

# Polar Code, MLC 2006 operator implications

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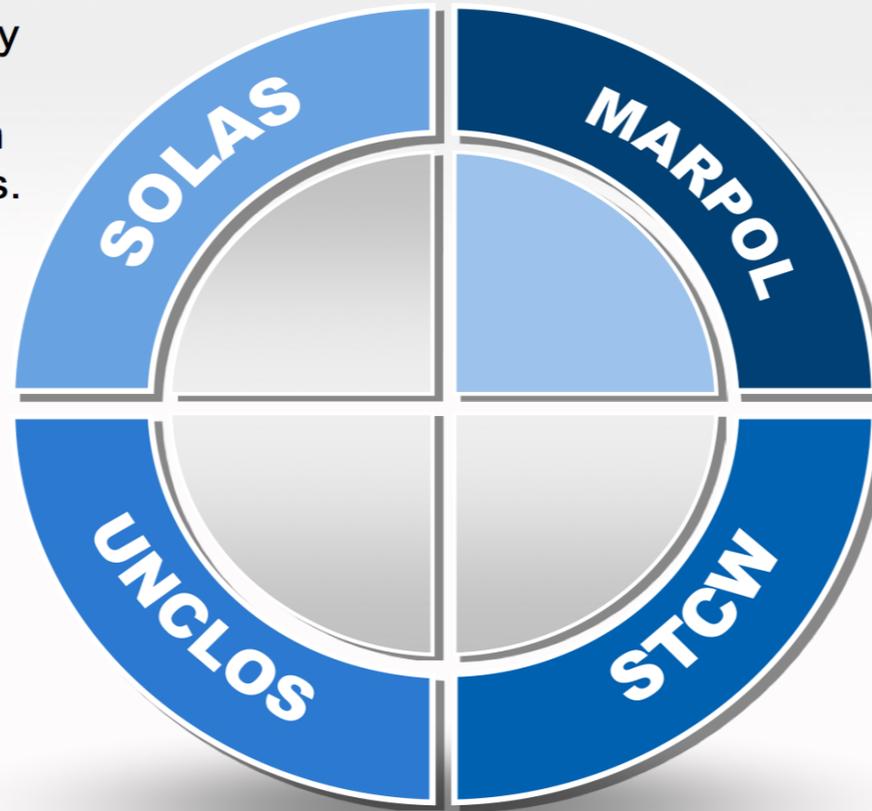
Miki Ojeda



# Polar Code.

Safety requirements apply to all ships which are subject to the Convention operating in Polar regions.

Legal framework governing the rights and responsibilities of nations in their use of ocean space.



Provides the mandatory level environmental protection with zero discharge requirements for Antarctica.

Newly adopted guidance and recommendations for training and competency of officers and masters on ships in polar regions.

The draft Polar Code includes mandatory measures covering safety part (part I-A) and pollution prevention (part II-A) and recommendatory provisions for both (parts I-B and II-B).

# Polar Code

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## Part IA – Safety (SOLAS):

- MSC agreed a new draft SOLAS chapter XIV “Safety measures for ships operating in polar waters” to adoption MSC94 in **november 2014**
- NCSR [july2014] finalized chapters related to the safety of navigation and communication

