



İstanbul :  
Sayı :  
Our Reference : **2842**  
Konu :  
Subject : **CO<sub>2</sub> Emisyonlarını İzleme İle İlgili  
IMO ve AB'deki Güncel Gelişmeler Hk.**

21.07.2016

Sirküler No: **528/2016**

**İlgi:** ICS'in 05.07.2016 tarihli ve MC(16)37 sayılı yazısı.

İlgi yazı ve eklerinde, IMO ve Avrupa'da geliştirilmekte olan CO<sub>2</sub> emisyonları veri toplama sistemleri ile ilgili dikkat edilmesi gerekenler hakkında bilgi verilmektedir. İlgi yazının Odamızda yapılan Türkçe özet çevirisi (Ek-1) ve İlgi yazı (Ek-2) ilişikte sunulmaktadır.

Bilgilerinizi arz ve rica ederiz.

Saygılarımızla,

İsmail ASASOĞLU  
Genel Sekreter V.

### **EKLER**

**Ek-1:** İlgi yazı Türkçe özet çevirisi (2 sayfa)

**Ek-2:** İlgi yazı ve Ekleri (49 sayfa – Odamız web sayfası Sirküler bölümünde yer almaktadır.)

### **DAĞITIM:**

#### **Gereği:**

- Tüm Üyelerimiz (Web Sayfasında)
- Türk Armatörler Birliği
- S/S Gemi Armatörleri Motorlu Taş. Koop.
- Vapur Donatanları ve Acenteleri Derneği
- İMEAK DTO Şubeleri
- Türk Loydu
- Türk Uzakyol Gemi Kaptanları Derneği
- TÜRKLİM
- WISTA Türkiye Derneği
- Gemi Sahibi Firmalar

#### **Bilgi:**

- Ulaştırma, Denizcilik ve Haberleşme Bakanlığı  
Deniz ve İçsular Düzenleme Genel Müdürlüğü
- Sn. Sefer KALKAVAN  
TOBB DTO'ları Konsey Başkanı
- Meclis Başkanlık Divanı
- Yönetim Kurulu Başkanı ve Üyeleri
- Sn. Erol YÜCEL  
TOBB Türkiye Denizcilik Meclisi Bşk.
- İMEAK DTO Meclis İhtisas Çevre Komisyonu
- İMEAK DTO Şube Y.K. Başkanları
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(Serbest Çeviridir)

## EK-1

CO<sub>2</sub> Emisyonlarını İzleme İle İlgili IMO ve AB'deki Güncel Gelişmeler

ICS tarafından, Üyelerin verilen bilgileri dikkate almaları ve ulusal İdarelerin aşağıda belirtilen amaçlarla lobi çalışmasını göz önünde bulundurmaları istenmektedir:

1. Avrupa Birliği'nin (AB), MRV Kuralı ile IMO veri toplama sistemini tam olarak uyumlaştırmak için teşvik edilmesi,
2. Ulusal İdarelerin MEPC 70 kapsamındaki IMO Yazışma Grubunun çalışmasına katılmak için teşvik edilmesi. Özellikle, IMO Harmonize Sörvey ve Sertifikalandırma Sistemi (Harmonised System for Survey and Certification – HSSC) çerçevesinde, İdare veya İdarece yetkilendirilmiş kuruluş aracılığıyla doğrulamanın temel alındığı doğrulama için IMO gerekliliklerinin istenmesi,
3. AB MRV sistemi uygulamasının ertelenerek, bekleyen sistem revizyonu ile AB Mevzuatı Madde 22'de öngörüldüğü gibi IMO ile uyumlaştırılması için AB'nin teşvik edilmesi.

Bu sirkülerin ekleri, IMO ve Avrupa'da geliştirilmekte olan veri toplama sistemleri ile ilgili gerekli bilgiyi sağlamaktadır. Üyelerin özellikle aşağıdaki hususlara dikkat etmeleri istenmektedir:

1. AB sisteminde oldukça karmaşık bürokratik doğrulama sistemi bulunmaktadır. Bu, toplanan verinin doğasına aykırı gözükmemekte,
2. AB'nin mevcut durumda hedefi, özellikle ticari piyasayı etkileyebilecek her bir geminin verilerini içeren geniş çapta bilgi yayınlamaktır.

**Ek A – CO<sub>2</sub> İzleme – Karşılaştırma Tabloları**

Ek A'da yer alan tablolar; AB İzleme, Raporlama ve Doğrulama (Monitoring, Reporting and Verification – MRV) sistemi ile son zamanlarda kabul edilen ve halen geliştirilmekte olan IMO sisteminin çeşitli özellikleri arasında karşılaştırma sağlamaktadır.

Önemli Özellikler	
AB Sistemi	Mevcut IMO Sistemi
Yakıt, CO <sub>2</sub> emisyonları ve sefer mesafesine ek olarak geniş çapta bir bilginin yıllık raporlaması (Detaylı bilgi için Tablo 2'ye bakınız)	Yakıt, CO <sub>2</sub> ve gemiyle ilgili özelliklerin yıllık raporlaması (Detaylı bilgi için Tablo 2'ye bakınız)
Gerçek teknik veya operasyonel verimliliği temsil etmeyen, operasyonel göstergelerin yayınlanması ve uygulanması	Süregelen IMO politik kararları lehine inceleme için IMO veri tabanında saklanan gemi yakıt tüketimi, CO <sub>2</sub> emisyonları ve gemiyle ilgili özellikler
Detaylı bilginin zorunlu olarak genel kullanıma açık hale getirilmesi (Detaylı bilgi için Tablo 4'e bakınız)	Verilerin kaliteli, tutarlı ve tam olmasını sağlamak için geminin kendi özellikleri vb.'nin IMO veri tabanında bulunması. Bununla birlikte, inceleme ve politika oluşturma amacıyla veri tabanından Üye Devletlere sağlanan veri anonimleştirilecektir.
Geminin bağlı olduğu İdare'ye bakmaksızın, Avrupa ulusal akreditasyon kuruluşlarınca akredite edilmiş doğrulayıcıların zorunlu tutulması	İdare tarafından doğrulama
Doğrulama faaliyetleri için kompleks kuralcı düzenlemeler (Detaylı bilgi için Tablo 3'e bakınız)	İdare tarafından, halen geliştirilmekte olan IMO rehberlerine göre yapılan doğrulama

**Ek B – IMO MEPC 69 Çalışma Grubunun Raporu**

Ek B’de, MEPC 69’daki çalışma grubunun raporu verilmektedir. Bu raporun Ek-1’inde, IMO veri toplama sisteminin başlatılmasının zorunlu kılınması amacıyla MARPOL Ek VI’daki taslak değişiklikler verilmektedir. Raporun Ek-2’sinde, Kasım ayındaki MEPC 70 toplantısına rapor sunacak olan IMO Yazışma Grubunun görev tanımı bulunmaktadır. Özetle, Yazışma Grubu aşağıdaki hususlarda görevlidir:

1. MEPC 70’de sonuçlandırılması amacıyla, veri toplama ve raporlama için kullanılacak Gemi Enerji Verimliliği Yönetim Planı’nda (SEEMP) yer alan metodolojiler ile ilgili rehberi kapsayan SEEMP Rehberlerinde taslak değişiklikler yapılması
2. Zaman yeterli olursa:
  - 2.1 İdare veri doğrulama prosedürleri için taslak rehberler,
  - 2.2 Elektronik iletişim ve standartlaştırılmış veri raporlama formatı,
  - 2.3 IMO Gemi Yakıt Tüketimi Veri Tabanı geliştirilmesi ve yönetilmesi (gemileri anonim hale getirmek ve veri tabanının bütünlüğünü sağlamak için tedbirler dahil) için taslak rehberler
  - 2.4 IMO Gemi Yakıt Tüketimi Veri Tabanına veri sunan tarafsız gemileri belirten taslak rehberler geliştirilmesi.

Yazışma Grubu Kasım ayındaki MEPC 70’de raporlama yapacaktır.

**Ek C – AB İzleme, Raporlama ve Doğrulama (MRV) Kuralı**

Ek C’de, referans kolaylığı sağlaması için AB MRV Kuralı metni verilmektedir.

**Ek D – Henüz tamamlanan AB Rehberi vb.**

Avrupa Komisyonu’nun sektöre rehber niteliğinde ele almak istediği konuların bir listesi verilmektedir. Sekreteryaya, Avrupa Komisyonu’nun 2016 sonbaharında başlayacak bu rehber üzerinde çalışmayı beklediğini bilmektedir.

Çeviren: Gizem MATARACI  
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5 July 2016

To: **MARINE COMMITTEE**

**MC(16)37**

Copy: All Full and Associate Members (for information)

### **MONITORING OF CO<sub>2</sub> EMISSIONS – UPDATE ON DEVELOPMENTS IN IMO AND EU**

***Action required: Members are invited to note the information provided and to consider lobbying their national Administration with a view to:***

- 1. Encouraging the EU to fully align its MRV Regulation with the IMO data collection system;***
- 2. Encouraging national Administrations to engage in IMO Correspondence Group work and subsequently at MEPC 70. In particular to urge that IMO requirements for verification are based on verification by the Administration or its Recognised Organisation within the existing framework of the IMO Harmonised System for Survey and Certification (HSSC); and***
- 3. Encourage the EU to defer enforcement of the EU MRV system pending review and alignment with IMO as envisaged under Article 22 of the EU regulation.***

The Annexes to this circular provide background information relating to the data collection systems being developed at IMO and in Europe. Members are invited to note in particular:

- 1. The very complex bureaucratic verification system included in the EU system. This appears disproportionate to the nature of the data being collected; and**

2. The current EU intention to publish a wide range of information relating to individual ships with the specific intent of influencing the commercial market.

### Annex A – CO<sub>2</sub> Monitoring – Comparison Tables

The tables in Annex A provide comparisons between various aspects of the EU MRV system and the recently approved IMO system that is still under development. Table one provides an overall simple comparison of key characteristics. Subsequent tables provide more detailed comparison of individual characteristics, including key implementation dates for the proposed EU and IMO systems. Table one from Annex A is repeated here for ease of reference:

<b>Key Characteristics</b>	
<b>EU System</b>	<b>Current IMO System</b>
Annual reporting of a wide range of information in addition to fuel, CO <sub>2</sub> emissions and distance travelled (See more detailed table 2)	Annual reporting of fuel, CO <sub>2</sub> and relevant ship characteristics (See more detailed table 2 below)
Application and publication of arbitrary operational indices which are not representative of real technical or operational efficiency.	Ship fuel consumption, CO <sub>2</sub> emissions and relevant ship characteristics to be stored within an IMO database for analysis in support of ongoing IMO policy decisions.
Mandatory placing of detailed information into the public domain (See more detailed table 4 below)	Individual ship identities etc. to be available internally <u>within the IMO database</u> to facilitate quality, consistency and completeness of data. However, data provided from the database to Member States for analysis and policy making purposes will be anonymised.
Mandatory use of verifiers accredited by European national accreditation bodies irrespective of ship's Administration	Verification by the Administration
Complex prescriptive regulations for verification activities (See more detailed table 3)	Verification to be carried out by the Administration in accordance with IMO guidelines that are currently under development.

### Annex B – Report of IMO MEPC 69 Working Group

Annex B provides the report of the working group at MEPC 69. Annex 1 to the report provides draft amendments to MARPOL Annex VI to facilitate the mandatory introduction of the IMO data collection system. Annex 2 to the report provides the terms of reference for the on-going IMO Correspondence Group which will report to MEPC 70 in November. In summary, the Correspondence Group is tasked to:

1. Further develop, with a view to finalization at MEPC 70, draft amendments to the SEEMP Guidelines to include guidance on methodologies to be included in the SEEMP that will be used for data collection and reporting
2. If time permits, develop:
  - 2.1 Draft guidelines for Administration data verification procedures;
  - 2.2 Electronic communication and standardized data reporting format;
  - 2.3 Draft guidelines for the development and management of the IMO Ship Fuel Consumption Database, including means to keep the ships anonymized and to ensure the completeness of the database; and
  - 2.4 Draft guidelines to address non-party ships submitting data to the IMO Ship Fuel Consumption Database.

The Correspondence Group will report to MEPC 70 in November.

#### **Annex C – EU MRV Regulation**

Annex C provides, for ease of reference, the text of the EU MRV Regulation.

#### **Annex D – EU Guidance etc. still to be completed**

Annex D provides a list of issues which the European Commission (EC) intends to address in the form of guidance to industry. The Secretariat understands that the EC anticipates that work on this guidance will commence in the autumn of 2016.

**Alistair Hull**  
Technical Director

## **Comparison of EU and IMO CO<sub>2</sub> monitoring provisions.**

The tables in this document provide comparisons between various aspects of the EU MRV system and the recently approved IMO system that is currently undergoing further development. Table one provides an overall simple comparison of key characteristics. Subsequent tables provide more detailed comparison of individual characteristics.

