

GUIDANCE NOTE 10/2023 (Rev 01)

PREVENTING THE INADVERTENT USE OF LOW FLASHPOINT AND OFF-SPECIFICATION FUELS

To: SURVEYORS, OWNERS, COMPANY'S, MASTER'S AND CHIEF ENGINEERS ON ALL CAYMAN ISLANDS SHIPS AND YACHTS.

1. BACKGROUND

- 1.1 Ship owners and masters, especially in the large yacht industry, have inadvertently purchased marine fuel oil which has been found not to meet the applicable international standards for marine fuel oil which has posed safety risks to personnel, the environment and fuel oil consuming machinery on board.
- 1.2 The purpose of this Guidance Note is to raise awareness of the requirements for conventional fuels¹ used on board ships and yachts.
- 1.3 Full details of these requirements are given in the Annex to this Guidance Note ("the Annex").

2. FLASHPOINT

- 2.1 The SOLAS Convention generally requires that fuel oils used on board have a flashpoint of not less than 60° C, except as follows –
 - 2.1.1 In emergency generators, an oil fuel with a flashpoint of not less than 43° C may be used.
 - 2.1.2 Subject to the requirements given in the Annex to this Guidance Note, a fuel oil with a flashpoint of not less than 43° C may be used for feeding the emergency fire pump's engine and auxiliary machines which are not located in Category A machinery spaces.
- 2.3 Please see paragraph 2.1 of the Annex for further details.

¹ Heavy Fuel Oil (HFO), Marine Diesel Oil (MDO) and Marine Gas Oil (MGO)

3. SULPHUR CONTENT

- 3.1 Annex VI to the MARPOL Convention specifies the maximum permitted sulphur content for marine fuel oils.
- 3.2 On 01 January 2020, the global sulphur limit for marine fuels was reduced from 3.50% to **0.50%**. The maximum sulphur content for fuels used in a Sulphur Emission Control Area is **0.10%**.
- 3.3 Fuels with a sulphur content above these limits can only be used on ships fitted with a compliant Exhaust Gase Cleaning System (EGCS), or a “Scrubber”. Owners and masters of ships fitted with EGCS should be aware that many countries have strict controls on the operation of “open loop scrubbers” in their ports and territorial waters.

4. FUEL OIL AVAILABILITY AND BUNKER DELIVERY NOTES

- 4.1 MARPOL Annex VI sets out the requirements for fuel oil availability and quality. Countries where MARPOL Annex VI applies are required to maintain a register of fuel oil suppliers where compliant fuel oil can be obtained.
- 4.2 This register of compliant fuel oil suppliers is available via the publicly available² IMO Global Integrated Shipping Information System ([GISIS](#)).
- 4.3 Where possible, only suppliers listed in GISIS should be used to supply compliant fuel. Ship / yacht agents will be aware of the local fuel oil situation.
- 4.4 Compliant fuel should be accompanied by a “Bunker Delivery Note” (BDN) containing the information outlined in paragraph 2.6 of the Annex.
- 4.5 Fuel oil should not be accepted if the BDN indicates that the limits for flashpoint and sulphur content have not been met, or the BDN does not contain the information outlined in paragraph 2.6 of the Annex.

5. INADVERTENT BUNKERING OF FUEL NOT MEETING FLASHPOINT OR SULPHUR CONTENT REQUIREMENTS

- 5.1 Despite the best efforts to bunker compliant fuel oil, fuel oil analysis occasionally shows that the bunkered fuel oil does not meet applicable standards.
- 5.2 In such cases, the Classification Society and Flag Administration should be contacted for advice. “Debunkering” non-compliant fuel at the earliest opportunity is the preferred option.
- 5.3 Non-compliant fuel oils should not be used on board unless as part of a plan agreed with the Classification Society and the Flag Administration. See section 3 of the Annex for further details.

² Registration is required. No cost is associated with registration or use of GISIS.

- 5.4 The blending on board of compliant and non-compliant fuel oils to achieve a “compliant” mixture is not permitted.

6. VESSEL SAFETY MANAGEMENT SYSTEMS

- 6.1 Bunkering operations should form part of a vessel’s documented safety management system or standard operating procedures.

7. FUTURE AMENDMENTS

- 7.1 Section 5 of the Annex contains details of forthcoming amendments to SOLAS regarding the flashpoint of fuel oils.

