U.S. COAST GUARD MARINE SAFETY CENTER PLAN REVIEW GUIDELINE

REVIEW OF SUBCHAPTER O ENDORSEMENT APPLICATION

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Purpose

This Plan Review Guideline (PRG) establishes a procedure for submitting an application for a Subchapter O Endorsement to the Marine Safety Center (MSC) for approval for a Foreign Gas Carrier Certificate of Compliance (COC) Endorsement.

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 Procedure Number C1-43.

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1. Applicability

This PRG is applicable to foreign gas carriers submitting applications for a Foreign Liquefied Gas Carrier Certificate of Compliance (COC) Endorsement, also known as a Subchapter O Endorsement (SOE). This is required to trade in United States (U.S.) ports or waters.

2. References

(a) 46 CFR 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

3. Definitions

Recognized Classification Society (46 CFR 8.220)**:**
For the purpose of this PRG, 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 (COF), in accordance with 46 CFR Part 8, Subpart B. The current list of Recognized Classification Societies can be found here by clicking the "List of Class Society Authorizations" under the "Classification Society Authorization and Agreements" section.

4. 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 MSC email 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.

5. SOE Submission Guidance

(a) 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:

a. The vessel's valid IMO Certificate of Fitness (COF) with all attachments, including complete cargo list and tank plan;
b. A description of the vessel;
c. Specifications for the cargo containment system;
d. A general arrangement plan of the vessel;
e. A midship section plan of the vessel;
f. Schematic plans of the liquid and vapor cargo piping;

g. A firefighting and safety plan;
h. 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); and
i. If the vessel is a "new gas vessel", or an "existing gas vessel" that does not meet 46 CFR 154.12 (b), (c), or (d):
    i. A certification from a class society that the vessel –
        A. Has enhanced grades of steel meeting 46 CFR 154.170; and
        B. Meets 46 CFR 154.701, or 46 CFR 154.703; and
    ii. The vessel's valid SOLAS Cargo Ship Safety Construction Certificate meeting Regulation I/10 and Cargo Ship Safety Equipment Certificate meeting Regulation I/8, or the combined SOLAS Cargo Ship Safety Certificate meeting Regulations I/8 through I/10 of the Convention.

(b) A checklist with the above requirements can be found in enclosure (1).

(c) If the total size of the email is 30 megabytes or greater, the email will not be received by our office due to security restrictions. If files greater than 30 megabytes in size must be sent to the MSC, please send an email to your MSC point of contact, or for first-time submissions, send an email to msc@uscg.mil describing that you require a DoD SAFE upload request to be initiated by the MSC. A MSC staff member will be assigned your request, and you will receive an email through the DoD SAFE secure file transfer system that will allow you to upload files. Once your files have been uploaded, the MSC staff member will receive an email that your files have been made available for retrieval.

(d) **If the request is time critical**, please note this in the submittal by indicating the arrival date of the subject vessel.

6. MSC SOE Review Procedures

(a) Following receipt of a complete SOE application, the MSC will:

a. Review all documents submitted above for accuracy and completeness.
b. Determine if any further documentation is necessary and communicate that to the submitter.
c. Generate the SOE and approval letter for the subject vessel.
d. Share the SOE and approval letter with the local Officer in Charge, Marine Inspections (OCMI).
e. Send the approval letter to the submitter.

NOTE: The Subchapter O Endorsement itself will NOT be sent to the submitter. To attain a copy of the SOE, the submitter must contact the local Coast Guard OCMI for the port of entry to schedule a Certificate of Compliance (COC) exam. OCMI Upon successful completion of the COC exam, the vessel will receive the final SOE from the OCMI.

(b) Sister Vessel Review. If your company has a sister vessel within the fleet with an approved SOE, you may submit proof of sister vessel status to enable MSC to conduct a cursory review in lieu of a full review and expedite the approval. MSC has the authority to conduct a full review of any and all vessels to enforce U.S. and international regulations. Use the checklist provided in enclosure (1) to ensure a full package and the needed information is submitted to the MSC.

7. SOE Updates

(a) It is not necessary to resubmit a SOE application to the MSC for a vessel name change or change in vessel ownership or class. The cognizant OCMI may update the name on the SOE at the next COC exam.

(b) Following expiration, the SOE may be reissued by the local OCMI at the vessel's next U.S. port call, as long as the information on the vessel's International COF has not changed.

(c) An updated SOE is necessary when a vessel has undergone a modification that results in a change in any of the following:

a. List of authorized cargoes; or
b. Cargo containment system, including, *but not limited to*:
    i. Maximum Allowable Relief Valve (MARV) settings;
    ii. Minimum design temperatures; or
    iii. Addition of deck tanks.

8. 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 with an attestation from the vessels Classification Society or flag administration.