<b>Table. 1</b>	<b>Simple key points</b>
<b>Table. 2</b>	<b>Comparison of Items to be reported or verified</b>
<b>Table. 3</b>	<b>Comparison of items required to be monitored per voyage</b>
<b>Table. 4</b>	<b>Comparison of items required to be monitored per year</b>
<b>Table. 5</b>	<b>Comparison of prescriptive requirements relating to verification</b>
<b>Table. 6</b>	<b>Summary of submitted data that will be made public</b>
<b>Table. 7</b>	<b>Key Dates for the EU system</b>
<b>Table. 8</b>	<b>Potential key dates for the IMO system</b>

**Table 1**

**Key Characteristics**

EU System	Current IMO System
Annual reporting of a wide range of information in addition to fuel, CO <sub>2</sub> emissions and distance travelled (See more detailed table 2 below)	Annual reporting of fuel, CO <sub>2</sub> and relevant ship characteristics (See more detailed table 2 below)
Application and publication of arbitrary operational indices which are not representative of real technical or operational efficiency.	<b>Ship fuel consumption, CO<sub>2</sub> emissions and relevant ship characteristics to be stored within an IMO database for analysis in support of ongoing IMO policy decisions.</b>
Mandatory placing of detailed information into the public domain (See more detailed table 4 below)	Individual ship identities etc. to be available internally within the IMO database to facilitate quality, consistency and completeness of data. However, data provided from the database to Member States for analysis and policy making purposes will be anonymised.
Mandatory use of <b>verifiers</b> accredited by European national accreditation bodies irrespective of ship's Administration	Verification by the Administration
Complex prescriptive regulations for verification activities (See more detailed table 3 below)	Verification to be carried out by the Administration in accordance with IMO guidelines that are currently under development.



**Comparison of Items to be reported or verified**

<b>EU System</b>	<b>IMO System</b>
Full Documentation of monitoring method	Verification by the Administration that the SEEMP for the ship has been amended to include appropriate procedures.
Ship Name	
IMO Number	IMO Number
Port of Registry	
Name of Shipowner	
Name of company with address, email and details of contact person	
EEDI or Estimated Index Value	EEDI if applicable
Identity of verifier	
Ice Class if applicable	Ice Class if applicable
<u>Results from annual monitoring</u> Annual fuel consumed per distance travelled Annual fuel and CO <sub>2</sub> per distance travelled and cargo carried. Annual total time at sea Monitoring method Identity of verifier	<u>Results from annual monitoring</u> Total Annual Fuel Consumption Methods used for collecting data Distance travelled from berth to berth Hours not at berth
Description of: Main Engines Auxiliary Engines Gas Turbines Boilers Gas generators Fuel Types	Ship Type GT NT DwT Power Output (rated power) of main and auxiliary engines (kW)
<u>Description of procedures including:</u> Systems; Internal Company Responsibilities; Procedures for monitoring; Description of measuring equipment; Information management procedures; Calculation of uncertainties for fuel measurement; Emission factors used; Responsibilities and data sources for determining and recording distance Responsibilities, formulae and data sources for determining and recording cargo carried and/or number of passengers; Responsibilities, formulae and data sources for recording time spent at sea; and Methods for determination of any surrogate data for closing data gaps.	SEEMP to include procedures in accordance with IMO guidelines. Administration will verify that this is the case.

Use of standardised EU templates	Use of standardised IMO templates
Any modification of the monitoring plan to be approved by the verifier	
Verification only by verifiers accredited by a European national accreditation body in accordance with EU Regulation (EC) No 765/2008.	Verification by the Administration in accordance with IMO guidelines currently under development.

**Table 2.**

**Table 3.**

<b>Comparison of items required to be monitored Per Voyage</b>	
<b>EU System</b>	<b>IMO System (N/A)</b>
Ports of Departure and Arrival	
Fuel Consumption and emissions factors	
CO <sub>2</sub> Emitted	
Distance Travelled	
Time Spent at Sea	
Cargo carried	
Transport Work	
Ice class and ice navigation if appropriate	

**Table 4.**

<b>Comparison of items required to be monitored Per Year</b>	
<b>EU System</b>	<b>IMO System (As per table 2)</b>
Total annual fuel consumption and emissions factors	Total Annual Fuel Consumption
Total aggregated CO <sub>2</sub> emitted	
Total aggregated CO <sub>2</sub> emitted from voyages between EU Ports	
Total aggregated CO <sub>2</sub> emitted from voyages departing from an EU Port	
Total aggregated CO <sub>2</sub> emitted from voyages arriving at an EU Port	
Total aggregated CO <sub>2</sub> emitted within EU ports	
Distance Travelled	Total Distance travelled from berth to berth
Time Spent at Sea	Hours not at berth
Cargo carried	
Transport Work	
Ice class and ice navigation if appropriate	Methods used for collecting data

**Table 5.**

<b>Comparison of prescriptive requirements relating to verification</b>	
<b>EU System</b>	<b>IMO System</b>
Mandatory use of verifiers accredited by European national accreditation bodies irrespective of ship's Administration	Verification by the Administration in accordance with IMO guidelines currently under development
Identification of potential risks by comparison of reported data with estimated data based on ship tracking and ship technical characteristics	
Identification of potential risks due to the various steps in the calculation.	
Verifier may carry out spot checks to determine the reliability of reported data and information	
The European Commission may adopt further delegated Acts to further specify the rules for verification.	
Full formal verification is required for any additional information provided by the shipowner on a voluntary basis.	
Use of EU standard reporting templates	Use of IMO standard reporting templates
Carriage of EU Document of Compliance	Carriage of IMO statement of compliance

**Table 6.**

<b>Summary of submitted data that will be made public</b>	
<b>EU System</b>	<b>IMO System</b>
Ship Name	Anonymised data made available to IMO Member States for policy development use
IMO Number	
Port of registry	
EEDI or EIV	
Annual CO <sub>2</sub> Emissions	
Annual fuel and CO <sub>2</sub> per distance travelled	
Annual fuel and CO <sub>2</sub> per distance travelled and cargo carried	
Annual total time at sea	
Monitoring method	
Validity dates for document of compliance	
Identity of verifier	
Any additional information that the shipowner has reported on a voluntary basis	

**Table 7.**

<b>Key Dates for the EU System</b>	
01 July 2015	Entry into Force
31 August 2017	Monitoring plan for the ship to be submitted to verifiers by this date. Ships becoming subject to this regulation (e.g. entering EU waters) for the first time after this date to submit a monitoring plan to the verifier without delay and no later than two months after first EU port call.
01 January 2018	CO <sub>2</sub> emissions to be monitored
30 April 2019	From 2019, by 30 April each year companies are to submit an emissions report to the flag State and the EC.
30 June 2019	By 30 June in the year following the end of a reporting period ships that have carried out relevant voyages during a reporting period are to carry a valid document of compliance.

**Table 8.**

<b>Potential Key Dates for IMO</b>	
MEPC 70 in October 2016?	Adoption
No less than 10 Months after adoption at a meeting where it is supported by at least two thirds of parties who represent not less than 50% of the world fleet; <i>or</i> Following ratification by two thirds of parties which represent not less than 50% of the world fleet. (August 2017?)	Formal acceptance
February 2018? (Six months after acceptance)	Entry into Force?
01 January 2019?	CO <sub>2</sub> emissions to be monitored?

MARINE ENVIRONMENT PROTECTION  
COMMITTEE  
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**DISCLAIMER**

As at its date of issue, this document, in whole or in part, is subject to consideration by the IMO organ to which it has been submitted. Accordingly, its contents are subject to approval and amendment of a substantive and drafting nature, which may be agreed after that date.

**FURTHER TECHNICAL AND OPERATIONAL MEASURES FOR  
ENHANCING THE ENERGY EFFICIENCY OF INTERNATIONAL SHIPPING**

**Report of the Working Group**

**General**

1 The Working Group on Further technical and operational measures for enhancing the energy efficiency of international shipping met from 18 to 21 April 2016 under the chairmanship of Mr. H. Saito (Japan).

2 The group was attended by delegates from the following Member Governments:

ARGENTINA	LIBERIA
AUSTRALIA	MALAYSIA
BAHAMAS	MARSHALL ISLANDS
BELGIUM	NETHERLANDS
BRAZIL	NEW ZEALAND
CANADA	NORWAY
CHILE	PANAMA
CHINA	PERU
COOK ISLANDS	PHILIPPINES
CROATIA	POLAND
CYPRUS	PORTUGAL
DENMARK	REPUBLIC OF KOREA
ESTONIA	RUSSIAN FEDERATION
FINLAND	SAUDI ARABIA
FRANCE	SINGAPORE
GERMANY	SOLOMON ISLANDS
GREECE	SOUTH AFRICA
INDIA	SWEDEN
INDONESIA	TURKEY
IRAN (ISLAMIC REPUBLIC OF)	UNITED KINGDOM
ITALY	UNITED STATES
JAPAN	
LATVIA	

by the following IMO Associate Member:

HONG KONG, CHINA

by an observer from the following intergovernmental organization:

EUROPEAN COMMISSION (EC)

and by observers from the following non-governmental organizations:

INTERNATIONAL CHAMBER OF SHIPPING (ICS)  
INTERNATIONAL ASSOCIATION OF PORTS AND HARBORS (IAPH)  
BIMCO  
INTERNATIONAL ASSOCIATION OF CLASSIFICATION SOCIETIES (IACS)  
OIL COMPANIES INTERNATIONAL MARINE FORUM (OCIMF)  
COMMUNITY OF EUROPEAN SHIPYARDS' ASSOCIATIONS (CESA)  
INTERNATIONAL ASSOCIATION OF INDEPENDENT TANKER OWNERS  
(INTERTANKO)  
CRUISE LINES INTERNATIONAL ASSOCIATION (CLIA)  
INTERNATIONAL ASSOCIATION OF DRY CARGO SHIPOWNERS  
(INTERCARGO)  
INSTITUTE OF MARINE ENGINEERING, SCIENCE AND TECHNOLOGY  
(IMarEST)  
INTERNATIONAL PARCEL TANKERS ASSOCIATION (IPTA)  
INTERNATIONAL MARINE CONTRACTORS ASSOCIATION (IMCA)  
THE ROYAL INSTITUTION OF NAVAL ARCHITECTS (RINA)  
INTERFERRY  
WORLD SHIPPING COUNCIL (WSC)  
CLEAN SHIPPING COALITION (CSC)

### Terms of reference

- 3 Taking into account the comments made in plenary, the working group is instructed to:
- .1 finalize the text of the draft amendments to Chapter 4 of MARPOL Annex VI to establish a data collection system for fuel consumption, on the basis of the annex to document MEPC 69/6/2, and taking into account documents MEPC 69/6, MEPC 69/6/4 and MEPC 68/6/8;
  - .2 finalize the text of the draft amendments to the *2012 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)*, on the basis of the annex to document MEPC 69/6/1 and taking into account document MEPC 69/6/9;
  - .3 advise on any further work related to the draft amendments to Chapter 4 of MARPOL Annex VI to establish a data collection system for fuel consumption; and
  - .4 submit a written report to plenary by Thursday, 21 April 2016.

**Draft amendments to Chapter 4 of MARPOL Annex VI to establish a data collection system for fuel consumption**

4 As instructed by the Committee, the group considered the annex to document MEPC 69/6/2 as the basis for finalizing the text of the draft amendments to Chapter 4 of MARPOL Annex VI to establish a data collection system for fuel consumption.

5 The group agreed to renumber proposed regulation 23 to regulation 22A, as a new Chapter 5 of MARPOL Annex VI, adopted by resolution MEPC.247(66), including regulations 24 and 25, came into force on 1 January 2016.

6 The group also agreed to renumber draft regulation 2.38 to regulation 2.48, as regulations 2.38 to 2.47 had been adopted by resolutions MEPC.251(66) and MEPC.247(66) respectively.

7 The group noted that whilst the definition of "calendar year" does not identify a specific time of day for data to be collected by the ship it was important to align this time with the on board routine to avoid administrative burden on the ship and minimize errors.

**Surveys**

8 The group agreed the need to ensure that for each ship the SEEMP shall comply with the requirements on data collection and reporting and so provisions should be included in the draft regulations.

9 The group noted that the requirement for the Administration to ensure the SEEMP complied with the requirements needed to be considered further to define the scope of the compliance check and whether the compliance check should be undertaken either before or after data is collected and agreed provisions to address this matter.

10 The group also noted that this check on compliance did not need to be via an additional survey, however, agreed that confirmation of compliance shall be provided to the ship by the Administration. In this regard, the group agreed that to ensure consistency the proposed verification guidelines could address how to validate the methodology for collecting data and how such a confirmation could be undertaken by the Administration, for example, by letter.

11 The group considered the comment from China in document MEPC 69/6/8 that draft provisions should be amended to make clear that the Statement of Compliance is issued when the ship submits data to its Administration and that this data was verified, and not once the Administration has submitted the data to the Organization, as the provision as drafted would place an unfair burden on the ship to ensure that the Administration fulfils its obligation. The group agreed to delete this requirement from the draft provisions and the related endorsement in appendix X of the draft amendments.