ANNEX

1. INTRODUCTION

- 1.1 Low flashpoint or other 'off-specification' fuel oils are known to risk disabling a vessel's engines, endangering the vessel and the crew generally and can give rise to safety issues that may also result in significant losses. Besides potential for presence of contaminants which can create problems for the safe consumption of bunkers and cause damage to systems and propulsion machinery, the carriage and consumption of bunkers with a low flashpoint presents an entirely separate safety and fire hazard. Typically, bunkers with a flashpoint below 60°C are deemed unsafe for general use. The usage of marine fuels below 60°C has been generally prohibited under the International Convention for Safety of Life at Sea ("SOLAS") II-2(4.2.1) accordingly, although supply may still be generally available in ports for other purposes.
- 1.2 In some known cases low flashpoint and other off-specification fuel has been obtained from unregistered and unapproved sources resulting in problems, in terms of compliance with minimum safety and environmental levels specified by SOLAS and MARPOL and, in some instances, has also affected machinery integrity and performance. Use of 'road tankers' and 'marina supply stations' from unapproved sources has also been a common factor in many occurrences where fuel produced for a different intended purpose has been delivered to yachts (e.g. road fuel or shore diesel with a lower flashpoint or higher sulphur content, which may fail subsequent standard tests for SOLAS or MARPOL fuel quality).
- 1.3 Owners, managers, masters and chief engineers should note the risks associated with low flashpoint or other off-specification fuels and to give special attention to minimizing risk associated with fuel and fuel sources when bunkering. Also, to note the actions to be taken following inadvertent embarkation of low flashpoint or other off-specification fuel.

2. VERIFICATION OF MINIMUM STATUTORY REQUIREMENTS

- 2.1 SOLAS II/2(4.2.1) applies the following limitations to the use of use of oil as fuel:
- .1 *except as otherwise permitted by this paragraph, no oil fuel with a flashpoint of less than 60°C shall be used;*
 - .2 *in emergency generators oil fuel with a flashpoint of not less than 43°C may be used;*
 - .3 *the use of oil fuel having a flashpoint of less than 60°C but not less than 43°C may be permitted (e.g., for feeding the emergency fire pump's engines and the auxiliary machines which are not located in the machinery spaces of category A) subject to the following:*
 - 3.1 *fuel oil tanks except those arranged in double bottom compartments shall be located outside of machinery spaces of category A;*

- 3.2 *provisions for the measurement of oil temperature are provided on the suction pipe of the oil fuel pump;*
- 3.3 *stop valves and/or cocks are provided on the inlet side and outlet side of the oil fuel strainers; and*
- 3.4 *pipe joints of welded construction or of circular cone type or spherical type union joint are applied as much as possible;*
- .4 *in cargo ships, to which part G of chapter II-1 is not applicable, the use of oil fuel having a lower flashpoint than otherwise specified in paragraph 2.1.1, for example crude oil, may be permitted provided that such fuel is not stored in any machinery space and subject to the approval by the Administration of the complete installation; and*
- .5 *in ships, to which part G of chapter II-1 is applicable, the use of oil fuel having a lower flashpoint than otherwise specified in paragraph 2.1.1 is permitted.*
- 2.2 MARPOL Annex VI/18(1) also sets out requirements for fuel oil availability and quality. Countries to which MARPOL VI applies are all required to promote availability of ‘compliant fuel oils’ and must take all reasonable steps to inform IMO of availability in their ports and terminals. R. 18(9) further requires local authorities to maintain a register of local suppliers of fuel oil.
- 2.3 In the first instance, ship’s crew are therefore guided to source all fuel only from nationally approved MARPOL sources (as also published by IMO following notification by the national authority). The verification of approved sources in each country may be made by accessing <https://gisis.imo.org/Public/> - MARPOL Annex VI - Regulation 18.1.
- 2.4 The ‘Port’ and ‘Terminal Facility’ where compliant fuel is available may be verified, as in the example below. Fuel should be sourced directly via the terminal accordingly. Agents, where used, should be instructed to only source from nationally ‘approved’ terminals and not from other sources (e.g. marinas). Sufficient checks should be carried out by crew ‘prior to bunkering’ to ensure that only an approved source (i.e. terminal) is supplying the fuel. Companies and masters should ensure that bunker processes include these fundamental checks accordingly.

