



# **TRACECA II project**

# **Workshop on traffic**

# **monitoring matters**

## **IMO tools**

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Lisbon / 27 April 2015



- **International legislation ensuring the safety of navigation - brief introduction**
  - SOLAS, Chapter V in general
  - COLREG- focus on rule 10
- **Operational measures**
  - Ship's routing - IMO Resolution A.572(14)
  - Ship reporting systems - Resolution MSC.43 (64) and IMO Resolution A.851(20)
- **VTS - IMO Resolution A.857(20)**

# International legislation ensuring the safety of navigation – SOLAS Chapt V



## Background

- *Titanic* on 14 April 1912 led to the adoption in 1914 of the first International Convention for the Safety of Life at Sea (SOLAS).
- The current version is the SOLAS, 1974 (entered into force in 1980) which has been updated and amended on numerous occasions.

- Structure:

Chapter I - General provisions

Chapter II-1 - Construction - Subdivision and stability, machinery and electrical installations

Chapter II-2 - Fire protection, fire detection and fire extinction

Chapter III - Life-saving appliances and arrangements

Chapter IV - Radiocommunications

**Chapter V - Safety of navigation**

Chapter VI - Carriage of cargoes

Chapter VII - Carriage of dangerous goods

Chapter VIII - Nuclear ships

Chapter IX - Management for the safe operation of ships

Chapter X - Safety measures for high-speed craft

Chapter XI-1 - Special measures to enhance maritime safety

Chapter XI-2 - Special measures to enhance maritime security

Chapter XII - Additional safety measures for bulk carriers

# International legislation ensuring the safety of navigation – SOLAS Chapt V



## Chapter V identifies

- navigation safety services (provided by Contracting Governments)
- requirements of an operational nature applicable in general to all ships on all voyages (contrast to the Convention as a whole, which applies to certain classes of ship on international voyages).

## The subjects covered include among others

- the maintenance of meteorological services for ships
- the ice patrol service;
- routing of ships;
- the maintenance of SAR services
- general obligation for masters to proceed to the assistance of those in distress and
- for Contracting Governments to ensure that all ships shall be sufficiently and efficiently manned from a safety point of view.
- VDRs and AIS Mandatory for certain ships etc..

# International legislation ensuring the safety of navigation – SOLAS Chapt V



Regulation 1 - Application

Regulation 2 - Definitions

Regulation 3 - Exemptions and Equivalents

Regulation 4 - Navigational Warnings

Regulation 5 - Meteorological services and warnings

Regulation 6 - Ice Patrol Service

Regulation 7 - Search and rescue services

Regulation 8 - Life-saving signals

Regulation 9 - Hydrographic Services

**Regulation 10 - Ships' Routeing \***

**Regulation 11 - Ship Reporting Systems**

**Regulation 12 - Vessel Traffic Services**

Regulation 13 - Establishment and operation of aids to navigation

Regulation 14 - Ships' manning

Regulation 15 - Principles relating to bridge design, design and arrangement of navigational systems and equipment and bridge procedures

Regulation 16 - Maintenance of Equipment

Regulation 17 - Electromagnetic compatibility

Regulation 18 - Approval, surveys and performance standards of navigational systems and equipment and voyage data recorder

Regulation 19 - Carriage requirements for shipborne navigational systems and equipment

Regulation 20 - Voyage data recorders

Regulation 21 - International Code of Signals

Regulation 22 - Navigation bridge visibility

Regulation 23 - Pilot transfer arrangements

Regulation 24 - Use of heading and/or track control systems

Regulation 25 - Operation of main source of electrical power and steering gear

Regulation 26 - Steering gear: Testing and drills

Regulation 27 - Nautical charts and nautical publications

Regulation 28- Records of navigational activities and daily reporting

Regulation 29 - Life-saving signals to be used by ships, aircraft or persons in distress

Regulation 30 - Operational limitations

Regulation 31 - Danger Messages

Regulation 32 - Information required in danger messages

Regulation 33 - Distress Situations: Obligations and procedures

Regulation 34 - Safe navigation and avoidance of dangerous situations

Regulation 34-1 - Master's Discretion

Regulation 35 - Misuse of distress signals

Appendix to Chapter V Rules for the management, operation and financing of the North Atlantic Ice Patrol

Annexes

***\*These three points will be presented more in details***



## Background

- COLREG 72 replaced the Collision Regulations of 1960
- Innovation: recognition traffic separation schemes (TSS) - Rule 10 (guidance safe speed, the risk of collision and the conduct of vessels in or near TSS)
- The first TSS (voluntary basis) was in the Dover Strait in 1967.
- 1971: observance of all traffic separation schemes be made mandatory - COLREGs updated.



