

MARINE ENVIRONMENT PROTECTION  
COMMITTEE  
72nd session  
Agenda item 5

MEPC 72/5  
5 January 2018  
Original: ENGLISH

## **AIR POLLUTION AND ENERGY EFFICIENCY**

### **Proposed amendments to the draft Guidance on best practice for fuel oil purchasers/users for assuring the quality of fuel oil used onboard ships**

**Submitted by ICS, INTERTANKO and IBIA**

#### **SUMMARY**

*Executive summary:* This document proposes amendments to the draft Guidance on best practice for fuel oil purchasers/users, contained in document MEPC 71/WP.8, annex 1. The co-sponsors have identified a number of primarily editorial amendments intended to enhance the document. The proposed changes can be found in the annexes to this submission.

*Strategic direction:* 1

*High-level action:*

*Output:* 1.18

*Action to be taken:* Paragraph 38

*Related documents:* MEPC 71/5/3, MEPC 71/17, MEPC 71/WP.8 and MEPC 69/5/3

#### **Introduction**

1 The Committee, at its sixty-eighth session, considered the report of the Correspondence Group on Fuel oil quality (MEPC 68/3/4 and MEPC 68/INF.12) and noted that the majority of delegations that expressed a view agreed that there was a need to further examine the adequacy of the current legal framework in MARPOL Annex VI and the draft Guidance on best practice for assuring the quality of fuel used onboard ships. MEPC 68, therefore, re-established the Correspondence Group to continue this work.

2 At MEPC 69, the Committee considered documents MEPC 69/5/3 and MEPC 69/INF.7 (United States) which contained the report of the Correspondence Group and noted that, inter alia, the Group had prepared three aspects of possible draft guidance on best practice for fuel oil providers, fuel oil purchaser/user, and Member States/coastal States. Following consideration, the Committee once again re-established the Correspondence Group and instructed it to further develop draft guidance on best practice for fuel oil purchasers/users and Member States/coastal States, taking into account annexes 2 and 3 to document MEPC 69/5/3, and to submit a report to MEPC 71.

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3 As requested by the Committee, the report of the Correspondence Group on Fuel oil quality contained in document MEPC 71/5/3 included draft Guidance on best practice for fuel oil purchasers/users (MEPC 71/5/3, annex 1).

4 The Working Group established at MEPC 71 to consider agenda item 5 on air pollution and energy efficiency was instructed to, inter alia, finalize the draft Guidance on best practice for fuel oil purchasers/users, using annex 1 to document MEPC 71/5/3.

5 The Working Group made good progress in reviewing and amending the draft Guidance on best practice for fuel oil purchasers/users, but was unable to complete this task due to time constraints. The Committee therefore noted the Group's discussion and invited interested Member Governments and international organizations to further consider it and submit comments and proposals to MEPC 72, with a view to finalization of the best practice at that session (MEPC 71/17, paragraph 5.58).

### **General remarks**

6 The co-sponsors fully support the decision by the Organization to develop guidance on best practice for fuel oil purchasers/users and appreciate the considerable progress made in this regard, by the Correspondence Group on Fuel oil quality (MEPC 71/5/3, annex 1) and by the Working Group on Air pollution and energy efficiency (MEPC 71/WP.8, annex 1).

7 The co-sponsors note that the draft guidance has moved significantly closer to completion and believe that annex 1 to document MEPC 71/WP.8 contains the necessary elements for the final guidance. Moreover, in order to further enhance the document, the co-sponsors propose some additional amendments to the draft guidance by re-structuring, editing some text and addressing some specific technical concerns that the Working Group was not able to fully consider due to time constraints. These proposed amendments can be found in the annexes to this document.

8 Although the proposed text amendments are primarily editorial, they are extensive. As a result, annex 1 to this document contains an amended version of annex 1 to document MEPC 71/WP.8 with the proposed changes highlighted, while a clean version of document which includes the proposed amendments can be found in annex 2. For ease of reference, a summary of the amendments proposed are provided below. References to "existing draft" in this summary refer to annex 1 of document MEPC 71/WP.8, while references to "amended version" refer to annex 2 of this document.

### **Summary of proposed changes**

#### ***"Introduction" section***

9 Rationale for proposed new paragraph 1.2: This new paragraph has been included to explicitly state that it is the responsibility of the fuel oil purchaser (as defined in paragraph 2.1 of the existing draft) to correctly specify the fuel required, and that the fuel oil supplier is responsible for supplying fuel meeting the agreed specification. This should be the underpinning philosophy for the guidance document.

10 Rationale for proposed amendment to paragraph 1.3 of the existing draft (paragraph 1.4 of the amended version): The co-sponsors suggest that under regulation 14 of MARPOL Annex VI compliance begins with sourcing and purchasing compliant fuel. The guidance also seeks to assist fuel oil purchasers to mitigate the risk of fuel of inappropriate quality being delivered to the ship. This needs to be reflected in the document as it should form the basis for the principles of the guidance.

11 Rationale for proposed new paragraphs 1.8 and 1.9: There is increasing interest in unfamiliar and new blends of fuel oil which are being developed in response to lower sulphur limits. These new fuels may require fundamentally different handling and risk management procedures and controls, therefore users who are interested in these new fuels should be urged to engage with suppliers to assess any special requirements and perform a detailed technical analysis to ascertain any changes, modifications and special handling requirements which may be necessary. This is a rapidly evolving subject area, as a result it is not practical or advisable to provide detailed guidance for these new fuels at this stage, since new fuel compositions are still being developed.

### ***"Definitions" section***

12 Rationale for proposed new texts under paragraphs 2.1 to 2.3: Since these Guidelines may be used by stakeholders in the bunker supply chain, with limited understanding of the IMO instruments, it may be helpful to include definitions for the SOLAS and MARPOL Conventions, and the ISM Code.

13 Rationale for proposed deletion of existing paragraph 2.1.1: It is proposed that this text should be deleted as it is not a definition, although it does provide guidance. As such, where it is considered useful to retain such guidance it should be moved to the appropriate body of the Guidelines. This exercise to remove guidance or text which goes beyond the scope of a definition has been carried out throughout the "Definitions" section.

14 Rationale for proposed deletion of existing paragraph 2.6: The co-sponsors suggest that the concept of "third party supplier" introduces confusion and that the definitions provided for "physical supplier/supplier, broker and trader" are sufficient.

15 Rationale for proposed amendments to existing paragraph 2.11 (paragraph 2.13 of the amended version, including the corresponding subparagraphs): Amendments have been proposed to improve layout and to make the paragraph easier to read.

### ***"Goals" section***

16 Rationale for proposed deletion of existing paragraph 3.1: The co-sponsors are of the view that this paragraph is not a goal, although it does provide guidance. Moreover, the co-sponsors consider that this is already addressed by proposed new paragraphs 1.2, 1.4 and 4.1.

17 Rationale for proposed amendments to existing paragraph 3.2 (paragraph 3.1 of the amended version): The co-sponsors suggest these changes for further clarity and some additional goals.

18 Rationale for proposed new paragraph 3.3: As reflected in this proposed new paragraph, the co-sponsors are of the view that the guidance should include an explicit statement that fuel purchasing decisions for ships provided with an equivalent means of compliance under regulation 4 of MARPOL Annex VI or which are exempted from some provisions under regulation 3 of MARPOL Annex VI may differ from other ships.

### ***"Best Practices" section***

19 Rationale for proposed amendments to paragraph 4.2: it is also suggested that the link to the CIMAC website should be included as a footnote instead of in the body of the text.

20 Rationale for proposed deletion of existing paragraph 4.3: The co-sponsors consider that the information contained in this paragraph is already addressed in other parts of the guidance, including proposed new paragraph 1.2 and under the "Contracting" section (paragraphs 4.4 to 4.4.6 of the amended version).

***"Choice of fuel oil supplier" section***

21 Rationale for amending existing paragraphs 4.4 to 4.4.5 (paragraphs 4.3 to 4.3.5 of the amended version): These paragraphs have been renumbered in order to further enhance the draft guidance.

22 Rationale for proposed new paragraph 4.3.5: The co-sponsors consider that quality assurance of bunker barges is an important element of mitigating the risk of receiving poor quality fuel. In the existing draft, there is a reference to the OCIMF tanker management self-assessment (TMSA) guidance. The co-sponsors believe that although TMSA is a very good tool, it is only one possible tool and that it would be more appropriate to request that information on quality assurance for bunker barges should be included with information on the suppliers QMS. Also, in view of its importance to move this consideration from existing paragraph 4.14, it is suggested to insert the proposed new text into the choice of fuel oil supplier section along with other decision tools.

23 Rationale for deleting text from paragraph 4.1.1 to 4.4.1.2: The text deleted from paragraph 4.4.1 to 4.4.1.2 is addressed adequately by the guidance provided in proposed new paragraph 4.3.6.

24 Rationale for proposal to replace existing paragraph 4.4.6 with paragraph 4.3.6 of the amended version: The co-sponsors consider that guidance provided in paragraph 4.4.6 of the existing draft should be re-ordered to better reflect its importance. The amendments are also intended to make the text more concise, while retaining the substance of the information necessary to assist fuel oil purchasers to identify quality oriented fuel suppliers. The co-sponsors also propose replacing vetting with assessment procedures in this section to avoid possible confusion with tanker vetting schemes.

25 Rationale for proposed new paragraph 4.3.8: The co-sponsors consider that it is important to draw attention to the problems associated with using statistics to identify quality oriented suppliers, namely the potential deviation between samples tested and reported as "above application" limits, but which are within the boundary limits of ISO 4259 Petroleum products -- Determination and application of precision data in relation to methods of test. This is sometimes used to describe a sample as being off spec which is misleading.

