
**Ships and marine technology —
Marine environment protection —
Specification for collecting data on
ship's fuel oil consumption**

*Navires et technologie maritime — Protection de l'environnement
marin — Spécifications relatives à la collecte de données sur la
consommation de mazout des navires*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The International Maritime Organization (IMO) Marine Environment Protection Committee, at its seventieth session (MEPC 70), adopted resolution MEPC.278(70) on Amendments to MARPOL, Annex VI, on data collection systems for fuel oil consumption of ships, which entered into force on 1 March 2018.

In accordance with regulation 22.2 of MARPOL, Annex VI, on or before 31 December 2018, the ship energy efficiency management plan (SEEMP) for ships of 5 000 gross tonnage (GT) and above is required to include a description of the methodology used to collect the data required by regulation 22A of MARPOL, Annex VI, including the process used to report the data to the ship's administration.

In addition, in accordance with regulation 5.4.5 of MARPOL, Annex VI, administrations are required to ensure that for each ship to which regulation 22A applies, the SEEMP complies with regulation 22.2. This is required to be done prior to collection of data under regulation 22A to ensure the methodology and the process are in place prior to the beginning of the ship's first reporting period.

Resolution IMO MEPC.282(70) 2016, *Guidelines for the development of a ship energy efficiency management plan (SEEMP)*^[3], already provides detailed guidelines for the IMO data collection system. Additionally, Part 2 of the SEEMP, *Ship fuel oil consumption data collection plan*, is expected to be verified by the administrations or recognized organizations (RO). However, some portions needed to be clarified to prevent controversy between the administrations to improve data quality. This especially pertains to the methods to measure fuel oil consumption. Three methods for measuring fuel oil consumption (by bunker delivery note [BDN], flow meter, and sounding) are needed to specify the density calculation and calibration of each of the measuring devices.

Ships and marine technology — Marine environment protection — Specification for collecting data on ship's fuel oil consumption

1 Scope

This document provides a method for ships of 5 000 gross tonnage (GT) and above to collect data on fuel oil consumption, as required by regulation 22A of MARPOL, Annex VI. It specifies practical methods to measure the fuel oil consumption, the distance travelled and the hours underway. [Annex A](#) provides an example of a ship fuel oil consumption data collection plan.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IMO MARPOL Convention Annex VI, *Regulations for the prevention of air pollution from ships*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

ship fuel oil consumption data

data required to be collected on an annual basis and reported as specified in Appendix IX of MARPOL, Annex VI

3.2

emission

release of substances, subject to control by MARPOL, Annex VI, from ships into the atmosphere or sea

3.3

fuel oil

fuel delivered to and intended for combustion purposes for propulsion or operation on board a ship, including distillate and residual fuels

3.4

conversion factor

non-dimensional conversion factor between *fuel oil* (3.3) consumption and CO₂ *emission* (3.2)

Note 1 to entry: It is defined in the *2014 Guidelines on the method of calculation of the attained Energy Efficiency Design Index (EEDI) for new ships* (resolution MEPC.245(66)), as amended^[4].

3.5

voyage

movement of a ship between a *departure from a berth* (3.6) to the *arrival at the next berth* (3.7)