

Subject

The EU-ETS for shipping sector and amendments to EU-MRV (2nd Report)

ClassNK

Technical Information

No. TEC-1317

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To whom it may concern

As announced in ClassNK Technical Information No.TEC-1299 (issued on 24 May 2023), the amendments to the EU Directive governing the European Emissions Trading System for the maritime transport sector ("EU-ETS Directive") and the related European regulation on the monitoring, reporting and verification of GHG emissions from maritime transport ("EU-MRV Regulations") have taken effect from 1 January 2024.

Implementing regulations that provide the details of the implementation of the revised EU-ETS Directive and the revised EU-MRV Regulations have been published, and a list of the Administering Authorities for each shipping company was published on 1 February 2024.

This Technical Information identifies the actions required to comply with these regulations this year in Annex I and the important points regarding the update of the EU-MRV monitoring plan required by the revised EU-MRV Regulation in Annex II.

Special attention should be paid for the registered owners and management companies (ISM companies) that have ships calling at ports in EEA Member States* on or after 1 January 2024, as they need actions for these new requirements.

* EEA Member States: The European Economic Area, consisting of the 27 EU Member States plus Norway, Iceland, and Liechtenstein, for a total of 30 countries.

ClassNK issued "FAQs on the EU-ETS for Shipping (Edition 2.1)," which provides an overview of the EU-ETS and relevant information in EU-ETS for shipping sector in a Q&A style. We hope that the document will help maritime stakeholders in their preparations for EU-ETS.

https://www.classnk.or.jp/hp/pdf/authentication/eumrv/EUETS_faq_2.1_e.pdf

Once new information on EU-ETS comes out, we will update the FAQ.

(To be continued)

NOTES:

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Attachment:

1. Annex I Necessary actions in 2024 required for the revised EU-ETS Directive and the revised EU-MRV Regulations
2. Annex II The update of EU-MRV Monitoring Plan required by the revised EU-MRV Regulations

Attachment 1. to
ClassNK Technical Information No. TEC-1317

Annex I

Necessary actions in 2024 required for the revised EU-ETS Directive and the revised EU-MRV Regulations

With the introduction of the EU-ETS for shipping from January 2024, the following actions will be required.

◆Step 1: Confirmation of Administering Authority

Under the EU-ETS for shipping, a shipping company* having ETS obligations is registered to an Administering Authority of an EEA Member State. A shipping company will not be freely able to change its administering authority as the registration is based on the following manner:

- A) A shipping company registered in an EEA Member State:
 - The administering authority of the EU/EEA Member State in which the shipping company is registered.
- B) A shipping company that is not registered in an EEA Member State:
 - The administering authority of the EEA Member State with the greatest estimated number of port calls from voyages performed by that shipping company in the last four monitoring years and falling within the scope of EU-ETS for shipping.
 - A shipping company, having no such voyage in the preceding four monitoring years, is registered to the administering authority of the EEA Member State that the concerning ship of the shipping company has arrived or started its first voyage.

A list of the Administering Authorities for each shipping company was published on 31 January 2024. [Commission Implementing Decision \(EU\) 2024/411 of 30 January 2024 on the list of shipping companies specifying the administering authority in respect of a shipping company in accordance with Directive 2003/87/EC of the European Parliament and of the Council](#)

For the registered owners and management companies (ISM companies) that have ships calling at ports in EEA Member States, it is necessary to confirm which Administering Authority of EEA Member State the shipping company is registered with in the list.

The Administering Authority attributed to the shipping company can be viewed in the EU-MRV reporting platform "THETIS-MRV" operated by the European Maritime Safety Agency (EMSA), if the shipping company is a THETIS-MRV user.

* “Shipping company”:

Under the EU-ETS for shipping, the shipping company is responsible for the compliance with the regulation and is defined as follows:

‘shipping company’ means the shipowner or any other organisation or person, such as the manager or the bareboat charterer, that has assumed the responsibility for the operation of the ship from the shipowner and that, on assuming such responsibility, has agreed to take over all the duties and responsibilities imposed by the International Management Code for the Safe Operation of Ships and for Pollution Prevention, set out in Annex I to Regulation (EC) No 336/2006 of the European Parliament and of the Council.