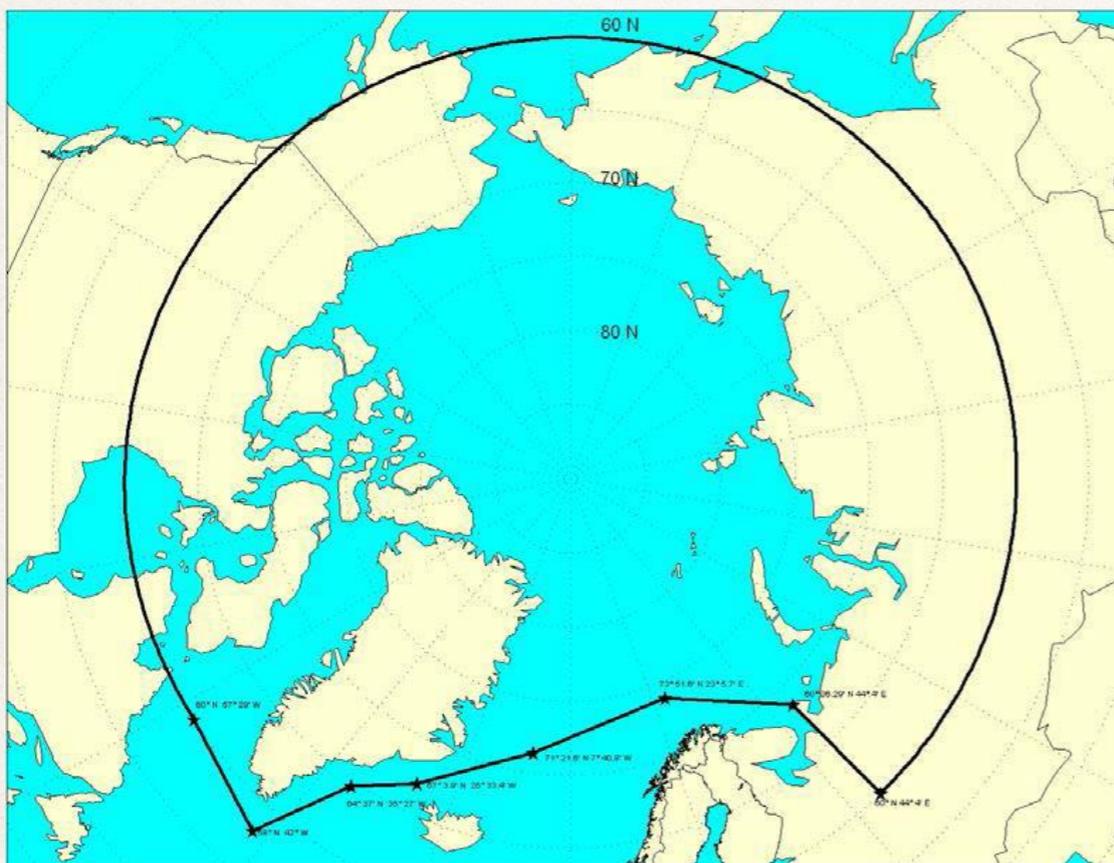
## Part IIA – Enviromental (MARPOL)

- MEPC [april2014] agreed to establish correspondence group to finalize the draft MARPOL amendments and the environmental requirements and to report to the MEPC67 in October 2014

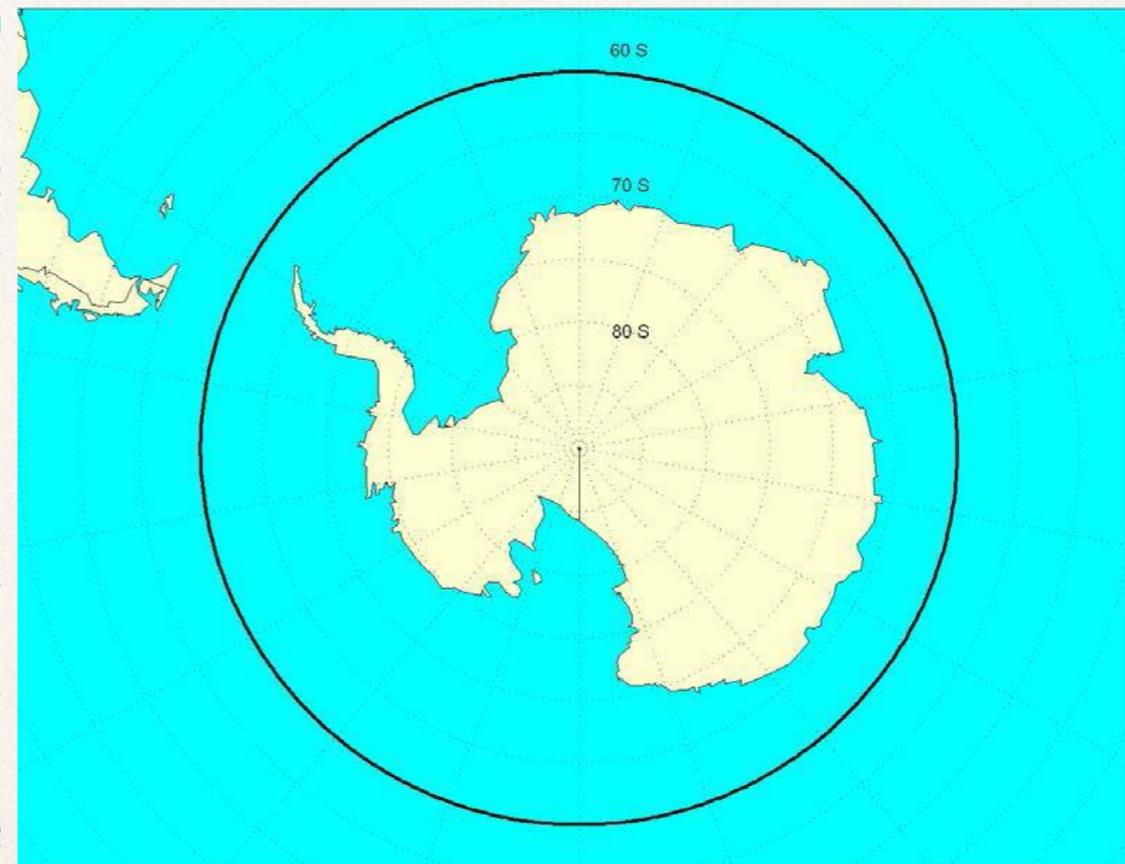
# Polar Code.