***"Contracting" section***

26 Rationale for proposed restructuring and changes to "Contracting" section (paragraphs 4.4 to 4.4.6 of the amended version): The amendments proposed in this section retain the substance of the guidance provided in paragraphs 4.5 to 4.5.2 of the existing draft. Text related to the respective roles and responsibilities of charter parties and fuel oil users, where fuel is purchased by the charterer, had been included under the "Definitions" section of the existing draft (paragraph 2.1.1). It is suggested that this text should be moved to the "Contracting" section (under proposed new paragraph 4.4.1) since it is considered to be guidance and not a definition.

***"Documentation" section***

27 Rationale for proposed new paragraph 4.5.1: The co-sponsors consider that the importance of the BDN as a statutory declaration under the MARPOL Convention should be emphasized in the guidance.

28 Rationale for proposed new paragraph 4.5.2 and deleted text under paragraph 4.6.1 to 4.6.4.1 of the existing draft: The co-sponsors suggest that the section on "Documentation" should highlight the need for suppliers to provide a guide or best practice manual for any fuel which requires special handling. The deleted text is considered to be either superfluous for an IMO guidance document, in that it advises on how to place an order for fuel, or it is already appropriately addressed by text incorporated into the "Contracting" section of the amended version (paragraphs 4.4 to 4.4.6).

***"Fuel oil receiving on board, sampling and testing" section***

29 Rationale for proposed restructuring of this section: The co-sponsors propose replacing the text in paragraphs 4.7.1 to 4.7.6 of the existing draft, with the more concise guidance offered in paragraphs 4.6.1 to 4.6.12 of the amended version, which is suitable and sufficient for the purposes of guidance for fuel oil purchasers and users. This section has also been extensively re-structured for further clarity and ease of reading.

30 Rationale for proposed new paragraph 4.6.2: This new paragraph is intended to draw attention to existing IMO guidelines and requirements for integrated contingency planning for shipboard emergencies, shipboard oil pollution emergency plans and shipboard marine pollution emergency plans. It is suggested that including this information is essential for the benefit of potential users of the IMO guidance which may not be familiar with these other relevant IMO guidelines and requirements.

31 Rationale for proposed new paragraph 4.6.3: Under this new paragraph, the co-sponsors propose the inclusion of a reference to the internationally recognized International Safety Guide for Oil Tankers and Terminals (ISGOTT), which provides suitable guidance on developing bunkering procedures and a sample bunkering checklist.

32 Rationale for proposed new paragraph 4.6.6: Since there are already IMO guidelines for collecting the MARPOL sample, the co-sponsors consider that it is only necessary to reference these existing guidelines in the current document. If it is considered that these existing sampling guidelines require review, this should be raised as a separate work item.

33 Rationale for proposed new paragraphs 4.6.8 to 4.6.10: The co-sponsors consider that it is important for the Guidelines to recognize that sampling and analysis may be undertaken for either statutory compliance or commercial purposes and that, where undertaken for commercial reasons, then it should be done in accordance with recognized ISO standards.

***"Dispute resolution" section***

34 Rationale for proposed amendments to paragraphs 4.8 to 4.10 of the existing draft (paragraph 4.7 of the amended version): The co-sponsors suggest that the focus of the guidance should be to assist fuel oil purchasers to order the correct fuel and to develop appropriate fuel receiving procedures. Legal disputes, on the other hand, are a separate matter and subject to the applicable laws of the country which has legal jurisdiction. As such there is no reason to go beyond generic advice that a dispute handling/resolution arrangement should be included in the contract.

***"Aspects with regard to other entities involved in a fuel oil transaction" section***

35 Rationale for proposal to replace paragraphs 4.11 to 4.14 of the existing draft with proposed new paragraphs 4.8 and 4.9 of the amended version: The co-sponsors consider that it is important for the Guidelines to emphasize that contamination may happen in any part of the supply chain, and that where a barge or truck operator delivers the fuel on behalf of the supplier then they are responsible for delivering the fuel safely and preventing pollution. The reference to the OCIMF TMSA has been moved to proposed new paragraph 4.3.5. It is also suggested that paragraph 4.13 of the existing draft should be deleted as it does not appear offer guidance.

***"Bibliography" section***

36 Rationale for proposed deletion of the 'Bibliography' section: The co-sponsors suggest that associated documents, standards and guidance should be referenced in the appropriate sections of the guidance document, therefore a bibliography is considered to be superfluous.

**Conclusion**

37 The co-sponsors believe that the amended version attached at annex 2 of this document retains the intent of the existing draft produced at MEPC 71, despite the extensive changes made.

**Action requested of the Committee.**

38 The Committee is invited to consider the comments and proposals contained in this document to revise annex 1 to document MEPC 71/WP.8 on the draft Guidance on best practice for fuel oil purchasers/users for assuring the quality of fuel oil used onboard ships, and to take action as appropriate.

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## ANNEX 1

### PROPOSED AMENDMENTS TO DRAFT BEST PRACTICE FOR FUEL OIL PURCHASER/USER FOR ASSURING THE QUALITY OF FUEL OIL USED ONBOARD SHIPS

Modifications to document MEPC 71/WP.8 (annex 1) are proposed as follows, with additions and deletions shown through underlining and ~~strikethrough~~.

#### 1 INTRODUCTION

1.1 MARPOL Annex VI contains requirements that apply to fuel oil used on board ships. Regulation 14 sets limits on the sulphur content of fuel oil used onboard ships, both within designated SOx Emission Control Areas (regulation 14.4) and globally (regulation 14.1). Regulation 18.3 contains ~~other requirements for~~ that fuel oil delivered to and used on board ships should not jeopardize the safety of ships or adversely affect the performance of machinery.

1.2 Fuel oil purchasers are responsible for correctly specifying the fuel which is to be supplied. It is the responsibility of the Seller (as defined in paragraph 2.8) to deliver fuel which is compliant with the agreed specification.

1.23 These best practices are intended to assist fuel oil purchasers/users in assuring the quality of fuel oil delivered to, and used onboard ships, with respect to both compliance with the MARPOL requirements and the safe and efficient operation of the ship.

~~1.34 These best practices pertain to aspects of the fuel oil purchase up to the loading of the purchased fuel oil on board. This is because compliance begins with sourcing and purchasing compliant fuel oil and avoiding contamination before the fuel is delivered to the ship. It should be noted that under MARPOL Annex VI, regulation 14 compliance begins with~~ sourcing and purchasing compliant fuel oil and mitigating the risk of poor quality fuel being delivered to the ship.

1.45 These best practices do not comprehensively address fuel oil handling procedures subsequent to fuel oil loading:

- .1 ~~Managing fuel oil on~~ On board fuel management is also an important element of preventing operational issues and sulphur non-compliance. ~~(for example prevention of mixing fuel oil on board, incorrect fuel oil switch over, etc.).~~ Marine fuel oil completely meeting ISO 8217 purchase specifications, still requires fuel treatment before it meets most manufactures' requirements for combustion. Improper handling of fuel oil on board may lead to non-compliance with MARPOL requirements, even if the fuel oil received was compliant.
- .2 ~~To ensure continued compliance once compliant fuel oil is delivered on board, ships are expected to have procedures on board. Examples of such procedures could be some form of fuel oil management manual as part of the company's Safety Management System (SMS), that recognizes that managing fuel oil quality on board is an inherent part of ensuring quality control to the combustion unit inlet, and that ship personnel are trained to~~ carry out these procedures. Marine fuel oil completely meeting ISO 8217 purchase specifications, still requires fuel treatment before it meets most manufacturers' requirements for combustion, particularly residual grades.

- .3 ~~Therefore, it is recommended that each ship recognize the importance of proper handling of fuel oil on board and consider the need for proper documentation of on board fuel oil handling and fuel oil switching procedures as well as appropriate crew training (International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 (STCW)). Each ship should also address fuel oil handling in the company's SMS. To ensure continued compliance once compliant fuel oil is delivered on board, ships should have suitable procedures and documents for use and safe handling of fuel oil on board. These procedures should form part of the company's Safety Management System (SMS) as required by the ISM Code, supported by equipment operating and maintenance manuals.~~
- .4 ~~In addition, each ship should be knowledgeable of onboard fuel oil treatment described in operation manuals of fuel oil treatment equipment. Each ship should be provided with on board fuel change over procedures (where applicable). Crew members should receive appropriate familiarisation in implementing these procedures.~~

1.56 ~~These fuel oil purchaser/user best practices are recommended for all ships and should also be taken into account in those cases where fuel oil purchasing decisions are made by the ship charterer pursuant to a chartering agreement. Under such a charter agreement where the charterer orders the fuel oil for these cases, communication between the owner and the charterer is paramount. It is recommended that clear requirements on these communications should be included within the appropriate charter party clause.~~

1.67 ~~When developing their onboard procedures, ship operators should also consider the guidance provided by existing industry practices and ISO standards, for example those published by the International Organisation for Standardization (ISO), the recommended practices published by and best practice advice from CIMAC. Ships should also refer to those recommendations when developing their individual fuel oil quality practices.~~

1.8 ~~There is increasing interest in low sulphur fuels, which are being developed as an alternative to conventional marine heavy fuel oils or low sulphur distillate oils specified by ISO 8217 Petroleum products -- Fuels (class F) – Specifications. These fuels may be blends which carry a higher risk of incompatibility with other fuels than is the case with more traditional fuel oils, and therefore it may be necessary to clean storage tanks and fuel piping before handling such fuels. Machinery and fuel oil handling systems may require modification in order to use such fuels safely and reliably.~~

1.9 ~~Fuel oil purchasers considering the use of such fuels should engage with suppliers to establish any special requirements for such products and perform a detailed technical analysis, including issues of compatibility and whether it will be necessary to make modifications and adjustments to machinery and fuel handling systems before ordering the product.~~

## 2 DEFINITIONS

2.1 ~~*SOLAS Convention*: International Convention for the Safety of Life at Sea, 1974, as amended~~

2.2 ~~*MARPOL Convention*: International Convention for the Prevention of Pollution from Ships, 1973, as amended~~

## 2.3 ISM Code: International Safety Management Code

2.14 *Fuel oil purchaser:* means the fuel oil purchaser at the operator side (user) and not a trader.