IMO GISIS: MARPOL Annex VI

You are in the Public Area > MARPOL Annex VI > Notification details

Reg. 4.2 | Reg. 11.4 | Reg. 13.7.1 | Reg. 15.2 | Reg. 17.2 | Reg. 17.3 | Reg. 18.1 | Reg. 18.2.5 | Reg. 18.9.6 | Reg. 19.6 | Specimens | EEDI Database Information

Regulation 18.1 / Spain
Fuel oil availability

1. Party notifying the Organization
Spain

2. Port and, optionally, terminal or facility, where compliant fuel oil is available
Vigo, Spain (ESVGO)

Terminal/facility name (if applicable): Cosca Comercial Petroleo S.A.
Supplier contact information/URL: www.cepsa.com

3. Type and sulphur content of compliant fuel oil available at the port/terminal identified above

Fuel types:
 HFO MDO MGO

Sulphur content of compliant fuel oil available:
 Greater than 0.50% m/m
 Not exceeding 0.50% m/m (in effect 1 January 2020)
 Not exceeding 0.10% m/m

4. Date of availability of compliant fuel oil
Not applicable

5. Additional information/reference

File: 41721_030_00114_comercial.pdf Description: product specifications
Size: 72 KB

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- 2.5 In countries where the national authority has not notified IMO (e.g. Italy, Malaysia etc.), it is the responsibility of the Master and management Company (where applicable) to liaise with Local Official Port Administration to obtain the 'Register' of nationally approved fuel suppliers required by MARPOL VI/18(9).
- 2.6 The detail of a Bunker Delivery Note (BDN) should also be examined to ensure that it contains the following information:

1 Name and IMO Number of receiving ship

2 Port

3 Date of commencement of delivery

4 Name, address, and telephone number of marine fuel oil supplier

5 Product name(s)

6 Quantity in metric tons

7 Density at 15°C (kg/m³) (i.a.w. ISO 3675:1998 or ISO 12185:1996)

8 Sulphur content (%m/m) (i.a.w ISO 8754:2003)

9 A declaration signed and certified by the fuel oil supplier's representative that the fuel oil supplied is in conformity with regulation 18.3 of this Annex and that the sulphur content of the fuel oil supplied does not exceed:

- the limit value given by regulation 14.1 of this Annex;*
- the limit value given by regulation 14.4 of this Annex; or*
- the purchaser's specified limit value of _____ (% m/m), as completed by the fuel oil supplier's representative and on the basis of the purchaser's notification that the fuel oil is intended to be used:*
 - .1 in combination with an equivalent means of compliance in accordance with regulation 4 of this Annex; or*
 - .2 is subject to a relevant exemption for a ship to conduct trials for sulphur oxides emission reduction and control technology research in accordance with regulation 3.2 of this Annex.*

The declaration shall be completed by the fuel oil supplier's representative by marking the applicable box(es) with a cross (x).

- 2.7 Additionally the BDN should be checked to ensure that the SOLAS II-2(4.2.1) minimum flashpoint, and MARPOL VI/ 14 sulphur oxides and particulates is suitably confirmed. Pre-checks should be carried out as far as practicable.
- 2.8 BDNs should also be accompanied by a representative sample of the fuel oil delivered, following the guidelines outlined in MEPC.182(49). The sample is to be sealed and signed by the supplier's representative and the master or officer in charge of the bunker operation on completion of bunkering operations and retained under the ship's control until the fuel oil is substantially consumed, but in any case, for a period of not less than 12 months from the time of delivery. If a Party requires the representative sample to be analyzed, it must be done in accordance with the verification procedure set forth in MARPOL VI/ Appendix VI to determine whether the fuel oil meets the requirements MARPOL VI.
- 2.9 Examples of BDNs have been identified in some instances where one or more of the above requirements are missing (e.g. Declaration, Product, Density measurement value etc.) or the supplier is not as listed in the national register or IMO GISIS. Such instances should be brought to the attention of the company, Administration and the Supplier and follow-up made as to the reason for non-compliance.

3. INADVERTENT BUNKERING OF LOW-FLASHPOINT OR OFF-SPECIFICATION FUEL

- 3.1 If the fuel flashpoint is below 60° C (except where authorized by SOLAS 4.2.1), or Sulphur content is >0.5% m/m (or > 0.1% in an ECA) the Flag State Administration and Class should be notified, and bunkering stopped immediately. If bunkering has commenced or accidental embarkation has been made, a plan of measures to be taken is to be drawn up with the objective of removing the contaminated/ off-specification fuel as soon as possible, washing and gas-freeing the tanks and associated piping as necessary. (Refer also to IMO Res. A.565(14)).
- 3.2 Plans of Measures to be taken shall include consultation by the master and chief engineer, with the company, Port Services, Local Ship Inspectorate, Ship Owner, Insurer, Class Society and Flag Administration. Plans should include but not be limited to:
- Risk assessment, to apply suitable safeguards whilst Low flashpoint fuel remains on board. Assessment should include:
 - Checking and maintaining fuel temperatures in storage tanks at the minimum possible;
 - Checking the fuel tank vent gauze condition;
 - Keeping tanks ventilated to ensure no accumulation of flammable gasses;
 - Prohibiting hot work, smoking on board or source of ignition close to tanks, vents, and piping systems;
 - Avoiding oil being stored in tanks adjacent to other tanks or spaces which can be heated and any heating circuits to the tanks containing the oil are to be blanked off;

