



27TH CESMA ANNUAL GENERAL ASSEMBLY
Genova – Italy May 5th/6th 2022

Seminar
LNG powered ships, what future and safety?

**“The use of LNG as a fuel on board -
The international rules in force”**

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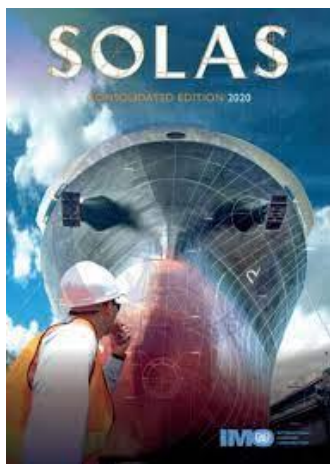
- The international rules in force for the use of LNG as a fuel on board, with reference to SOLAS Convention and STCW Convention;
- Special training requirements for personnel on ships subject to the IGF Code;
- Prevention of air pollution from ships.



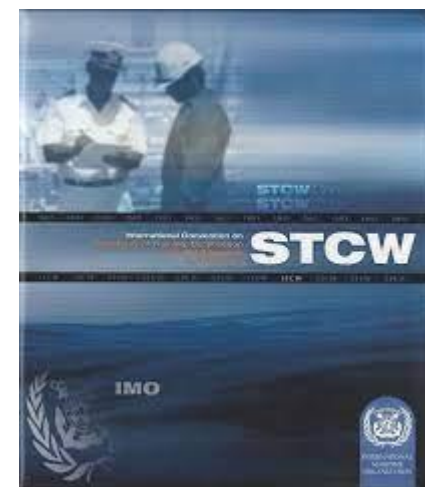
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MARITIME SAFETY COMMITTEE 95th session 19 June 2015

- **RESOLUTION MSC.391(95)**: Adoption of the International Code of safety for ships using gases or other low-flashpoint fuels (**IGF CODE**);
- **RESOLUTION MSC.392(95)**: Amendments to the International Convention for the safety of life at sea, 1974, as amended (**SOLAS Convention**);
- **RESOLUTION MSC.396(95)**: Amendments to the International Convention on standards of training, certification and watchkeeping for seafarers (**STCW convention**), 1978, as amended;
- **RESOLUTION MSC.397(95)**: Amendments to Part A of the seafarers' training, certification and watchkeeping Code (**STCW Code**);



*In force since **1 January 2017***





**SOLAS - CHAPTER II-2
PART B - PREVENTION OF FIRE AND EXPLOSION
Regulation 4 – Probability of ignition**

2.1 Limitations in the use of oils 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 the use of oil fuel having a flashpoint of less than 60°C but **not less than 43°C may be permitted** subject to the following:eg. fuel oil tanks shall be located outside of machinery spaces of category A;omitted...





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SOLAS Convention 74(88)

EXCEPTION

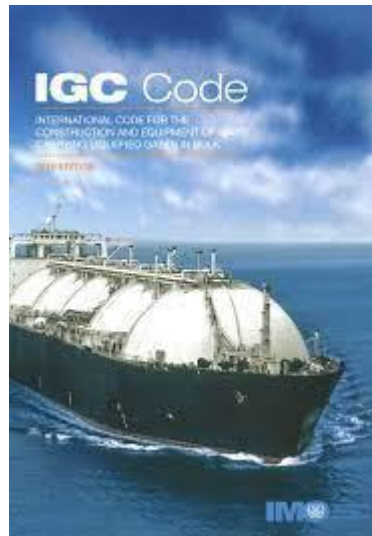
SOLAS - CHAPTER VII - PART C

CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING LIQUEFIED GASES IN BULK

Regulation 13 – Requirements for gas carriers

1 A gas carrier **shall comply with** the requirements of **the International Gas Carrier Code** and shall be surveyed and certified as provided for in that Code.

IGC Code
CHAPTER 16
USE OF CARGO AS FUEL
...omissis...





