VERSION 1.0 – JUNE 2018

SEEMP PART II

## SEEMP PART II TEMPLATE FOR SHIPOWNERS AND OPERATORS

Ship Energy Efficiency Management Plan (SEEMP) Part II:

Ship Fuel Oil Consumption Data Collection Plan

|  |
| --- |
| COMPANY DETAILS |
|  |

|  |  |
| --- | --- |
| Ship particulars | |
| Ship name |  |
| IMO number |  |
| Call sign |  |
| Port of registry |  |
| Flag |  |
| Ship type |  |
| Keel Laid |  |
| Gross tonnage |  |
| Net tonnage |  |
| Deadweight |  |
| Energy Efficiency Design Index (if applicable) |  |
| Ice class (if applicable) |  |

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1. Introduction
2. The SEEMP Part II has been developed in accordance with the standards described in MARPOL Annex VI, as amended by Resolution MEPC.278(70), Chapter 4: Regulations on Energy Efficiency for Ships, Regulations 22.2 and 22A.
3. The SEEMP Part II has been developed taking into account the information contained in Resolution MEPC.282(70) – 2016 Guidelines for the Development of a SEEMP – as identified by the IMO.
4. Data collected for the current calendar year shall be readily accessible for at least one year from the end of the current calendar year and shall be made available to the Administration or any organisation duly authorised by it upon request, as required by MARPOL Annex VI, Chapter 4, Regulation 22A.8.
5. The purpose of the plan is to develop a ship-specific method to collect, aggregate and report ship data with regard to annual fuel oil consumption, distance travelled, hours underway, and other data required by Regulation 22A of MARPOL Annex VI to be reported to the Administration or any organisation duly authorised by it.
6. Pursuant to Regulation 5.4.5 of MARPOL Annex VI, the Administration shall ensure that the ship’s SEEMP complies with Regulation 22.2 of MARPOL Annex VI prior to collecting any data.
7. The plan has been reviewed by ClassIBS (Isthmus Bureau of Shipping) on behalf of the Flag Administration and no alteration or revision shall be made to any part of it without the prior approval of the Administration or ClassIBS.

2. Scope

1. Each ship of 5,000 GT and above shall have on board a ship fuel oil consumption data collection plan describing the methodology that will be used to collect the data required by Regulation 22A.1 of MARPOL Annex VI and the processes that will be used to report the data to the ship’s Administration or any organisation duly authorised by it.
2. A copy of the approved data collection plan shall be provided on board and this shall be done prior to collecting data under Regulation 22A of MARPOL Annex VI in order to ensure the methodology and processes are in place prior to the beginning of the ship’s first reporting period.

3. Objectives

The data collection plan contains the following information:

1. Description of the method used to measure annual fuel oil consumption.
2. Description of the method used to measure distance travelled.
3. Description of the method used to measure hours underway.
4. Description of the method used to aggregate data.
5. Description of the data quality control measures.
6. Description of the processes that will be used to report the data.

4. Methodology for collecting data on fuel oil consumption

Fuel oil means any fuel delivered to and intended for combustion purposes for propulsion or operation on board a ship, including gas, distillate, and residual fuels.

Fuel oil consumption shall include all the fuel oil consumed on board – including but not limited to the fuel oil consumed by the main engines, auxiliary engines, gas turbines, boilers, and inert gas generator – for each type of fuel oil consumed, regardless of whether a ship is underway or not.

The types of fuel as defined in Resolution MEPC.245(66), as amended, are shown in Appendix A.

If fuel oils are used that do not fall into one of the categories as described in Resolution MEPC.245(66), as amended, and have no CF (a non-dimensional conversion factor between fuel oil consumption and CO2 emission) assigned, the fuel oil supplier should provide a CF for the respective product supported by documentary evidence.

The annual total amount of CO2 is calculated by multiplying annual fuel oil consumption and CF for the type of fuel.

4.1 Ship engines and other fuel oil consumers and fuel oil types used

|  |  |  |  |
| --- | --- | --- | --- |
| **Engines or other fuel oil consumers** | | **Power** | **Fuel oil types** |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| 4 |  |  |  |

The applied method used for measuring annual fuel oil consumption in metric tonnes is described in the following sections. As Applicable.

4.2 Method using bunker delivery notes (BDNs)

*[This section should be used if it is the applied method used by the ship.]*

This method determines the annual total amount of fuel oil used based on BDNs, which are a requirement for fuel oil delivered to and used on board a ship for combustion purposes in accordance with Regulation 18 of MARPOL Annex VI.

BDNs are required to be retained on board for three years after the fuel oil has been delivered.

