

EPA Guidance on ECA Marine Fuel

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This document puts EPA regulatory provisions in context with plain language. Nothing in this document revises or replaces any regulatory provisions in the Rule, any other part of the Code of Federal Regulations, the Federal Register, the Act to Prevent Pollution from Ships or the Clean Air Act.

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MARPOL Annex VI requires ocean-going vessels to use fuel with a maximum sulfur level of 1,000 ppm in Emission Control Areas beginning January 1, 2015.

Background:

- Annex VI is an annex to the International Convention on the Prevention of Pollution from Ships, which is generally known as MARPOL, short for “marine pollution”. The United States became a party to MARPOL Annex VI in 2008. MARPOL Annex VI requirements and authorities are implemented in the United States through the Act to Prevent Pollution from Ships (APPS). APPS makes the fuel sulfur standards of MARPOL Annex VI Regulation 14 applicable to U.S.-flagged vessels wherever located and to foreign-flagged vessels operating in the United States navigable waters or the United States Exclusive Economic Zone (EEZ). See Section 1902 of APPS and 40 CFR 1043.10(b).
- EPA is implementing a coordinated strategy to address emissions from ships that affect U.S. air quality. EPA’s coordinated strategy includes regulations promulgated under the Clean Air Act and, regulations to codify and implement the requirements of MARPOL Annex VI Regulation 13, 14 and 18, and the designation of U.S. coasts as an Emission Control Area (ECA) through an amendment to MARPOL Annex VI. The regulations that EPA published to implement this coordinated strategy can be found at 40 CFR Parts 80, 1042 and 1043. See EPA’s Category 3 Marine Rule (75 FR 22896, April 30, 2010 [*link to: <http://www.gpo.gov/fdsys/pkg/FR-2010-04-30/pdf/2010-2534.pdf>*]).
- 40 CFR Part 80 requires parties who produce and distribute ECA marine fuel to comply with a number of requirements before January 1, 2015, to ensure that ECA marine fuel meets the 0.10% (1,000 ppm) sulfur standards. The Part 80 regulations include a phase in schedule that requires refiners and importers to meet the 1,000 ppm sulfur standard beginning June 1, 2014, and all ECA marine fuel in the fuel distribution system to meet the 1,000 ppm sulfur standard by December 1, 2014.
- In addition, “ECA marine fuel” in 40 CFR 80.2(ttt), is defined, in part, as fuel used, intended for use, or made available for use in Category 3 marine vessels while the vessels are operating within an ECA. Category 3 (or “C3”) marine vessels are defined in 40 CFR 80.2(uuu) as vessels propelled by engines meeting the definition of “Category 3” in 40 CFR 1042.901—reciprocating marine engines with a displacement at or above 30.0 liters per cylinder. Fuel for marine engines that are not Category 3 engines have more stringent sulfur requirements.
- This guidance is designed to assist with compliance with these important requirements as suppliers of ECA marine fuel and vessel owners and operators transition to the 2015 standard.

The following table shows the Annex VI Worldwide and ECA fuel sulfur requirements and EPA’s fuel sulfur limits for C3 marine vessels:

Annex VI and C3 Marine Rule Maximum Sulfur Limits (ppm)			
	2014	2015	2020
Worldwide fuel sulfur content (“any fuel oil used onboard ships” per Annex VI Regulation 14.1)^a	35,000	35,000	5,000
Sulfur content (per Annex VI Regulation 14.4) of fuels used in ECAs—including the North American ECA	10,000 ^b	1,000	1,000
<i>a- All Annex VI sulfur standards begin on January 1 of a given year, unless otherwise noted. b- The amendments adopting the North American ECA entered into force on August 1, 2011, and the 10,000 ppm fuel requirement in the North American ECA went into force on August 1, 2012.</i>			

The following table sets forth the implementation schedule for the 1,000 ppm maximum sulfur standard applicable to ECA marine fuel (per 40 CFR 80.510(k) and 80.511(b)(9)):

ECA Marine Schedule	
Refiners and Importers	June 1, 2014
All downstream locations other than retail outlets and wholesale purchaser-consumers (WPCs)	August 1, 2014
Retail outlets and WPCs	October 1, 2014
All locations	December 1, 2014

Refiners of ECA marine fuel include any facility where ECA marine fuel is produced from crude oil or where blendstocks are combined to produce ECA marine fuel.