## COLREG in General: 38 rules divided into 5 sections

- **Part A – General (rule 1-3)**
- **Part B - Steering and Sailing (rules 4-19)**
  - **Rule 10: behaviour of vessels in or near TSS adopted by IMO**
- **Part C - Lights and Shapes (rules 20-31)**
- **Part D - Sound and Light signals (rules 32-37)**
- **Part E – Exemptions (rule 38)**
- **4 Annexes: technical requirements concerning**
  - lights and shapes and their positioning
  - sound signalling appliances
  - additional signals for fishing vessels when operating in close proximity
  - international distress signals



# COLREG 72 rule 10



## Rule 10 in general

- Regulates the behaviour of vessels in or near TSS adopted by IMO.
- Effectiveness of TSS (study IAIN in 1981 for Dover Strait):  
1956-1960: **60** collisions - 20 years later **16**.

## Rule 10 more in Depth

- ships crossing traffic lanes are required to do so "as nearly as practicable at right angles to the general direction of traffic flow."
- Fishing vessels "shall not impede the passage of any vessel following a traffic lane" but are not banned from fishing.
- Exemption (1981) for vessels which are restricted in their ability to manoeuvre "when engaged in an operation for the safety of navigation in a traffic separation scheme" or when engaged in cable laying".
- In 1989 clarify the vessels which may use the "inshore traffic zone."





## Operational measures

- **Ship's routeing**
- **Ship reporting systems**

## Ship's routing

- **SOLAS, Chapter V- Regulation 10 “Ships’ Routeing”**

- Ships' routing systems for, all ships, certain categories of ships or ships carrying certain cargoes, are:
  - recommended for use by, and
  - may be made mandatory

- **IMO Resolution A.572(14)**

- Definition RS: Any system of one or more routes or routeing measure aimed at reducing the risk of casualties (TSS, 2-ways route, recommended tracks, area to be avoided, inshore traffic zones, roundabouts, precautionary areas and deep water route.
- Provides procedures to create a RS *The separation of through and local traffic by providing inshore traffic zones*
- Methods to follow
- Design criteria
- The use of the RS etc...

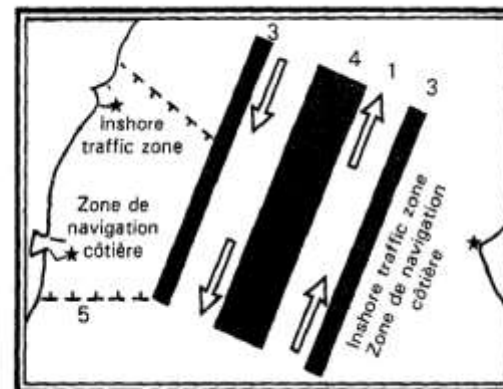


Figure 3 — Inshore traffic zones

# Operational measures

## Ship reporting systems

- **SOLAS, Chapter V Regulation 11 “Ship Reporting Systems”**
  - Responsibility of contracting Government
  - Shall follow IMO guidelines
  - Requires ships to comply with requirements of adopted mandatory reporting systems
- **MSC.43(64): Guidelines & Criteria for SRS**
  - Objectives: SRS considered by IMO only if for improvement of safety of life, safety and efficiency of navigation and or increase protection marine environment
  - criteria (Cont Gov) for planning proposing and implementing SRS
  - Criteria for assessment of the proposal for adoption and review by IMO
- **IMO Resolution A.851(20): General principles for SRS and reporting requirements (including Hazmat reporting)**
  - States principles for ship reporting systems and ship reporting requirements
  - Provides guidelines for reporting incidents involving dangerous goods, harmful substances and/or marine pollutants
  - Appendix: template of reporting forms.

# Vessel Traffic Services - VTS

- **SOLAS, Chapter V Regulation 12**
  - contracting Governments to establish VTS where traffic volume or risks justify it.
  - VTS to follow guidelines adopted by IMO
  - VTS can only be mandatory in territorial seas
  - ships to be encouraged by Administrations to use VTS
- **IMO Resolution A.857(20) “Guidelines for Vessel Traffic Services”**
  - sets out the objectives of a VTS:

“to improve the safety and efficiency of navigation, safety of life at sea and the protection of the marine environment and/or the adjacent shore area, worksites and offshore installations from possible adverse effects of maritime traffic”.
  - Sets differences between Port and coastal VTSs
  - outlines the responsibilities and liability of Governments involved
    - E.g. explain the VTSs services (Info/Nav assistance/traffic organisation/instruct vessel/
  - gives guidance for planning and implementing a VTS
- **IALA “Recommendation (V103) on Standards for Training and Certification of VTS Personnel”**
  - provides standards and guidelines for the training and qualification of VTS personnel
- ***IALA VTS Manual (by IALA VTS Committee)***
  - A comprehensive guide to VTS



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