

KIRKLAND ALERT

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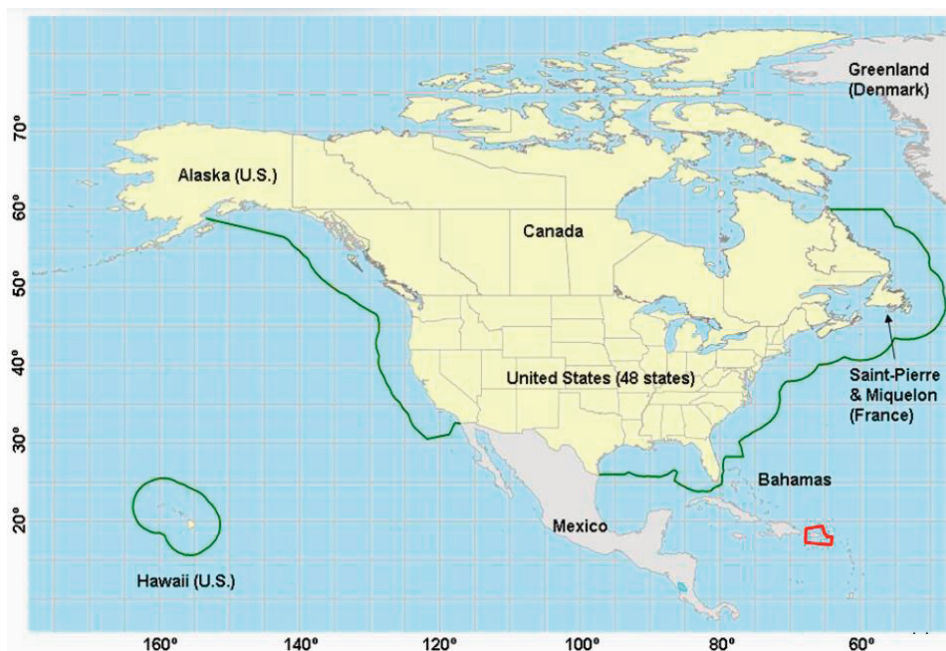
A New Frontier in EPA's Mobile Source Enforcement Program: Air Emissions from Large Ships and Ocean-Going Vessels

EPA is signaling an emerging area for its enforcement program — air pollution from large ships and ocean vessels, commonly referred to as “ocean-going vessels.” Statements by Agency personnel indicate that EPA is poised to enforce SO₂ and NO_x requirements implemented through the Clean Air Act and Annex VI to “MARPOL,” the International Convention for the Prevention of Pollution from Ships.

These requirements affect a large swath of the maritime sector, including companies that manufacture, sell, or import marine diesel engines, companies that make vessels that use such engines, the owners and operators of large vessels (such as cruise ships, tankers, container ships, and bulk carriers), and marine diesel fuel suppliers. The regulations also affect the short-sea shipping industry, whose routes tend to be within the 200 nautical mile border around the United States, the same area where the SO₂ and NO_x requirements apply — referred to as the North American Emission Control Area (ECA).

EPA is poised to enforce stringent SO₂ and NO_x requirements that take effect in 2015 and 2016, respectively.

[North American Emission Control Area](#)



Starting in 2015, these regulated marine vessels are subject to stringent fuel sulfur emission limits. Once inside the ECA border, vessels are subject to the sulfur limit of 1,000 ppm. Beginning in 2016, stringent NO_x aftermarket requirements become applicable in the ECA. However, the International Maritime Organization, Marine Environment Protection Committee is currently meeting in London ([March 31-April 4, 2014](#)) and is considering an amendment to Annex VI that would delay the NO_x requirements to 2021. The United States, joined by other countries, [opposed this delay](#).