The following table sets out how the ship will implement the summation of BDN information and conduct tank readings.

|  |  |  |  |
| --- | --- | --- | --- |
| **Procedures** | | **Responsible person(s)** | **Equipment** |
| 11 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  |  |  |
| 7 |  |  |  |
| 8 |  |  |  |
| 9 |  |  |  |

4.3Method using flow meters

*[This section should be used if it is the applied method used by the ship.]*

This method determines the annual total amount of fuel oil consumption by measuring fuel oil flows on board using flow meters. In case of the breakdown of flow meters, manual tank readings or alternative methods will be conducted instead.

The following table sets out information about the ship’s flow meters and how the data will be collected and summarised, as well as how the necessary tank readings will be conducted.

|  |  |  |  |
| --- | --- | --- | --- |
| **Procedures** | | **Consumer(s) monitored** | **Flow meter details** |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

4.4 Method using bunker fuel oil-tank monitoring on board

*[This section should be used if it is the applied method used by the ship.]*

This method determines the annual total amount of fuel oil consumption by measuring daily fuel oil consumption by taking tank readings and aggregating them. The tank readings will normally be conducted daily when the ship is at sea, and each time the ship is bunkering or de-bunkering.

The following table sets out how the ship will implement the summation of daily fuel oil consumption data and conduct tank readings.

|  |  |  |  |
| --- | --- | --- | --- |
| **Procedures** | | **Responsible person(s)** | **Equipment** |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

5. Methodology for collecting data on distance travelled

Appendix IX of MARPOL Annex VI specifies that data on the distance travelled shall be submitted to the Administration.

The following table sets out how the ship will measure distance travelled.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Procedures** | | | **Responsible person(s)** | **Equipment** |
| 1 |  |  | |  |
| 2 |  |  | |  |
| 3 |  |  | |  |

6. Methodology for collecting data on hours underway

Appendix IX of MARPOL Annex VI specifies that hours underway should be submitted to the Administration. [Hours underway should be an aggregated duration while the ship is underway under its own propulsion.]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Procedures** | | | **Responsible person(s)** | **Equipment** |
| 1 |  |  | |  |

7. Data quality

Data quality control measures should be incorporated into the existing shipboard safety management system.

The following table sets out the data quality control measures of the ship.

|  |  |  |  |
| --- | --- | --- | --- |
| **Procedures** | | **Responsible person(s)** | **Equipment** |
| 1 |  |  |  |
| 2 |  |  |  |
|  |  |  |  |
|  |  |  |  |

8. Processes that will be used to report the data

Regulation 22A.3 of MARPOL Annex VI states that the data specified in Appendix IX of the Annex are to be communicated electronically using a standardised form developed by the IMO.

The collected data shall be reported to the Administration or any organisation duly authorised by it in the standardised format shown in Appendix B.

The Administration should indicate what additional documentation the ship should submit along with the annual data report shown in Appendix B.

Additional documentation required is as follows:

1. A copy of the ship’s data collection plan.
2. Summaries of BDNs, in sufficient detail to show that all fuel oil consumed by the ship is accounted for (see sample form of BDN summary set out in Appendix C).
3. Summaries of disaggregated data of fuel oil consumption, distance travelled and hours underway, in a format specified by the Administration (see sample form of data summary set out in Appendix C).
4. Information to demonstrate that the ship followed the data collection plan set out in its SEEMP Part II, including information on data gaps and how they were filled, as well as how the event that caused each data gap was resolved.
5. Copies of documents containing information on the amount of fuel oil consumption, distance travelled and hours underway for the ship’s voyages during the reporting period (e.g. the ship’s official logbook, oil record book, BDNs, and arrival/noon/departure reports).

|  |  |  |  |
| --- | --- | --- | --- |
| **Procedures** | | **Responsible person(s)** | **Equipment** |
| 1 |  |  |  |

9. Appendices

9.1 Appendix A – Types of fuel

|  |  |  |  |
| --- | --- | --- | --- |
| **Type of fuel** | | **Reference** | **CF = t-CO2 / t-Fuel** |
| 1 | Diesel/gas oil | ISO 8217 Grades DMX through DMB | 3.206 |
| 2 | Light fuel oil (LFO) | ISO 8217 Grades RMA through RMD | 3.151 |
| 3 | Heavy fuel oil (HFO) | ISO 8217 Grades RME through RMK | 3.114 |
| 4 | Liquefied petroleum gas (LPG) | Propane | 3.000 |
| 5 | Liquefied petroleum gas (LPG) | Butane | 3.030 |
| 6 | Liquefied natural gas (LNG) |  | 2.750 |
| 7 | Methanol |  | 1.375 |
| 8 | Ethanol |  | 1.913 |
| 9 | Other |  |  |

9.2 Appendix B – Standardised data reporting format for the data collection system

9.3 Appendix C – Sample of the BDN summaries and sample of the collected data summaries