EU MRV Regulation
Overview, Update & Guidance

We are the V of MRV

Verifavia is a global independent accredited environmental verification, certification and auditing body for aviation, airports and maritime transport (shipping and ports).
Introduction & Agenda

- A - Introduction & Agenda
- B - EU MRV: Background & Regulatory Framework
- C - EU MRV Monitoring & Reporting: Basic Rules & Principles
- D - EU MRV Monitoring Plan: Content and Guidance
- E - Gearing up for the first legal deadline
- F - EU MRV & IMO Data Collection System: a comparison
- G - About Verifavia Shipping & Final note
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Commission’s 3-step strategy to cut GHG emissions from maritime transport announced in June 2013

**Step 1**
- Monitoring, reporting and verification of carbon emissions from ships + publication of data

**Step 2**
- Emissions reduction targets for the maritime transport sector

**Step 3**
- Further measures, including Market-Based Measures (MBM)
The Regulation 2015/757 came into force on 1 July 2015

- Monitoring
- Reporting
- Verification

...of fuel consumption, CO₂ emissions, and transport work of ships
The EU MRV regulatory framework includes the Regulation 2015/757...
... the Delegated & Implementing Acts, which were published in November 2016...

<table>
<thead>
<tr>
<th>Delegated Regulation (EU) 2016/2071</th>
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</thead>
<tbody>
<tr>
<td><strong>Shipping Emissions Monitoring Methods</strong></td>
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<thead>
<tr>
<th>Implementing Regulation (EU) 2016/1928</th>
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<tbody>
<tr>
<td><strong>Shipping Emissions Cargo Carried</strong></td>
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<tr>
<th>Implementing Regulation (EU) 2016/1927</th>
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<tr>
<td><strong>Shipping Emissions Templates</strong></td>
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<tr>
<th>Delegated Regulation (EU) 2016/2072</th>
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<tr>
<td><strong>Shipping Emissions Verification &amp; Accreditation</strong></td>
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Frequently Asked Questions on the implementation of the MRV shipping Regulation

These Frequently Asked Questions aim to assist MRV (monitoring, reporting and verification) companies, verifiers and other stakeholders to implement the European Union MRV shipping legislation. It requires ships carrying out maritime transport activities to or from EEA ports to monitor and report information including verified data on their CO2 emissions from 1st of January 2018.

The legal framework for these obligations is established under Regulation (EU) 2015/757 on monitoring, reporting and verification of carbon dioxide emissions from maritime transport, (the MRV Shipping Regulation) which has been amended by Delegated Regulation 2016/2072 and it is to be read in conjunction with Delegated Regulation (EU) 2016/2071 and Implementing Regulations (EU) 2016/1927 and 2016/1928.

This document was prepared by DG CLIMA and does not commit the European Commission. Only the Court of Justice of the European Union is competent to authoritatively interpret the Union law.

SECTION I ON SHIPS COVERED BY THE MRV SHIPPING REGULATION

1. 1. Which ships need to monitor and report their verified annual data, are some categories of ships exempted?

https://ec.europa.eu/clima/policies/transport/shipping_en#tab-0-3
... and guidance documents to be published in June 2017

<table>
<thead>
<tr>
<th>Monitoring &amp; Reporting</th>
<th>Verification &amp; Accreditation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guidance for fuel oil monitoring</td>
<td>Guidance on the use of ship’s tracking data</td>
</tr>
<tr>
<td>Guidance for LNG-BoG monitoring</td>
<td>Guidance on recommendations for improvement</td>
</tr>
<tr>
<td>Guidance on EIV</td>
<td>Guidance on materiality and sampling</td>
</tr>
<tr>
<td>Guidance on Monitoring Plan preparation</td>
<td>Guidance on backward assessment</td>
</tr>
<tr>
<td>Guidance on monitoring voyages and in ports</td>
<td>Guidance on the verification of the emissions report</td>
</tr>
<tr>
<td>Guidance on Monitoring using the exemption from per-voyage monitoring</td>
<td>Guidance on assessment of verifiers</td>
</tr>
<tr>
<td>Guidance on the determination of distance travelled and time spent at sea</td>
<td>Guidance on suspension of accreditation</td>
</tr>
<tr>
<td>Guidance on Ro-Pax and Ro-Ro</td>
<td>Guidance on assessment of monitoring plans</td>
</tr>
</tbody>
</table>
• A - Introduction & Agenda
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Which ships are included in the EU MRV Regulation?