In this connection, implementing regulations on the shipping company have been issued. The overview is as follows:

- The shipping company responsible for the EU-ETS can be either the registered owner or the management company (ISM company/ISM DOC holder).
 - ✓ Registered owner means the registered owner that is identified in the Ship's Certificate of Registry and has an IMO Unique Company and Registered Owner Identification Number.
- The registered owner can delegate the EU-ETS obligations to the management company, i.e., ISM company. In this case, a mandate document clearly indicating that it has been duly mandated by the shipowner to comply with the ETS obligations, signed by both the registered owner and the ISM company, should be submitted to the Administering Authority and the verifier of the EU-MRV. (In the absence of the document, the registered owner has ETS obligations.)
 - ✓ A bareboat charterer can become the shipping company that has ETS obligations only if it is an ISM company.
 - ✓ Beneficial owner or time charterer cannot become a shipping company that has ETS obligations.

The shipping company having ETS obligations and the company responsible for the EU-MRV Regulations should be identical. However, practical tasks of emissions monitoring and reporting required by the EU-MRV Regulations can be carried out by a third party designated by the shipping company. Therefore, for example, the registered owner could be the shipping company responsible for both the EU-ETS and EU-MRV, while a management company (ISM company) carries out the emissions monitoring and reporting required by the EU-MRV Regulations. (In this case, a mandate document between a shipping company and a third party is not required by the regulation.)

**◆Step 2: Opening Maritime Operator Holding Account
(within 40 working days of the publication of the list of Administering Authority)**

A shipping company having ETS obligations is required to surrender allowances (EUA: EU Allowances) corresponding to the previous year's emissions by 30 September each year. In this connection, each shipping company is required to open a registry account for surrendering EUA, called the Maritime Operator Holding Account (MOHA). For this purpose, each shipping company is required to submit an

application, together with necessary information, to the Administering Authority for the opening of MOHA within 40 working days of the publication of the list of the Administering Authorities.

The necessary information is identified in the following regulations. Additional information may be required by each Administering Authority.

- [Regulation \(EU\) 2019/1122 of 12 March 2019 supplementing Directive 2003/87/EC of the European Parliament and of the Council as regards the functioning of the Union Registry \(Text with EEA relevance\)](#)Text with EEA relevance, Table III-I of Annex III; and
- [Commission Delegated Regulation \(EU\) 2023/2904 of 25 October 2023 amending Delegated Regulation \(EU\) 2019/1122 supplementing Directive 2003/87/EC of the European Parliament and of the Council as regards the functioning of the Union Registry](#), Table VIIa-I and VIIa-II of Annex VIIa.

In addition to the above information, the following information should also be submitted, depending on whether the shipping company responsible for the EU-ETS is a registered owner or an ISM company, as follows:

- ① In case where a registered owner has ETS obligations:
 - The registered owner is required to submit to its Administering Authority a list of ships (ship name and IMO Number) that are subject to EU-ETS and EU-MRV obligations.
 - After submitting the necessary information, the following information should also be submitted to the Administering Authority:
 - ✓ In case where additional ships are to be added: the ship name and IMO Number of the additional ships.
 - ✓ In case when transferring ETS obligations to an ISM company or deleting a registered ship, e.g. by selling the ship: the ship name and IMO Number, as well as the company name of the new shipping company and its IMO Unique Company and Registered Owner Identification Number.
- ② In case where an ISM company has ETS obligations:
 - The ISM company is required to submit to its Administering Authority a mandate document stating the delegation of ETS obligations from the registered owner to the ISM company. This document should be signed by both the registered owner and the ISM company.
 - This document should, at least, include the following information:
 - ✓ Name, IMO Unique Company and Registered Owner Identification Number, Country of registration of the ISM company
 - ✓ Name, IMO Unique Company and Registered Owner Identification Number, contact details of the registered owner
 - ✓ IMO Number of each ship that the ISM company has ETS obligations
 - ✓ The date of application of the mandate from the registered owner to the ISM company
 - If the document is in a language other than an official language of the Member State or English, an English translation shall be provided. If the document is a copy, this shall be certified as a true copy by a notary public or other similar person specified by the Administering Authority.

It is not expected that EC will provide a standardized format for the mandate document to be signed by both the registered owner and the ISM company. ClassNK prepared a sample of this document which can be available from [here](#). Please note that a format of the mandate document may be prepared by each Administering Authority.

