



Italian Coast Guard Headquarters Safety Navigation Department

LNG legislation and ITCG approach



Leghorn, 18th October 2016



LIQUID FUEL CARACHTERISTICS

SOLAS Convention

Directive 2010/36/EC

Directive 2009/45/EC Annex I

DPR 435/91

FUEL FLASH POINT $\geq 60^{\circ}\text{C}$

SOLAS II-2 B – Regulation 4.2.1

“Limitation in use of oils as fuel”

.1 No oil fuel with a flash point of less than 60°C shall be used;

Deviation only for:

.2 **Emergency generators** oil fuel with a flashpoint of less than 43°C may be used;

.3 60°C > Fuel oil flashpoint ≥ 43°C may be permitted subject to:

3.1 tank located outside machinery space of category A;

3.2 measurement on suction pipe;

3.3 stop valves provided;

3.4 pipe joints requirements.

.4 Not stored in machinery space for cargo ships and **Administration approval of installation.**

Directive 2010/36/EC

Ch. II-1 A point 10.1.1

“Arrangements for oil fuel, lubricating oil and other flammable oils”

Limitations in the use of oil as fuel

The following limitations shall apply to the 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 Subject to such additional precautions..... **the Administration of the flag State may permit the general use of oil fuel having a flashpoint of less than 60 °C but not less than 43 °C.**



Article 81 Presidential Decree 8th November 1991 No. 435

“Liquid fuel flashpoint”

1. Liquid fuel for boilers and for the internal combustion propulsion machinery and auxiliaries **shall not have a flashpoint under 60°C** except in those cases mentioned in items 2, 3 and 4 of the present article and in article 193.
2. The use of liquid fuel, with a flashpoint below 60°C, but not lower than 43°C is permitted for emergency generators and for other uses mentioned in item 1.....

HOW TO DEVIATE ?

SOLAS Convention

Directive 2009/45/EC

DPR 435/91



SOLAS - Regulation I/5

Equivalents

(a) Where the present regulations require that a particular fitting, material, appliance or apparatus, or type thereof, shall be fitted or carried in a ship, or that any particular provision shall be made, the **Administration may allow** any other fitting, material, appliance or apparatus, or type thereof, to be fitted or carried, or **any other provision** to be made in that ship, if it is satisfied by trial thereof or otherwise that such fitting, material, appliance or apparatus, or type thereof, or provision, **is at least as effective as that required by the present regulations.**

(b) Any Administration which so allows, in substitution, a fitting, material, appliance or apparatus, or type thereof, or provision, **shall communicate to the Organization particulars.....**

SOLAS - Regulation II-2/17

Alternative design and arrangements

2 General

2.1 Fire safety design and arrangements **may deviate** from the prescriptive requirements set out in parts **B**, C, D, E or G, provided that the design and arrangements meet the **fire safety objectives** (II-2/2.1) and **the functional requirements** (II-2/2.2).

2.2 When fire safety design or arrangements deviate from the prescriptive requirements of this chapter, engineering analysis, evaluation and approval of the **alternative design** and arrangements **shall be carried out** in accordance with this regulation.

Directive 2009/45/EC – Article 9

“Additional safety requirements, equivalents, exemptions and safeguard measures”

2. A Member State may, subject to the procedure laid down in paragraph 4, adopt measures allowing **equivalents** for the regulations contained in Annex I, provided that such equivalents are **at least as effective as such regulations**.

