

Amendments to the California Clean Fuel Regulations

Introduction and background

Emissions from ocean going vessels are significant sources of air pollution and have an adverse impact on public health and air quality. As part of measures implemented to prevent air pollution, MARPOL Annex VI specifies requirements related to the sulphur content of any fuel oil used onboard ships, in general and for the dedicated Emission Control Areas (ECA) in particular¹. Stricter fuel sulphur content regulations may also be enforced by local regulators and Gard has previously addressed issues related to low sulphur fuel, both with a view to explain the implementation of various regulatory requirements and to enhance safety during fuel changeover operations. We refer to Gard's [Loss Prevention Circular No 15-09 "Low sulphur fuel changeover"](#) in which sulphur content requirements by EU and the California Air Resource Board (CARB) were addressed specifically.

On 1 September 2011 CARB issued a Marine Notice setting out amendments to the California Clean Fuel Regulations. The U.S. Coast Guard District Eleven² has also advised that there has been a recent increase in the number of reported loss of propulsion incidents on deep draft vessels and they have issued a Marine Safety Alert setting out the precautions and safety measures required to reduce risks during fuel changeover operations.

The main purpose of this alert is therefore to inform Gard's Members and Clients of the low sulphur fuel requirements applicable when operating near the coastline of California. At the same time, Gard would like also to highlight the importance of preparing for and exercising caution during fuel changeover operations in order to avoid engine failures.

Summary of amendments to the California Clean Fuel Regulation

The California Clean Fuel Regulations were adopted in 2008 and were one of many steps taken to reduce diesel particulate matter emissions from activities involving the movement of goods. In short, the Clean Fuel Regulations require operators of ocean going vessels to use less polluting marine distillate fuels instead of heavy fuel oil (HFO) in their diesel engines and auxiliary boilers while operating within 24 nautical miles (nm) of the California coastline.

The amendments to the regulations involve changes to the fuel requirements, to the regulatory boundary of Southern California, and to the non-compliance fee schedule and are expected to enter into force by the end of 2011.

Changes to the fuel requirements:

The fuel requirements will be implemented in two phases and the current changes affect both phases. The following amendments have been made to the fuel requirements:

Phase	Effective Date	Per cent sulphur content limit required	Changes from existing requirement
Phase 1	1 July 2009	Marine gas oil (MGO) at or below 1.5% sulphur; or Marine diesel oil (MDO) at or below 0.5% sulphur	No changes.
	1 August 2012	Marine gas oil (MGO) at or below 1.0% sulphur; or Marine diesel oil (MDO) at or below 0.5% sulphur	MGO sulphur limit reduced from 1.5% to 1.0%. No change in MDO limit.
Phase 2	1 January 2014	Marine gas oil (MGO) or Marine diesel oil (MDO) at or below 0.1% sulphur	Implementation date delayed from 2012 to 2014.

The delay in the implementation of Phase 2 was reportedly made to ensure a successful implementation of the North American ECA Phase 1 fuel requirements³ (1% sulphur beginning 1 August 2012) and a successful transition to the 0.1% sulphur fuels in general.

¹ Emission Control Area means an area where the adoption of special mandatory measures for emissions from ships is required to prevent, reduce and control air pollution from NOx or SOx and particulate matter or all three types of emissions and their attendant adverse impacts on human health and the environment. Emission Control Areas are specifically listed or designated under MARPOL Annex VI.

² The Eleventh Coast Guard District encompasses the states of California, Arizona, Nevada, and Utah, the coastal and offshore waters out over thousand miles and the offshore waters of Mexico and Central America down to South America.

³ See [Gard Alert "North American ECA MARPOL amendments entered into force 1 August"](#)

Changes to the regulatory boundary of Southern California:

A shift in vessel traffic patterns in southern California occurred at the start of implementation of the Phase 1 fuel requirements, probably due to vessels trying to reduce the cost of the marine distillate fuel used. As a countermeasure, the regulatory boundary has been extended further offshore by aligning it more closely with the “Contiguous Zone,” in Southern California and is now 24 nm from the California Baseline (shoreline), including 24 nm from the shoreline of the offshore islands. There is also a small area (“window”) within the 24 nm boundary off Point Conception in which vessels are exempted from the Clean Fuel Regulations. This is to encourage vessels to travel in the established shipping lanes in the Santa Barbara Channel.

Changes to the non-compliance fee schedule

The California Clean Fuel Regulations include a noncompliance fee provision that allows the operator to pay a fee in lieu of direct compliance with the regulations under special circumstances where direct compliance would be difficult. For example, a safety exemption is included for situations where the master of the vessel determines that compliance would endanger the safety of the vessel, crew, cargo, or passengers. The following amendments have been made to the non-compliance fee schedule:

California port visits^(a)	Amended per-port visit fee (USD)^(b)	Fee prior to amendments (USD)
1st port visited	45,500	45,500
2nd port visited	45,500	91,000
3rd port visited	91,000	136,500
4th port visited	136,500	182,000
5th or more port visited	182,000	227,500
(a) Offshore anchorages made in conjunction with port visits are not counted as a second port visit in this context		
(b) The fee is halved for vessels that purchase and use compliant fuel during port visit and use the fuel in port and on departure from port while in regulated waters.		

For further details, we refer to CARB Marine Notice 2011-1 dated September 1, 2011, available via the following link: http://www.arb.ca.gov/ports/marinevess/documents/marinenote2011_1.pdf

Safety precautions related to fuel changeover operations

Gard has previously addressed issues related engine failure when changing from HFO to low viscosity and low sulphur MDO and MGO⁴. Recommendations related to planning and maintenance as well as operational recommendations were addressed by Gard at that time.

Recently, U.S. Coast Guard studies and a review of marine casualties reportedly indicate that lack of maintenance and testing of certain systems, including fuel oil systems, is one of the leading causes of propulsion failures. The U.S. Coast Guard highlights the importance of advanced planning and careful fuel system management and points to the fact that this is especially important if fuel changeover operations are not routine on board a vessel.

The U.S. Coast Guard District Eleven has issued a Marine Safety Alert 11-1 on “Fuel switching safety” (dated 11 July 2011) listing a number of recommendations and advices on how to prevent propulsion problems during a fuel changeover operation and the alert is available via the following link: http://www.arb.ca.gov/ports/marinevess/ogv/d11_marine_safety_alert_2011.pdf

Summary and Recommendations

- Gard’s Members and Clients calling at U.S. West Coast ports should be aware of amendments to the California Clean Fuel Regulations concerning changes to the fuel requirements, to the regulatory boundary of Southern California, and to the non-compliance fee schedule. The amendments are expected to enter into force by the end of 2011.
- In order to avoid engine failure when changing from heavy fuel oil (HFO) to low viscosity and low sulphur marine diesel oil (MDO) and marine gas oil (MGO), it is important to ensure that proper procedures are in place and that the required maintenance are performed. It is also important in this context to focus on crew training; relevant training must be provided so that those involved in fuel changeover operations have a good understanding of system requirements and limitations. All Gard’s Members and Clients should carefully review recommendations and advices provided by the U.S. Coast Guard in their recent Marine Safety Alert as well as those recommendations previously provided by Gard. Vessels’ onboard procedures should be updated as required.
- Gard would also like to take the opportunity to remind Members and Clients that the next MARPOL Annex VI implementation date in the sequence of reducing sulphur limits is also approaching. From 1 January 2012 the maximum sulphur limit of fuel oils used outside ECAs reduces from the current 4.5% to 3.5%.

⁴ See [Loss Prevention Circular No 15-09 “Low sulphur fuel changeover”](#)