.1 ——— In those charter agreements where the charterer supplies the fuel oil it should be recognized that the "purchaser" (the charterer) is not identical to the "user" (the ship), and their interests are not automatically aligned. In these cases, the needs of the user/ship with regard to its technical requirements should be communicated to and taken into account by the purchaser/charterer even when the purchaser/charterer may have a quite different commercial outlook than the "user".

2.25 *Trader:* Acting as both seller and buyer. The trader buys bunkers from a physical supplier and sells to a purchaser without holding the product physically. The trader has an economical risk and often grants credit to the buyer. A buyer uses a trader because of: better credit, trader's deep knowledge in the market, trader's deep knowledge in a specific geographical area and trader's knowledge in quality and claim handling. Often traders offer advanced financial instruments as various kinds of price hedging.

2.36 *Broker:* Acting as a buyer or a supplier. The broker has no economic risk and gets normally a fixed commission per metric ton. The broker has extensive knowledge of the market and represents normally only one party. Shipowners or charterers often outsource their bunker purchases to a broker, so they save own in-house expertise. The broker is used by purchasers and physical suppliers to facilitate buying and selling of fuel and usually receives a commission.

2.47 *Physical Supplier/supplier:* Buys, owns and stores fuel oil cargoes and sells bunkers. Distributes bunkers from pipelines, trucks and/or barges. Typically the physical supplier may blends products to meet the quality of their customer fuel oil purchasers specifications. Often may owner or charterer, of a distribution network or can may hire a barge provider from supply to supply. Issues the bunker delivery note (BDN).

2.58 *Seller:* A trader or a physical supplier, often used in contracts as the counterpart of the buyer.

2.6 ——— *Third party supplier:* A physical supplier appointed by the seller who issues the BDN.

2.79 *Barge provider:* A ship owner/operator of small tankers or barges providing transportation services for a physical supplier, normally paid per metric ton bunkers, transported and delivered. Usually issues the BDN on behalf of the supplier. (Normally used in Singapore and more and more seen in Europe.)

2.810 *Truck provider:* Owner/operator of tank trucks, normally paid per truck delivery. Usually issues BDN on behalf of the supplier.

2.911 *Buyer/Purchaser:* Secures and pays for bunkers delivered to a ship. Can be a shipowner's operator or a charterer's operator. And often used in contracts as counterpart of the seller.

2.102 *Shipowner (User):* The company which holds the International Safety Management Document of Compliance for the ship under the ISM Code. holding company responsible for the safety of the ship.

~~2.143~~ *Quality-oriented supplier*: A fuel-oil supplier that always supplies the volumes/quantity stated on the BDN, meets the statutory requirements, and provides on-spec products. A supplier that consistently provides good quality of service by supplying the right quality and quantity of fuel oil, on time and has technical support and the capability to address any issues which may arise may be considered to be a "quality-oriented supplier". A quality-oriented supplier should have an ISO certified quality management system and procedures or equivalent, and be accredited, licensed and/or registered with the Member State/coastal State. fuel supplier with a quality management system certified in accordance with an internationally recognised standard (ISO 9001 or equivalent), and which may be registered with the Member State and/or licensed, where such licensing/accreditation schemes are in place; and therefore is on time, meets the statutory requirements, supplies the quantity and quality stated on the BDN, provides support and is able of addressing relevant issues.

### 3 GOALS

~~3.1~~ Shipowners should strive to fully understand their objectives and responsibilities as a contracting party in an agreement to purchase fuel oil, and to carefully communicate those objectives and responsibilities to the fuel oil supplier.

~~3.2.1~~ The best practices set forth in this document reflect a set of goals that should be strived for intended to assure the quality of fuel oil used on board ships, as follows:

- ~~.1~~ cover those elements associated with the purchasing and receiving of fuel oil that may affect the quality of fuel oil delivered for use on board a ship support informed decision making by fuel oil purchasers;
- ~~.2~~ promote proper interactions between the ship crew responsible for fuel oil handling and fuel oil supplier when fuel oil is ordered and delivered guide fuel oil purchasers in ordering fuel of the correct specification and implementing measures to confirm that the fuel delivered is compliant with this specification;
- ~~.3~~ mitigate or minimize risk for technical or administrative problems emanating from bunkering of fuel oil encourage proper interactions between the ship crew responsible for fuel oil handling and all other parties (including the fuel oil supplier) from when fuel oil is ordered up to the point of delivery;
- ~~.4~~ avoid disputes in the supply process mitigate or minimize risk for technical or administrative problems emanating from bunkering of fuel oil;
- ~~.5~~ ensure fuel oil in compliance with all aspects of regulations 14 and 18 of MARPOL Annex VI, including consideration of regulations 3 and 4 of that Annex, when applicable avoid disputes in the supply process; and
- ~~.6~~ follow the procedures on guidance of resolution MEPC.182(59) regarding collecting the MARPOL Annex VI sample including witnessing by the recipient. (resolution MEPC.182(59), 2009 Guidelines for the sampling of fuel oil for determination of compliance with the revised MARPOL Annex VI) promote compliance with all aspects of regulations 14 and 18 of MARPOL Annex VI which specify the permissible sulphur in fuel content and the quality of marine fuel oil.

~~3.2~~ The best practices provided in section 4 are intended to assist fuel oil purchasers to achieve the above goals.

3.3 Where a ship is exempted from some of the provisions of MARPOL Annex VI under regulation 3 of the annex, or will comply with the requirements of the convention using an equivalent means under regulation 4 of the annex, fuel oil purchasers should consider any conditions attached to the exemption or equivalent means which may affect fuel purchasing.

## 4 BEST PRACTICES

### General

~~4.1 The following best practices reflect aspects of the goals described above and are intended to help shipowners achieve them. The fuel oil purchaser should ensure that the fuel oil ordered is correctly specified considering the ship's known technical capabilities and intended area of operation. These requirements should be communicated to the charterer in those cases where the charterer purchases the fuel (see paragraph 1.6).~~

~~4.2 Shipowners should also refer to industry best practice guidance as provided by ISO 13739 and CIMAC; an overview of the latter is available at <http://www.cimac.com/publication-press/publications/wg-publications350/index.html>. In addition to these guidelines, fuel oil purchasers should also refer to ISO 13739 Petroleum products -- Procedures for transfer of bunkers to vessels, relevant national standards such as SS 524: 2014 – Singapore Specification for quality management for bunker supply chain (QMBS) and SS 600 – Singapore Standard Code of Practice for Bunkering, and to industry best practices such as recommendations published by CIMAC<sup>1</sup>.~~

~~4.3 The fuel oil purchaser should ensure that the fuel oil ordered is correctly specified considering the ship's known technical capabilities and intended area of operation; it is important that these requirements are communicated to the charterer in those cases where the charterer purchases the fuel oil under the terms of the charter contract.~~

### **Choice of fuel oil supplier**

~~4.43 Fuel oil purchasers should strive to purchase fuel oil from quality-oriented fuel oil suppliers. The following are some generic questions are intended to help a fuel oil purchasers select a to identify a quality-oriented fuel oil suppliers:~~

~~4.43.1 Is the fuel oil supplier included in a local or national registry?~~

~~.1 Verify with the local authority that the supplier is listed on the register of local suppliers of fuel oil required to be maintained by the Parties to Annex VI pursuant to regulation 18.9.1 of MARPOL Annex VI. It should be noted, however, that inclusion on such a register should not substitute for purchaser due diligence in investigating the reputation of a fuel oil supplier. This is because the regulation 18.9.1 register is simply a list of local fuel oil suppliers. The qualifications for inclusion on the register may vary significantly between ports and Administrations.~~

.1 Verify that the supplier is listed on the register of local suppliers of fuel oil required to be maintained by the Parties to Annex VI pursuant to regulation 18.9.1 of MARPOL Annex VI. Inclusion on such a register is not a substitute for purchaser due diligence since the regulation 18.9.1 register is simply a list of local fuel oil suppliers and the qualifications for inclusion on

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<sup>1</sup> See <http://www.cimac.com/publication-press/publications/wg-publications350/index.html>

the register may vary significantly between ports and Administrations. This information should be easily accessible, in most cases the information should be available on the internet.