Article 8 Presidential Decree 8th November 1991 No. 435

“Equivalents”

When the present regulations require a certain system, device/appliance or apparatus, or a type thereof to be installed, or a **particular arrangement** is established, the Ministry, taking for granted the compliance with the provisions of article 28 of the present regulations, may accept in substitution, according to article 12 of Act No. 616 dated 5 June 1962, any other system, device/appliance or apparatus or type thereof or any other arrangement, if, **after ascetainments by the technical body** – it deems that said system, device/appliance or apparatus or arrangement presents characteristics which **are equivalent to those of the required one.**

Articolo 12 Legge 616/62

“Equivalents”

Article 6 Presidential Decree 8th November 1991 No. 435

“Ships presenting novel features”

3. The Italian Merchant marine Minister adopts, by a decree of his own, all particular provision, not having statutory character, relevant to **ships presenting special and novel features**, for the application of provisions adopted by international organizations, after consulting the technical body and learning the opinion of the Italian central Committee for the Safety of Navigation.

HOW TO REACH THE EQUIVALENCE



RESOLUTION MSC.285(86)
(adopted on 1 June 2009)

**INTERIM GUIDELINES ON SAFETY FOR NATURAL GAS-FUELLED ENGINE
INSTALLATIONS IN SHIPS**

PREAMBLE

2 The goal of these Interim Guidelines is to provide criteria for the arrangement and installation of machinery for propulsion and auxiliary purposes, using natural gas as fuel, which will have an equivalent level of integrity in terms of safety, reliability and dependability as that which can be achieved with a new and comparable conventional oil-fuelled main and auxiliary machinery.





Reparto Sicurezza della Navigazione

FUTURE

FROM 1ST JANUARY 2017



IGF CODE

RESOLUTION MSC.391(95)
(adopted on 11 June 2015)

The International Maritime Organization's Maritime Safety Committee has adopted new rules for ships powered by gases such as **LNG and other low-flashpoint fuels**.

During the MSC's 95th session held from June 3 to 12, the Committee formally adopted the International Code of Safety for Ships using **gases or other Low-flashpoint fuels** (IGF Code) along with amendments making the Code mandatory under the International Convention for the Safety of Life at Sea (SOLAS).

RESOLUTION MSC.391(95)
(adopted on 11 June 2015)

**ADOPTION OF THE INTERNATIONAL CODE OF SAFETY FOR SHIPS USING GASES
OR OTHER LOW-FLASHPOINT FUELS (IGF CODE)**

PREAMBLE

The purpose of this Code is to provide an international standard for ships using low-flashpoint fuel, other than ships covered by the IGC Code.

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The current version of this Code includes regulations to meet the functional requirements for natural gas fuel. Regulations for other low-flashpoint fuels will be added to this Code as, and when, they are developed by the Organization.

In the meantime, for other low-flashpoint fuels, compliance with the functional requirements of this Code must be demonstrated through alternative design.

- PART A** General, Goal and functional requirements, General requirements
- PART A-1** **SPECIFIC REQUIREMENTS FOR SHIPS USING NATURAL GAS AS FUEL** (Ship design and arrangement, Fuel containment system, Material and general pipe design, Bunkering, Fuel supply to consumers, power generation including propulsion and other consumers, Fire safety, Explosion prevention, Ventilation, Electrical installation, Control monitoring and safety systems)
- PART B-1** Manufacture, workmanship and testing
- PART C-1** Drills and emergency exercise, Operation
- PART D** Training

The **amendments to SOLAS chapter II-1** (Construction – Structure, subdivision and stability, machinery and electrical installations), include **amendments to Part F Alternative design and arrangements**, providing a methodology for alternative design and arrangements for machinery, electrical installations and low-flashpoint fuel storage and distribution systems; **and a new Part G Ships using low-flashpoint fuels**, to add new regulations to require ships constructed after the expected date of entry into force of 1 January 2017 to comply with the requirements of the IGF Code, together with related amendments to chapter II-2 and Appendix (Certificates).

The MSC also adopted related **amendments** to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW), and STCW Code, to include new mandatory minimum requirements for the training and qualifications of masters, officers, ratings and other personnel on ships subject to the IGF Code. The amendments also have an entry into force date of 1 January 2017, in line with the SOLAS amendments related to the IGF Code.

First delivery 2019





Early implementation

THANK YOU FOR LISTENING



For Italian flag ships

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