12 The group agreed that the provisions for issuance of Statements of Compliance and submissions of data to the Organization should permit recognized organizations to be authorized to issue a Statement of Compliance on behalf of the Administration, as it was recognized that Administrations may need to seek assistance in performing this duty.

***Reporting data on change of owner and/or upon transfer of the ship to the flag of another State***

13 The group considered the definition of data reporting period with respect to the transfer of owner or transfer of flag and noted a proposal for the inclusion of additional draft provisions in regulation 22A of the draft amendments.

14 Several delegations expressed the view that it was important to include this provision to ensure that data collected was transferred to the Administration for communication to the Organization for the reporting periods both before and following the change of owner and/or upon transfer of the ship to the flag of another State.

15 Several delegations noted that a ship can transfer flag without changing owner, and one delegation noted that transfer of flag and change of owner can occur concurrently. Other delegations considered there were difficulties in drafting such a provision to ensure that a new owner of the ship was not made responsible for data collected by the previous owner of the ship, and that it was important not to confuse the ship's obligations and the Administration's obligations. In this regard several delegations noted that data should be transferred to the respective Administration before the transfer of registration had been completed.

16 Several delegations considered the matter of confidentiality to be paramount and that data should not be transferred from one owner to another on change of ownership, noting that on change of owner the ship is in effect a "new ship" for the purposes of data collection. One delegation considered the matter to be a commercial issue and that the regulations should be limited to identifying the obligations of the Parties. Furthermore the Continuous Synopsis Record (resolution A.959(23)) was an example of where information related to a ship is transferred on change of owner/flag State.

17 The group noted that when a ship changes owner but does not transfer to another flag State then the issue should be considered under domestic jurisdiction. Several delegations noted that the development of guidelines would address several of the issues raised, and agreed provisions to address this matter.

18 Several delegations considered that reference should be made to "registered owner" in the provisions and that this term needed to be defined under regulation 2. Other delegations considered that the reference should be made to the "Company" to be consistent to the provisions of the ISM Code and is a term already referenced in the SEEMP Guidelines.

19 The group held an extensive discussion on the drafting of provisions to ensure that data from a ship changing owner and/or transferring flag was collected and reported to the Administration prior to the change or transfer, and furthermore that this data is reported to the Organization by an Administration even when the ship has transferred its flag, for the respective period of time. In this regard, provisions were included in the draft regulations to ensure disaggregated data shall be readily available to the Administration on request.

20 The group agreed several provisions under regulation 22A to ensure data collected and reported under an owner and/or Administration that subsequently changes shall be reported to the Organization and harmonized these provisions with those in regulations 6.6.1 and 6.6.2.



### ***Issue of Statement of Compliance***

21 The group noted that the draft regulations and appendix X, contained provisions on when and how the Statement of Compliance should be issued by the Administration.

22 In this regard, several delegations noted that a proposal for an additional requirement to be placed on the Administration to notify the Organization that it had issued a Statement of Compliance provided no additional value and so constituted an additional unnecessary administrative burden.

23 The group noted that the draft regulations included a provision requiring data to be verified according to procedures established by the Administration taking into account guidelines to be developed by the Organization. In this regard, the group also noted that port State control's role shall be limited to verifying that there is a valid Statement of Compliance on board.

24 One delegation noted that the working group at MEPC 68 identified that verification was the responsibility of the Administration alone. However, several delegations considered it important for guidelines to be developed to support implementation of mandatory provisions to provide consistency, harmonization of procedures, facilitate a common understanding and to aid the daily work of Administrations and industry. One delegation, whilst supporting the need for guidelines, noted that there was a need to define what is meant by verification e.g. check list, data quality, etc.

### ***Availability and accessibility of disaggregated data***

25 The group noted that the issues with regard to availability and accessibility to disaggregated data were similar to those around change of owner/transfer of flag State. The group agreed to harmonize the provisions accordingly.

### ***Access to IMO database***

26 The group noted the provision to provide access to the data in the database needed to reflect decisions and agreements made in this and previous sessions especially with regard to the anonymity of data such that identification of a specific ship will not be possible.

27 The group agreed to make clear in the draft provisions that only Parties to MARPOL Annex VI could access the database which would contain anonymised data only and that the use of the data was strictly limited to analysis and consideration.

### ***IMO Ship Fuel Consumption Database***

28 The group agreed that the title of the database should be "IMO Ship Fuel Consumption Database."

29 The group also agreed that the provisions should reflect the exclusivity of the role the Secretary-General of the Organization has in undertaking and managing the IMO Ship Fuel Consumption Database.

30 The group noted the concerns of some delegations that the flag State of the ship should not be identifiable to those accessing the database. The group agreed that these concerns could be addressed in the guidelines to be developed by the Organization pursuant to the management of the database.

### **Information to be collected (Appendix IX)**

31 The group considered the proposals by China set out in document MEPC 69/6/8 and agreed to amend the draft list to specifically identify the power output (rated power) of the main and auxiliary engines and to include information on the methods used for collecting fuel consumption data.

32 Some of the delegations raised concerns with regards to the inclusion of the methods used for collecting fuel consumption data as a parameter to be reported for the purpose of the data collection system for fuel consumption, as this should be contained within the SEEMP.

33 The group recalled that the Committee had endorsed the definitions of the parameters "distance travelled" and "service hours" as "distance travelled from berth to berth" and "hours not at berth" respectively, and that fine tuning of these parameters would be considered when addressing the amendments to the SEEMP Guidelines. Some delegations emphasized that it is the definition of "distance travelled" as well as "service hours" that needs fine tuning, these delegations suggested keeping "distance travelled" and "service hours" in the legal text rather than "distance from berth to berth" and "hours not at berth."

34 The group recalled the proposal by the Bahamas, supported by other delegations, to define distance travelled as "distance travelled through the water" in accordance with SOLAS V. Following consideration the group agreed to add a footnote to the draft regulatory text.

35 The group recalled that the Committee had endorsed the intersessional meeting of the working group's recommendation that, for ship types that carry cargo, "design DWT" should be used as a proxy for cargo weight/volume, and agreed to amend the footnote for the parameter "DWT" with the definition as set out in paragraph 2.4 of the Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships, resolution MEPC.245(66).

36 Some delegations identified that whilst appendix IX includes GT as one of the data to be collected, there was no consideration by the group of the use of GT as a proxy for transport work for other ships that do not carry cargo and that this should be considered further at a future session. One delegation identified a need to consider how to address in the guidelines for monitoring methods specialist ship types such as dredgers. The group recalled document MEPC 69/6/8.

### **Form of Statement of Compliance (Appendix X)**

37 The group considered the proposal by China set out in document MEPC 69/6/8 to delete section 3 to enable the Statement of Compliance to be endorsed. Several delegations noted that section 3 is related to the issue of the ship's compliance being subject to the Administration fulfilling its obligations.

38 The group noted that it had agreed to delete the requirement in other provisions for the Administration to transfer the data to the Organization prior to the Statement of Compliance being issued and so agreed to delete section 3 of the draft Form of Statement of Compliance.

39 The group considered the title of the "Form of Statement of Compliance." The group considered whether the proposed title "Fuel Consumption Database Reporting" was an accurate reflection of the data that will be collected under regulation 22A. One delegation proposed that it would be more accurate to re-title appendix X "Statement of Compliance – IMO Ship Energy Efficiency Database," which was supported by several other delegations.

Other delegations considered this proposed title change to be beyond the scope of what has been agreed by the Committee.

40 Following further consideration, the group agreed to amend the title to "Statement of Compliance – Fuel Consumption Reporting."

41 The group finalized the draft amendments to Chapter 4 of MARPOL Annex VI, with a view to approval at this session, as set out in annex 1.

#### ***Collection and transfer of data from non-party ships***

42 The group considered the collection and transfer of data from non-party ships, noting that it would be inappropriate to include provisions for those ships in the regulatory text.

43 The group agreed to recommend to the Committee the need for an MEPC circular to be developed to provide information to Member Governments that are not a Party to MARPOL Annex VI on the collection and supply of data from non-party ships.

44 The group agreed the following key concept for inclusion in the draft MEPC circular as follows:

"A ship of 5,000 GT and above not entitled to fly the flag of a Party to MARPOL Annex VI may submit the aggregated data to the IMO Ship Fuel Consumption Database, with a Statement of Fact, issued by any organization duly authorized by a Party to Annex VI of this Convention, attesting that the data has been verified in accordance with Regulation 22A.7."

#### **Draft amendments to the guidelines for the development of the SEEMP**

45 As instructed by the Committee, the group considered the annex to document MEPC 69/6/1 as the basis for finalizing the text of the draft amendments to the *2012 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)*.

46 Following a brief discussion on the amendments proposed in document MEPC 69/6/1 the group noted that the document was a good basis for further work. In the ensuing discussion the following points were made, inter alia:

- .1 the measurement of "fuel consumption" will need to be addressed as highlighted in document MEPC 69/6/3 (IPTA) – is it all the fuel delivered to the ship and consideration should be given to where fuel is used, for example, in propulsion and generators. Issues such as water content, sludge generation, etc. should also be considered; and
- .2 consideration of the relationship between the accuracy of the measurement method used and the verification requirements.

47 The group noted that due to time constraints it was unable to finalize the draft amendments to the *2012 Guidelines for the development of a Ship Energy Efficiency Management Plan (SEEMP)*.

**Further work related to the draft amendments to Chapter 4 of MARPOL Annex VI to establish a data collection system for fuel consumption**

48 As instructed by the Committee, the group considered what further work related to the draft amendments to Chapter 4 of MARPOL Annex VI to establish a data collection system for fuel consumption was required.

49 The group identified the following further work:

- .1 the draft amendments to the SEEMP Guidelines to include guidance on developing the methodologies to be included in the SEEMP that will be used to collect the data required by regulations 22A.1 and 22A.3, including definitional issues and the processes that will be used to report the data, on the basis of document MEPC 69/6/1 and taking into account document MEPC 69/6/9;
- .2 Guidelines for Administration data verification procedures, in accordance with regulation 22A.7;
- .3 Development of electronic communication and standardized data reporting format, in accordance with regulation 22A.9;
- .4 Guidelines for the development and management of the IMO Ship Fuel Consumption Database, including means to keep the ships anonymized and to ensure the completeness of the database, in accordance with regulations 22A.9, 22A.11 and 22A.12; and
- .5 MEPC circular to address non-party ships submitting data to the IMO Ship Fuel Consumption Database.

50 Following consideration, the group agreed to invite the Committee to consider establishing a correspondence group to progress this important further work intersessionally. In this regard, the group agreed the draft terms of reference for the correspondence group as set out in annex 2. The delegation of Japan offered to coordinate the correspondence group<sup>1</sup>.

**Action requested of the Committee**

51 The Committee is invited to approve the report in general and, in particular, to:

- .1 approve the draft amendments to Chapter 4 of MARPOL Annex VI regarding a data collection system for fuel consumption, with a view to adoption at MEPC 70, as set out in annex 1 (paragraph 41);
- .2 note the need for an MEPC circular to be developed to provide information to Member Governments that are not a Party to MARPOL Annex VI on the collection and supply of data from non-party ships (paragraph 43); and

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- .3 note the further work identified by the group (paragraph 49); and
- .4 agree to establish a correspondence group with terms of reference as set out in annex 2 (paragraph 50).

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## ANNEX 1

### DRAFT AMENDMENTS TO MARPOL ANNEX VI

#### (Data collection system for fuel consumption)

#### MARPOL ANNEX VI

##### Regulation 1

###### *Application*

1 The references to "regulations 3, 5, 6, 13, 15, 16, 18, 19, 20, 21 and 22" are replaced with "regulations 3, 5, 6, 13, 15, 16, 18, 19, 20, 21, 22 and 22A."

##### Regulation 2

###### *Definitions*

2 After existing paragraph 47, new paragraphs 48 and 49 are added as follows:

"48 *Calendar year* means the period from 1 January until 31 December."

"49 *Registered owner* means the owner specified on a ship's certificate of registry issued by the Administration."

##### Regulation 3

###### *Exceptions and exemptions*

3 In paragraph 2, between existing sentences 2 and 3 a new sentence is added as follows:

"A permit under this regulation 3.2 shall not exempt a ship from the reporting requirement under regulation 22A and shall not alter the type and scope of data that is required to be reported under regulation 22A."

##### Regulation 5

###### *Surveys*

4 At the end of paragraph 4.3 new text is added as follows:

"and has been revised appropriately to reflect the major conversion in those cases where the major conversion affects data collection methodology and/or reporting processes";

5 A new paragraph 4.5 is inserted as follows:

".5 The Administration shall ensure that for each ship the SEEMP complies with regulation 22.2 of this Annex. This shall be done prior to collecting data under regulation 22A of this Annex in order to ensure the process is in place prior to the

beginning of the ship's first reporting period. Confirmation of compliance shall be provided to the ship."