Overview of EPA's Ocean-Going Vessels Program

There are three prongs to EPA's strategy to address emissions from large marine vessels: (1) engine and emission limitations promulgated under the Clean Air Act, (2) domestic implementation of the international standards for marine engines and fuels contained in Annex VI to MARPOL, and (3) the designation of U.S. coasts as "Emission Control Areas" through amendment to Annex VI. [Fact Sheet, EPA Finalizes More Stringent Standards for Control of Emissions from new Marine Compression-Ignition Engines at or Above 30 Liters per Cylinder, December 2009](#) Each of these prongs has been implemented. In April 2010, EPA promulgated a rule to implement the first and second prongs, and in March 2010, the International Maritime Organization officially designated waters off North American coasts as an Emission Control Area, thereby implementing the third prong.

In its April 2010 rulemaking, EPA adopted emission standards that apply to "Category 3" marine diesel engines and to marine diesel fuels produced and distributed in the United States. [Control of Emissions From New Marine Compression-Ignition Engines at or Above 30 Liters per Cylinder, 75 Fed. Reg. 22896 \(Apr. 30, 2010\)](#) Category 3 engines are the main propulsion engines used on most large ships such as container ships, tankers, bulk carriers, cruise ships, and lakers. In that same rulemaking, EPA promulgated a regulatory program to implement Annex VI to MARPOL in the United States, including engine and fuel sulfur limits, and extended the international ECA engine and fuel requirements to U.S. internal waters. The rule also revised EPA's domestic diesel fuel program.

New Engine Standards

The 2010 rule added two new tiers of NO_x standards for new Category 3 marine diesel engines installed on vessels flagged or registered in the United States. While the Tier 1 standards went into effect in 2011, the Tier 3 standards take effect in 2016 and will require the use of high efficiency emission control technology, such as selective catalytic reduction, to meet the aggressive NO_x limits, which range from 2.0 to 3.4 g/kW-h, depending upon engine speed.

New Fuel Standards

The 2010 rule also revised EPA's domestic diesel fuel program to allow for the production and sale of diesel fuel with up to 1,000 ppm sulfur for use in Category 3

marine vessels by 2015. The rule generally prohibits the production and sale of marine diesel fuel oil above 1,000 ppm sulfur, unless the vessel employs alternative devices, procedures, or compliance methods that achieve equivalent emission reductions. For instance, ship operators may elect to equip their vessels with exhaust gas cleaning devices, known as “scrubbers,” to remove SO₂ from higher sulfur fuels. Shipping and cruise line companies are exploring innovative methods to achieve the required reductions. [U.S. Emission Control Areas, December 13, 2012 \(at 23-30\); Letter to IMO from EPA and U.S. Coast Guard regarding equivalent methods to comply with the ECA fuel sulfur requirements, March 12, 2012](#)

Non-U.S. flagged ships can be detained at port for suspected violations of Annex VI.


A New Frontier for EPA Enforcement

On March 20, 2014, Janet McCabe, EPA’s acting assistant administrator for the Office of Air and Radiation (OAR), commented at an American Bar Association conference that reducing air pollution from marine vessels was a prominent emerging issue for the Agency. Also in March 2014, OAR’s Director of the Office of Transportation Air Quality, Christopher Grundler, testified before a House of Representatives subcommittee about the program. Grundler stated that the marine vessel program is “one of the most important and cost-effective air quality programs the U.S. government has put into place in the past decade.” [Christopher Grundler, Written Statement, Subcommittee on Coast Guard and Maritime Transportation, Committee on Transportation and Infrastructure, March 4, 2014](#)

As the programmatic side of EPA has been touting the benefits of the program, the enforcement side of EPA is gearing up to enforce the new SO₂ and NO_x requirements in 2015 and 2016, respectively. At a presentation to the Ship Operations Cooperative Program (SOCP) in November 2013, an attorney with EPA’s Air Enforcement Division (AED), in the Office of Enforcement and Compliance Assurance (OECA), explained that this is an important area for EPA because “ocean-going vessels are the last uncontrolled source of air emissions in the United States.” [Panel Discussion: Maritime Regulatory Issues, ECA Regulatory Enforcement](#) The AED attorney also said that the assistant administrator for OECA, Cynthia Giles, is paying attention to the marine vessels program, and wants the enforcement program to ensure that the emissions benefits expected from EPA’s rule are realized.