The method of application for opening MOHA (e.g. paper-based, system-based, etc.) varies from each Administering Authority. Contact details for each Administering Authority to apply for the opening of MOHA can be found in the "contact points" section of the following URL maintained by the European Commission.

https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/union-registry_en#links

◆Step 3: Updating and submission of the monitoring plan (by 1 April 2024)

The company responsible for the EU-MRV Regulations (the same as the shipping company having the ETS obligations) must update the monitoring plan for each ship for the revised EU-MRV Regulations. Updated monitoring plan should be submitted, after the confirmation by the verifier, to the Administering Authority by 1 April 2024.

In addition, if the shipping company is an ISM company, the mandate document signed by both the registered owner and the ISM company should also be submitted to the verifier in addition to the Administering Authorities. (The document to be submitted to the verifier can be a copy.)

If the emissions monitoring and reporting required by the EU-MRV Regulations is carried out by a third party on behalf of the shipping company, this third party can also prepare, update, and submit the monitoring plan.

In addition, for ships which firstly apply to the EU-MRV Regulations after 1 January 2024, a new monitoring plan should be prepared. After confirmation by a verifier, it should be submitted to the Administering Authority within three months of each ship's first port of call in an EEA Member State.

Shipping companies can update their monitoring plan by using ClassNK MRV Portal. Please see Annex II for important points to be taken into account in updating the monitoring plan.

Attachment 2. to
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Annex II

The update of EU-MRV Monitoring Plan required by the revised EU-MRV Regulations

According to the revised EU-MRV Regulations, existing monitoring plans will need to be updated. ClassNK is in the process of updating the EU-MRV verification system, ClassNK MRV Portal, to facilitate the updating of existing EU-MRV monitoring plans for each ship. (The MRV Portal user guide will provide information on how to update and submit monitoring plan to THETIS-MRV in due course.)

From 2024, the monitoring plan is required to be submitted electronically according to the format specified on THETIS-MRV, instead of on paper or PDF.

In updating monitoring plans, the following matters are to be taken into account.

- ① Addition of GHG subject to monitoring, reporting and verification: Methane(CH₄) and nitrous oxide(N₂O)
- ② Risk assessment and control system regarding data monitoring
- ③ Site visit (audit)

Overviews of these matters are as follows:

- ① Addition of GHG subject to monitoring, reporting and verification: Methane(CH₄) and nitrous oxide(N₂O)

Emissions subject to the EU-ETS for shipping are verified in accordance with the EU-MRV Regulations. In addition to CO₂, methane (CH₄) and nitrous oxide (N₂O) will be covered by the shipping EU-ETS from 2026 onwards. In this connection, CH₄ and N₂O have also been added as GHG subject to monitoring, reporting and verification under the EU-MRV Regulations from 2024.

For the CH₄ and N₂O emissions monitoring, except using the direct greenhouse gas emissions measurement, as with CO₂ emissions, emissions of CH₄ and N₂O are calculated by multiplying an emission factor of each fuel by the amount of fuel used on board. These emissions are then converted into CO₂ equivalents by multiplying the Global Warming Potential (GWP).

In the case of LNG, methane slip is also taken into account when calculating CH₄ emissions. Different rates for the methane slip are defined depending on the combustion system of the engine.

Emission factors for CO₂, CH₄ and N₂O, methane slip as well as the GWP for CH₄ and N₂O for fossil fuels, ammonia (NH₃) and methanol are as follows:

Type of fuel	CO ₂ emission factor [gCO ₂ /gFuel]	CH ₄ emission factor [gCH ₄ /gFuel] GWP: 28	N ₂ Oemission factor [gN ₂ O/gFuel] GWP: 265	Methane slip [% of gFuel] GWP: 28
HFO	3.114	0.00005	0.00018	---
LFO	3.151	0.00005	0.00018	---
MDO/MGO	3.206	0.00005	0.00018	---
LNG: for LNG Otto (dual fuel medium speed)	2.750	0	0.00011	3.1
LNG: for LNG Otto (dual fuel slow speed)	2.750	0	0.00011	1.7
LNG: for LNG Diesel (dual fuel slow speed)	2.750	0	0.00011	0.2
LNG: for Lean-Burn Spark-Ignited (LBSI)	2.750	0	0.00011	2.6
LPG(Butane)	3.03	0.00005	0.00018	---
LPG(Propane)	3.00	0.00005	0.00018	---
NH ₃	0	0.00005	0.00018	---
Methanol	1.375	0.00005	0.00018	---

Please note that in the annual EU-MRV Emissions Report, emissions under EU-MRV and ones under EU-ETS (emissions subject to surrendering the allowances required by EU-ETS) are to be separately reported. While EU-MRV emissions are to be reported as all emitted GHG (100%), EU-ETS emissions are to be reported in half for voyages between an EEA port and a non-EEA port. In 2024, and 2025, GHG to be reported subject to EU-ETS is only CO₂ excluding N₂O and CH₄, and furthermore, CO₂ emissions to be reported are reduced to 40% and 70% respectively (100% after 2026).