## **Regulation 6**

### *Issue or endorsement of Certificates*

6 A new paragraph 6.1 is added as follows:

#### **"Statement of Compliance**

6.1 Upon receipt of reported data pursuant to regulation 22A.3 of this Annex, the Administration or any organization duly authorized by it shall determine whether the data has been reported in accordance with regulation 22A of this Annex and, if so, issue a Statement of Compliance to the ship no later than five months from the beginning of the calendar year. In every case, the Administration assumes full responsibility for the Statement of Compliance."

7 A new paragraph 6.2 is added as follows:

"6.2 Upon receipt of reported data pursuant to regulations 22A.4, 22A.5 or 22A.6 of this Annex, the Administration or any organization duly authorized by it shall promptly determine whether the data has been reported in accordance with the applicable regulation and, if so, issue a Statement of Compliance to the ship at that time. In every case, the Administration assumes full responsibility for the Statement of Compliance."

## **Regulation 8**

### *Form of Certificates*

8 A new paragraph 3 is added as follows:

#### **"Statement of Compliance**

3 The Statement of Compliance pursuant to regulations 6.6.1 and 6.6.2 of this Annex shall be drawn up in a form corresponding to the model given in appendix X to this Annex and shall be at least in English, French, or Spanish. If an official language of the issuing Party is also used, this shall prevail in case of a dispute or discrepancy."

## **Regulation 9**

### *Duration and validity of Certificates*

9 A new paragraph 12 is added as follows:

#### **"Statement of Compliance**

12 The Statement of Compliance pursuant to regulation 6.6.1 of this Annex shall be valid for the calendar year in which the Statement of Compliance is issued and for the first five months of the following calendar year. The Statement of Compliance pursuant to regulation 6.6.2 of this Annex shall be valid for the calendar year in which the statement of compliance is issued, for the following calendar year, and for the first

five months of the subsequent calendar year. All Statements of Compliance shall be kept on board for at least the period of their validity."

#### **Regulation 10**

##### *Port State control on operational requirements*

10 In paragraph 5, the words "Statement of Compliance and" are inserted before the words "International Energy Efficiency Certificate."

#### **Regulation 22**

##### *Ship Energy Efficiency Management Plan (SEEMP)*

11 A new paragraph 2 is inserted as follows:

"2 Beginning [DATE], the SEEMP shall include a description of the methodology that will be used to collect the data required by regulation 22A.1 of this Annex and the processes that will be used to report the data to the ship's Administration."

12 The existing paragraph 2 is renumbered as paragraph 3.

13 A new regulation 22A is inserted as follows:

#### **"Regulation 22A**

##### *Collection and reporting of ship fuel consumption data*

1 Beginning calendar year [20XX] each ship of 5,000 GT and above shall collect the data specified in appendix IX to this Annex, according to the methodology included in the SEEMP.

2 Except as provided for in paragraphs 4, 5 and 6 of this regulation, at the end of each calendar year the ship shall aggregate the data collected in that calendar year.

3 Except as provided for in paragraphs 4, 5 and 6 of this regulation, within three months after the end of each calendar year, the ship shall report to its Administration or any organization duly authorized by it the aggregated value for each datum specified in appendix IX to this Annex, via electronic communication and using a standardized format developed by the Organization.

4 Prior to transfer of a ship from one Administration to another, the ship shall report to its Administration the aggregated data for the period of the calendar year corresponding to that Administration, as specified in appendix IX to this Annex and, upon request of its Administration, the disaggregated data.

5 Prior to change from one registered owner to another, the ship shall report to its Administration the aggregated data for the period of the calendar year corresponding to the owner, as specified in appendix IX to this Annex and, upon request of its Administration, the disaggregated data.

6 In the event of change from one Administration to another and from one registered owner to another concurrently, paragraph 4 of this regulation shall apply.



7 The data shall be verified according to procedures established by the Administration, taking into account guidelines developed by the Organization.

8 Except as provided for in paragraphs 4, 5 and 6 of this regulation, the disaggregated data that underlies the reported data noted in appendix IX to this Annex for the previous calendar year shall be readily accessible for a period of not less than 12 months from the end of the most recent calendar year and be made available to the Administration upon request.

9 Administrations shall ensure that the reported data noted in appendix IX to this Annex by its registered ships of 5,000 GT and above are transferred to the IMO Ship Fuel Consumption Database via electronic communication and using a standardized format developed by the Organization no later than one month after issuing the Statements of Compliance of these ships.

10 On the basis of the reported data submitted to the IMO Ship Fuel Consumption Database, the Secretary-General of the Organization shall produce an annual report to the Marine Environment Protection Committee summarizing the data collected, the status of missing data, and such other relevant information as requested by the Committee.

11 The Secretary-General of the Organization shall maintain an anonymized database such that identification of a specific ship will not be possible; Parties shall have access to the anonymized data strictly for their analysis and consideration.

12 The IMO Ship Fuel Consumption Database shall be undertaken and managed by the Secretary-General of the Organization, pursuant to guidelines developed by the Organization."

14 A new appendix IX is inserted after appendix VIII as follows:

**"Appendix IX**

*Information to be submitted to the IMO Ship Fuel Consumption Database*

Identity of the ship  
IMO number

Technical characteristics of the ship  
Ship type  
GT\*  
NT†  
DWT‡  
Power output (rated power) of main and auxiliary engines (kW)

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\* GT should be calculated in accordance with the International Convention on Tonnage Measurement of Ships (ITC 1969). If not applicable, note "N/A".

† NT should be calculated in accordance with the International Convention on Tonnage Measurement of Ships (ITC 1969). If not applicable, note "N/A".

‡ DWT means the difference in tonnes between the displacement of a ship in water of relative density of 1,025 kg/m<sup>3</sup> at the summer load draught and the lightweight of the ship. The summer load draught should be taken as the maximum summer draught as certified in the stability booklet approved by the Administration or an organization recognized by it.". If not applicable, note "N/A".

EEDI (if applicable)  
Ice class (if applicable)\*

Total annual fuel consumption, by fuel type, in metric tonnes and methods used for collecting fuel consumption data

Distance travelled† from berth to berth, hours not at berth"

15 A new appendix X is inserted after appendix IX as follows:

**"Appendix X**

**Form of Statement of Compliance – Fuel Consumption Reporting**

**STATEMENT OF COMPLIANCE – FUEL CONSUMPTION REPORTING**

Issued under the provisions of the Protocol of 1997, as amended by resolution MEPC.XXX(XX), to amend the International Convention for the Prevention of Pollution by Ships, 1973, as modified by the Protocol of 1978 related thereto (hereinafter referred to as "the Convention") under the authority of the Government of:

.....  
*(full designation of the Party)*

by .....  
*(full designation of the competent person or organization authorized under the provisions of the Convention)*

Particulars of ship‡

Name of ship .....

Distinctive number or letters .....

IMO Number§ .....

Port of registry .....

Gross tonnage .....

THIS IS TO CERTIFY:

\* Ice class should be consistent with the definition set out in the International Code for Ships Operating in Polar Waters (Polar Code), resolution MSC.385(94).  
† Distance travelled should be defined as distance travelled through the water in accordance with SOLAS V.  
‡ Alternatively, the particulars of the ship may be placed horizontally, in boxes.  
§ In accordance with the IMO ship identification number scheme, adopted by the Organization by resolution A.600(15).

1. That the ship has submitted to this Administration the data required by regulation 22A of the Convention, covering ship operations from DD/MM 20XX through DD/MM 20XX; and
2. The data was collected and reported in accordance with the methodology and process set out in the ship's SEEMP that was in effect over the period from DD/MM 20XX through DD/MM 20XX.

Issued at: .....

*(place of issue of Statement)*

Date (dd/mm/yyyy) .....

*(date of issue)  
issuing the Statement)*

*(signature of duly authorized office*

*(seal or stamp of the authority, as appropriate)"*

\*\*\*

## ANNEX 2

### DRAFT TERMS OF REFERENCE FOR A CORRESPONDENCE GROUP ON DATA COLLECTION SYSTEM FOR FUEL CONSUMPTION

The correspondence group is instructed to:

- .1 further develop, with a view to finalization at MEPC 70, the draft amendments to the SEEMP Guidelines to include guidance on the methodologies to be included in the SEEMP that will be used to collect the data required by regulations 22A.1 and 22A.3, including definitional issues and the processes that will be used to report the data, based on document MEPC 69/6/1 and taking into account document MEPC 69/6/9;
  - .2 if time permits, to develop:
    - .1 draft guidelines for Administration data verification procedures, in accordance with regulation 22A.7;
    - .2 electronic communication and standardized data reporting format, in accordance with regulation 22A.9;
    - .3 draft guidelines for the development and management of the IMO Ship Fuel Consumption Database, including means to keep the ships anonymized and to ensure the completeness of the database, in accordance with regulations 22A.9, 22A.11 and 22A.12; and
    - .4 draft MEPC Circular to address non-party ships submitting data to the IMO Ship Fuel Consumption Database.
  - .3 submit a report to MEPC 70.
-

**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)**

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular Article 192(1) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee <sup>(1)</sup>,

After consulting the Committee of the Regions,

Acting in accordance with the ordinary legislative procedure <sup>(2)</sup>,

Whereas:

- (1) Directive 2009/29/EC of the European Parliament and of the Council <sup>(3)</sup> and Decision No 406/2009/EC of the European Parliament and of the Council <sup>(4)</sup> which call for contributions from all sectors of the economy to achieve emission reductions, including the international maritime shipping sector, provide that in the event that no international agreement which includes international maritime emissions in its reduction targets through the International Maritime Organisation (IMO) has been approved by Member States or no such agreement through the United Nations Framework Convention on Climate Change has been approved by the Community by 31 December 2011, the Commission should make a proposal to include international maritime emissions in the Community reduction commitment, with the aim of the proposed act entering into force by 2013. Such a proposal should minimise any negative impact on the Community's competitiveness while taking into account the potential environmental benefits.
- (2) Maritime transport has an impact on the global climate and on air quality, as a result of the carbon dioxide (CO<sub>2</sub>) emissions and other emissions that it generates, such as nitrogen oxides (NO<sub>x</sub>), sulphur oxides (SO<sub>x</sub>), methane (CH<sub>4</sub>), particulate matter (PM) and black carbon (BC).
- (3) International maritime shipping remains the only means of transportation not included in the Union's commitment to reduce greenhouse gas emissions. According to the impact assessment accompanying the proposal for this Regulation, Union-related CO<sub>2</sub> emissions from international shipping increased by 48 % between 1990 and 2007.
- (4) In the light of the rapidly developing scientific understanding of the impact of non-CO<sub>2</sub> related emissions from maritime transport on the global climate, an updated assessment of that impact should be carried out regularly in the context of this Regulation. Based on its assessments, the Commission should analyse the implications for policies and measures, in order to reduce those emissions.
- (5) The European Parliament's Resolution of 5 February 2014 on a 2030 framework for climate and energy policies called on the Commission and the Member States to set a binding EU 2030 target of reducing domestic greenhouse gas emissions by at least 40 % compared to 1990 levels. The European Parliament also pointed out that all sectors of the economy would need to contribute to reducing greenhouse gas emissions if the Union is to deliver its fair share of global efforts.

<sup>(1)</sup> OJ C 67, 6.3.2014, p. 170.

<sup>(2)</sup> Position of the European Parliament of 16 April 2014 (not yet published in the Official Journal) and position of the Council at first reading of 5 March 2015 (not yet published in the Official Journal). Position of the European Parliament of 28 April 2015 (not yet published in the Official Journal).

<sup>(3)</sup> Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community (OJ L 140, 5.6.2009, p. 63).

<sup>(4)</sup> Decision No 406/2009/EC of the European Parliament and of the Council of 23 April 2009 on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020 (OJ L 140, 5.6.2009, p. 136).