Federal Enforcement: A Shared Responsibility Between EPA and Coast Guard

The AED representative speaking at the SOCP conference also commented that EPA has been joining the Coast Guard in recent marine vessel inspection-related activities. EPA and the Coast Guard entered into a Memorandum of Understanding (MOU) regarding the enforcement of Annex VI to MARPOL. The Annex VI MOU provides that EPA and the Coast Guard will jointly and cooperatively enforce the provisions of Annex VI. These efforts include inspections, investigations, and enforcement actions if a violation is detected through oversight of marine fueling facilities, on board compliance inspections, and record reviews.



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ENVIRONMENTAL PROTECTION AGENCY-OVERFLIGHTS

Starting April 22, 2013 the Environmental Protection Agency (EPA) will be conducting overflights, testing plume emissions, from commercial cargo vessels including but not limited to RO/RO, Container, and Bulk Cargo in the upper Chesapeake Bay. Overflights will continue periodically throughout the year. The EPA planes will fly within 500 feet of the vessel while collecting emissions from the plumes. The EPA will be flying a blue single prop Cessna 206 Amphibian (Sea Plane), Tail Number N226CM.

As of August 2012, Ocean-Going Vessels (OGVs) are required to use fuel oil with a maximum sulfur content of 10,000 ppm in their main propulsion engine within the North American Emission Control Area (ECA). The ECA is generally defined as 200 nautical miles off of the coast of the United States and Canada¹. Starting January 1, 2015, OGVs will be required to use fuel oil with a maximum sulfur content of 1,000 ppm. The United States Environmental Protection Agency and the United States Coast Guard have the authority to enforce the ECA under the Act to Prevent Pollution from Ships.

Please contact Lieutenant Stephen Thompson at (410) 576-2550 with any comments, or questions.



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EPA is obtaining plume samples from flyovers to assess compliance with SO₂ requirements.

Both EPA and the Coast Guard have issued guidance documents regarding compliance and enforcement of the marine vessels program. [MARPOL Annex VI Air Pollution Prevention Requirements, June 27, 2011](#); [Guidelines for Compliance and Enforcement of the Emission Control Areas Established Within the United States Jurisdiction as Designated in MARPOL Annex VI Regulation 14](#)

U.S. flagged vessels and non-U.S. flagged vessels are subject to inspection at U.S. ports. The Coast Guard has the authority to detain a non-U.S. flagged ship for suspected violations of MARPOL Annex VI. Both EPA and the Coast Guard can commence enforcement actions for violations of Annex VI, and the regulatory SO₂ and NO_x limits. Violators may be liable for a civil penalty of up to \$25,000 for each violation. Furthermore, knowing violations of Annex VI are subject to potential criminal liability.

Each regulated diesel engine in U.S. flagged vessels must have an Engine International Air Pollution Prevention (EIAPP) certificate, issued by EPA, to document that the engine meets Annex VI NO_x standards. Certain vessels are also required to have an International Air Pollution Prevention (IAPP) certificate, which is issued by

the Coast Guard. Ship operators must also maintain records on board regarding their compliance with the emission standards, fuels requirements, and other provisions of Annex VI.

Currently, EPA and the Coast Guard are obtaining emission samples from vessel plumes during flyovers, where the amount of SO₂ can be estimated based on the CO₂ concentration in the plume. This is one way that EPA and the Coast Guard will investigate compliance with the fuel sulfur limits. Other investigative mechanisms include inspections of vessel log books at ports.

EPA is also scrutinizing the Fuel Oil Non-availability Reports that it receives. Owners and operators of vessels who cannot obtain compliant fuel oil can make a fuel oil non-availability claim. EPA has published [guidance](#) regarding such claims. EPA may see increased fuel oil non-availability reports with the impending fuel sulfur limits, taking effect in 2015.

If you have any questions about the matters addressed in this *Kirkland Alert*, please contact the following Kirkland authors or your regular Kirkland contact.

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