- Ships exceeding 5’000 GT
- Regardless of Flag or country of ownership
- Calling at an EU port from 1 January 2018
- And carrying cargo or passengers for commercial purposes
Which ships are exempted from MRV?

• Exempted ships:
  – warships
  – naval auxiliaries
  – fish-catching or fish-processing ships
  – wooden ships of a primitive build
  – ships not propelled by mechanical means
  – government ships used for non-commercial purpose

• Ships used for...
  – dredging
  – ice-breaking
  – pipe laying
  – offshore installation activities.

... are also exempted if not serving the purpose of transporting cargo or passengers for commercial purposes
Who is the accountable entity?

The accountable entity is the **Ship**

Every **Ship** must:

- Develop its own Monitoring Plan and have it assessed
- Monitor and report its emissions and activity data
- Have its Emissions Report independently verified
- Carry on-board a Document of Compliance (DoC)
Who is responsible for compliance?

The responsible entity is the **Company**

The **Company** means ‘the shipowner or any other organisation or person, such as the manager or the bareboat charterer, which has assumed the responsibility for the operation of the ship from the shipowner’

>>> similar to the DoC holder in the ISM Code
EU MRV Road Map for shipping companies

**Accreditation of Verifavia Shipping**
1st Mar 2017

**Deadline for completion of Monitoring Plan assessment**
31st Dec. 2017

**End of Reporting Period 1**
31st Dec. 2018

**On-board EU MRV Document of Compliance (DoC)**
30 June 2019

- **31st Aug. 2017**
  Deadline for Submission of Monitoring Plan to Verifier

- **1st Jan 2018**
  Start of Reporting Period 1

- **30th April 2019**
  Deadline to submit verified Emissions Report to EC and Flag State
What is the geographical scope of EU MRV?

All voyages calling at an EEA port of call are subject to EU MRV

EU Member States: Belgium, Bulgaria, Croatia, Republic of Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Malta, Netherlands, Poland, Portugal, Romania, Slovenia, Spain, Sweden and the UK.

EEA Member States: EU Member States + Iceland + Norway

EEA outermost regions: see next slide

Gibraltar is considered to be an EU port
What are the EEA outermost regions?

All voyages calling at a port of call located in an EEA outermost region are also subject to EU MRV

EEA outermost regions: Açores, Canary Islands, French Guiana, Guadeloupe, Madeira, Martinique, Mayotte, Reunion and Saint Martin
What is an EU MRV voyage?

- **A port of call** is a port where a ship stops to load or unload cargo or to embark or disembark passengers
  - Consequently, stops for the sole purposes of refuelling, obtaining supplies, relieving the crew, going into dry-dock or making repairs to the ship and/or its equipment, stops in port because the ship is in need of assistance or in distress, ship-to-ship transfers carried out outside ports, and stops for the sole purpose of taking shelter from adverse weather or rendered necessary by search and rescue activities are not ports of call

- **A voyage** is a journey between two consecutive ports of call

- **An EU MRV voyage** is when at least one of the two ports of call is in the EEA

- **Ballast voyages** shall be considered same as laden voyages
- A Port of Call is a port where a ship stops to load or unload cargo or to embark or disembark passengers.
- A voyage is a journey between two Ports of Call.
- A reportable voyage is a voyage where at least one Port of Call is in the EU.
Which parameters must be monitored per voyage?

- Fuel Consumption at Sea
- Fuel Consumption at berth
- Time at Sea
- Distance Sailed
- Cargo On-board
- Transport work
- Energy Efficiency parameters

Fuel consumption, time at sea and distance sailed shall be monitored from berth to berth!

Fuel consumption within ports at berth shall be monitored separately!

Ships performing more than 300 voyages per year all subject to the EU MRV are exempt from per-voyage monitoring!

Transport work = Cargo on-board * Distance sailed
Which emissions sources must be considered?

- Main engines
- Auxiliary engines
- Boilers
- Gas turbines
- Inert gas generators

⚠️ Incinerators do not have to be considered
Which are the monitoring methodologies available?

Four available monitoring methodologies available

- **Method A**
  - Bunker Fuel Delivery Note (BDN) and periodic stocktakes 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.

**CO₂ Emissions = Fuel consumption * Emission factor**

*It is possible to choose a different methodology for each emission source*
Which emission factors shall be used?