- (6) In its Conclusions of 23 and 24 October 2014, the European Council endorsed a binding EU target of an at least 40 % domestic reduction in greenhouse gas emissions by 2030 compared to 1990. The European Council also stated the importance of reducing greenhouse gas emissions and risks related to fossil fuel dependency in the transport sector and invited the Commission to further examine instruments and measures for a comprehensive and technology-neutral approach, inter alia, for the promotion of emissions reduction and energy efficiency in transport.
- (7) The 7th Environment Action Programme (EAP) <sup>(1)</sup> underlines that all sectors of the economy will need to contribute to reducing greenhouse gas emissions if the Union is to deliver its fair share of global efforts. In this context the 7th EAP highlights that the White paper on transport of 2011 needs to be underpinned by a strong policy framework.
- (8) In July 2011, the IMO adopted technical and operational measures, in particular the Energy Efficiency Design Index (EEDI) for new ships and the Ship Energy Efficiency Management Plan (SEEMP), which will bring improvement in terms of reducing the expected increase in greenhouse gas emissions, but alone cannot lead to the necessary absolute reductions of greenhouse gas emissions from international shipping to keep efforts in line with the global objective of limiting increases in global temperatures to 2 °C.
- (9) According to data provided by the IMO, the specific energy consumption and CO<sub>2</sub> emissions of ships could be reduced by up to 75 % by applying operational measures and implementing existing technologies; a significant part of those measures can be regarded as cost-effective and being such that they could offer net benefits to the sector, as the reduced fuel costs ensure the pay-back of any operational or investment costs.
- (10) In order to reduce CO<sub>2</sub> emissions from shipping at Union level, the best possible option remains setting up a system for monitoring, reporting and verification (MRV system) of CO<sub>2</sub> emissions based on the fuel consumption of ships as a first step of a staged approach for the inclusion of maritime transport emissions in the Union's greenhouse gas reduction commitment, alongside emissions from other sectors that are already contributing to that commitment. Public access to the emissions data will contribute to removing market barriers that prevent the uptake of many cost-negative measures which would reduce greenhouse gas emissions from maritime transport.
- (11) The adoption of measures to reduce greenhouse gas emissions and fuel consumption is hampered by the existence of market barriers such as a lack of reliable information on the fuel efficiency of ships or of technologies available for retrofitting ships, a lack of access to finance for investments in ship efficiency, and split incentives, as shipowners would not benefit from their investments in ship efficiency when fuel bills are paid by operators.
- (12) The results of the stakeholder consultation and discussions with international partners indicate that a staged approach for the inclusion of maritime transport emissions in the Union's greenhouse gas reduction commitment should be applied with the implementation of a robust MRV system for CO<sub>2</sub> emissions from maritime transport as a first step and the pricing of those emissions at a later stage. This approach facilitates the making of significant progress at international level on the agreement of greenhouse gas emission reduction targets and further measures to achieve those reductions at minimum cost.
- (13) The introduction of a Union MRV system is expected to lead to emission reductions of up to 2 % compared to business-as-usual, and aggregated net costs reductions of up to EUR 1,2 billion by 2030 as it could contribute to the removal of market barriers, in particular those related to the lack of information about ship efficiency, by providing comparable and reliable information on fuel consumption and energy efficiency to the relevant markets. This reduction of transport costs should facilitate international trade. Furthermore, a robust MRV system is a prerequisite for any market-based measure, efficiency standard or other measure, whether applied at Union level or globally. It also provides reliable data to set precise emission reduction targets and to assess the progress of maritime transport's contribution towards achieving a low carbon economy. Given the international nature of shipping, the preferred and most effective method of reducing greenhouse gas emissions in international maritime transport would be by global agreement.

<sup>(1)</sup> Decision No 1386/2013/EU of the European Parliament and of the Council of 20 November 2013 on a General Union Environment Action Programme to 2020 'Living well, within the limits of our planet' (OJ L 354, 28.12.2013, p. 171).

- (14) All intra-Union voyages, all incoming voyages from the last non-Union port to the first Union port of call and all outgoing voyages from a Union port to the next non-Union port of call, including ballast voyages, should be considered relevant for the purposes of monitoring. CO<sub>2</sub> emissions in Union ports, including emissions arising from ships at berth or moving within a port, should also be covered, particularly as specific measures for their reduction or avoidance are available. These rules should be applied in a non-discriminatory manner to all ships regardless of their flag. However, since this Regulation focuses on maritime transport, it should not establish monitoring, reporting and verification requirements for ship movements and activities not serving the purpose of transporting cargo or passengers for commercial purposes, such as dredging, ice-breaking, pipe laying or offshore installation activities.
- (15) To ensure a level-playing field for ships operating in less favourable climate conditions, it should be possible to include specific information relating to a ship's ice class, and to its navigation through ice, in the data monitored on the basis of this Regulation.
- (16) The proposed MRV system should take the form of a Regulation on account of the complex and highly technical nature of provisions to be introduced, the need for uniform rules applicable throughout the Union to reflect the international nature of maritime transport with numerous ships being expected to call at ports in different Member States, and to facilitate implementation throughout the Union.
- (17) A robust ship-specific Union MRV system should be based on the calculation of emissions from fuel consumed on voyages to and from Union ports, as fuel sales data could not provide appropriately accurate estimates for the fuel consumption within this specific scope, due to the large tank capacities of ships.
- (18) The Union MRV system should also cover other relevant information allowing for the determination of ships' efficiency or for the further analysis of the drivers for the development of emissions, while preserving the confidentiality of commercial or industrial information. This scope also aligns the Union MRV system with international initiatives to introduce efficiency standards for existing ships, also covering operational measures, and contributes to the removal of market barriers related to the lack of information.
- (19) In order to minimise the administrative burden for shipowners and operators, in particular for small and medium-sized enterprises, and to optimise the cost-benefit ratio of the MRV system without jeopardising the objective of covering a widely predominant share of greenhouse gas emissions from maritime transport, the rules for MRV should only apply to large emitters. A threshold of 5 000 gross tonnage (GT) has been selected after detailed objective analysis of sizes and emissions of ships going to and coming from Union ports. Ships above 5 000 GT account for around 55 % of the number of ships calling into Union ports and represent around 90 % of the related emissions. This non-discriminatory threshold would ensure that the most relevant emitters are covered. A lower threshold would result in a higher administrative burden while a higher threshold would limit the coverage of emissions and thus the environmental effectiveness of the MRV system.
- (20) To further reduce the administrative burden for shipowners and operators, the monitoring rules should focus on CO<sub>2</sub> as the most relevant greenhouse gas emitted by maritime transport.
- (21) The rules should take into account existing requirements and data already available on board ships; therefore, companies should be given the opportunity to select one of the following four monitoring methods: the use of Bunker Fuel Delivery Notes, bunker fuel tank monitoring on-board, flow meters for applicable combustion processes or direct emission measurements. A monitoring plan specific to each ship should document the choice made and provide further details on the application of the selected method.
- (22) Any company with responsibility for an entire reporting period over a ship performing shipping activities should be considered responsible for all monitoring and reporting obligations arising in relation to that reporting period, including the submission of a satisfactorily verified emissions report. In the event of a change of company, the new company should only be responsible for the monitoring and reporting obligations related to the reporting period during which the change of company has taken place. To facilitate the fulfilment of these obligations, the new company should receive a copy of the latest monitoring plan and document of compliance, if applicable.

- (23) Other greenhouse gases, climate forcers or air pollutants should not be covered by the Union MRV system at this stage to avoid requirements to install not sufficiently reliable or commercially available measuring equipment, which could impede the implementation of the Union MRV system.
- (24) The IMO International Convention for the Prevention of Pollution from Ships (MARPOL) provides for the mandatory application of the EEDI to new ships and the use of SEEMPs throughout the entire world fleet.
- (25) To minimise the administrative burden for shipowners and operators, reporting and publication of reported information should be organised on an annual basis. By restricting the publication of emissions, fuel consumption and efficiency-related information to annual averages and aggregated figures, confidentiality issues should be addressed. In order to ensure that the protection of legitimate economic interests overriding the public interest in disclosure is not undermined, a different level of aggregation of data should be applied in exceptional cases at the request of the company. The data reported to the Commission should be integrated with statistics to the extent that those data are relevant for the development, production and dissemination of European statistics in accordance with Commission Decision 2012/504/EU <sup>(1)</sup>.
- (26) Verification by accredited verifiers should ensure that monitoring plans and emissions reports are correct and in compliance with the requirements set out in this Regulation. As an important element to simplify verification, verifiers should check data credibility by comparing reported data with estimated data based on ship tracking data and characteristics. Such estimates could be provided by the Commission. In order to ensure impartiality, verifiers should be independent and competent legal entities and should be accredited by national accreditation bodies established pursuant to Regulation (EC) No 765/2008 of the European Parliament and of the Council <sup>(2)</sup>.
- (27) A document of compliance issued by a verifier should be kept on board ships to demonstrate compliance with the obligations for monitoring, reporting and verification. Verifiers should inform the Commission of the issuance of such documents.
- (28) Based on experience from similar tasks related to maritime safety, the European Maritime Safety Agency (EMSA) should, within the framework of its mandate, support the Commission by carrying out certain tasks.
- (29) Enforcement of the obligations relating to the MRV system should be based on existing instruments, namely those established under Directive 2009/16/EC of the European Parliament and of the Council <sup>(3)</sup> and Directive 2009/21/EC of the European Parliament and of the Council <sup>(4)</sup>, and on information on the issuance of documents of compliance. The document confirming compliance of the ship with the monitoring and reporting obligations should be added to the list of certificates and documents referred to in Annex IV to Directive 2009/16/EC.
- (30) Member States should endeavour to inspect ships which enter ports under their jurisdiction and for which certain required information concerning the document of compliance is not available.
- (31) Non-compliance with the provisions of this Regulation should result in the application of penalties. Member States should lay down rules on those penalties. Those penalties should be effective, proportionate and dissuasive.
- (32) In the case of ships having failed to comply with monitoring and reporting requirements for two or more consecutive reporting periods and where other enforcement measures have failed to ensure compliance, it is appropriate to provide for the possibility of expulsion. Such a measure should be applied in such a way as to allow the situation of non-compliance to be rectified within a reasonable period of time.
- (33) Member States that have no maritime ports in their territory and which have no ships flying their flag and falling under the scope of this Regulation, or which have closed their national ship registers, should be able to derogate from the provisions of this Regulation relating to penalties, as long as no such ships are flying their flag.

<sup>(1)</sup> Commission Decision 2012/504/EU of 17 September 2012 on Eurostat (OJ L 251, 18.9.2012, p. 49).

<sup>(2)</sup> Regulation (EC) No 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No 339/93 (OJ L 218, 13.8.2008, p. 30).

<sup>(3)</sup> Directive 2009/16/EC of the European Parliament and of the Council of 23 April 2009 on port State control (OJ L 131, 28.5.2009, p. 57).

<sup>(4)</sup> Directive 2009/21/EC of the European Parliament and of the Council of 23 April 2009 on compliance with flag State requirements (OJ L 131, 28.5.2009, p. 132).



- (34) The Union MRV system should serve as a model for the implementation of a global MRV system. A global MRV system is preferable as it could be regarded as more effective due to its broader scope. In this context, and with a view to facilitating the development of international rules within the IMO for the monitoring, reporting and verification of greenhouse gas emissions from maritime transport, the Commission should share relevant information on the implementation of this Regulation with the IMO and other relevant international bodies on a regular basis and relevant submissions should be made to the IMO. Where an agreement on a global MRV system is reached, the Commission should review the Union MRV system with a view to aligning it to the global MRV system.
- (35) In order to take account of relevant international rules and international and European standards as well as technological and scientific developments, the power to adopt acts in accordance with Article 290 of the Treaty on the Functioning of the European Union should be delegated to the Commission in respect of reviewing certain technical aspects of monitoring and reporting of CO<sub>2</sub> emissions from ships and of further specifying the rules for the verification activities and the methods of accreditation of verifiers. It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level. The Commission, when preparing and drawing-up delegated acts, should ensure a simultaneous, timely and appropriate transmission of relevant documents to the European Parliament and to the Council.
- (36) In order to ensure uniform conditions for the use of standard templates for the monitoring of CO<sub>2</sub> emissions and other relevant information, for the use of automated systems and standard electronic templates for the coherent reporting of CO<sub>2</sub> emissions and other relevant information to the Commission and the authorities of the flag States concerned, for the specification of technical rules specifying the parameters applicable to categories of ships other than passenger, ro-ro and container ships and for the revision of those parameters, implementing powers should be conferred on the Commission. Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council <sup>(1)</sup>.
- (37) Since the objective of this Regulation, namely to monitor, report and verify CO<sub>2</sub> emissions from ships as the first step of a staged approach to reduce greenhouse gas emissions, cannot be sufficiently achieved by the Member States, due to the international nature of maritime transport, but can rather, by reason of its scale and effects, be better achieved at Union level, the Union may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve that objective.
- (38) The rules establishing the MRV system should comply with Directive 95/46/EC of the European Parliament and of the Council <sup>(2)</sup> and Regulation (EC) No 45/2001 of the European Parliament and of the Council <sup>(3)</sup>.
- (39) This Regulation should enter into force on 1 July 2015 to ensure that the Member States and relevant stakeholders have sufficient time to take the necessary measures for the effective application of this Regulation before the first reporting period starting on 1 January 2018,

HAVE ADOPTED THIS REGULATION:

#### CHAPTER I

#### GENERAL PROVISIONS

##### Article 1

##### Subject matter

This Regulation lays down rules for the accurate monitoring, reporting and verification of carbon dioxide (CO<sub>2</sub>) emissions and of other relevant information from ships arriving at, within or departing from ports under the jurisdiction of a Member State, in order to promote the reduction of CO<sub>2</sub> emissions from maritime transport in a cost effective manner.

<sup>(1)</sup> Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by the Member States of the Commission's exercise of implementing powers (OJ L 55, 28.2.2011, p. 13).

<sup>(2)</sup> Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data (OJ L 281, 23.11.1995, p. 31).

<sup>(3)</sup> Regulation (EC) No 45/2001 of the European Parliament and of the Council of 18 December 2000 on the protection of individuals with regard to the processing of personal data by the Community institutions and bodies and of the free movement of such data (OJ L 8, 12.1.2001, p. 1).