For the use of biofuels, the following emission factors for CO₂, CH₄ and N₂O, methane slip as well as the GWP for CH₄ and N₂O are identified.

Type of biofuels	CO ₂ emission factor [gCO ₂ /gFuel]	CH ₄ emission factor [gCH ₄ /gFuel] GWP: 28	N ₂ Oemission factor [gN ₂ O/gFuel] GWP: 265	Methane slip [% of gFuel] GWP: 28
Bio-diesel	2.834	0.00005	0.00018	---
Hydrotreated Vegetable Oil (HVO)	3.115	0.00005	0.00018	---
Liquified Bio-methane (Bio-LNG): for LNG Otto (dual fuel medium speed)	2.750	0	0.00011	3.1
Liquified Bio-methane (Bio-LNG): for LNG Otto (dual fuel slow speed)	2.750	0	0.00011	1.7
Liquified Bio-methane (Bio-LNG): for LNG Diesel (dual fuel slow speed)	2.750	0	0.00011	0.2
Liquified Bio-methane (Bio-LNG): for Lean-Burn Spark-Ignited (LBSI)	2.750	0	0.00011	2.6
Bio-methanol	1.375	0.00005	0.00018	---

When calculating the emissions subject to the EU-ETS, CO₂ emissions are calculated to be zero, provided that these biofuels meet the criteria set by the EU (RED II: Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast)). For biofuels not complying with the criteria set by the RED II, CO₂ emissions are calculated using the above default values.

For blended fuel, each fuel shall be considered separately. That means when fuels are blended, a ship need to determine the amount of each different types of pure fuel in tanks, for example:

300 ton of blend composed by 30% pure bio-diesel and 70% fossil MDO shall be reported as:
 90 ton of bio-diesel, default applicable emission factor of 2.834 = reports 255.05 ton CO₂
 + 210 ton of fossil MDO, default applicable emission factor of 3.206 = reports 673.26 ton CO₂

② Risk assessment and control system regarding data monitoring

Shipping companies shall carry out a risk assessment to identify sources of risks of errors in the data flow from primary data to final data in the Emissions Report and shall establish, document, implement and maintain an effective control system to ensure that the reports resulting from data flow activities do not contain misstatements and are in conformity with the monitoring plan and comply with this Regulation.

The "sources of risk" may include, for example, the following:

- Complexity of emission sources and fuel types
- Manual input of data
- Risks due to errors in data transmission
- Automatic control failures in IT systems
- Risks due to insufficient knowledge of personnel in charge of administrative tasks, etc.

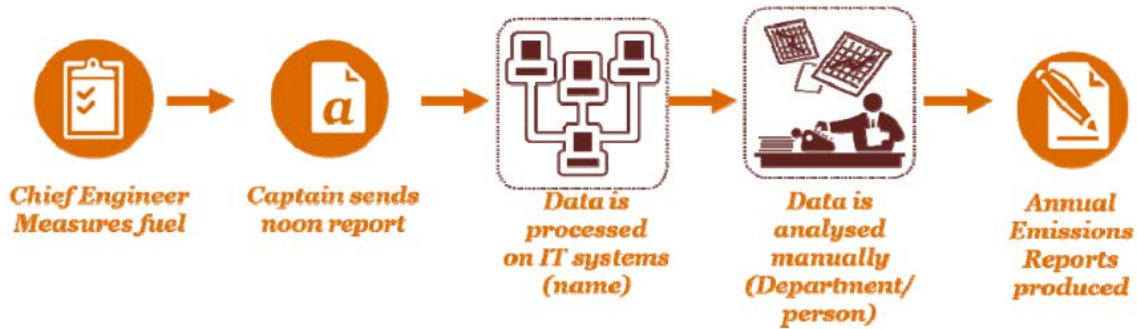
For the purposes of the above, the shipping company shall establish, document, implement and maintain written procedures*, separately from the monitoring plan, for data flow activities as well as for control activities, and include references to and a description of those procedures in the monitoring plan. The company shall make such documentation available for the purposes of verification.