<table>
<thead>
<tr>
<th>Type of Fuel</th>
<th>IMO Values 2012/63 (t CO2 / t fuel)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy Fuel Oil</td>
<td>3.1144</td>
</tr>
<tr>
<td>Light Fuel Oil</td>
<td>3.1510</td>
</tr>
<tr>
<td>Diesel/Gas Oil</td>
<td>3.2060</td>
</tr>
<tr>
<td>Liquefied Petroleum Gas (Propane)</td>
<td>3.0000</td>
</tr>
<tr>
<td>Liquefied Petroleum Gas (Butane)</td>
<td>3.0300</td>
</tr>
<tr>
<td>Liquefied Natural Gas</td>
<td>2.7500</td>
</tr>
</tbody>
</table>
How shall cargo be monitored?

<table>
<thead>
<tr>
<th>Ship Type</th>
<th>Cargo to be monitored per ship type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil tankers, chemical tankers, gas carriers, bulk carriers,</td>
<td>Actual mass of the cargo on-board</td>
</tr>
<tr>
<td>refrigerated cargo ships and combination carriers</td>
<td></td>
</tr>
<tr>
<td>LNG carriers</td>
<td>Volume of cargo on discharge</td>
</tr>
<tr>
<td>Pax ships</td>
<td>Number of passengers</td>
</tr>
<tr>
<td>Ro-ro ships</td>
<td>Occupied lane-meters * default weight OR, nb of cargo units * default weight OR, actual mass of the cargo on-board</td>
</tr>
<tr>
<td>Container ships</td>
<td>Actual mass of the cargo OR, nb of TEU * default weight</td>
</tr>
<tr>
<td>Ro-pax</td>
<td>Passengers: number of pax OR Freight: same Ro-ro ships</td>
</tr>
<tr>
<td>Con-ro ships</td>
<td>Volume of cargo on-board</td>
</tr>
<tr>
<td>Vehicle carriers and general cargo ships</td>
<td>Mass of cargo and / or deadweight carried</td>
</tr>
</tbody>
</table>
Which data shall be reported in the emissions report?

Only aggregated data shall be reported in the emissions report

Annual reporting data:
- Amount and emissions factor for each type of fuel consumed in total
- Aggregated emissions from all reportable voyages (domestic / outbound / inbound / total)
- Emissions within ports at berth
- Total distance travelled
- Total time spent at sea
- Total transport work

Energy efficiency parameters:
- Fuel consumption per distance = total annual fuel consumption/total distance travelled
- Fuel consumption per transport work = total annual fuel consumption/total transport work
- CO₂ emissions per distance = total annual CO₂ emissions/total distance travelled
- CO₂ emissions per transport work = total annual CO₂ emissions/total transport work

Cargo on-board shall not be reported in the emissions report
What are the roles of the verifier?

Administrative Role:
- Communication with ship operator
- Delivery of the Document of Compliance (DoC)

Auditing Role:
- Assessment of Monitoring Plan
- Verification of Emissions Report

Verifiers have to be accredited to ISO 14065 for EU MRV by an EU National Accreditation Body.
What happens in case of non-compliance?

Non-compliance penalties:
- Defined by each Member State
- Must be effective, proportionate and dissuasive

In case of non-compliance for two or more consecutive years:
- Expulsion order issued by the Member State of the port of entry
- Ban from entering any EU port

The UK is the first EU country to disclose its draft national Regulation on penalties
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The Monitoring Plan - a fundamental document of MRV

- A mandatory requirement of the EU MRV Regulation Article 6

- Must be submitted to an independent accredited verifier before 31st August 2017 for assessment

- Assessment must be successfully completed before 31 December 2017

- 31st August and 31st December are only deadlines, process can be completed earlier

- Important to note the difference between assessment and verification
The Monitoring Plan - can be designed based on existing infrastructure and statutory documents

- Outlines the procedures in place to **monitor**, **collect**, **control**, and **report** data for the EU MRV

- Demonstrates how the ship’s MRV system is **compliant with the EU MRV Regulation**

- Compiles all **information** on how the ship’s MRV system works, and must be **complete**, **accurate**, **relevant** and **compliant**

- Where relevant, references should be made to compatible monitoring elements from **existing management systems** (e.g. SMS, SEEMP, EMS, etc.)