- Ensuring that the engine room ventilation system is operated continuously;
- Ensuring that any oil leakage is collected safely and not allowed to accumulate in the engine room;
- Ensuring that any tank openings in the engine room (other than to transfer or service pumps) are kept closed;
- Disconnecting non-intrinsically safe electrical apparatus around (at least 3m) affected tank vents.
- Ensuring that tank cross connection valves and suctions between contaminated and compliant fuel are closed and tagged to prevent inadvertent use.
- Fixing appropriate warning signage in way of the tanks and air pipes on deck.
- Sampling of the fuel on board. Samples taken should be formally witnessed by all parties where practicable taking account of MARPOL VI/ Appendix VI and MEPC.182(49). Supporting documentation should be collated to ensure records of all representative samples are recorded.
- Tanks and systems should be prepared and cleaned to receive compliant fuel from an Approved supplier. This may require fuel transfer in the interim.
Compliant Fuel must not be mixed with the off-specification fuel.

For both high Flashpoint or otherwise off-specification fuels:

- Off-specification fuel must be disembarked, and systems cleaned before re-use.
- Off-specification fuel shall be disembarked before further voyage is made.
- Attendance by Class should be requested, and reports should be made to the Flag Administration
- Voyages shall not be undertaken until rectification has been made.

- 3.3. Parties should also note that ‘blending’ of off-specification fuels with compliant fuels is not supported by the Administration, as blended characteristics cannot be assumed to have a linear effect overall and it can be extremely complex to maintain all required fuel properties (stability, compatibility, viscosity, etc.) whilst also maintaining compliance with MARPOL and SOLAS fuel Standards. Additionally, technical feasibility will be further complicated by an inability to maintain supporting documentation justifying fuel compliance standards on board. (For further information also see the ICS [Guidance to Shipping Companies and Crews on Preparing for Compliance with the 2020 ‘Global Sulphur Cap’ for Ships’ Fuel Oil in Accordance with MARPOL Annex VI](#)).
- 3.4. Additionally, parties should note that once testing has determined a specification outside SOLAS and MARPOL standards, re-tests of the same fuel sample will not be accepted as demonstrating overall compliance, unless the initial test has also been accepted as having been ‘formally discredited’ or ‘withdrawn’. This is to avoid acceptance of the most ‘convenient’ value where doubt still exists. Actions should instead be taken in accordance with 3.1 and 3.2 above.
- 3.5. Arbitration with the supplier should be conducted outside this process.

4.0 ISM AND MINI-ISM

4.1 In accordance with ISM Code Section 7 and the REG Yacht Code, the company should establish procedures, plans and instructions, including checklists as appropriate, for key shipboard operations. It is recommended that Bunkering operations are reviewed to ensure that the above guidance is also considered, and that due process is established in consideration of the wider risks. Also, that audits include review of the sufficiency of the arrangements in place.

5.0 FORTHCOMING SOLAS II-2(4.2.1) AMENDMENTS REGARDING FLASHPOINT

5.1 After consideration of the lack of regulatory framework within the bunker industry to control the supply of fuels intended for other purposes, IMO's MSC committee at its 106th meeting proposed amendments that are expected to enter into effect on 01 January 2026. The proposed amendments will aim to further ensure that bunkers are safe by requiring:

- That the Flashpoint is determined in accordance with ISO 2719:2006 and the test laboratory is accredited to ISO/IEC 17025:2017
- That the bunker supplier provides the ship with:
 - a declaration that the bunkers conform with SOLAS II-2/4.2.1 and the test method adopted; and
 - a BDN with the actual flashpoint of the fuel oil specified thereon (e.g. "62.5° C"); or
 - a general statement that the flashpoint was measured at or above 70° C.
- That where bunkers are delivered with a flashpoint below 60° C the Administration should be notified.
- That the Contracting state would be required to take appropriate action against the supplier.

5.2 Stakeholders are therefore additionally recommended to take note of these proposals and to prepare accordingly.