* Documentation and implementation of the control system are also required by the existing EU-MRV Regulation and are included in Part E of the existing monitoring plans. If you have already conducted a risk assessment in your existing monitoring plan, you can submit the same document. If there are similar procedures available in the existing SMS manual required by ISM Code or in the SEEMP required by the IMO DCS, they can be included in the monitoring plan as a reference document and submitted together with the monitoring plan.

To conduct the risk assessment, it is recommended to organize the data flow into a flowchart. The flowchart should clearly indicate "who takes the data, from where, and does what with the data.

An example with the information about the procedure along with a diagram is follows.

The Captain received data from the Chief Engineer after C/E taking readings of flow rate with flow meters equipped with each fuel piping line, then he inserted into the daily noon report. After the Captain inputting the electronic data into the IT system, the data was transmitted to the onshore person in charge (superintendent) in the company office, and he checked the data and calculated GHG emissions, and produced an annual emissions report.



(Reference: Guidance/Best practices document on the preparation of monitoring plans pursuant to Regulation (EU) 2015/757 on monitoring, reporting and verification emissions from maritime transport)

In this case, the flowchart is the basis for considering the inherent risks. It is also important to periodically review the data flow and see if there are areas that can be improved to reduce the inherent risks.

A general risk assessment procedure is as follows:

- (1) Assign possible incidents to a table with the probability (how likely is it happen?) on the vertical axis and the Impact (How big would the error be?) on the horizontal axis. The degree of inherent risk according to "probability" and "impact" is identified as "Inherent Risk.
- (2) Measures to mitigate the Inherent Risk of each incident are presented as "Control activity," and the final degree of Inherent Risk of the incident based on the risk control and measures is evaluated as "Overall Risk. The final degree of inherent risk of an incident based on the risk control/measures is evaluated as "Overall Risk.

Example of risk assessment:

		Impact				
		Very low	Low	Moderate	High	Very high
Probability	Very low	Low				
	Low					
	Moderate					
	High					High
	Very High					

Incident	Probability	Impact	Inherent Risk	Control activity	Overall Risk
Failure of measurement equipment	Low	High	Moderate	Enhancement of maintenance of fuel flow meters such as increasing of maintenance frequency	Low
Mistake of measurements	Low	High	Moderate	Enhancement of education and training for crew members, and double checking of the measurements	Low
Mistake of calculations	Low	High	Moderate	Enhancement of educations and training for superintendent and double checking of the calculations	Low

(FYR) Ten “Best Practical Guidance/documents” were issued to complement and explain the original EU-MRV Regulations. One of them is the guidance on the preparation of monitoring plans, available from the link below:

https://climate.ec.europa.eu/system/files/2017-07/01_guidance_monitoring_plan_companies_en.pdf

Currently, EMSA is working on updating the guidance to shipping companies, including examples of risk assessments.

③ Site visit (audit)

The verifier shall carry out site visits in order to gain sufficient understanding of the company and the ship's monitoring and reporting system as described in the monitoring plan.

The verifier shall determine the location of the site visit on the basis of the results of the risk analysis 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 and control activities are carried out, i.e., generally, shipping company's office. (physical site visit)

The verifier may carry out a virtual site visit or waive a site visit itself if the shipping company's risk assessment results are deemed to indicate that:

- the company is fully aware of the monitoring and reporting system and is implementing it efficiently;
- if the monitoring and reporting system is not complex and not high enough to carry out a physical site visit;
- if the required information can be obtained without going to the site.

However, a virtual site visit (or a physical site visit) cannot be waived in any of the following situations:

- when the monitoring plan of a ship is assessed for the first time by the verifier;
- when new fuels such as biofuels are added in the monitoring plan;
- when new emission sources (fuel consumers) are added in the monitoring plan;
- when the type of measuring equipment is changed, or the monitoring method is changed.

The verifier shall not carry out a virtual site visit if no physical site visit has been carried out in the three reporting periods immediately preceding the current reporting period. The three-year period shall refer to three consecutive reporting periods that start after 1 January 2024.