- Can be divided into **company specific sections** and **ship specific sections**
The Monitoring Plan - a requirement of the EU MRV Regulation and the Delegated Implementing Regulation on Shipping Emissions Templates
MRV Monitoring Plan Template (Implementing Regulation 2016/1927)

**Part A – versions**
Date, status, version #

**Part B - Basic data**
IMO, name, operator / owner, GT,...
Emissions sources & fuel types

**Part C - Activity data**
Fuel consumption method (A, B, C, D)
Determination of density
Measurement instruments & uncertainty
Procedures for :
- Completeness of on-board sources
- Fuel bunkered, fuel in tanks
- BDN cross-checks
- Data collection & transmission
- Quality of measuring equipment
- Completeness of voyages
- Cargo, distance and time

**Part D - Data gaps**
Complete potential (if “main” method documented in MP Part C failed)
- fuel consumption
- distance travelled
- time spent at sea
- cargo carried

**Part E – Management**
Regular check of the adequacy of the MP
Control activities:
- Quality assurance and reliability of IT systems
- Internal reviews and validation of data
- Corrections and corrective actions
- Outsourced activities (if applicable)

**Part F – Further information**
Free text, optional
### Part B - Basic data (identification of ship and company)

#### B.1 Identification of the ship

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Name of the ship</td>
</tr>
<tr>
<td>(b)</td>
<td>IMO identification number</td>
</tr>
<tr>
<td>(c)</td>
<td>Port of registry</td>
</tr>
<tr>
<td>(d)</td>
<td>Home port (if not identical with port of registry)</td>
</tr>
<tr>
<td>(e)</td>
<td>Name of the shipowner</td>
</tr>
<tr>
<td>(f)</td>
<td>IMO unique company and registered owner identification number</td>
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<td>(g)</td>
<td>Type of the ship</td>
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<td>(h)</td>
<td>Deadweight (in metric tonnes)</td>
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<td>(i)</td>
<td>Gross tonnage</td>
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<td>(j)</td>
<td>Classification Society (voluntary)</td>
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<td>(k)</td>
<td>Ice class (voluntary)</td>
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</tbody>
</table>
Part B - Basic data (identification of ship and company)

B.2 Company information

(a) Please enter the name and address of the company, including postcode and country:

<table>
<thead>
<tr>
<th>Name of the company</th>
<th></th>
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<tbody>
<tr>
<td>Address Line 1</td>
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<tr>
<td>Address Line 2</td>
<td></td>
</tr>
<tr>
<td>City</td>
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</tr>
<tr>
<td>State/Province/Region</td>
<td></td>
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<tr>
<td>Postcode/ZIP</td>
<td></td>
</tr>
<tr>
<td>Country</td>
<td>Please select</td>
</tr>
<tr>
<td>Contact person</td>
<td></td>
</tr>
<tr>
<td>Telephone number</td>
<td></td>
</tr>
<tr>
<td>Email address</td>
<td></td>
</tr>
</tbody>
</table>
### B.3 Emission sources and fuel types used

<table>
<thead>
<tr>
<th>Emission source reference no.</th>
<th>Emission source (name, type)</th>
<th>Technical description of emission source (performance/power, specific fuel oil consumption (SFOC), year of installation, identification number in case of multiple identical emission sources, etc.)</th>
<th>(Potential) Fuel types used</th>
</tr>
</thead>
<tbody>
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</table>
### B.4 Emission factors

<table>
<thead>
<tr>
<th>Fuel type</th>
<th>IMO emission factors (in tonnes of CO2/tonne fuel)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy Fuel Oil (Reference: ISO 8217 Grades RME through RMK)</td>
<td>3.114</td>
</tr>
<tr>
<td>Light Fuel Oil (Reference: ISO 8217 Grades RMA through RMD)</td>
<td>3.151</td>
</tr>
<tr>
<td>Diesel/Gas Oil (Reference: ISO 8217 Grades DMX through DMB)</td>
<td>3.206</td>
</tr>
<tr>
<td>Liquefied Petroleum Gas (Propane)</td>
<td>3.000</td>
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<tr>
<td>Liquefied Petroleum Gas (Butane)</td>
<td>3.030</td>
</tr>
<tr>
<td>Liquefied Natural Gas</td>
<td>2.750</td>
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<tr>
<td>Methanol</td>
<td>1.375</td>
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<tr>
<td>Ethanol</td>
<td>1.913</td>
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<tr>
<td>Other fuel with non-standard emission factor</td>
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</tbody>
</table>

In case of use of non-standard emission factors:

<table>
<thead>
<tr>
<th>Non-standard fuel</th>
<th>Emission factor</th>
<th>Methodologies for determining the emission factor (methodology for sampling, methods of analysis and a description of the laboratories used, if any)</th>
</tr>
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<tbody>
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www.verifavia-shipping.com
## Part C - Activity data (fuel consumption)

### C.2.1 Methods used to determine fuel consumption of each emission source:

<table>
<thead>
<tr>
<th>Emission source</th>
<th>Chosen method for fuel consumption</th>
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</tbody>
</table>

### C.2.6 Method for determination of density:

<table>
<thead>
<tr>
<th>Fuel type/tank</th>
<th>Method to determine actual density values of fuel bunkered</th>
<th>Method to determine actual density values of fuel in tanks</th>
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<tr>
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</table>
Part C - Activity data (measurement and measuring equipment)

C.2.4 Description of the measurement instruments involved:

<table>
<thead>
<tr>
<th>Measurement equipment (name)</th>
<th>Elements applied to (e.g. emission sources, tanks)</th>
<th>Technical description (specification, age, maintenance intervals)</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

C.2.7 Level of uncertainty associated with fuel monitoring:

<table>
<thead>
<tr>
<th>Monitoring method</th>
<th>Approach used</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
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</table>
## Presentation of generic procedure

<table>
<thead>
<tr>
<th>Title of procedure</th>
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<tbody>
<tr>
<td>Reference to existing procedure</td>
<td></td>
</tr>
<tr>
<td>Version of existing procedure</td>
<td></td>
</tr>
<tr>
<td>Description of EU MRV procedures if not already existing outside the MP</td>
<td></td>
</tr>
<tr>
<td>Name of person or position responsible for this procedure</td>
<td></td>
</tr>
<tr>
<td>Location where records are kept</td>
<td></td>
</tr>
<tr>
<td>Name of IT system used (where applicable)</td>
<td></td>
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</tbody>
</table>
Procedures related to emission sources, measuring equipment, and fuel measurements

• Procedures, systems and responsibilities used to update the completeness of emission sources
  – E.g. change of emission sources following retrofitting

• Procedures for determining fuel bunkered and fuel in tanks
  – E.g. fuel tank sounding, fuel tank monitoring, BDNs, etc.

• Regular cross-checks between bunkering quantity as provided by BDN and bunkering quantity indicated by on-board measurement:
  – E.g. cross-check between BDNs and fuel tank readings before / after bunkering

• Procedures for recording, retrieving, transmitting, and storing information regarding measurements
  – E.g. description of successive steps from collection of primary source data on-board to storage of data in on-shore database (fuel tank readings, fuel flow data, etc.)

• Procedures for ensuring quality assurance of measuring equipment
  – E.g. maintenance procedures
Procedures related to the monitoring of voyages, cargo, distance, and time

- **Recording and safeguarding completeness of voyages**
  - E.g. how ports of call are defined according to the Regulation, how voyages are constructed, and how reportable voyages are identified

- **Recording and determining the distance per voyage made**
  - E.g. actual distance sailed, or distance on the most direct route + correction factor

- **Recording and determining the amount of cargo carried and/ or the number of passengers**
  - E.g. how information from bills of lading, cargo manifest, etc. are collected and transferred into the IT system or database

- **Determining and recording the time spent at sea from berth of port of departure to berth of the port of arrival**
  - E.g. how time of departure and time of arrival are collected and transferred into the IT system or database
Procedures related to data gaps

- **Methods to be used to estimate fuel consumption**
  - E.g. use of historic fuel data, use of alternative fuel consumption monitoring methodology, or use of modelled fuel consumption

- **Methods to be used to treat data gaps regarding distance travelled**
  - E.g. use of online calculator to get distance on the shortest route

- **Methods to be used to treat data gaps regarding time spent at sea**
  - E.g. use of average time for similar voyages, or average time per NM

- **Methods to be used to treat data gaps regarding cargo carried**
  - E.g. use of historic loads or estimated loads based on draught measurements or alternative source of information
Procedures related to management and quality

• **Regular check of the adequacy of the monitoring plan**
  – E.g. check that all procedures are still adequate

• **Control activities: Quality assurance and reliability of information technology**
  – E.g. contractual arrangement with ICT providers

• **Control activities: Internal reviews and validation of EU MRV relevant data**
  – E.g. plausibility checks on the data, check by another person (four-eye principle), comparison with independent data sources, etc.

