guidelines for Review of a Subchapter O Endorsement Application

Procedure Number: C1-43

Revision Date: 07/05/2017

Specific Topics:

- The following sections describe additional requirements for certain foreign-flag liquefied gas carriers applying for a SOE. Compliance with these regulations must be demonstrated on the COF or an attestation from the vessels Classification Society or flag administration.

- **Independent Type A Tanks:**
 - In Harbor Maximum Allowable Relief Valve Settings (MARVS) are acceptable for Type A tanks, provided that they do not exceed 0.70 bar gauge, as required by the IGC Code.
 - In Harbor MARVS for Type A Tanks must be noted on the International Certificate of Fitness (IGC 4.13.2.3).

- **Independent Type B, Type C Cargo or Deck Tanks**
 - The IGC code specifies lower stress factors than the values in 46 CFR Parts 154 for Type B and Type C containment systems. Reference (d) authorizes use of the stress factors listed in the IGC code for determining the MARVS on vessels that meet the following criteria:
 - The vessel is certificated by a Recognized Classification Society (see definition); and
 - The vessel is built to the 1993 edition of the IGC Code, reference (b), including all amendments through October 1, 1994, or the 2016 edition of the IGC Code, reference (c); and
 - If no refrigeration system is installed and the vessel does not meet the requirements of reference (d), the vessel may be restricted from carrying the following cargoes in U.S. waters when the cargo vapor pressure at 45°C (113°F) exceeds the reduced MARVS listed in the vessels COF:
 - Butane/propane mixtures
 - Propane
 - Propylene

- **Non-Standard Tank Design**
 - Contact MSC for guidance.

MSC Guidelines for Review of a Subchapter O Endorsement Application

Procedure Number: C1-43

Revision Date: 07/05/2017

□ **Ambient design criteria listed on the COF:**

- In order to operate in Alaskan Waters, a vessel's International Certificate of Fitness must show that it was designed for lower ambient air and water temperatures. To operate in U.S. waters, **INCLUDING Alaska**, a vessel must meet the following ambient design criteria, as shown on its International Certificate of Fitness:

		Containment System Type					
		Integral	Membrane	Semi-Membrane	Type A	Type B	Type C
Minimum Cargo Temperature	$T \geq -10^{\circ}\text{C}$	Air=5°C	Air=5°C	Air=5°C	Air=5°C	Air=5°C	Air=5°C
		Sea=0°C	Sea=0°C	Sea=0°C	Sea=0°C	Sea=0°C	Sea=0°C
	$-55^{\circ}\text{C} \leq T < -10^{\circ}\text{C}$		Air= -29°C	Air= -29°C	Air= -29°C	Air= -29°C	Air=5°C
			Sea= -2°C	Sea= -2°C	Sea= -2°C	Sea= -2°C	Sea=0°C
	$T < -55^{\circ}\text{C}$		Air= -29°C	Air= -29°C	Air= -29°C	Air= -29°C	Air=5°C
			Sea= -2°C	Sea= -2°C	Sea= -2°C	Sea= -2°C	Sea=0°C

- To operate in U.S. waters, **EXCLUDING Alaska**, a vessel must meet the following ambient design criteria, as shown on its International Certificate of Fitness:

		Containment System Type					
		Integral	Membrane	Semi-Membrane	Type A	Type B	Type C
Minimum Cargo Temperature	$T \geq -10^{\circ}\text{C}$	Air=5°C	Air=5°C	Air=5°C	Air=5°C	Air=5°C	Air=5°C
		Sea=0°C	Sea=0°C	Sea=0°C	Sea=0°C	Sea=0°C	Sea=0°C
	$-55^{\circ}\text{C} \leq T < -10^{\circ}\text{C}$		Air= -18°C	Air= -18°C	Air= -18°C	Air= -18°C	Air=5°C
			Sea= 0°C	Sea= 0°C	Sea= 0°C	Sea= 0°C	Sea=0°C
	$T < -55^{\circ}\text{C}$		Air= -18°C	Air= -18°C	Air= -18°C	Air= -18°C	Air=5°C
			Sea= 0°C	Sea= 0°C	Sea= 0°C	Sea= 0°C	Sea=0°C

MSC Guidelines for Review of a Subchapter O Endorsement Application

Procedure Number: C1-43

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□ Equivalencies and Exemptions:

- If the vessel has been granted an equivalency in accordance with section 1.4 of the IGC code, or has been exempted from compliance with any requirements found in the IGC code, documentation must be submitted to Commandant (CG-ENG) to demonstrate that the alternate arrangements provide an equivalent level of protection for the purpose of safety, in accordance with 46 CFR 154.32.
 - A Subchapter O Endorsement will not be issued to a vessel which has been granted equivalencies or exemptions until the vessel has received approval, in writing, from the Commandant (CG-ENG).
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Definitions:

Recognized Classification Society: For the purpose of this Plan Review Guide, a Recognized Classification Society is a classification society which is delegated the authority, by the U.S. Coast Guard, to issue an International Certificate of Fitness for the Carriage of Liquefied Gases in Bulk, in accordance with 46 CFR Part 8, Subpart B. The current list of Recognized Classification Societies can be found at <https://www.uscg.mil/hq/cg5/acp/> by clicking the “Summary Table of Authorizations” under the “Authorizations” section.

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) SOE Checklist
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Attachment (1): Subchapter “O” Endorsement (SOE) Checklist

	(1) The vessel’s valid IMO Certificate of Fitness.
	(2) A description of the vessel.
	(3) Specification for the cargo containment system.
	(4) A general arrangement plan of the vessel.
	(5) A midship section plan of the vessel.
	(6) Schematic plans of the liquid and vapor cargo piping.
	(7) A firefighting and safety plan.
	(8) If the applicant is requesting an endorsement for the carriage of ethylene oxide, a class society certification that the vessel meets 154.1725(a)(4),(5), and (7).
	(9) If the vessel is a new gas vessel, or an existing vessel that does not meet 154.12 (b), (c), or (d) –
	(i) A certification from a class society that the vessel –
	(A) Has enhanced grades of steel meeting 154.170; and
	(B) Meets 154.701, or 154.703; and
	(ii) The vessel’s valid SOLAS Cargo Ship Safety Construction Certificate and Cargo Ship Safety Equipment Certificate.
	(10) Any additional plans requested by the Marine Safety Center to determine whether the vessel meets 46 CFR 154.