## Article 2

### Scope

1. This Regulation applies to ships above 5 000 gross tonnage in respect of CO<sub>2</sub> emissions released during their voyages from their last port of call to a port of call under the jurisdiction of a Member State and from a port of call under the jurisdiction of a Member State to their next port of call, as well as within ports of call under the jurisdiction of a Member State.
2. This Regulation does not apply 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.

## Article 3

### Definitions

For the purposes of this Regulation, the following definitions apply:

- (a) 'CO<sub>2</sub> emissions' means the release of CO<sub>2</sub> into the atmosphere by ships;
- (b) 'port of call' means the 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 excluded;
- (c) 'voyage' means any movement of a ship that originates from or terminates in a port of call and that serves the purpose of transporting passengers or cargo for commercial purposes;
- (d) '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;
- (e) 'gross tonnage' (GT) means the gross tonnage calculated in accordance with the tonnage measurement regulations contained in Annex I to the International Convention on Tonnage Measurement of Ships, adopted by the International Maritime Organization (IMO) in London on 23 June 1969, or any successor convention;
- (f) 'verifier' means a legal entity carrying out verification activities which is accredited by a national accreditation body pursuant to Regulation (EC) No 765/2008 and this Regulation;
- (g) 'verification' means the activities carried out by a verifier to assess the conformity of the documents transmitted by the company with the requirements of this Regulation;
- (h) 'document of compliance' means a document specific to a ship, issued to a company by a verifier, which confirms that that ship has complied with the requirements of this Regulation for a specific reporting period;
- (i) 'other relevant information' means information related to CO<sub>2</sub> emissions from the consumption of fuels, to transport work and to the energy efficiency of ships, which enables the analysis of emission trends and the assessment of ships' performances;
- (j) 'emission factor' means the average emission rate of a greenhouse gas relative to the activity data of a source stream, assuming complete oxidation for combustion and complete conversion for all other chemical reactions;
- (k) 'uncertainty' means a parameter, associated with the result of the determination of a quantity, that characterises the dispersion of the values that could reasonably be attributed to the particular quantity, including the effects of systematic as well as of random factors, expressed as a percentage, and describes a confidence interval around the mean value comprising 95 % of inferred values taking into account any asymmetry of the distribution of values;
- (l) 'conservative' means that a set of assumptions is defined in order to ensure that no under-estimation of annual emissions or over-estimation of distances or amounts of cargo carried occurs;
- (m) 'reporting period' means one calendar year during which CO<sub>2</sub> emissions have to be monitored and reported. For voyages starting and ending in two different calendar years, the monitoring and reporting data shall be accounted under the first calendar year concerned;

- (n) 'ship at berth' means a ship which is securely moored or anchored in a port falling under the jurisdiction of a Member State while it is loading, unloading or hotelling, including the time spent when not engaged in cargo operations;
- (o) 'ice class' means the notation assigned to the ship by the competent national authorities of the flag State or an organisation recognised by that State, showing that the ship has been designed for navigation in sea-ice conditions.

## CHAPTER II

### MONITORING AND REPORTING

#### SECTION 1

#### *Principles and methods for monitoring and reporting*

##### *Article 4*

#### **Common principles for monitoring and reporting**

1. In accordance with Articles 8 to 12, companies shall, for each of their ships, monitor and report on the relevant parameters during a reporting period. They shall carry out that monitoring and reporting within all ports under the jurisdiction of a Member State and for any voyages to or from a port under the jurisdiction of a Member State.
2. Monitoring and reporting shall be complete and cover CO<sub>2</sub> emissions from the combustion of fuels, while the ships are at sea as well as at berth. Companies shall apply appropriate measures to prevent any data gaps within the reporting period.
3. Monitoring and reporting shall be consistent and comparable over time. To that end, companies shall use the same monitoring methodologies and data sets subject to modifications assessed by the verifier.
4. Companies shall obtain, record, compile, analyse and document monitoring data, including assumptions, references, emission factors and activity data, in a transparent manner that enables the reproduction of the determination of CO<sub>2</sub> emissions by the verifier.
5. Companies shall ensure that the determination of CO<sub>2</sub> emissions is neither systematically nor knowingly inaccurate. They shall identify and reduce any source of inaccuracies.
6. Companies shall enable reasonable assurance of the integrity of the CO<sub>2</sub> emission data to be monitored and reported.
7. Companies shall endeavour to take account of the recommendations included in the verification reports issued pursuant to Article 13(3) or (4) in their subsequent monitoring and reporting.

##### *Article 5*

#### **Methods for monitoring CO<sub>2</sub> emissions and other relevant information**

1. For the purposes of Article 4(1), (2) and (3), companies shall, for each of their ships, determine the CO<sub>2</sub> emissions in accordance with any of the methods set out in Annex I, and monitor other relevant information in accordance with the rules set out in Annex II or adopted pursuant to it.
2. The Commission shall be empowered to adopt delegated acts in accordance with Article 23 to amend the methods set out in Annex I and the rules set out in Annex II, in order to take into account relevant international rules as well as international and European standards. The Commission shall be also empowered to adopt delegated acts in accordance with Article 23 to amend Annexes I and II in order to refine the elements of the monitoring methods set out therein, in the light of technological and scientific developments.

#### SECTION 2

#### **Monitoring plan**

##### *Article 6*

#### **Content and submission of the monitoring plan**

1. By 31 August 2017, companies shall submit to the verifiers a monitoring plan for each of their ships indicating the method chosen to monitor and report CO<sub>2</sub> emissions and other relevant information.

2. Notwithstanding paragraph 1, for ships falling under the scope of this Regulation for the first time after 31 August 2017, the company shall submit a monitoring plan to the verifier without undue delay and no later than two months after each ship's first call in a port under the jurisdiction of a Member State.

3. The monitoring plan shall consist of a complete and transparent documentation of the monitoring method for the ship concerned and shall contain at least the following elements:

- (a) the identification and type of the ship, including its name, its IMO identification number, its port of registry or home port, and the name of the shipowner;
- (b) the name of the company and the address, telephone and e-mail details of a contact person;
- (c) a description of the following CO<sub>2</sub> emission sources on board the ship: main engines, auxiliary engines, gas turbines, boilers and inert gas generators, and the fuel types used;
- (d) a description of the procedures, systems and responsibilities used to update the list of CO<sub>2</sub> emission sources over the reporting period;
- (e) a description of the procedures used to monitor the completeness of the list of voyages;
- (f) a description of the procedures for monitoring the fuel consumption of the ship, including:
  - (i) the method chosen from among those set out in Annex I for calculating the fuel consumption of each CO<sub>2</sub> emission source, including, where applicable, a description of the measuring equipment used,
  - (ii) the procedures for the measurement of fuel uplifts and fuel in tanks, a description of the measuring equipment used and the procedures for recording, retrieving, transmitting and storing information regarding measurements, as applicable,
  - (iii) the method chosen for the determination of density, where applicable,
  - (iv) a procedure to ensure that the total uncertainty of fuel measurements is consistent with the requirements of this Regulation, where possible referring to national laws, clauses in customer contracts or fuel supplier accuracy standards;
- (g) single emission factors used for each fuel type, or in the case of alternative fuels, the methodologies for determining the emission factors, including the methodology for sampling, methods of analysis and a description of the laboratories used, with the ISO 17025 accreditation of those laboratories, if any;
- (h) a description of the procedures used for determining activity data per voyage, including:
  - (i) the procedures, responsibilities and data sources for determining and recording the distance,
  - (ii) the procedures, responsibilities, formulae and data sources for determining and recording the cargo carried and the number of passengers, as applicable,
  - (iii) the procedures, responsibilities, formulae and data sources for determining and recording the time spent at sea between the port of departure and the port of arrival;
- (i) a description of the method to be used to determine surrogate data for closing data gaps;
- (j) a revision record sheet to record all the details of the revision history.

4. The monitoring plan may also contain information on the ice class of the ship and/or the procedures, responsibilities, formulae and data sources for determining and recording the distance travelled and the time spent at sea when navigating through ice.

5. Companies shall use standardised monitoring plans based on templates. Those templates, including the technical rules for their uniform application, shall be determined by the Commission by means of implementing acts. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 24(2).

#### Article 7

##### Modifications of the monitoring plan

1. Companies shall check regularly, and at least annually, whether a ship's monitoring plan reflects the nature and functioning of the ship and whether the monitoring methodology can be improved.

2. Companies shall modify the monitoring plan in any of the following situations:
  - (a) where a change of company occurs;
  - (b) where new CO<sub>2</sub> emissions occur due to new emission sources or due to the use of new fuels not yet contained in the monitoring plan;
  - (c) where a change in availability of data, due to the use of new types of measuring equipment, new sampling methods or analysis methods, or for other reasons, may affect the accuracy of the determination of CO<sub>2</sub> emissions;
  - (d) where data resulting from the monitoring method applied has been found to be incorrect;
  - (e) where any part of the monitoring plan is identified as not being in conformity with the requirements of this Regulation and the company is required to revise it pursuant to Article 13(1).
3. Companies shall notify to the verifiers without undue delay any proposals for modification of the monitoring plan.
4. Modifications of the monitoring plan under points (b), (c) and (d) of paragraph 2 of this Article shall be subject to assessment by the verifier in accordance with Article 13(1). Following the assessment, the verifier shall notify the company whether those modifications are in conformity.

### SECTION 3

#### **Monitoring of CO<sub>2</sub> emissions and other relevant information**

##### Article 8

#### **Monitoring of activities within a reporting period**

From 1 January 2018, companies shall, based on the monitoring plan assessed in accordance with Article 13(1), monitor CO<sub>2</sub> emissions for each ship on a per-voyage and an annual basis by applying the appropriate method for determining CO<sub>2</sub> emissions among those set out in Part B of Annex I and by calculating CO<sub>2</sub> emissions in accordance with Part A of Annex I.

##### Article 9

#### **Monitoring on a per-voyage basis**

1. Based on the monitoring plan assessed in accordance with Article 13(1), for each ship arriving in or departing from, and for each voyage to or from, a port under a Member State's jurisdiction, companies shall monitor in accordance with Part A of Annex I and Part A of Annex II the following parameters:

- (a) port of departure and port of arrival including the date and hour of departure and arrival;
- (b) amount and emission factor for each type of fuel consumed in total;
- (c) CO<sub>2</sub> emitted;
- (d) distance travelled;
- (e) time spent at sea;
- (f) cargo carried;
- (g) transport work.

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

2. By way of derogation from paragraph 1 of this Article and without prejudice to Article 10, a company shall be exempt from the obligation to monitor the information referred to in paragraph 1 of this Article on a per-voyage basis in respect of a specified ship, if:

- (a) all of the ship's voyages during the reporting period either start from or end at a port under the jurisdiction of a Member State; and
- (b) the ship, according to its schedule, performs more than 300 voyages during the reporting period.

*Article 10***Monitoring on an annual basis**

Based on the monitoring plan assessed in accordance with Article 13(1), for each ship and for each calendar year, companies shall monitor in accordance with Part A of Annex I and with Part B of Annex II the following parameters:

- (a) amount and emission factor for each type of fuel consumed in total;
- (b) total aggregated CO<sub>2</sub> emitted within the scope of this Regulation;
- (c) aggregated CO<sub>2</sub> emissions from all voyages between ports under a Member State's jurisdiction;
- (d) aggregated CO<sub>2</sub> emissions from all voyages which departed from ports under a Member State's jurisdiction;
- (e) aggregated CO<sub>2</sub> emissions from all voyages to ports under a Member State's jurisdiction;
- (f) CO<sub>2</sub> emissions which occurred within ports under a Member State's jurisdiction at berth;
- (g) total distance travelled;
- (h) total time spent at sea;
- (i) total transport work;
- (j) 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 CO<sub>2</sub> emitted, differentiating on the basis of other criteria defined in the monitoring plan.

*SECTION 4***Reporting***Article 11***Content of the emissions report**

1. From 2019, by 30 April of each year, companies shall submit to the Commission and to the authorities of the flag States concerned, an emissions report concerning the CO<sub>2</sub> emissions and other relevant information for the entire reporting period for each ship under their responsibility, which has been verified as satisfactory by a verifier in accordance with Article 13.

2. Where there is a change of company, the new company shall ensure that each ship under its responsibility complies with the requirements of this Regulation in relation to the entire reporting period during which it takes responsibility for the ship concerned.

3. Companies shall include in the emissions report the following information:

- (a) data identifying the ship and the company, including:
  - (i) name of the ship,
  - (ii) IMO identification number,
  - (iii) port of registry or home port,
  - (iv) ice class of the ship, if included in the monitoring plan,
  - (v) 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),
  - (vi) name of the shipowner,
  - (vii) address of the shipowner and its principal place of business,

- (viii) name of the company (if not the shipowner),
  - (ix) address of the company (if not the shipowner) and its principal place of business,
  - (x) 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.