• **Control activities: Corrections and corrective actions**
  – E.g. procedure to ensure that issues are corrected in a timely manner

• **Control activities: Outsourced activities (if applicable)**
  – E.g. if a third-party organisation is used for any EU MRV task
• A - Introduction & Agenda
• B - EU MRV: Background & Regulatory Framework
• C - EU MRV Monitoring & Reporting: Basic Rules & Principles
• D - EU MRV Monitoring Plan: Content and Guidance
• E - Gearing up for the first legal deadline
• F - EU MRV & IMO Data Collection System: a comparison
• G - About Verifavia Shipping & Final note
STEP 1 - IDENTIFY YOUR FLEET SUBJECT TO EU MRV

1. List all vessels for which you are the ‘Company’:
   - ‘the shipowner or any other organisation or person, such as the manager or the bareboat charterer, which has assumed the responsibility for the operation of the ship from the shipowner’
   - Nb: same definition as DOC holder under ISM Code

2. Remove vessels that are below 5000 GT

3. Remove vessels that do not operate for commercial purposes

4. Remove vessels that never call EU ports and are not expected to do so in 2018

5. Option: Identify ship families and groups of sister-ships
STEP 2 - GET FAMILIAR WITH THE REGULATORY REQUIREMENTS

1. Delegated Regulation (EU) 2016/2071
   Shipping Emissions Monitoring Methods

2. Implementing Regulation (EU) 2016/1928
   Shipping Emissions Cargo Carried

3. Implementing Regulation (EU) 2016/1927
   Shipping Emissions Templates

4. Commission’s FAQ
   Guidance documents [To be published]

19.05.2015

Official Journal of the European Union

L 123/55

REGULATION (EU) 2015/757 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
of 29 April 2015
on the monitoring, reporting and verification of carbon dioxide emissions from maritime transport, and amending Directive 2009/16/EC
(Text with EEA relevance)
STEP 3 - CATEGORIZE PROCEDURES

Company information

- Data gaps
- Management

Ship family specific procedures

- All other procedures

Lead ship specific information

- List of emissions sources
- Description of measuring equipment
STEP 4 - COLLECT RELEVANT DOCUMENTS

- ✔ SEEMP
- ✔ General arrangement plan
- ✔ Bunkering procedure
- ✔ Piping diagrams
- ✔ Fuel management procedure
- ✔ Fuel measurement equipment description
- ✔ Other relevant manuals / procedures
STEP 5 - PREPARE A MONITORING PLAN FOR A FIRST LEAD SHIP

Part A - Versions
Part B - Basic data
Part C - Activity data
Part D - Data gaps
Part E - Management
Part F - Further information

Possible formats:
- Word document
- Excel document
- Online / offline form
- IT system
- Etc.
STEP 6 - ENGAGE AN INDEPENDENT ACCREDITED VERIFIER AND HAVE YOUR MP ASSESSED

1. Drafting of MP for First Lead Ship
2. Initial Assessment of First Lead Ship MP
3. Closing of Findings of First Lead Ship MP / Drafting of MP for other Lead Ships
4. Assessment of individual MP per Lead Ship
5. Closing of Findings
6. Assessment Reports per Ship

Shipping company

www.verifavia-shipping.com
Aim of MP assessment is to check consistency between EU MRV rules, Monitoring Plan, and existing company procedures.
EU MRV challenges for shipowners

- Definition of a port of call and a voyage
- Geographical scope
- Berth-to-berth
- Time at sea
- Fuel consumption at port
- Actual cargo carried
- IT system alignment
- Control activities
- Data gaps
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IMO fuel oil consumption data collection system

- Amendments to MARPOL Annex VI Chapter 4 adopted at MEPC70
  - Entry into force: 1 March 2018
  - First reporting period: 2019 calendar year

A 3-step process

Step 1 - Data collection

Step 2 - Data analysis

Step 3 - Further measures, if required
EU MRV and IMO fuel data system compared

<table>
<thead>
<tr>
<th></th>
<th>EU MRV</th>
<th>IMO DCS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scope</strong></td>
<td>Ships above 5’000 GT Voyages to / from EEA port of calls</td>
<td>Ships at 5’000 GT or above All voyages</td>
</tr>
<tr>
<td><strong>Starting year</strong></td>
<td>2018</td>
<td>2019</td>
</tr>
<tr>
<td><strong>Monitoring</strong></td>
<td>EU MRV Monitoring Plan</td>
<td>Updated SEEMP</td>
</tr>
</tbody>
</table>
| **Reporting**  | Fuel consumption (port / sea)  
Transport work (actual cargo carried)  
Distance  
Time       | Fuel consumption  
Distance  
Time       |
| **Verification** | Independent accredited verifiers                                      | Flags administration (work in progress)                                |