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**Arctic Waters**



**Antarctic Waters**



# Polar Code. Ship classes

A, B, C class

## Capability vs Ice Thickness

### Category A

Designed for operations in at least medium first year ice which may include old ice inclusions.

### Category B

A ship not included in Category A, designed for operation in polar waters in at least thin first year ice, which may include old ice inclusions.

### Category C

A ship designed to operate in open water or in ice conditions less severe than those in A or B.



Category	Ice Class	Limiting Ice Thickness (m)	Threshold ice Thickness for Low Speed Operation (m)	Code
A	PC1	Any ice		A1
	PC2	Any ice		A2
	PC3	Ice >3m	Any ice	A3
	PC4		3	A4
	PC5		1.2	A5
B <sup>1</sup>	PC6	0.7	2	B1
	PC7	0.7	1.2	B2
C <sup>2</sup>	1B	0.5		C1
	1C	0.3		C2
	1D	0.15		C3
	O/W	0.1		C4

PC 1 - Year-round operation in all ice-covered waters

PC 2 - Year-round operation in moderate multi-year ice conditions

PC 3 - Year-round operation in second-year ice which may include multi-year ice inclusions

PC 4 - Year-round operation in thick first-year ice which may include old ice inclusions

PC 5 - Year-round operation in medium first-year ice which may include old ice inclusions

PC 6 - Summer/autumn operation in medium first-year ice which may include old ice inclusions

PC 7 - Summer/autumn operation in thin first-year ice which may include old ice inclusions