(a) Independent Type A Tanks:

a. 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 references (b) through (d).
b. In Harbor MARVS for Type A Tanks must be noted on the International Certificate of Fitness (IGC 4.13.2.3).

(b) Independent Type B/C Cargo Tanks or Deck Tanks:

a. 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:

    i. The vessel is certificated by a Recognized Classification Society (see definition); and

ii. 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

iii. If no refrigeration system is installed and the vessel does not meet the requirements of reference (d), the vessel may be restricted from carrying specific cargoes in U.S. waters when the cargoes' vapor pressures at 45°C (113°F) exceed the reduced MARVS listed in the vessels COF.

b. Vessels that meet the above criteria set forth by Reference (d) and wish to update the MARVS on their SOE should submit their request via email to msc@uscg.mil and attach the current International Certificate of Fitness.

(c) Ambient temperature design criteria listed on the COF for hull structures (46 CFR 154.170 and 154.176, IGC Code 4.19.1.1):

a. In order to operate in Alaskan Waters, a vessel's International COF 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 COF:

		Containment System Type					
		Integral	Membrane	Semi-Membrane	Type A	Type B	Type C
Minimum Cargo Temperature	T≥-10°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°C≤T<-10°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°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

b. To operate in U.S. waters, EXCLUDING Alaska, a vessel must meet the following ambient design criteria, as shown on its International COF:

		Containment System Type					
		Integral	Membrane	Semi-Membrane	Type A	Type B	Type C
Minimum Cargo Temperature	T≥-10°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°C≤T<-10°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°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

(d) Equivalencies and Exemptions:

a. 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 the Office of Design and Engineering Standards, Hazardous Materials Division (CG-ENG-5) at

hazmatstandards@uscg.mil to demonstrate that the alternate arrangements provide an equivalent level of protection for the purpose of safety, in accordance with 46 CFR 154.32.

b. A SOE will not be issued to a vessel which has been granted equivalencies or exemptions until the vessel has received approval from CG-ENG-5.
c. For alternative fuel and dual fuel vessels, an SOE may be issued without approval of these equivalencies. However, in such cases, the vessel may not use alternate fuels in US waters without having obtained the approval from CG-ENG-5 as explained in the next section.

(e) Alternative Fuel and Dual Fuel Vessels

a. The Coast Guard's Hazardous Materials Division (CG-ENG-5) will consider requests to use cargoes other than methane as fuel on a case-by-case basis. To request approval to burn alternate cargoes as fuel in U.S. waters, the owner/operator must send the following information to CG ENG-5 at hazmatstandards@uscg.mil.
    i. International Certificate of Fitness for the IGC Code;
    ii. Certification by the vessel's Flag State accepting the use of an alternate cargo as fuel in accordance with the 2016 IGC Code;
    iii. An attestation from the vessel's Classification Society confirming the vessel has been built according to the applicable 46 CFR 154 requirements; and
    iv. An attestation from the vessel's Classification Society confirming the vessel complies with the 2016 IGC Code for use of an alternate cargo as fuel.
b. Once the documents are received, CG-ENG-5 will evaluate the submission and, if satisfied that equivalent levels of safety have been achieved, will issue a letter granting the vessel permission to use the alternate cargo as fuel in U.S. waters. Vessels should keep a copy of the letter on board. Questions should be sent to hazmatstandards@uscg.mil.

(f) High Filling Limits

a. The MSC will consider another Flag State's acceptance of operational procedures as equivalent safety measures against isolated vapor pocket formation. To assist with the verification of another Flag State's acceptance, the following criteria must be met.
    i. The Flag state has granted an equivalency for the relevant section of Ref (c), paragraph 15.4.1.
    ii. A Risk Assessment must be submitted to the Marine Safety Center that details the rationale for the equivalency and the mitigations, including:
        i. a significant time to tank failure during a sustained list of the vessel
        ii. vessel operational procedures that address the ability to move, jettison, vent and/or cool cargo before tank or pressure release valve failure

9. 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.

ENCL 1: Subchapter O Endorsement (SOE) Submitter's Checklist

	(1) The vessel's valid IMO Certificate of Fitness.
	(2) A description of the vessel (example: ship's particulars page or Gas Form C)
	(3) Specification for the cargo containment system. (MSC accepts: Cargo Handling Manual, Insulation Plans, or Cargo and Deadweight Scale Plan)
	(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
	(iii) The vessel's valid SOLAS Cargo Ship Safety Equipment Certificate
	(10) Any additional plans requested by the Marine Safety Center to determine whether the vessel meets 46 CFR 154.
	(i) If any plans submitted are for a sister vessel, you must also submit a Sister Vessel attestation from the Class Society
	(ii) Highly encouraged to include Certificate of Financial Information COFR Number: _____