- ~~.2 — For a fuel oil supplier to be identified as a quality-oriented supplier then it would wish to be transparent in its activities and that begins at being duly registered by an appropriate authority — it is therefore in the interest of the supplier to achieve a "quality-oriented" status to be registered — this information should be easily accessed these days on the internet.~~

~~4.4.2 — Quality-oriented fuel oil suppliers may be licensed to operate by those States that have an established licensing regime and could be requested to provide evidence that they are licensed:~~

- ~~.1 — It should be noted, however, that these best practices do not create a presumption that all Member States or coastal States will license local fuel oil suppliers.~~
- ~~.2 — Verify with the local authority that the supplier has a valid license to operate in those jurisdictions where local authorities have implemented supplier licensing schemes.~~

~~4.4.3 — Does the fuel oil supplier have a quality management system in place such as ISO 9001 or ISO 14001 (Environmental Management) or other national or international standards such as SS 524 (Singapore)? This should not be the responsibility of the fuel oil user/purchaser to research, but rather the fuel oil supplier to provide evidence that it adheres to a specified quality management system.~~

- ~~.1 — Request documentation from the supplier that they adhere to relevant best practices with regard to fuel oil quality management and fuel oil delivery procedures, e.g. ISO standards. Such documentation should ideally be verified by an independent third party.~~
- ~~.2 — A quality-oriented fuel oil supplier should be able to provide evidence that it has a Quality Management System (QMS) in place and is implementing it, upon request by the fuel oil user/purchaser.~~
- ~~.3 — The QMS should be reviewed to ensure that the fuel oil supplier has procedures in place to avoid contamination, ensure the proper volumes and fuel oil specifications are delivered, etc.~~
- ~~.4 — The QMS requirement can be specified in the fuel oil purchase contract, which should clearly indicate that the supplier has a QMS in place and the nature of that system, as well as clearly define the parameters of the fuel being purchased, that the fuel oil complies with regulation 14, and that the contract be legally enforceable in the country in which it is entered.~~

~~4.4.4 — Does the fuel oil supplier have procedures for bunkering?~~

- ~~.1 — Request documentation from the supplier with regard to their bunkering procedures, including certification under local authorities' quality procedures for bunkering such as Singapore Standard Code of Practice for Bunkering, SS 600, or the procedure required by the Gibraltar Port Authority, or similar to such procedures, where applicable.~~

- ~~.2 — Other standards including TR48 (Technical Reference for Bunker Mass Flow Metering) or ISO 13739 (Petroleum products- Procedures for transfer of bunkers to vessels), if applicable.~~
- ~~.3 — Confirmation that the fuel oil supplier adheres to a list of best practices (e.g. ISO 13739, CIMAC) that are specified as part of the contractual process.~~

4.43.2 Does the fuel oil supplier have a license issued by the Coastal State or a local port authority?

- .1 In those States/ports that operate established licensing regimes for fuel suppliers, a quality oriented fuel oil supplier will provide evidence to confirm that they are licensed.

4.43.3 Does the fuel oil supplier have a quality management system (QMS) in place?

- .1 A quality-oriented fuel oil supplier should have a QMS meeting the requirements of ISO 9001 Quality management systems – Requirements and ISO 14001 Environmental management systems -- Requirements with guidance for use (or equivalent national standards). The QMS should include references to the standards which the supplier will adhere to along with any independent third party accreditation of the QMS or elements of the QMS.

4.43.4 Does the fuel oil supplier have procedures for fuel oil transfer operations?

- .1 Request documentation from the supplier with regard to their fuel oil transfer procedures, including certification under local authorities' quality procedures for bunkering, where applicable.

4.4.5 Does the fuel oil supplier follow best practices?

- ~~.1 — Within a commercial contract, a company purchasing the fuel oil should consider making sure that the fuel oil supplier follow/adhere to best practices. If desired, the purchaser should verify the supplier follows best practices with regard to fuel oil quality, including implementing a quality assurance system.~~
- ~~.2 — This can be achieved by requesting a copy of the supplier's Quality Assurance Certificate for compliance to the relevant standards of their quality management system, such as ISO 9001, ISO 14001 or SS 524 where applicable.~~
- ~~.3 — The contract between the purchaser and supplier should reference any standard which are to be applied and contain provisions for dealing with fuel oil non-conformity.~~
- ~~.4 — In those situations, where there are few suppliers to choose from, it is important that fuel oil suppliers follow best practices with regard to fuel oil quality, including implementing a quality assurance system, and the purchaser can check this.~~
- ~~.5 — It should be noted that standards such as ISO 8217 and codes of practice may be updated periodically. It would be recommended that the relevant latest version should be used.~~

4.4.3.5 If fuel will be delivered using barges or tankers, fuel oil purchasers should request that information on quality assurance for these vessels should be included within the information provided on their QMS (see paragraph 4.3.3)

4.4.6— Other methods: Any other vetting procedure a ship operator may have in defining the reputability of the fuel oil supplier within the context of these best practices. These may include the approaches described below. However, a fuel oil purchaser/user should exercise caution in adopting these methods due to the biases inherent in relying on third party groups, on the availability and reliability of the data used for statistical analyses, and the relevance of using data collected for other purposes (e.g. the Organization's global fuel oil sulphur monitoring program).

- ~~.1— Consulting reviews of others: Are reviews available by other fuel oil purchasers/users of a fuel oil supplier?~~
  - ~~.1— Seek advice on suppliers from independent third parties, being mindful that some third parties may present a biased view.~~
  - ~~.2— For spot arrangements, it would largely be local knowledge (agents for the vessels).~~
  - ~~.3— For negotiating fleet supply arrangements, it would be a function of due diligence reviews of perspective suppliers, again relying on local knowledge and experiences.~~
  - ~~.4— In practice, a buyer will — over time — gain experience with various suppliers and come to conclusions about which suppliers provide the best service according to the buyer's needs and preferences. Buyers may also take third-party advice on a supplier they have not dealt with before, but will then also need to consider if the advice comes from a credible source.~~
  - ~~.5— Quality-oriented fuel oil suppliers should also be able to provide references from satisfied customers.~~
- ~~.2— Identify a quality-oriented supplier by statistics~~
  - ~~.1— Various sources may have data with respect to fuel oil supplier activities; these may be consulted by fuel oil purchasers to ascertain if a fuel oil supplier is quality-oriented. Note, however, that this information may be considered by some organizations as "business confidential" and these best practices do not assume the data will be freely available to those who wish to use it.~~
  - ~~.2— Fuel oil testing statistics may help identify supplier-specific trends with respect to meeting sulphur limits and other quality parameters. Note, however, that testing agency data may not always be reliable and should be considered with caution. Samples which are tested above specification limit but within ISO 4259 boundary are often reported incorrectly as off spec and hence the statistical data may be misleading. Fuel oil testing agencies provide data on an anonymous basis to IMO. Data related to individual suppliers may be confidential and commercially sensitive. Using this data to "rate performance" of suppliers could significantly alter the data handling~~

~~process and could lead to confidentiality and trust issues. Also, testing agencies will not necessarily have information on supplier quality of service or ability to deliver the right quantity.~~

~~.3 Use the data on non-compliant fuel oil<sup>2</sup>.~~

~~.1 Regulation 18.9 of MARPOL Annex VI covers the role of the Member States in maintaining overview of bunker suppliers in their countries and in alerting IMO on issues with non-compliant fuel oil. Any information from these processes that can be made public (i.e. after verification of the facts, etc.) may be a useful source of data to assist in identifying "reputable suppliers". Note, however, that care is needed to ensure non-compliant fuel oil is truly non-compliant. The commercial implications of publishing information relating to the supplier's performance needs to be thought through carefully.~~

~~.4 Purchasers should report to appropriate authorities (e.g. the flag Administration, port State authorities) if they receive off-spec fuel oil (off-spec with regard to statutory requirements, e.g. sulphur).~~

~~.5 There have been initiatives in the past to have a list to grade suppliers by the quality of the fuel oils supplied through testing agency data; however this is difficult to maintain accurately and very often is reliant on unverified analysis and in some cases can lead to incorrectly rating of a supplier. Suggestion: it is for any ship to submit Notes of Protest (NOP) to suppliers and to the port authority concerned and or a grading system by the purchaser as to their satisfaction on the fuel oils delivered against a rating system that is easily quantifiable.~~

4.43.6 Fuel oil purchasers should consider utilising other sources of information, assessment methods and the reviews and experiences of other purchasers. Although third party reviews and information may be of assistance to fuel oil purchasers, caution should be exercised in placing undue reliance on third party opinion since it may be incomplete or contain errors. These other sources of information and assessment methods may include:

.1 Consulting the reviews of others (where available) and seeking the views of other purchasers of fuel;

.2 Requesting that the supplier provides references from existing customers;

.3 Use of local knowledge, consulting local agents;

.4 Use of statistics. Various sources collect data concerning fuel oil supplier activities which may be used by fuel oil purchasers to help them ascertain if a fuel oil supplier is quality-oriented;

.5 Reviewing information made public by Member States pursuant to regulation 18.9 of MARPOL Annex VI, in particular any information submitted to the organization regarding failures by fuel oil suppliers to meet the requirements of regulations 14 and/or 18 of MARPOL Annex VI;

<sup>2</sup> Refer to the GISIS MARPOL Annex VI module.

.6 Where available, consulting lists which grade suppliers by the quality of the fuel oils supplied through testing agency data; and

.7 Any other sources of information or assessment procedures a purchaser may have in defining the reputability of the fuel oil supplier within the context of this guidance.

Note however, that data relating to individual suppliers maybe confidential and commercially sensitive and may sometimes lead to antitrust issues.

~~4.4.7— Any other vetting procedure a ship operator may have in defining the reputability of the fuel oil supplier within the context of this guidance.~~

4.3.7 Fuel oil testing statistics may help identify supplier-specific trends for sulphur compliance and other quality parameters. Note, however, that caution is needed when using this data, for example, samples which are tested above specification limit but within ISO 4259 Petroleum products -- Determination and application of precision data in relation to methods of test boundary are sometimes incorrectly reported as off spec, resulting in the statistical analysis being misleading.