# WHAT DOES THE POLAR CODE MEAN FOR SHIP SAFETY?

## EQUIPMENT



**WINDOWS ON BRIDGE**  
Means to clear melted ice, freezing rain, snow, mist, spray and condensation



**LIFEBOATS**  
All lifeboats to be partially or totally enclosed type



**CLOTHING I**  
Adequate thermal protection for all persons on board



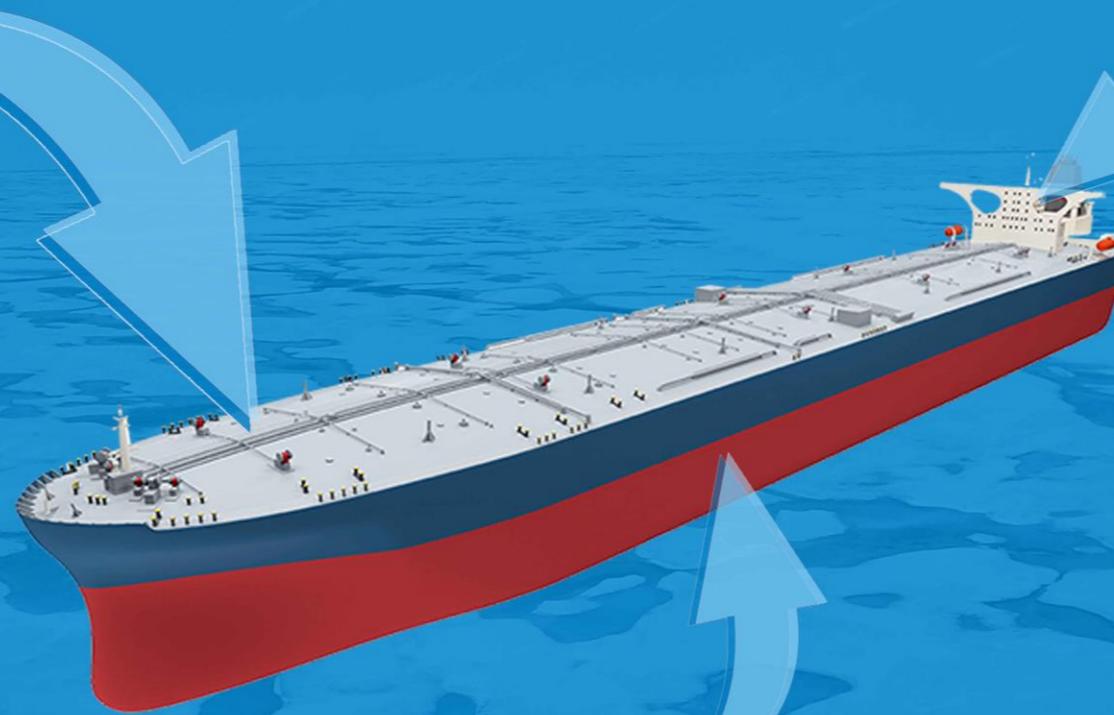
**CLOTHING II**  
On passenger ships, an immersion suit or a thermal protective aid for each person on board



**ICE REMOVAL**  
Special equipment for ice removal: such as electrical and pneumatic devices, special tools such as axes or wooden clubs



**FIRE SAFETY**  
Extinguishing equipment operable in cold temperatures; protect from ice; suitable for persons wearing bulky and cumbersome cold weather gear



## OPERATIONS & MANNING



**NAVIGATION**  
Receive information about ice conditions

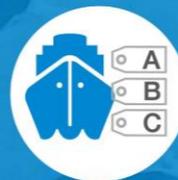


**CERTIFICATE & MANUAL**  
Required to have on board a Polar Ship Certificate and the ship's Polar Water Operational Manual



**TRAINING**  
Masters, chief mates and officers in charge of a navigational watch must have completed appropriate basic training (for open-water operations), and advanced training for other waters, including ice

## DESIGN & CONSTRUCTION



**SHIP CATEGORIES**  
Three categories of ship which may operate in Polar Waters, based on:  
A) medium first-year ice  
B) thin first-year ice  
C) open waters/ice conditions less severe than A and B



**MATERIALS**  
Ships intended to operate in low air temperature must be constructed with materials suitable for operation at the ships polar service temperature



**INTACT STABILITY**  
Sufficient stability in intact condition when subject to ice accretion and the stability calculations must take into account the icing allowance



**STRUCTURE**  
In ice strengthened ships, the structure of the ship must be able to resist both global and local structural loads

## BACKGROUND INFO

❄️ THE INTERNATIONAL CODE FOR SHIPS OPERATING IN POLAR WATERS WAS ADOPTED NOVEMBER 2014 BY THE IMO MARITIME SAFETY COMMITTEE

❄️ IT APPLIES TO SHIPS OPERATING IN ARCTIC AND ANTARCTIC WATERS

❄️ THE AIM IS TO PROVIDE FOR SAFE SHIP OPERATION AND THE PROTECTION OF THE POLAR ENVIRONMENT BY ADDRESSING RISKS PRESENT IN POLAR WATERS AND NOT ADEQUATELY MITIGATED BY OTHER INSTRUMENTS

# Design and construction, Equipment

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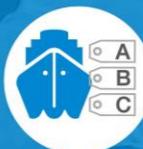