#### Article 12

##### Format of the emissions report

1. The emissions report shall be submitted using automated systems and data exchange formats, including electronic templates.
2. The Commission shall determine, by means of implementing acts, technical rules establishing the data exchange formats, including the electronic templates. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 24(2).

#### CHAPTER III

##### VERIFICATION AND ACCREDITATION

#### Article 13

##### Scope of verification activities and verification report

1. The verifier shall assess the conformity of the monitoring plan with the requirements laid down in Articles 6 and 7. Where the verifier's assessment identifies non-conformities with those requirements, the company concerned shall revise its monitoring plan accordingly and submit the revised plan for a final assessment by the verifier before the reporting period starts. The company shall agree with the verifier on the timeframe necessary to introduce those revisions. That timeframe shall in any event not extend beyond the beginning of the reporting period.

2. The verifier shall assess the conformity of the emissions report with the requirements laid down in Articles 8 to 12 and Annexes I and II.

In particular the verifier shall assess whether the CO<sub>2</sub> emissions and other relevant information included in the emissions report have been determined in accordance with Articles 8, 9 and 10 and the monitoring plan.

3. Where the verification assessment concludes, with reasonable assurance from the verifier, that the emissions report is free from material misstatements, the verifier shall issue a verification report stating that the emissions report has been verified as satisfactory. The verification report shall specify all issues relevant to the work carried out by the verifier.

4. Where the verification assessment concludes that the emissions report includes misstatements or non-conformities with the requirements of this Regulation, the verifier shall inform the company thereof in a timely manner. The company shall then correct the misstatements or non-conformities so as to enable the verification process to be completed in time and shall submit to the verifier the revised emissions report and any other information that was necessary to correct the non-conformities identified. In its verification report, the verifier shall state whether the misstatements or non-conformities identified during the verification assessment have been corrected by the company. Where the communicated misstatements or non-conformities have not been corrected and, individually or combined, lead to material misstatements, the verifier shall issue a verification report stating that the emissions report does not comply with this Regulation.

#### Article 14

##### General obligations and principles for the verifiers

1. The verifier shall be independent from the company or from the operator of a ship and shall carry out the activities required under this Regulation in the public interest. For that purpose, neither the verifier nor any part of the same legal entity shall be a company or ship operator, the owner of a company, or be owned by them, nor shall the verifier have relations with the company that could affect its independence and impartiality.

2. When considering the verification of the emissions report and of the monitoring procedures applied by the company, the verifier shall assess the reliability, credibility and accuracy of the monitoring systems and of the reported data and information relating to CO<sub>2</sub> emissions, in particular:

- (a) the attribution of fuel consumption to voyages;
- (b) the reported fuel consumption data and related measurements and calculations;
- (c) the choice and the employment of emission factors;
- (d) the calculations leading to the determination of the overall CO<sub>2</sub> emissions;
- (e) the calculations leading to the determination of the energy efficiency.

3. The verifier shall only consider emissions reports submitted in accordance with Article 12 if reliable and credible data and information enable the CO<sub>2</sub> emissions to be determined with a reasonable degree of certainty and provided that the following are ensured:

- (a) the reported data are coherent in relation to estimated data that are based on ship tracking data and characteristics such as the installed engine power;
- (b) the reported data are free of inconsistencies, in particular when comparing the total volume of fuel purchased annually by each ship and the aggregate fuel consumption during voyages;
- (c) the collection of the data has been carried out in accordance with the applicable rules; and
- (d) the relevant records of the ship are complete and consistent.

#### *Article 15*

#### **Verification procedures**

1. The verifier shall identify potential risks related to the monitoring and reporting process by comparing reported CO<sub>2</sub> emissions with estimated data based on ship tracking data and characteristics such as the installed engine power. Where significant deviations are found, the verifier shall carry out further analyses.

2. The verifier shall identify potential risks related to the different calculation steps by reviewing all data sources and methodologies used.

3. The verifier shall take into consideration any effective risk control methods applied by the company to reduce levels of uncertainty associated with the accuracy specific to the monitoring methods used.

4. The company shall provide the verifier with any additional information that enables it to carry out the verification procedures. The verifier may conduct spot-checks during the verification process to determine the reliability of reported data and information.

5. The Commission shall be empowered to adopt delegated acts in accordance with Article 23, in order to further specify the rules for the verification activities referred to in this Regulation. When adopting these acts, the Commission shall take into account the elements set out in Part A of Annex III. The rules specified in those delegated acts shall be based on the principles for verification provided for in Article 14 and on relevant internationally accepted standards.

#### *Article 16*

#### **Accreditation of verifiers**

1. Verifiers that assess the monitoring plans and the emissions reports, and issue verification reports and documents of compliance referred to in this Regulation shall be accredited for activities under the scope of this Regulation by a national accreditation body pursuant to Regulation (EC) No 765/2008.

2. Where no specific provisions concerning the accreditation of verifiers are laid down in this Regulation, the relevant provisions of Regulation (EC) No 765/2008 shall apply.

3. The Commission shall be empowered to adopt delegated acts in accordance with Article 23, in order to further specify the methods of accreditation of verifiers. When adopting these acts, the Commission shall take into account the elements set out in Part B of Annex III. The methods specified in those delegated acts shall be based on the principles for verification provided for in Article 14 and on relevant internationally accepted standards.



## CHAPTER IV

## COMPLIANCE AND PUBLICATION OF INFORMATION

## Article 17

**Document of compliance**

1. Where the emissions report fulfils the requirements set out in Articles 11 to 15 and those in Annexes I and II, the verifier shall issue, on the basis of the verification report, a document of compliance for the ship concerned.
2. The document of compliance shall include the following information:
  - (a) identity of the ship (name, IMO identification number and port of registry or home port);
  - (b) name, address and principal place of business of the shipowner;
  - (c) identity of the verifier;
  - (d) date of issue of the document of compliance, its period of validity and the reporting period it refers to.
3. Documents of compliance shall be valid for the period of 18 months after the end of the reporting period.
4. The verifier shall inform the Commission and the authority of the flag State, without delay, of the issuance of any document of compliance. The verifier shall transmit the information referred to in paragraph 2 using automated systems and data exchange formats, including electronic templates.
5. The Commission shall determine, by means of implementing acts, technical rules for the data exchange formats, including the electronic templates. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 24(2).

## Article 18

**Obligation to carry a valid document of compliance on board**

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 a Member State, and which have carried out voyages during that reporting period, shall carry on board a valid document of compliance.

## Article 19

**Compliance with monitoring and reporting requirements and inspections**

1. Based on the information published in accordance with Article 21(1), each Member State shall take all the measures necessary to ensure compliance with the monitoring and reporting requirements set out in Articles 8 to 12 by ships flying its flag. Member States shall regard the fact that a document of compliance has been issued for the ship concerned, in accordance with Article 17(4), as evidence of such compliance.
2. Each Member State shall ensure that any inspection of a ship in a port under its jurisdiction carried out in accordance with Directive 2009/16/EC includes checking that a valid document of compliance is carried on board.
3. For each ship in respect of which the information referred to in points (i) and (j) of Article 21(2), is not available at the time when it enters a port under the jurisdiction of a Member State, the Member State concerned may check that a valid document of compliance is carried on board.

## Article 20

**Penalties, information exchange and expulsion order**

1. Member States shall set up a system of penalties for failure to comply with the monitoring and reporting obligations set out in Articles 8 to 12 and shall take all the measures necessary to ensure that those penalties are imposed. The penalties provided for shall be effective, proportionate and dissuasive. Member States shall notify those provisions to the Commission by 1 July 2017, and shall notify to the Commission without delay any subsequent amendments.

2. Member States shall establish an effective exchange of information and effective cooperation between their national authorities responsible for ensuring compliance with monitoring and reporting obligations or, where applicable, their authorities entrusted with penalty procedures. National penalty procedures against a specified ship by any Member State shall be notified to the Commission, the European Maritime Safety Agency (EMSA), to the other Member States and to the flag State concerned.

3. In the case of ships that have failed to comply with the monitoring and reporting requirements for two or more consecutive reporting periods and where other enforcement measures have failed to ensure compliance, the competent authority of the Member State of the port of entry may issue an expulsion order which shall be notified to the Commission, EMSA, the other Member States and the flag State concerned. As a result of the issuing of such an expulsion order, every Member State shall refuse entry of the ship concerned into any of its ports until the company fulfils its monitoring and reporting obligations in accordance with Articles 11 and 18. The fulfilment of those obligations shall be confirmed by the notification of a valid document of compliance to the competent national authority which issued the expulsion order. This paragraph shall be without prejudice to international maritime rules applicable in the case of ships in distress.

4. The shipowner or operator of a ship or its representative in the Member States shall have the right to an effective remedy before a court or tribunal against an expulsion order and shall be properly informed thereof by the competent authority of the Member State of the port of entry. Member States shall establish and maintain appropriate procedures for this purpose.

5. Any Member State without maritime ports in its territory and which has closed its national ship register or has no ships flying its flag that fall within the scope of this Regulation, and as long as no such ships are flying its flag, may derogate from the provisions of this Article. Any Member State that intends to avail itself of that derogation shall notify the Commission at the latest on 1 July 2015. Any subsequent change shall also be communicated to the Commission.

#### Article 21

#### Publication of information and Commission report

1. By 30 June each year, the Commission shall make publicly available the information on CO<sub>2</sub> emissions reported in accordance with Article 11 as well as the information set out in paragraph 2 of this Article.

2. The Commission shall include the following in the information to be made publicly available:

- (a) the identity of the ship (name, IMO identification number and port of registry or home port);
- (b) the technical efficiency of the ship (EEDI or EIV, where applicable);
- (c) the annual CO<sub>2</sub> emissions;
- (d) the annual total fuel consumption for voyages;
- (e) the annual average fuel consumption and CO<sub>2</sub> emissions per distance travelled of voyages;
- (f) the annual average fuel consumption and CO<sub>2</sub> emissions per distance travelled and cargo carried on voyages;
- (g) the annual total time spent at sea in voyages;
- (h) the method applied for monitoring;
- (i) the date of issue and the expiry date of the document of compliance;
- (j) the identity of the verifier that assessed the emissions report;
- (k) any other information monitored and reported on a voluntary basis in accordance with Article 10.

3. Where, due to specific circumstances, disclosure of a category of aggregated data under paragraph 2, which does not relate to CO<sub>2</sub> emissions, would exceptionally undermine the protection of commercial interests deserving protection as a legitimate economic interest overriding the public interest in disclosure pursuant to Regulation (EC) No 1367/2006 of the European Parliament and of the Council<sup>(1)</sup>, a different level of aggregation of that specific data shall be applied, at the request of the company, so as to protect such interests. Where application of a different level of aggregation is not possible, the Commission shall not make those data publicly available.

<sup>(1)</sup> Regulation (EC) No 1367/2006 of the European Parliament and of the Council of 6 September 2006 on the application of the provisions of the Aarhus Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters to Community institutions and bodies (OJ L 264, 25.9.2006, p. 13).

4. The Commission shall publish an annual report on CO<sub>2</sub> emissions and other relevant information from maritime transport, including aggregated and explained results, with the aim of informing the public and allowing for an assessment of the CO<sub>2</sub> emissions and the energy efficiency of maritime transport per size, type of ships, activity, or any other category deemed relevant.

5. The Commission shall assess every two years the maritime transport sector's overall impact on the global climate including through non-CO<sub>2</sub>-related emissions or effects.

6. Within the framework of its mandate, EMSA shall assist the Commission in its work to comply with this Article and Articles 12 and 17 of this Regulation, in accordance with Regulation (EC) No 1406/2002 of the European Parliament and of the Council (<sup>1</sup>).

## CHAPTER V

### INTERNATIONAL COOPERATION

#### *Article 22*

#### **International cooperation**

1. The Commission shall inform the IMO and other relevant international bodies on a regular basis of the implementation of this Regulation, without prejudice to the distribution of competences or to decision-making procedures as provided for in the Treaties.

2. The Commission and, where relevant, the Member States shall maintain technical exchange with third countries, in particular the further development of monitoring methods, the organisation of reporting and the verification of emissions reports.

3. In the event that an international agreement on a global monitoring, reporting and verification system for greenhouse gas emissions or on global measures to reduce greenhouse gas emissions from maritime transport is reached, the Commission shall review this Regulation and shall, if appropriate, propose amendments to this Regulation in order to ensure alignment with that international agreement.

## CHAPTER VI

### DELEGATED AND IMPLEMENTING POWERS AND FINAL PROVISIONS

#### *Article 23*

#### **Exercise of delegation**

1. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article. It is of particular importance that the Commission follow its usual practice and carry out consultations with experts, including Member States' experts, before adopting those delegated acts.

2. The power to adopt delegated acts referred to in Articles 5(2), 15(5) and 16(3) shall be conferred on the Commission for a period of five years from 1 July 2015. The Commission shall draw up a report in respect of the delegation of power not later than nine months before the end of the five-year period. The delegation of power shall be tacitly extended for periods of an identical duration, unless the European Parliament or the Council opposes such extension not later than three months before the end of each period.