4.3.8 It should be noted that testing agencies may not necessarily have information on supplier quality of service or ability to deliver the right quantity.

## **Contracting**

~~4.5.1 The choice of a fuel oil supplier is ultimately a business decision, a commercial contractual arrangement in which the contract specifies the fuel oil, how the supplier will fulfill the contractual agreement, and claim/dispute clauses. This commercial decision is well founded in the bunker purchasing industry and therefore this section reflects a list of generic measurable procedures and checks that should be considered. The choice of a fuel oil supplier is a commercial one and will result in a contractual arrangement between the fuel oil purchaser and chosen supplier. The contract specifies the fuel oil to be supplied, how the supplier will fulfil the contractual agreement, and should include claim/dispute clauses.~~

~~4.5.1— Before contract. When purchasing fuel oil, consider the following points:~~

~~.1— Require that suppliers follow best practices with regard to fuel oil quality, including a quality assurance system.~~

~~.2— To help ensure that the fuel oil supplier follows fuel oil supplier best practices, the fuel oil purchaser may check that:~~

~~.1— The fuel oil supplier should have a documented quality assurance system, including periodic audits of a Quality Management System (QMS).~~

~~.2— The fuel oil supplier provides documentation to support its claims for best practice. The only way buyers could adequately assess such documentation would be if it has been verified by a third party, for example through an ISO certificate.~~

~~.3— Procedures are in place if non-compliant fuel oil is detected or delivered.~~

~~.3 Use of detailed specifications in contracts with bunker suppliers.~~

~~.1 When ordering, provide detailed specifications (and the latest version of ISO 8217 where appropriate) and quantity ordered, and detailed contractual arrangements, asking for the correct fuel oil type for their vessels. The required maximum sulphur content needs to be clearly specified at the time of ordering.~~

~~.2 Specifications should be properly defined at point of order to prevent misunderstandings and make it clear which edition of ISO 8217 is used (i.e. 2005, 2010, 2012 or 2017). While using the latest ISO 8217 edition should be encouraged, it should not be mandatory because this would create problems with availability in several countries. For non-ISO fuel oils, specify at minimum that the fuel oils need to meet the requirements of regulations 18.3.1 and 18.3.2.~~

4.5.2 Contract. If desired, the purchaser should substantiate that the supplier follows best practices with regard to fuel oil quality, including implementing a quality assurance system:

.1 Where applicable, this can be achieved by requesting a copy of the suppliers Quality Assurance Certificate for compliance to the relevant standards of their quality management system, i.e. ISO 9001 or SS 524.

.2 For spot purchases, the purchaser should at minimum substantiate that the fuel oil supplier will make that documentation available for purchasers on request, for example by email.

4.4.1 Where the charterer supplies the fuel oil it should be recognized that the "purchaser" (the charterer) is not the same as to the "user" (the ship), and their interests are not necessarily aligned. In these cases, the technical requirements of the user/ship should be communicated to, and taken into account, by the purchaser even when the commercial interests of the "purchaser" and "user" differ.

4.4.2 Fuel oil purchasers may purchase fuel directly from a physical supplier or they may utilize the services of traders or brokers when purchasing fuel. Traders buy and sell fuel and carry the financial risk associated with buying and selling. A broker usually works on commission and does not buy and sell the bunkers, hence they do not carry the financial risk associated with buying and selling.

4.4.3 Purchasers should require that suppliers follow best practices with regard to fuel oil quality, including a quality assurance system (see paragraph 4.4.3.3.) and confirm that procedures are in place if non-compliant fuel oil is detected or delivered.

4.4.4 Bunker specifications and any requirements for bunkering procedures should be stated in the contract. The contract should:

.1 State the quantity ordered. This is usually in metric tonnes by mass, however other units are sometimes used. The unit used should be clearly stated. The required maximum sulphur content and that the fuel is to meet the applicable requirements of MARPOL Annex VI regulation 18;

.2 Include a detailed technical specification for the fuel along with acceptable quality parameters;

.3 Where the fuel is to be specified with reference to ISO 8217 Petroleum products -- Fuels (class F) -- Specifications, the contract should clearly state which edition is to be used (i.e. 2005, 2010, 2012 or 2017) using the latest edition is encouraged but this may not be practical in all countries;

.4 For non-ISO 8217 standard fuel oils, as a minimum the specification should require that the fuel oils need to meet the requirements of regulations 18.3.1 and 18.3.2 of MARPOL VI, and SOLAS Chapter II-2.

4.4.5 If fuel which is not compliant with MARPOL VI regulation 14.1 or 14.4 is ordered for use with an approved alternative means of compliance such as exhaust gas cleaning, this should be communicated to the supplier.

4.4.6 Fuel oil purchasers should include a requirement in their QA system to check and approve the quantity to be ordered and quality requirement prior to transmitting their order to the supplier.

## Documentation

~~4.6.1— Use contractual forms that require compliance with regulations 14 and 18 of MARPOL Annex VI.~~

~~4.6.2— Require that proper documentation of fuel oil with regard to BDNs, fuel oil samples, and product transfer documents, as required by regulation 18 of MARPOL Annex VI is provided. Text on BDN should be in accordance with Appendix V of MARPOL Annex VI.~~

~~4.6.3— Bunker specifications and procedures clearly stated, to ensure that MARPOL Annex VI and SOLAS requirements are met at the time of purchase and that fuel oil suppliers understand the fuel oil specifications required (including quantity in metric tons by mass).~~

~~4.6.4— Order confirmation. It is normally the order confirmation which stipulates the final ordered quality and quantity. In order, not to make too complicated procedures the user should simply have a system in their QA system where order confirmations are checked and approved, e.g. by a simple stamp "date, APPROVED by ..."~~

~~.1— A normal order could be as such. The buyer send a mail to a trader asking for a price of X tons RMK380 2012 edition high sulphur, delivered within given dates in port Y. The trader replies on telephone that the price is xx \$/mt and recommend to fix the price prompt as the prices seems to rise for the specific port and they are not able to supply ISO 8217 2012 edition, but 2005 only. If the buyer accepts this offer, he or she has an order confirmation within few minutes stipulating the details as agreed above. (This order confirmation could or should be subject for quality assessment and approved internally in the buyers QA system).~~

4.5.1 Bunker delivery notes (BDNs), as required by regulation 18 of MARPOL Annex VI, should be provided by the supplier. Text on the BDN should meet the requirements of Appendix V of MARPOL Annex VI.

4.5.2 In case the product supplied differs in handling characteristics from traditional/mainstream fuel oils, the supplier should provide a guide/publication of best practice which includes recommendations for storage and handling of the supplied product.

## Fuel oil receiving on board, sampling and testing

~~4.7.1—Appropriate record keeping, especially with regard to the MARPOL Annex VI requirements.~~

~~4.7.2—Outline standard situations and processes associated with bunkering, on-board fuel oil handling, and storage of fuel oil, including, but not limited to, those practices that are regulated.~~

- ~~.1—When the fuel oil is delivered, the supplier should provide a guide/publication of best practice including specific recommendations for storing and handling of the supplied product (based on purchaser/user specifications).~~

~~4.7.3—Handling onboard by avoiding, as far as possible, co-mingling of fuel oils in tanks or fuel oil lines. This will minimize cross-contamination.~~

~~4.7.4—Sampling performed during the bunkering process according to resolution MEPC.182(59), which refers to the drawing, handling and storage of the MARPOL sample, and witnessed by the recipient together with the fuel oil supplier's representative.~~

- ~~.1—While a fuel oil purchaser/user may choose to use ISO 13739, ISO 4259, or some other testing protocol, it should be remembered that MARPOL Annex VI sets out the procedures for compliance and enforcement, including Appendix VI fuel oil verification procedure for MARPOL Annex VI fuel oil samples; also, MEPC.182(59) for fuel oil sampling, and the *Guidelines for onboard sampling for the verification of the sulphur content of the fuel oil used onboard ships* (MEPC.1/Circ.864). If a different test or a different accreditation is desired, it can be specified in the fuel oil purchase contract itself. However, that contract will not over-ride the requirements of MARPOL Annex VI with respect to determining compliance with the mandatory standards in a compliance or enforcement action brought by a flag, port, or coastal State.~~
- ~~.2—This is an extremely important issue. Sampling should be in accordance with MARPOL including crew witnessing the process. Also, new technology such as cameras on the barges to witness the complete process should be considered.~~

~~4.7.5—Sample analysis should be performed by an accredited and independent lab and according to the relevant international test standards.~~

- ~~.1—Laboratories should be accredited to ISO/IEC 17025 or equivalent national standard. Accredited laboratories in a particular country should be listed on the national accreditation bodies' website. These national accreditation bodies assess whether a fuel oil testing laboratory is capable of carrying out analysis in accordance with the relevant test methods. ISO/IEC 17025:2005 specifies the general requirements for the competence to carry out tests and/or calibrations, including sampling:  
[http://www.iso.org/iso/home/store/catalogue-tc/catalogue\\_detail.htm?csnumber=39883](http://www.iso.org/iso/home/store/catalogue-tc/catalogue_detail.htm?csnumber=39883)~~
- ~~.2—It is important to note that fuel oil testing prior to use is part of a commercial arrangement and test results indicating off-spec fuel oils compared to the ordered quality are dealt with on the basis of commercial contract arrangements. These contract arrangements will in most cases be based on~~

