



DROMON
MRV

Frequently Asked Questions (FAQ) / EU-MRV Regulation

February 2017

Content /

FAQ General MRV

What MRV stands for?

Which regulations have been adopted by the European Union (EU) related to MRV?

Why MRV?

To which ships it applies?

To which type of ships it applies?

To which voyages it applies?

What is the role of the flag Administration of the ship on the applicability of the EU-MRV Regulation?

Is there any exemption on a per-voyage monitoring?

What are the important deadlines I have to meet?

What happens if the ship changes company?

FAQ Monitoring

Who is responsible for the preparation of the monitoring plan?

What methods can be used for calculating the actual fuel consumption for each voyage?

How does each method works?

Can I choose more than one method for monitoring the fuel consumption?

Which emission sources must be considered for monitoring the fuel consumption?

What shall be monitored on a per-voyage basis?

What shall be monitored on an annual basis?

FAQ Reporting

Who is responsible for the preparation of the emission report?

Where is the emissions report submitted?

What is a THETIS-MRV?

When do I report a voyage that starts in the previous calendar year and is ending in the next calendar year of the reporting period?

What information must be included in the emission report?

FAQ Verification

Who is responsible for the verification?

When the emissions report must be submitted for verification?

What must be demonstrated during the verification?

FAQ DoC

What is a Document of Compliance?

Who issues the Document of Compliance?

What happens in case the ship failed to comply?

What kind of penalties will be imposed?

FAQ General MRV /

1. What MRV stands for?

MRV stands for Monitoring, Reporting and Verification.

2. Which regulations have been adopted by the European Union (EU) related to MRV?

The European Parliament and the Council of the European Union have adopted on 1 July 2015 [Regulation \(EU\) 2015/757](#) on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport, amending Directive 2009/16/EC.

In 2016, the EU has adopted the following delegated and implementing regulations for the EU-MRV Regulation:

- Implementing [Regulation \(EU\) 2016/1927](#) on templates for monitoring plan, emissions reports and document of compliance
- Implementing [Regulation \(EU\) 2016/1928](#) on determination of cargo carried
- Delegated [Regulation \(EU\) 2016/2071](#) on methods for monitoring carbon dioxide emissions
- Delegated [Regulation \(EU\) 2016/2072](#) on accreditation of verifiers

3. Why MRV?

Maritime transport emits around 1000 million tonnes of CO₂ annually and is responsible for about 2.5% of global greenhouse gas emissions (3rd IMO GHG study). Shipping emissions are predicted to increase between 50% and 250% by 2050 – depending on future economic and energy developments.

This is not compatible with the internationally agreed goal of keeping global temperature increase to below 2°C compared to pre-industrial levels, which requires worldwide emissions to be at least halved from 1990 levels by 2050.

In 2013, the Commission set out a strategy for progressively integrating maritime emissions into the EU's policy for reducing its domestic greenhouse gas emissions.

The strategy consists of 3 (three) consecutive steps:

- Monitoring, reporting and verification of CO₂ emissions from large ships using EU ports
- Greenhouse gas reduction targets for the maritime transport sector
- Further measures, including market-based measures, in the medium to long term.

The EU-MRV Regulation adopted in April 2015 creates an EU-wide legal framework for the monitoring, reporting and verification of CO₂ emissions and other relevant information from maritime transport. It also helps the EU generate momentum for the best possible outcome in the international discussions. Please note that further to the Decision 2015/2016 of the EEA Joint Committee from 28th October, the EU-MRV Regulation has been included in the EEA agreement, all references in the EU-MRV Regulation to Member States should be interpreted as including all relevant EEA States (the EU Member States, Iceland and Norway).

(source: EC website)

4. To which ships it applies?

To all ships above 5,000 GT sailing in, out and in-between EU ports for commercial purposes irrespective the flag the ship is flying.

5. To which type of ships it applies?

To all types of ships except to warships, naval auxiliaries, fish-catching or fish-processing ships, wooden ships of a primitive build, ships not propelled by mechanical means, or government ships used for non-commercial purposes.