Importers of ECA marine fuel are any person who imports ECA marine fuel into the United States.

Downstream locations include:

- petroleum product terminals that store ECA marine fuel prior to delivery to a retailer or WPC, and
- conveyors of ECA marine fuel to product terminals or to retailer/WPC facilities via tank truck, rail car, barge, marine tanker, pipeline, or other means.

Retail outlets of ECA marine fuel include any facility and/or transport vessel that deliver ECA marine fuel to refuel a marine vessel.

A ***Wholesale Purchaser-Consumer*** of ECA marine fuel includes any facility owned by an operator of marine vessels required to use ECA marine fuel from which the operator draws ECA marine fuel for its own vessel refueling operations (e.g., a vessel fleet).

All locations in the fuel distribution system must meet the 1,000 ppm ECA marine fuel sulfur standard by December 1, 2014.

Liability and Violations:

Under the 40 CFR Part 80 ECA marine fuel regulations, any person in the fuel distribution system who controls the facility where a violation of the 1,000 ppm ECA marine fuel sulfur standard is found may be liable for the violation. Anyone who produced or distributed this fuel is also presumed liable for the violations unless and until they can establish an affirmative defense. The ECA marine fuel regulations also explicitly prohibit any person from causing another person to violate the 1,000 ppm ECA marine fuel sulfur standards. *See* 40 CFR 80.612.

40 CFR 80.613 states that anyone deemed liable for a violation must establish the following to meet an affirmative defense:

1. Demonstrate that they did not cause the violation.
2. Show that product transfer documents (PTDs) exist establishing that the ECA marine fuel was in compliance while under their control; and
3. Show that they conducted a quality assurance sampling and testing program (except as noted below).

Since **anyone** in the ECA marine fuel distribution system may be held liable for downstream violations of the 1,000 ppm sulfur standard, EPA encourages everyone in the ECA marine fuel distribution system to implement robust quality assurance programs to assure that the fuel they are producing, transporting, and selling complies with the 1,000 ppm ECA marine sulfur standard and is not contaminated with higher sulfur fuels. While retailers and WPCs are not required to conduct sampling and testing programs under 40 CFR 80.613, EPA highly encourages these parties to implement a quality assurance program to demonstrate that they did not cause the violation (such a program could include voluntary sampling and testing, retention of samples used for bunker delivery notes, etc.).

Sampling and Testing Requirements:

For purposes of compliance with the 40 CFR Part 80 ECA marine fuel regulations, per 40 CFR 80.580 and 80.581, refiners and importers are required to sample and test each batch of ECA marine fuel using ASTM D2622 or another authorized test method to determine compliance with the 1,000 ppm sulfur limit prior to the fuel leaving the refinery or import facility.

For purposes of compliance with MARPOL Annex VI, Regulation 18.8.1, APPS and implementing regulations at 40 CFR Part 1043, for delivery of fuel to certain vessels, a sample of the fuel must be taken during bunkering of fuel oil and retained on the vessel for at least 1 year from the date of delivery. The sample must be taken in accordance with MEPC.96(47) “Guidelines for the Sampling of Fuel Oil for Determination of Compliance with Annex VI of MARPOL 73/78” and must comply with the fuel sulfur

standards using the ISO 8754 test method. The sample must be sealed and signed by the supplier's representative and the master or officer in charge of the bunker operation on completion of the bunkering operation. If analysis of the sample is required, per Regulation 18.8.2, the analysis must be done in accordance with the verification procedure in Annex VI Appendix VI.