- ~~ISO 8217 fuel oil specifications and test results will be interpreted in accordance with ISO 4259 tolerance margins for the relevant quality parameters and associated test methods.~~
- ~~.3 Fuel oil samples should be analyzed by a laboratory that follows international standards when performing analysis and this should be proved by a quality management system. The quality management system could be shown upon request. Laboratories should be accredited by notified bodies.~~
- ~~.4 A laboratory should be independent and preferentially should have accreditation covering both the organizational aspects (ISO / IEC 17025), or an equivalent standard, and techniques to perform the analyses of fuel oil samples. Most countries have established certification bodies that accredit laboratories and ensure that they operate in accordance with standards.~~
- ~~.5 An accredited lab is one that has been certified to carry out analysis by a national body for accreditation. All accredited laboratories in a particular country will be listed on the national accreditation bodies' website. These national accreditation bodies assess whether a fuel oil testing laboratory is capable of carrying out analysis in accordance with the relevant test methods. ISO/IEC 17025:2005 specifies the general requirements for the competence to carry out tests and/or calibrations, including sampling: [http://www.iso.org/iso/home/store/catalogue\\_tc/catalogue\\_detail.htm?csnumber=39883](http://www.iso.org/iso/home/store/catalogue_tc/catalogue_detail.htm?csnumber=39883)~~
- ~~.6 Most of these accreditation bodies have signed mutual recognition agreements.~~
- ~~.7 Purchasers should ask prospective suppliers about the lab that provides their analytical services and if they have the required accreditation or certification.~~
- ~~.1 An accredited laboratory normally is subject to a review process and some kind of certification by a third party (usually an industry association or government organization) with regards to that lab's general operation (e.g. ISO 9000) or for carrying out specific analyses.~~
- ~~.2 The purchaser should follow up with the lab to confirm their accreditation or certification, namely if it is general in nature (overall lab practices) or for specific analytical methods. Such enquiries would be part of a due diligence process by the purchaser for a fuel oil supply contract or in selecting their own laboratory services to verify fuel oil quality.~~
- ~~.8 Laboratories appointed to analyze samples should be accredited to ISO 17024 or equivalent.~~
- ~~.9 Laboratories accredited to ISO/IEC 17025 (General requirements for the competence of testing and calibration laboratories) or equivalent national standard.~~
- ~~.10 Laboratories may also have ISO 9001 and other certifications to tailor more specific to fuel oil laboratories and their operations.~~

- ~~.11 Accreditation of laboratories at national level would require in addition its publication at international level (see for example UK: [http://www.ukas.com/browes\\_accredited\\_organisations/?catshow=no&org\\_type=Testing%20Labs](http://www.ukas.com/browes_accredited_organisations/?catshow=no&org_type=Testing%20Labs); or for IMO lists according to FTP Code = SSE.1/Circ.1/Rev.2 (List of Recognized Test Laboratories).~~
- ~~.12 The contract terms and conditions should stipulate how to perform laboratory analyses in the case of disputes. The laboratory provider should be agreed to by the buyer and the contractual counterpart for final and binding analyses.~~
- ~~.13 It is noted that under many circumstances it is neither possible nor necessary to make full laboratory analyses before burning the delivered product (e.g. fuel oil is frequently supplied on contract with same supplier). Test of density and viscosity gives a good indication if the product is of same origin as the last supply. It should still be the supplier's responsibility that the delivered product is within the agreed quality. The severe problems are rarely related to ISO 8217, but related to other parameters not revealed by ISO 8217 tests (except for sulphur, but this is a statutory requirement covered by the MARPOL sample and should not be an issue for normal ISO tests.)~~

~~4.7.6 Promote proper interactions between those responsible for ordering fuel oil (e.g. owners/managers) and fuel oil supplier when the fuel oil is ordered, and between the ship's crew and fuel oil supplier when fuel oil delivered; ship's crew who have managed past issues should give major input, which would come from the owner / operators technical department. Fuel oil should only be ordered/purchased by competent persons who fully understand fuel oil requirements.~~

4.6.1 There should be appropriate record keeping onboard, especially with regard to maintaining the oil record book required by MARPOL Annex VI and MARPOL Annex I regulation 17. Detailed guidance for making entries into the oil record book is provided in MEPC.1/Circ.736 Guidance for the Recording of Operations in the Oil Record Book Part I – Machinery Space Operations (All Ships).

4.6.2 The receiving ship should have procedures for bunkering, fuel oil handling, and storage of fuel oil, including spill, pollution and emergency response. Since shipboard emergency plans addressing different categories of emergencies are required under the provisions of both the SOLAS and MARPOL conventions, the ISM Code and supporting guidance, including:

- .1 Resolution A.1072(28) Revised Guidelines for a Structure of an Integrated System of Contingency Planning for Shipboard Emergencies provides guidance for integrated emergency response planning.
- .2 MARPOL Annex I regulation 37 requires ships to have a shipboard oil pollution emergency plan (SOPEP), guidance for developing the SOPEP is provided by resolution MEPC.54(32) Guidelines for the Development of Shipboard Oil Pollution Emergency Plans as amended by MEPC.86(44) Amendments to the Guidelines for the Development of Shipboard Oil Pollution Emergency Plans.
- .3 MARPOL Annex II regulation 17 requires ships of 150 gross tonnage and above carrying noxious liquid substances in bulk to carry an approved shipboard marine pollution emergency plan (SMPEP) for noxious liquid

substances, guidelines for developing the SMPEP are provided by resolution MEPC.85(44) as amended by resolution MEPC.137(53) Guidelines for the development of Shipboard Marine Pollution Emergency Plans of Oil and/or Noxious Liquid Substances.

4.6.3 Detailed guidance for bunkering procedures, including a sample bunkering checklist may be found in various available guidance documents, for example chapter 25 of the International Safety Guide for Oil Tankers and Terminals (ISGOTT).

4.6.4 Clear communications should be established between the receiving ship and supplier (bunker barge, truck or terminal) and emergency stop and response actions agreed prior to any bunkering activities commencing.

4.6.5 Handling onboard should so far as is possible avoid co-mingling of fuel oils in tanks or fuel oil lines in order to minimize cross contamination.

4.6.6 A representative fuel oil sample should be collected during the bunkering process. Guidelines for collecting the MARPOL sample are provided in resolution MEPC.182(59) 2009 Guidelines for the Sampling of Fuel Oil for Determination of Compliance with the Revised MARPOL Annex VI.

4.6.7 The use of cameras arranged to witness and record bunkering and sampling processes could be considered.

4.6.8 It is recommended that the fuel oil purchaser has a sample of fuel collected during bunkering analysed to confirm that it complies with the agreed specification in the contract. Sample analysis should be performed by an independent laboratory and according to relevant international test standards accredited to ISO/IEC 17025 *General requirements for the competence of testing and calibration laboratories* or an equivalent national standard. Accredited laboratories in a particular country should be listed on the national accreditation bodies' website. It is also recommended that labs have an ISO 9001 *Quality management systems – Requirements*, or equivalent, quality management system. Where possible it is recommended that fuel oil should not be used until this analysis has been completed.

4.6.9 Purchasers should confirm the accreditation or certification of the laboratory they intend to use, in particular they should check whether any accreditation is general in nature (overall lab practices) or for specific analytical methods.

4.6.10 The contract terms and conditions should stipulate how the laboratory analysis will be carried out in the case of disputes.

4.6.11 In some circumstances it is neither possible nor necessary to make full laboratory analyses before using the fuel oil which has been delivered (e.g. fuel oil is frequently supplied on contract with same supplier). Testing density and viscosity may be sufficient to indicate if the product is similar to the last supply.

4.6.12 Where an analysis is required by the Administration then the analysis should be carried out in accordance with the verification procedures of the Administration.

## Dispute resolution

~~4.7.8~~ Dispute handling/resolution for fuel oil purchaser for ship to follow arrangements in case of dispute should be specified in the ~~commercial transaction documents~~ contract.

~~4.9~~ — The result of fuel oil sampling analysis may not be available to the port (flag) authority.

~~4.10~~ — If the analysis is negative, the question should be resolved with the fuel oil supplier; the results of this interaction may also not be available to the port (flag) authority.

## ~~Aspects with regard to other entities~~ Other entities involved in a fuel oil transaction

~~4.11~~ — It is refiners and the bigger trading houses that are blending the products with blend stocks to meet specification. Unintended contamination of a product can, however, happen in many places of the supply chain, not least on board the barge. (Especially sulphur contamination of 0.10% sulphur fuel oil).

~~4.12~~ — In many places, it is common practice to let a barge provider or a third party supplier deliver the fuel oil and a triple point of transfer happens at the manifold of the purchaser/users ship: Third party supplier to physical supplier to purchaser. By that the physical supplier is not responsible for transportation and pollution that might take place i.e. in the barge.

~~4.13~~ — Traders and brokers are often chosen by charterer and owners/user because of their deeper knowledge in the market. They are often vital key players and also have a role in promoting fuel oil quality.

~~4.14~~ — Consideration should also be given to OCIMF's TMSA (Tanker Management Self Assessment).

4.8 — Unintended contamination of a product may happen in any part of the supply chain, including on board bunker barges. This is especially important for 0.10% sulphur fuel oil since any contamination with higher sulphur content fuel is likely to result in that batch of fuel becoming non-compliant.

4.9 — It is common practice for a barge or truck provider to deliver the fuel oil on behalf of the supplier. In such cases the barge or truck operator is responsible for transporting the fuel safely and preventing pollution.