6. To which voyages it applies?

To commercial voyages only, which means any ship that calls at an EU port to load/ unload cargo or embark/ disembark passengers.

7. What is the role of the flag Administration of the ship on the applicability of the EU-MRV Regulation?

The regulation applies to all ships irrespective the flag the ship is flying. Therefore, the flag Administration is irrelevant on the applicability of this regulation.

8. Is there any exemption on a per-voyage monitoring?

Yes. Exemptions on a per-voyage monitoring apply if:

- all the ship's voyages during the reporting period are within the EU; and
- the ship performs more than 300 voyages during the reporting period.

9. What are the important deadlines I have to meet?

By 31st August 2017 the monitoring plan must be assessed by an accredited verifier

From 1st January 2018 to 31st December 2018 first monitoring period

By 30th April 2019 the emissions report of the ship must be verified by an accredited verifier

By 30th June of each year after the reporting period the Document of Compliance (DoC) issued by the accredited verifier must be on board

10. What happens if the ship changes company?

Where there is a change of company (for e.g. the vessel is sold etc.), the new company shall ensure that the ship under its responsibility complies with the requirements of EU-MRV Regulation in relation to the entire reporting period during which it takes the responsibility for the ship concerned.



FAQ Monitoring /

11. Who is responsible for the preparation of the monitoring plan?

Every company is responsible for the preparation of a ship-specific monitoring plan, to collect and monitor data on a per-voyage and annual basis, as applicable. As per Article 3 (d) of the EU-MRV Regulation the company has a similar definition with the ISM Company.

12. What methods can be used for calculating the actual fuel consumption for each voyage?

There are four monitoring methods:

- Method A: Bunker Fuel Delivery Note (BDN) and periodic stock takes of fuel tanks
- Method B: Bunker fuel tank monitoring on board
- Method C: Flow meters for applicable combustion processes
- Method D: Direct CO₂ emission measurements

13. How does each method works?

Method A – Bunker Fuel Delivery Note (BDN) and periodic stock takes of fuel tanks

This method is based on the quantity and type of fuel as defined on the BDN combined with periodic stocktakes of fuel tanks based on tank readings. The fuel at the beginning of the period, plus deliveries, minus fuel available at the end of the period and de-bunkered fuel between the beginning of the period and the end of the period together constitute the fuel consumed over the period the period means the time between two port calls or time within a port. For the fuel used during a period, the fuel type and the sulphur content need to be specified.

This method shall not be used when BDN are not available on board ships, especially when cargo is used as a fuel, for example, liquefied natural gas (LNG) boil-off.

Under existing MARPOL Annex VI regulations, the BDN is mandatory, is to be retained on board for three years after the delivery of the bunker fuel and is to be readily available. The periodic stocktake of fuel tanks on-board is based on fuel tank readings. It uses tank tables relevant to each fuel tank to determine the volume at the time of the fuel tank reading. The uncertainty associated with the BDN shall be specified in the monitoring plan. Fuel tank readings shall be carried out by appropriate methods such as automated systems, soundings and dip tapes. The method for tank sounding and uncertainty associated shall be specified in the monitoring plan.

Where the amount of fuel uplift or the amount of fuel remaining in the tanks is determined in units of volume, expressed in litres, the company shall convert that amount from volume to mass by using actual density values. The company shall determine the actual density by using one of the following:

- on-board measurement systems;
- the density measured by the fuel supplier at fuel uplift and recorded on the fuel invoice or BDN.

The actual density shall be expressed in kg/l and determined for the applicable temperature for a specific measurement. In cases for which actual density values are not available, a standard density factor for the relevant fuel type shall be applied once assessed by the verifier.

Method B – Bunker fuel tank monitoring on board

This method is based on fuel tank readings for all fuel tanks on-board. Fuel tank readings carried out by soundings and dip tapes methods. The tank readings shall occur daily when the ship is at sea and each time the ship is bunkering or de-bunkering.

The cumulative variations of the fuel tank level between two readings constitute the fuel consumed over the period.

The period means the time between two port calls or time within a port. For the fuel used during a period, the fuel type and the sulphur content need to be specified.