3. The delegation of power referred to in Articles 5(2), 15(5) and 16(3) may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

4. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.

<sup>(1)</sup> Regulation (EC) No 1406/2002 of the European Parliament and of the Council of 27 June 2002 establishing a European Maritime Safety Agency (OJ L 208, 5.8.2002, p. 1).

5. A delegated act adopted pursuant to Articles 5(2), 15(5) and 16(3) shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council.

#### Article 24

##### Committee procedure

1. The Commission shall be assisted by the Committee established by Article 26 of Regulation (EU) No 525/2013 of the European Parliament and of the Council<sup>(1)</sup>. That Committee shall be a committee within the meaning of Regulation (EU) No 182/2011.

2. Where reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply. Where the committee delivers no opinion, the Commission shall not adopt the draft implementing act and the third subparagraph of Article 5(4) of Regulation (EU) No 182/2011 shall apply.

#### Article 25

##### Amendments to Directive 2009/16/EC

The following point shall be added to the list set out in Annex IV to Directive 2009/16/EC:

'50. Document of Compliance issued under 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 (\*).

(\*) OJ L 123, 19.5.2015, p. 55.'

#### Article 26

##### Entry into force

This Regulation shall enter into force on 1 July 2015.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Strasbourg, 29 April 2015.

For the European Parliament

The President

M. SCHULZ

For the Council

The President

Z. KALNIŅA-LUKAŠEVICA

<sup>(1)</sup> Regulation (EU) No 525/2013 of the European Parliament and of the Council of 21 May 2013 on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union level relevant to climate change and repealing Decision No 280/2004/EC (OJ L 165, 18.6.2013, p. 13).

## ANNEX I

**Methods for monitoring CO<sub>2</sub> emissions**A. CALCULATION OF CO<sub>2</sub> EMISSIONS (ARTICLE 9)

For the purposes of calculating CO<sub>2</sub> emissions companies shall apply the following formula:

Fuel consumption × emission factor

Fuel consumption shall include fuel consumed by main engines, auxiliary engines, gas turbines, boilers and inert gas generators.

Fuel consumption within ports at berth shall be calculated separately.

In principle, default values for emission factors of fuels shall be used unless the company decides to use data on fuel quality set out in the Bunker Fuel Delivery Notes (BDN) and used for demonstrating compliance with applicable regulations of sulphur emissions.

Those default values for emission factors shall be based on the latest available values of the Intergovernmental Panel for Climate Change (IPCC). Those values can be derived from Annex VI to Commission Regulation (EU) No 601/2012 <sup>(1)</sup>.

Appropriate emission factors shall be applied in respect of biofuels and alternative non-fossil fuels.

B. METHODS FOR DETERMINING CO<sub>2</sub> EMISSIONS

The company shall define in the monitoring plan which monitoring method is to be used to calculate fuel consumption for each ship under its responsibility and ensure that once the method has been chosen, it is consistently applied.

Actual fuel consumption for each voyage shall be used and be calculated using one of the following methods:

- (a) Bunker Fuel Delivery Note (BDN) and periodic stocktakes of fuel tanks;
- (b) Bunker fuel tank monitoring on board;
- (c) Flow meters for applicable combustion processes;
- (d) Direct CO<sub>2</sub> emissions measurements.

Any combination of these methods, once assessed by the verifier, may be used if it enhances the overall accuracy of the measurement.

## 1. Method A: BDN and periodic stocktakes 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.

<sup>(1)</sup> Commission Regulation (EU) No 601/2012 of 21 June 2012 on the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council (OJ L 181, 12.7.2012, p. 30).

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:

- (a) on-board measurement systems;
- (b) 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.

## 2. Method B: Bunker fuel tank monitoring on-board

This method is based on fuel tank readings for all fuel tanks on-board. 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:

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

## 3. 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 CO<sub>2</sub> 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:

- (a) on-board measurement systems;
- (b) 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.

#### 4. Method D: Direct CO<sub>2</sub> emissions measurement

The direct CO<sub>2</sub> emissions measurements may be used for voyages and for CO<sub>2</sub> emissions occurring in ports located in a Member State's jurisdiction. CO<sub>2</sub> emitted shall include CO<sub>2</sub> 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 CO<sub>2</sub> emissions and the applicable emission factor of the relevant fuels.

This method is based on the determination of CO<sub>2</sub> emission flows in exhaust gas stacks (funnels) by multiplying the CO<sub>2</sub> 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.

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## ANNEX II

**Monitoring of other relevant information**

## A. MONITORING ON A PER VOYAGE BASIS (ARTICLE 9)

1. For the purposes of monitoring other relevant information on a per-voyage basis (Article 9(1)), companies shall respect the following rules:

- (a) the date and hour of departure and arrival shall be considered using Greenwich Mean Time (GMT). The time spent at sea shall be calculated based on port departure and arrival information and shall exclude anchoring;
- (b) the distance travelled may be either the distance of the most direct route between the port of departure and the port of arrival or the real distance travelled. In the event of the use of the distance of the most direct route between the port of departure and the port of arrival, a conservative correction factor should be taken into account to ensure that the distance travelled is not significantly underestimated. The monitoring plan shall specify which distance calculation is used and, if necessary, the correction factor used. The distance travelled shall be expressed in nautical miles;
- (c) transport work shall be determined by multiplying the distance travelled with the amount of cargo carried;
- (d) for passenger ships, the number of passengers shall be used to express cargo carried. For all other categories of ships, the amount of cargo carried shall be expressed either as metric tonnes or as standard cubic metres of cargo, as appropriate;
- (e) for ro-ro ships, cargo carried shall be defined as the number of cargo units (trucks, cars, etc.) or lane-metres multiplied by default values for their weight. Where cargo carried by ro-ro ships has been defined based on Annex B to the CEN standard EN 16258 (2012), covering 'Methodology for calculation and declaration of energy consumption and GHG emissions of transport services (freight and passengers)', that definition shall be deemed to comply with this Regulation.

For the purposes of this Regulation, 'ro-ro ship' means a ship designed for the carriage of roll-on-roll-off cargo transportation units or with roll-on-roll-off cargo spaces;

- (f) for container ships, cargo carried shall be defined as the total weight in metric tonnes of the cargo or, failing that, the amount of 20-foot equivalent units (TEU) multiplied by default values for their weight. Where cargo carried by a container ship is defined in accordance with applicable IMO Guidelines or instruments pursuant to the Convention for the Safety of Life at Sea (SOLAS Convention), that definition shall be deemed to comply with this Regulation.

For the purposes of this Regulation, 'container ship' means a ship designed exclusively for the carriage of containers in holds and on deck;

- (g) the determination of cargo carried for categories of ships other than passenger ships, ro-ro ships and container ships shall enable the taking into account, where applicable, of the weight and volume of cargo carried and the number of passengers carried. Those categories shall include, inter alia, tankers, bulk carriers, general cargo ships, refrigerated cargo ships, vehicle carriers and combination carriers.
2. In order to ensure uniform conditions for the application of point (g) of paragraph 1, the Commission shall adopt, by means of implementing acts, technical rules specifying the parameters applicable to each of the other categories of ships referred to under that point.

Those implementing acts shall be adopted not later than 31 December 2016 in accordance with the examination procedure referred to in Article 24(2).

The Commission, by means of implementing acts, may revise, where appropriate, the applicable parameters referred to in point (g) of paragraph 1. Where relevant, the Commission shall also revise those parameters to take account of amendments to this Annex pursuant to Article 5(2). Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 24(2).

3. In complying with the rules referred to in paragraphs 1 and 2, companies may also choose to include specific information relating to the ship's ice class and to navigation through ice.



B. MONITORING ON AN ANNUAL BASIS (ARTICLE 10)

For the purposes of monitoring other relevant information on an annual basis, companies shall respect the following rules:

The values to be monitored under Article 10 shall be determined by aggregation of the respective per voyage data.

Average energy efficiency shall be monitored by using at least four indicators: fuel consumption per distance, fuel consumption per transport work, CO<sub>2</sub> emissions per distance and CO<sub>2</sub> emissions per transport work, which shall be calculated as follows:

Fuel consumption per distance = total annual fuel consumption/total distance travelled

Fuel consumption per transport work = total annual fuel consumption/total transport work

CO<sub>2</sub> emissions per distance = total annual CO<sub>2</sub> emissions/total distance travelled

CO<sub>2</sub> emissions per transport work = total annual CO<sub>2</sub> emissions/total transport work.

In complying with these rules, companies may also choose to include specific information relating to the ship's ice class and to navigation through ice, as well as other information related to the fuel consumed and CO<sub>2</sub> emitted, differentiating on the basis of other criteria defined in the monitoring plan.

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## ANNEX III

**Elements to be taken into account for the delegated acts provided for in Articles 15 and 16**

## A. VERIFICATION PROCEDURES

- Competencies of verifiers,
- documents to be provided by companies to verifiers,
- risk assessment to be carried out by verifiers,
- assessment of the conformity of the monitoring plan,
- verification of the emissions report,
- materiality level,
- reasonable assurance of verifiers,
- misstatements and non-conformities,
- content of the verification report,
- recommendations for improvements,
- communication between companies, verifiers and the Commission.

## B. ACCREDITATION OF VERIFIERS

- How accreditation for shipping activities can be requested,
  - how verifiers will be assessed by the national accreditation bodies in order to issue an accreditation certificate,
  - how the national accreditation bodies will perform the surveillance needed to confirm the continuation of the accreditation,
  - requirements for national accreditation bodies in order to be competent to provide accreditation to verifiers for shipping activities, including reference to harmonised standards.
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## **List of issues for further development of best practise and guidance documents within the EU MRV System**

Regarding best practise and possible further guidance on monitoring in general, the following issues have been identified for further consideration. It is anticipated that this further work may commence around September 2016:

Gap filling: Potential data gaps can be very diverse and will require different approaches to fill these gaps in a conservative manner. Guidance on which gap filling approach is most appropriate in which case will help companies to react appropriately in the case of such events.

The following issues have been identified for further consideration of guidance relating to monitoring of fuel consumption and emissions:

1. Fuel consumption for LNG carriers using boil-off gas as fuel: For those ships the existing Custody Transfer Management System (CTMS) can serve as a very advanced method to determine the fuel consumed on its voyages. LNG consumed at berth can be derived by the flow meters installed on the piping supplying gas to the consumers (engines, boilers, etc.) or by level gauges and calibration tables.
2. Method B (fuel tank readings): In cases of equipment failure, where electronic equipment is used, fuel tank readings can be carried out with manual tank reading methods.
3. Fuel density: A number of issues could be addressed including the non-linear relationship between fuel oil density, temperature and pressure (to be taken into account when converting measured volumes into mass at varying temperatures), varying densities due to different measurement methods and the mixture of fuels made on board.
4. Emission factors: In case of fuels which are not included in Resolution MEPC 245 (66) 2014 emission factors need to be determined. Guidance might be required on the methodology for sampling and methods of analysis.
5. Uncertainty: As no current international and European rules and standards or technological and scientific developments could trigger amendments to Annex I, it is suggested to provide guidance on expected levels of uncertainty for the different monitoring methods including default values which could be applied in the monitoring plans.
6. Conditions for the use of the exemption from per-voyage monitoring (Article 9 (2)).
7. Guidance on fuel consumption monitoring

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Regarding best practise and possible further guidance on the determination of other parameters, the following issues have been identified:

1. Determination of distance travelled (e.g. measurement through the water or over ground, consideration of drifting, movements for tank cleaning);
2. Determination of time spent at sea;
3. Determination of cargo carried for Ro-Ro (cargo) and Ro-Pax ships: Based on recommendations of Work Package 3, companies could applied either actual or ship- or company-specific default values for the specific weight of cargo units (per lane-meter or per unit), to be specified in the monitoring plan.
4. Allocation of fuel consumption/ emissions to passenger and cargo transport (for Ro-Pax ships): Recommendations for the treatment of hanging decks and the area of the freight decks allocated to vehicles belonging to freight paying passengers (concrete proposals provided by Work Package 3).
5. The determination of cargo carried for container ships is based on actual mass or number of TEUs multiplied by default values for their weight. The former is linked to applicable instruments pursuant to SOLAS. Guidance could make explicit reference to MSC.1/Circ.1475 (but no change to legal text desired to keep the link to SOLAS flexible in case of any amendments).
6. Default values for container weight and further clarification on the determination for cargo carried for this ship type. This could be integrated into guidance:

The weight of Cargo should be limited to the Verified Gross Mass Information used under the SOLAS Regulation applicable to packed Containers. Should a default value be used, it shall be 12 tonnes per TEU.

Table 1: TEU Conversion Factors <b>Container Size</b>	<b>TEU Conversion Factor (TEU Equivalents)</b>	<b>Default Container Weights (in tonnes)</b>
20' ST TEU 8'6" plus 20' High Cube (HC)	1.0	12
40' ST FFE 8' 6" (forty-foot equivalent unit)	2.0	24
40' High Cube (FFE 9'6") plus 45' and 48'	2.25	27