*Further down the line...*

<table>
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<th>IMO DCS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Compliance</strong></td>
<td>Document of Compliance (June 2019)</td>
<td>Statement of Compliance</td>
</tr>
<tr>
<td><strong>Publication</strong></td>
<td>Distinctive public database</td>
<td>Anonymous public database</td>
</tr>
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Verifavia Shipping is fully and doubly accredited to ISO14065 under the EU MRV Regulation

Verifavia Shipping is the first and only global accredited EU MRV verification body with double accreditation!

Our ISO 14065 accreditation allows us to assess and verify any ship anywhere in the world regardless of country, Flag State or class.

We requested accreditation from the French National Accreditation Body (COFRAC) to anticipate the Brexit.

Timeline of the accreditation process

First Meeting January 2016
Application March 2016
Application Review Q4 2016
Assessment January 2017
Accreditation 1st March 2017

Scope available on www.cofrac.fr
Verifavia Shipping is an active member of the Commission’s expert groups on MRV responsible for drafting the Acts and the technical details of the EU MRV Regulation.

Verifavia Shipping is the task leader of the Commission’s task force on the verification of the emissions report.

Objective of the working group is to draft the guidance document addressed to verifiers on how to verify an emission report.

Representatives from major classification societies are part of the working group which is led by Verifavia Shipping CEO.

1st round of meetings
Jul 2015 – May 2016

Draft Acts & Consultation
Aug 2016

Coming into force of Acts
Nov 2016

2nd round of meetings
Nov 2016 – May 2017

Task Force status meeting
Feb 2017

Task Force final meeting
April 2017

Coming into force
June 2017?
Verifavia Shipping is one of the first independent verifiers to conduct GAP-Analysis audits against the requirements of the EU MRV Regulation.
Verifavia Shipping is one of the first independent verifiers to conduct legal monitoring plan assessment audits against the requirements of the EU MRV Regulation.
Verifavia Shipping is the world’s market leader working with global ICT providers in the independent certification of EU MRV IT systems.
Verifavia Shipping EU MRV Auditor Team

Julien Dufour, CEO
Nicolas Duchene, Technical Director
Nikolas Theodorou, Managing Director

Stylianos Smyrlakis, Naval architect, Marine Engineer
Yuvraj Thakur, Marine Engineer & Commercial Head Asia – Pacific
Islam Abdelazim, Marine Engineer
Steffen Kotergaard, Marine Engineer & Commercial Manager Denmark

Vikas Sharma, Marketing analyst
Alonso Benito, Naval architect, Marine Engineer
Beata Kusova, Auditor
Gary Cleven, Auditor
Press - Verifavia is frequently quoted in the shipping media on EU MRV and also regularly publishes its own articles.
Verifavia Shipping is the leading expert on EU MRV, speaking at:

- EU MRV Seminar, Royal Association of Netherlands Shipowners, Rotterdam, 10 March 2017
- EU MRV Seminar, Danish Shipowners’ Associations, Copenhagen, 15 March 2017
- EU MRV Seminar, Krohne Marine, Singapore, 15 March 2017
- EU MRV Panel, Expomaritt, Istanbul, 22 March 2017
- Green Ship Technology Conference (GST), Copenhagen, 24 March 2017
- Green4Sea, Athens, 6 April 2017
- EU MRV Seminar, Swedish Shipowners Association, Gothenburg 11 May 2017
Our Global Presence

Vancouver

London
Paris
Rome
Athens

Oslo

Copenhagen

Delhi
Why choose Verifavia Shipping?

- The world’s first and only accredited verifier with dual accreditation
- Flexible, efficient, competitive & innovative
- Specialised services with dedicated expertise
- Multi-lingual & global services
- Extranet for online assessment of MPs
- Truly independent verification services
- Recognized EU MRV expert in global shipping media
- Task leader of Commission’s task force on verification
Q&A
Thank You

Get in touch with us!

Julien Dufour, CEO
Nicolas Duchêne, Technical Director
Yuvraj Thakur, Lead EU MRV Auditor, Commercial Head- APAC

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