Fuel tank readings shall be carried out by appropriate methods such as automated systems, soundings and dip tapes. The method for tank sounding and uncertainty associated shall be specified in the monitoring plan.

Where the amount of fuel uplift or the amount of fuel remaining in the tanks is determined in units of volume, expressed in litres, the company shall convert that amount from volume to mass by using actual density values. The company shall determine the actual density by using one of the following:

- on-board measurement systems;
- the density measured by the fuel supplier at fuel uplift and recorded on the fuel invoice or BDN;

- the density measured in a test analysis conducted in an accredited fuel test laboratory, where available.

The actual density shall be expressed in kg/l and determined for the applicable temperature for a specific measurement. In cases for which actual density values are not available, a standard density factor for the relevant fuel type shall be applied once assessed by the verifier.

Method C – Flow meters for applicable combustion processes

This method is based on measured fuel flows on-board. The data from all flow meters linked to relevant CO₂ emission sources shall be combined to determine all fuel consumption for a specific period.

The period means the time between two port calls or time within a port. For the fuel used during a period, the fuel type and the sulphur content need to be monitored.

The calibration methods applied and the uncertainty associated with flow meters used shall be specified in the monitoring plan.

Where the amount of fuel consumed is determined in units of volume, expressed in litres, the company shall convert that amount from volume to mass by using actual density values. The company shall determine the actual density by using one of the following:

- on-board measurement systems;
- the density measured by the fuel supplier at fuel uplift and recorded on the fuel invoice or BDN.

The actual density shall be expressed in kg/l and determined for the applicable temperature for a specific measurement. In cases for which actual density values are not available, a standard density factor for the relevant fuel type shall be applied once assessed by the verifier.

Method D – Direct CO₂ emissions measurement

The direct CO₂ emissions measurements may be used for voyages and for CO₂ emissions occurring in ports located in a Member State's jurisdiction. CO₂ emitted shall include CO₂ emitted by main engines, auxiliary engines, gas turbines, boilers and inert gas generators. For ships for which reporting is based on this method, the fuel consumption shall be calculated using the measured CO₂ emissions and the applicable emission factor of the relevant fuels.

This method is based on the determination of CO₂ emission flows in exhaust gas stacks (funnels) by multiplying the CO₂ concentration of the exhaust gas with the exhaust gas flow.

The calibration methods applied and the uncertainty associated with the devices used shall be specified in the monitoring plan.

14. Can I choose more than one method for monitoring the fuel consumption?

Yes. It is possible to use a combination of the methods if it enhances the overall accuracy of the measurement.

15. Which emission sources must be considered for monitoring the fuel consumption?

Main engines, auxiliary engines, boilers, gas turbines and inert gas generators.

16. What shall be monitored on a per-voyage basis?

Based on the monitoring plan, for each ship arriving in or departing from, and for each voyage to or from, a port within the EU, companies shall monitor the following parameters:

- port of departure and port of arrival including the date and hour of departure and arrival;
- amount and emission factor for each type of fuel consumed in total;
- CO₂ emitted;
- distance travelled;
- time spent at sea;
- cargo carried;
- transport work.

Companies may also monitor information relating to the ship's ice class and to navigation through ice, where applicable.

17. What shall be monitored on an annual basis?

Based on the monitoring plan, for each ship and for each calendar year, companies shall monitor the following parameters:

- amount and emission factor for each type of fuel consumed in total;
- total aggregated CO₂ emitted;
- aggregated CO₂ emissions from all voyages between ports under a Member State's jurisdiction;
- aggregated CO₂ emissions from all voyages which departed from ports under a Member State's jurisdiction;
- aggregated CO₂ emissions from all voyages to ports under a Member State's jurisdiction;
- CO₂ emissions which occurred within ports under a Member State's jurisdiction at berth;
- total distance travelled;
- total time spent at sea;
- total transport work;
- average energy efficiency.

Companies may monitor information relating to the ship's ice class and to navigation through ice, where applicable.

Companies may also monitor fuel consumed and CO₂ emitted, differentiating on the basis of other criteria defined in the monitoring plan.