SOLAS Convention

International certificates attesting the compliance of ships with the rules on the use of gas (LNG) as a fuel

PASSENGER SHIPS



**Passenger Ship Safety
Certificate**

Validity 1 year

(Italian Ships issued by
LMA/Consulate after technical
verification of the R.O.)

CARGO SHIPS



**Cargo Ship Safety
Construction Certificate**

Validity 5 years

(Italian ships issued
by R.O.)

GAS CARRIERS



Certificate of fitness

Validity 5 years

(Italian ships issued by
R.O.)

« the ship complied with part G of chapter II-1 of the Convention using LNG Fuel »



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Special training requirements
for personnel on ships subject
to the IGF Code

STCW Convention

Annex to STCW Convention

New regulation V/3 is added after existing regulation V/2

STCW Code

New section A-V/3 is added after existing section A-V/2



«Mandatory minimum requirements for the training and qualifications of masters, officers, ratings and other personnel on ships subject to the IGF Code»

Basic training

Advanced training

FAMILIARIZATION



Coast Guard

Special training requirements
for personnel on ships subject
to the IGF Code

STCW Convention

FAMILIARIZATION (Reg. I/14 Annex to STCW)

Seafarers, “are to be familiar” with their specific duties and with all:

- ✓ ship arrangements, installations, equipment, procedures and ship characteristics



that are relevant to their **routine** or **emergency**



Coast Guard

Special training requirements
for personnel on ships subject
to the IGF Code

STCW Convention

BASIC TRAINING

Seafarers responsible for:

- ✓ **designated safety duties** associated with the care, use or in emergency response to the fuel on board ships subject to the IGF Code

ADVANCED TRAINING

Masters, engineer officers and all personnel with:

- ✓ **immediate responsibility** for the care and use of fuels and fuel systems on ships subject to the IGF Code



STCW Convention

Certificate attesting to the completed training of seafarers

CERTIFICATE OF PROFICIENCY

BASIC TRAINING

- basic training on IGF Code in accordance with the STCW Code.

ADVANCED TRAINING

- basic training certificate;
- advanced training on IGF Code in accordance with the STCW Code; *and*
- at least one month of seagoing service (minimum 3 bunkering operations) on board ships subject to the IGF Code.

a certificate in basic/advanced training for liquefied gas tanker cargo operations + seagoing navigation is considered equivalent.



Coast Guard

Special training requirements
for personnel on ships subject
to the IGF Code

STCW Convention

CERTIFICATE OF PROFICIENCY



VALIDITY 5 YEARS



- appropriate refresher training; *or*
- to provide evidence of having achieved the required standard of competence within the previous five years.



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Special training requirements
for personnel on ships subject
to the IGF Code

DECRETO 16 novembre 2017 (Decree 16 november 2017) -
Istituzione del Corso di formazione e addestramento per il personale
marittimo in servizio su navi soggette al Codice IGF. **(Training course
for seafarers serving on ships subject to the IGF Code).**

AUTHORIZED TRAINING CENTER



BASIC TRAINING: course of 24^h → *Statement of basic training*

ADVANCED TRAINING: course of 40^h → *Statement of
Advanced training*

REFRESHER TRAINING: course of 8^h (Basic) - 12^h (Advanced)
or

at least 3 months of navigation in the previous 5 years on ships
subject to the IGF code.



MARPOL CONVENTION – ANNEX VI

DIRECTIVE (EU) 2016/802

APPLICATION TO ALL VESSELS OF ALL FLAGS

Maximum sulphur content of marine fuels by mass :

- **0.50%** from 1st January 2020;
- **0.10%** from 1st January 2015 (Within *Emission Control Areas*: **Baltic Sea, North Sea , North American Area and the United States Caribbean Sea Area**;
- **0.10%** from 1st January 2010 by **ships at bert.**

....or Equivalents (Marpol Annex VI, Reg. 4): Scrubbers
(Maximum sulphur content 3.5%), **LNG,.....**

LNG is a fuel that allows you to comply with the criteria of Annex VI MARPOL with a substantially **complete reduction of sulfur oxide (SOx)** and particulate emissions and a 90% reduction of nitrogen oxide (Nox).



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THANK YOU FOR YOUR KIND ATTENTION