## Bibliography

~~ISO 8217:2017 — Petroleum products — Fuels (class F) — Specifications~~

~~ISO 9001:2015 — Quality management systems — Requirements~~

~~ISO 14001:2015 — Environmental management systems — Requirements with guidance for use~~

~~SS 524: 2014 — Specification for quality management for bunker supply chain (QMBS)~~

~~SS 600 — Singapore Standard Code of Practice for Bunkering~~

~~TR 48: 2015 — Technical Reference for Bunker Mass Flow Metering~~

~~ISO 13739: 2010 — Petroleum products — Procedures for transfer of bunkers to vessels~~

~~ISO 4259: 2006 — Petroleum products — Determination and application of precision data in relation to methods of test~~

~~Resolution MEPC.182(59) — 2009 Guidelines for the sampling of fuel oil for determination of compliance with the revised MARPOL Annex VI~~

~~MEPC.1/Circ.864 — Guidelines for onboard sampling for the Verification of the sulphur content of the fuel oil used on board ships~~

~~ISO/IEC 17025: 2005 — General requirements for the competence of testing and calibration laboratories~~

~~ISO 9000: 2005 — Quality management systems — Fundamentals and vocabulary~~

~~ISO/IEC 17024: 2012 — Conformity assessment — General requirements for bodies operating certification of persons~~

~~ISO 9001: 2015 — Quality management systems — Requirements~~

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## ANNEX 2

### PROPOSED AMENDMENTS TO DRAFT BEST PRACTICE FOR FUEL OIL PURCHASER/USER FOR ASSURING THE QUALITY OF FUEL OIL USED ONBOARD SHIPS (CLEAN TEXT)

#### 1 INTRODUCTION

1.1 MARPOL Annex VI contains requirements that apply to fuel oil used on board ships. Regulation 14 sets limits on the sulphur content of fuel oil used on board ships, both within designated SO<sub>x</sub> Emission Control Areas (regulation 14.4) and globally (regulation 14.1). Regulation 18.3 contains requirements that fuel oil delivered to and used on board ships should not jeopardize the safety of ships or adversely affect the performance of machinery.

1.2 Fuel oil purchasers are responsible for correctly specifying the fuel which is to be supplied. It is the responsibility of the Seller (as defined in paragraph 2.8) to deliver fuel which is compliant with the agreed specification.

1.3 These best practices are intended to assist fuel oil purchasers/users in assuring the quality of fuel oil delivered to, and used on board ships, with respect to both compliance with the MARPOL requirements and the safe and efficient operation of the ship.

1.4 It should be noted that under MARPOL Annex VI, compliance with regulation 14 begins with sourcing and purchasing compliant fuel oil and mitigating the risk of poor quality fuel being delivered to the ship.

1.5 These best practices do not comprehensively address fuel oil handling procedures subsequent to fuel oil loading:

- .1 on board fuel management is an important element of preventing operational issues and sulphur non-compliance. Improper handling of fuel oil on board may lead to non-compliance with MARPOL requirements, even if the fuel oil received was compliant;
- .2 marine fuel oil completely meeting ISO 8217 purchase specifications, still requires fuel treatment before it meets most manufacturers' requirements for combustion, particularly residual grades;
- .3 to ensure continued compliance once compliant fuel oil is delivered on board, ships should have suitable procedures and documents for use and safe handling of fuel oil on board. These procedures should form part of the company's Safety Management System (SMS) as required by the ISM Code, supported by equipment operating and maintenance manuals; and
- .4 each ship should be provided with on board fuel change over procedures (where applicable). Crew members should receive appropriate familiarisation in implementing these procedures.

1.6 These fuel oil purchaser/user best practices are recommended for all ships and should also be taken into account in those cases where fuel oil purchasing decisions are made by the ship charterer pursuant to a chartering agreement. Under such a charter agreement communication between the owner and the charterer is paramount. It is recommended that clear requirements on these communications should be included within the appropriate charter party clause.

1.7 When developing their onboard procedures, ship operators should also consider the guidance provided by existing industry practices and standards, for example those published by the International Organization for Standardization (ISO).

1.8 There is increasing interest in low sulphur fuels, which are being developed as an alternative to conventional marine heavy fuel oils or low sulphur distillate oils specified by ISO 8217 Petroleum products – Fuels (class F) – Specifications. These fuels may be blends which carry a higher risk of incompatibility with other fuels than is the case with more traditional fuel oils, and therefore it may be necessary to clean storage tanks and fuel piping before handling such fuels. Machinery and fuel oil handling systems may require modification in order to use such fuels safely and reliably.

1.9 Fuel oil purchasers considering the use of such fuels should engage with suppliers to establish any special requirements for such products and perform a detailed technical analysis, including issues of compatibility and whether it will be necessary to make modifications and adjustments to machinery and fuel handling systems before ordering the product.

## **2 DEFINITIONS**

2.1 *SOLAS Convention*: International Convention for the Safety of Life at Sea, 1974, as amended.

2.2 *MARPOL Convention*: International Convention for the Prevention of Pollution from Ships, 1973, as amended.

2.3 *ISM Code*: International Safety Management Code.

2.4 *Fuel oil purchaser* means the fuel oil purchaser at the operator side (user) and not a trader.

2.5 *Trader*: The trader buys bunkers from a physical supplier and sells to a purchaser without holding the product physically.

2.6 *Broker*: The broker is used by purchasers and physical suppliers to facilitate buying and selling of fuel and usually receives a commission.

2.7 *Physical Supplier/supplier*: Buys, owns and stores fuel oil and sells bunkers. Distributes bunkers from pipelines, trucks and/or barges. May blend products to meet the customer's specifications. May own or charter a distribution network or may hire a barge provider from supply to supply. Issues the bunker delivery note (BDN).

2.8 *Seller*: A trader or a physical supplier, often used in contracts as the counterpart of the buyer.

2.9 *Barge provider*: Owner/operator of tankers or barges providing transportation services for a physical supplier. Usually issues the BDN on behalf of the supplier.

2.10 *Truck provider*: Owner/operator of tank trucks. Usually issues BDN on behalf of the supplier.

2.11 *Buyer/Purchaser*: Secures and pays for bunkers delivered to a ship. Can be a shipowner's operator or a charterer's operator. And often used in contracts as counterpart of the seller.

2.12 *Shipowner (User)*: The company which holds the International Safety Management Document of Compliance for the ship under the ISM Code.

2.13 *Quality-oriented supplier*: A fuel supplier with a quality management system certified in accordance with an internationally recognized standard (ISO 9001 or equivalent), and which may be registered with the Member State and/or licensed, where such licensing/accreditation schemes are in place; and therefore is on time, meets the statutory requirements, supplies the quantity and quality stated on the BDN, provides support and is able of addressing relevant issues..

### **3 GOALS**

3.1 The best practices set forth in this document reflect a set of goals intended to assure the quality of fuel oil used on board ships, as follows:

- .1 support informed decision making by fuel oil purchasers;
- .2 guide fuel oil purchasers in ordering fuel of the correct specification and implementing measures to confirm that the fuel delivered is compliant with this specification;
- .3 encourage proper interactions between the ship crew responsible for fuel oil handling and all other parties (including the fuel oil supplier) from when fuel oil is ordered up to the point of delivery;
- .4 mitigate or minimize risk for technical or administrative problems emanating from bunkering of fuel oil;
- .5 avoid disputes in the supply process; and
- .6 promote compliance with all aspects of regulations 14 and 18 of MARPOL Annex VI which specify the permissible sulphur in fuel content and the quality of marine fuel oil.

3.2 The best practices provided in section 4 are intended to assist fuel oil purchasers to achieve the above goals.

3.3 Where a ship is exempted from some of the provisions of MARPOL Annex VI under regulation 3 of the Annex, or will comply with the requirements of the convention using an equivalent means under regulation 4 of the Annex, fuel oil purchasers should consider any conditions attached to the exemption or equivalent means which may affect fuel purchasing.

## 4 BEST PRACTICES

### General

4.1 The fuel oil purchaser should ensure that the fuel oil ordered is correctly specified considering the ship's known technical capabilities and intended area of operation. These requirements should be communicated to the charterer in those cases where the charterer purchases the fuel (see paragraph 1.6).

4.2 In addition to these guidelines, fuel oil purchasers should also refer to ISO 13739 Petroleum products – Procedures for transfer of bunkers to vessels, relevant national standards such as SS 524: 2014 – Singapore Specification for quality management for bunker supply chain (QMBS) and SS 600 – Singapore Standard Code of Practice for Bunkering, and to industry best practices such as recommendations published by CIMAC<sup>3</sup>.

### Choice of fuel oil supplier

4.3 Fuel oil purchasers should strive to purchase fuel oil from quality-oriented fuel oil suppliers. The following questions are intended to help fuel oil purchasers to identify quality-oriented fuel oil suppliers:

4.3.1 Is the fuel oil supplier included in a local or national registry?

- .1 verify that the supplier is listed on the register of local suppliers of fuel oil required to be maintained by the Parties to Annex VI pursuant to regulation 18.9.1 of MARPOL Annex VI. Inclusion on such a register is not a substitute for purchaser due diligence since the regulation 18.9.1 register is simply a list of local fuel oil suppliers and the qualifications for inclusion on the register may vary significantly between ports and Administrations. This information should be easily accessible, in most cases the information should be available on the internet.

4.3.2 Does the fuel oil supplier have a license issued by the coastal State or a local port authority?

- .1 in those States/ports that operate established licensing regimes for fuel suppliers, a quality oriented fuel oil supplier will provide evidence to confirm that they are licensed.

4.3.3 Does the fuel oil supplier have a quality management system (QMS) in place?

- .1 a quality-oriented fuel oil supplier should have a QMS meeting the requirements of ISO 9001 Quality management systems – Requirements and ISO 14001 Environmental management systems – Requirements with guidance for use (or equivalent national standards). The QMS should include references to the standards which the supplier will adhere to along with any independent third party accreditation of the QMS or elements of the QMS.