FAQ Reporting /

18. Who is responsible for the preparation of the emission report?

Companies must prepare an emissions report in accordance with the Commissions Implementing Regulation (EU) 2016/1927.

19. Where is the emissions report submitted?

The report shall be submitted to an accredit verifier for verification through THETIS-MRV.

20. What is THETIS-MRV?

THETIS-MRV is a platform to be developed under the supervision of the European Maritime Safety Agency (EMSA). The platform will be used by companies and accredit verifiers for reporting.

21. When do I report a voyage that starts in the previous calendar year and is ending in the next calendar year of the reporting period?

The data are to be reported under the first calendar year irrespective if the voyage finishes at the next calendar year.

22. What information must be included in the emission report?

The emissions report must be prepared in accordance with Annex II of the Commission Implementing Regulation (EU) 2016/1927.

In general the following data must be included:

- A. Data identifying the ship and the company, including:
 - name of the ship,
 - IMO identification number,
 - port of registry or home port,
 - ice class of the ship, if included in the monitoring plan,
 - technical efficiency of the ship (the Energy Efficiency Design Index (EEDI) or the Estimated Index Value (EIV) in accordance with IMO Resolution MEPC.215 (63), where applicable),
 - name of the shipowner,
 - address of the shipowner and its principal place of business,
 - name of the company (if not the shipowner),
 - address of the company (if not the shipowner) and its principal place of business,
 - address, telephone and e-mail details of a contact person;
- B. The identity of the verifier that assessed the emissions report;
- C. Information on the monitoring method used and the related level of uncertainty;
- D. The results from annual monitoring of the parameters in accordance with Article 10 of the EU-MRV Regulation.



FAQ Verification /

23. Who is responsible for the verification?

The company must submit the emissions report to an accredited verifier for verification and ensure that the verified report is uploaded in THETIS-MRV.

24. When the emissions report must be submitted for verification?

At the end of the reporting period (i.e. after 31st December of each calendar year).

25. What must be demonstrated during the verification?

During the verification the company must demonstrate:

- that has followed the procedures outlined in the approved monitoring plan
- submit the emissions report that clearly shows how the calculation has been carried out
- ensure corrective actions of any non-conformities/ misstatement imposed by the accredited verifier

A site visit may be requested for the purpose of gaining sufficient understanding of the company and the ship's monitoring and reporting system as described in the monitoring plan.

The accredited verifier shall determine the location or locations for the site visit on the basis of the results of the risk assessment and after taking into consideration the place where the critical mass of relevant data is stored, including electronic or hard copies of documents of which the originals are kept on the ship, and the place where data-flow activities are carried out.

The accredited verifier will also determine the activities to be performed and the time needed for the site visit. You will be informed through the verification plan.

On the basis of the outcome of a site visit to an onshore location, where it concludes that an on-board verification is needed to reduce the risk of material misstatements in the emissions report, the accredited verifier may decide to visit the ship.

You shall make all necessary arrangements for the conduct of the site visit including provisions for examining documentation and access to all relevant processes, areas, records and personnel.

In case the accredited verifier waives a site visit you will be informed about this decision in advance. Specific conditions apply for waiving a site visit.



FAQ DoC /

26. What is a Document of Compliance (DoC)?

DoC is an official document issued to the ship where the emissions report fulfils the requirements set out in Articles 11 to 15 and those in Annexes I and II of the EU-MRV Regulation, on the basis of the verification report for the ship concerned.

By 30 June of the year following the end of a reporting period, ships arriving at, within or departing from a port under the jurisdiction of EU Member State, and which have carried out voyages during that reporting period, shall carry on board a valid document of compliance.

27. Who issues the Document of Compliance?

The accredited verifier will issue a Document of Compliance for each ship.

28. What happens in case the ship failed to comply?

In case a ship fails to comply with the monitoring and reporting requirements for two or more consecutive reporting periods penalties will be imposed.

29. What kind of penalties will be imposed?

The penalties that will be imposed are:

- expulsion order issued by the EU Member State of the port of entry
- ban from entering any EU port



Contact us:
www.dromon.com
info@dromon.com