Product Transfer Documents and Bunker Delivery Notes:

Product Transfer Documents—

Per 40 CFR 80.590, anyone who produces and/or distributes ECA marine fuel must use and maintain PTDs for all custody transfers of the fuel, *except* when the fuel is being dispensed into marine diesel engines (or vessel fuel storage, settling, or service tanks for the main engine); but see below for the requirements for bunker delivery notes, which may apply. PTDs must contain the following information:

- The names and addresses of the party transferring the fuel (“transferor”) and who the fuel is being transferred to (“transferee”).
- The volume of fuel being transferred.
- The location of the fuel at the time of the transfer.
- The date of the transfer.
- The sulfur standard the transferor claims that the fuel meets (i.e., 1,000 ppm).
- For terminal operators and all parties upstream, the facility registration numbers of the parties transferring and receiving the fuel.
- The following statement: “1,000 ppm sulfur (maximum) ECA marine fuel. For use in Category 3 marine vessels only. Not for use in engines not installed on C3 marine vessels.”

Bunker Delivery Notes—

For purposes of compliance with MARPOL Annex VI Regulation 18.9, APPS and 40 CFR Part 1043, fuel suppliers must provide bunker delivery notes (BDN) to certain vessel operators with ECA marine fuel. BDNs must be maintained by both the retailer and by the owner/operator of the vessel. (See MARPOL Annex VI Regulation 18 and 40 CFR 1043 for more information on bunker delivery notes.) Bunker delivery notes must contain the following information:

- The name and IMO number of the vessel receiving the fuel.
- Port (or description of the location, if the delivery does not take place at a port).
- Date the fuel is delivered to the vessel (or the date on which the delivery begins, if the delivery begins on one day and ends on a different day).
- Name, address, and telephone number of fuel supplier.
- Fuel type and designation under 40 CFR part 80.
- Quantity, in metric tons.
- Density at 15 °C, in kg/m³.
- Sulfur content, as tested in accordance with ISO 8754:2003, in weight percent.
- A signed statement by an authorized representative of the fuel supplier certifying that the fuel supplied conforms to Regulations 14.1 or 14.4 and 18.3 of Annex VI

consistent with its designation, intended use, and the date on which it is to be used. This statement in a BDN is not required, with respect to Regulations 14.1 and 14.4, if the vessel is not subject to fuel sulfur standards of Regulation 14 of Annex VI pursuant to a Regulation 3 or Regulation 4 permit or waiver. Per Regulation 18.8.1 of Annex VI, bunker delivery notes shall be accompanied by a sample of the fuel. The sample must be sealed and signed by a representative and the master or officer in charge of the bunker operation, and must be retained on the ship for at least 1 year from the date of delivery.

Registration, Reporting and Recordkeeping Requirements:

Refiners and importers of ECA marine fuel are required to register with EPA, and must keep records showing the batch volume, the batch number, the date of production or import, and records designating the batch as ECA marine fuel meeting the 1,000 ppm sulfur standard.

All parties who produce, import, or distribute (including retailers and WPCs) ECA marine fuel must keep copies of PTDs, records relating to sampling and testing, and records relating to actions that the party has taken to stop the sale or distribution of ECA marine fuel that does not meet the standards and actions that the party has taken to identify the cause of the noncompliance and prevent future violations. Records must be kept for 5 years.

Bunker delivery notes must be retained for 3 years, and readily available for inspection at all times during those same 3 years.

See 40 CFR 80.597(c), 80.580, 80.581, 80.583-80.586, 80.602, and 1043.80.

Related Guidance and Links:

- Regulations:
 - [40 CFR Part 80: Regulation of Fuels and Fuel Additives](#)
 - [40 CFR Part 1042: Control of Emissions From New and In-Use Marine Compression-Ignition Engines and Vessels](#)
 - [40 CFR Part 1043: Control of NO_x, SO_x, and PM Emissions from Marine Engines and Vessels Subject to the MARPOL Protocol](#)
- [Frequently Asked Questions: North American Emission Control Area \(ECA\) U.S. Coast Guard Office of Commercial Vessel Compliance](#)
- [Guidance on the Non-Availability of Compliant Fuel Oil for the North American Emission Control Area \(ECA\)](#)
- [EPA “Ocean Vessels and Large Ships” webpage](#)
- [EPA Office of Enforcement and Compliance Assurance: MARPOL Annex VI Information webpage](#)
- [U.S. Coast Guard Homeport MARPOL Annex VI webpage](#)