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<sup>3</sup> See <http://www.cimac.com/publication-press/publications/wg-publications350/index.html>

4.3.4 Does the fuel oil supplier have procedures for fuel oil transfer operations?

- .1 request documentation from the supplier with regard to their fuel oil transfer procedures, including certification under local authorities' quality procedures for bunkering, where applicable.

4.3.5 If fuel will be delivered using barges or tankers, fuel oil purchasers should request that information on quality assurance for these vessels should be included within the information provided on their QMS (see paragraph 4.3.3)

4.3.6 Fuel oil purchasers should consider utilising other sources of information, assessment methods and the reviews and experiences of other purchasers. Although third party reviews and information may be of assistance to fuel oil purchasers, caution should be exercised in placing undue reliance on third party opinion since it may be incomplete or contain errors. These other sources of information and assessment methods may include:

- .1 consulting the reviews of others (where available) and seeking the views of other purchasers of fuel;
- .2 requesting that the supplier provides references from existing customers;
- .3 use of local knowledge, consulting local agents;
- .4 use of statistics. Various sources collect data concerning fuel oil supplier activities which may be used by fuel oil purchasers to help them ascertain if a fuel oil supplier is quality-oriented;
- .5 reviewing information made public by Member States pursuant to regulation 18.9 of MARPOL Annex VI, in particular any information submitted to the Organization regarding failures by fuel oil suppliers to meet the requirements of regulations 14 and/or 18 of MARPOL Annex VI;
- .6 where available, consulting lists which grade suppliers by the quality of the fuel oils supplied through testing agency data; and
- .7 any other sources of information and assessment procedures a purchaser may have in defining the reputability of the fuel oil supplier within the context of this guidance.

Note however, that data relating to individual suppliers maybe confidential and commercially sensitive and may sometimes lead to antitrust issues.

4.3.7 Fuel oil testing statistics may help identify supplier-specific trends for sulphur compliance and other quality parameters. Note, however, that caution is needed when using this data, for example, samples which are tested above specification limit but within ISO 4259 Petroleum products – Determination and application of precision data in relation to methods of test boundary are sometimes incorrectly reported as off spec, resulting in the statistical analysis being misleading.

4.3.8 It should be noted that testing agencies may not necessarily have information on supplier quality of service or ability to deliver the right quantity.

## Contracting

4.4 The choice of a fuel oil supplier is a commercial one and will result in a contractual arrangement between the fuel oil purchaser and chosen supplier. The contract specifies the fuel oil to be supplied, how the supplier will fulfil the contractual agreement, and should include claim/dispute clauses.

4.4.1 Where the charterer supplies the fuel oil it should be recognized that the "purchaser" (the charterer) is not the same to the "user" (the ship), and their interests are not necessarily aligned. In these cases, the technical requirements of the user/ship should be communicated to, and taken into account, by the purchaser even when the commercial interests of the "purchaser" and "user" differ.

4.4.2 Fuel oil purchasers may purchase fuel directly from a physical supplier or they may utilize the services of traders or brokers when purchasing fuel. Traders buy and sell fuel and carry the financial risk associated with buying and selling. A broker usually works on commission and does not buy and sell the bunkers, hence they do not carry the financial risk associated with buying and selling.

4.4.3 Purchasers should require that suppliers follow best practices with regard to fuel oil quality, including a quality assurance system (see paragraph 4.2.1.) and confirm that procedures are in place if non-compliant fuel oil is detected or delivered.

4.4.4 Bunker specifications and any requirements for bunkering procedures should be stated in the contract. The contract should:

- .1 state the quantity ordered. This is usually in metric tonnes by mass, however other units are sometimes used. The unit used should be clearly stated. The required maximum sulphur content and that the fuel is to meet the applicable requirements of regulation 18 of MARPOL Annex VI;
- .2 include a detailed technical specification for the fuel along with acceptable quality parameters;
- .3 where the fuel is to be specified with reference to ISO 8217 Petroleum products – Fuels (class F) – Specifications, the contract should clearly state which edition is to be used (i.e. 2005, 2010, 2012 or 2017) using the latest edition is encouraged but this may not be practical in all countries; and
- .4 for non-ISO 8217 standard fuel oils, as a minimum the specification should require that the fuel oils need to meet the requirements of regulations 18.3.1 and 18.3.2 of MARPOL VI, and SOLAS Chapter II-2.

4.4.5 If fuel which is not compliant with regulation 14.1 or 14.4 of MARPOL VI is ordered for use with an approved alternative means of compliance such as exhaust gas cleaning, this should be communicated to the supplier.

4.4.6 Fuel oil purchasers should include a requirement in their QA system to check and approve the quantity to be ordered and quality requirement prior to transmitting their order to the supplier.

## Documentation

4.5.1 Bunker delivery notes (BDNs), as required by regulation 18 of MARPOL Annex VI, should be provided by the supplier. Text on the BDN should meet the requirements of Appendix V of MARPOL Annex VI.

4.5.2 In case the product supplied differs in handling characteristics from traditional/mainstream fuel oils, the supplier should provide a guide/publication of best practice which includes recommendations for storage and handling of the supplied product.

### Fuel oil receiving on board, sampling and testing

4.6.1 There should be appropriate record keeping onboard, especially with regard to maintaining the oil record book required by MARPOL Annex VI and MARPOL Annex I, regulation 17. Detailed guidance for making entries into the oil record book is provided in MEPC.1/Circ.736 on Guidance for the Recording of Operations in the Oil Record Book Part I – Machinery Space Operations (All Ships).

4.6.2 The receiving ship should have procedures for bunkering, fuel oil handling, and storage of fuel oil, including spill, pollution and emergency response. Since shipboard emergency plans addressing different categories of emergencies are required under the provisions of both the SOLAS and MARPOL conventions, the ISM Code and supporting guidance, including:

- .1 Resolution A.1072(28) on *Revised Guidelines for a Structure of an Integrated System of Contingency Planning for Shipboard Emergencies* provides guidance for integrated emergency response planning.
- .2 MARPOL Annex I regulation 37 requires ships to have a shipboard oil pollution emergency plan (SOPEP), guidance for developing the SOPEP is provided by resolution MEPC.54(32) on *Guidelines for the Development of Shipboard Oil Pollution Emergency Plans* as amended by resolution MEPC.86(44) on *Amendments to the Guidelines for the Development of Shipboard Oil Pollution Emergency Plans*.
- .3 MARPOL Annex II regulation 17 requires ships of 150 gross tonnage and above carrying noxious liquid substances in bulk to carry an approved shipboard marine pollution emergency plan (SMPEP) for noxious liquid substances, guidelines for developing the SMPEP are provided by resolution MEPC.85(44) as amended by resolution MEPC.137(53) on *Guidelines for the development of Shipboard Marine Pollution Emergency Plans of Oil and/or Noxious Liquid Substances*.

4.6.3 Detailed guidance for bunkering procedures, including a sample bunkering checklist, may be found in various available guidance documents, for example chapter 25 of the International Safety Guide for Oil Tankers and Terminals (ISGOTT).

4.6.4 Clear communications should be established between the receiving ship and supplier (bunker barge, truck or terminal) and emergency stop and response actions agreed prior to any bunkering activities commencing.

4.6.5 Handling onboard should so far as is possible avoid co-mingling of fuel oils in tanks or fuel oil lines in order to minimize cross contamination.

4.6.6 A representative fuel oil sample should be collected during the bunkering process. Guidelines for collecting the MARPOL sample are provided in resolution MEPC.182(59) on *2009 Guidelines for the Sampling of Fuel Oil for Determination of Compliance with the Revised MARPOL Annex VI*.

4.6.7 The use of cameras arranged to witness and record bunkering and sampling processes could be considered.

4.6.8 It is recommended that the fuel oil purchaser has a sample of fuel collected during bunkering analysed to confirm that it complies with the agreed specification in the contract. Sample analysis should be performed by an independent laboratory and according to relevant international test standards accredited to ISO/IEC 17025 *General requirements for the competence of testing and calibration laboratories* or an equivalent national standard. Accredited laboratories in a particular country should be listed on the national accreditation bodies' website. It is also recommended that labs have an ISO 9001 *Quality management systems – Requirements*, or equivalent, quality management system. Where possible it is recommended that fuel oil should not be used until this analysis has been completed.

4.6.9 Purchasers should confirm the accreditation or certification of the laboratory they intend to use, in particular they should check whether any accreditation is general in nature (overall lab practices) or for specific analytical methods.

4.6.10 The contract terms and conditions should stipulate how the laboratory analysis will be carried out in the case of disputes.

4.6.11 In some circumstances it is neither possible nor necessary to make full laboratory analyses before using the fuel oil which has been delivered (e.g. fuel oil is frequently supplied on contract with same supplier). Testing density and viscosity may be sufficient to indicate if the product is similar to the last supply.

4.6.12 Where an analysis is required by the Administration then the analysis should be carried out in accordance with the verification procedures of the Administration.

### **Dispute resolution**

4.7 Dispute handling/resolution arrangements in case of dispute should be specified in the contract.

### **Other entities involved in a fuel oil transaction**

4.8 Unintended contamination of a product may happen in any part of the supply chain, including on board bunker barges. This is especially important for 0.10% sulphur fuel oil since any contamination with higher sulphur content fuel is likely to result in that batch of fuel becoming non-compliant.

4.9 It is common practice for a barge or truck provider to deliver the fuel oil on behalf of the supplier. In such cases the barge or truck operator is responsible for transporting the fuel safely and preventing pollution.