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Chapter 2 - Structures

Chapter 3 - Subdivision and stability

Chapter 4 - Accommodation and escape measures

Chapter 5 - Directional control systems

Chapter 6 - Anchoring and towing arrangements

Chapter 7 - Main machinery

Chapter 8 - Auxiliary machinery systems

Chapter 9 - Electrical installations

Chapter 10 - Fire safety

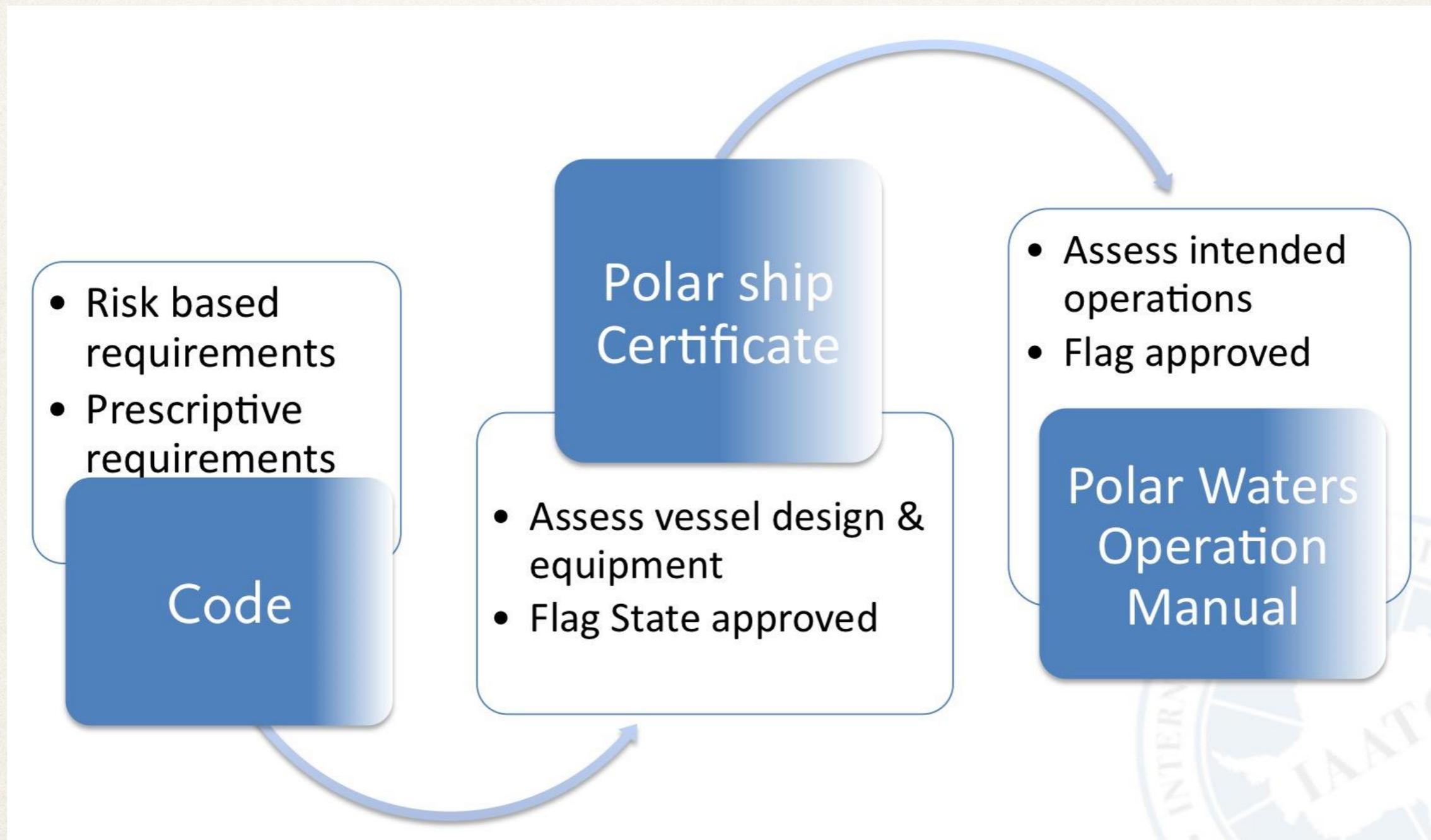
Chapter 11 - Life-saving appliances and survival arrangements

Chapter 12 - Navigational equipment

Chapter 16 - Environmental protection and damage control

# Polar Code. Process

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# Operations and manning

## OPERATIONS & MANNING



### NAVIGATION

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### TRAINING

Masters, chief mates and officers in charge of a navigational watch must have completed appropriate basic training (for open-water operations), and advanced training for other waters, including ice

All ships operating in polar waters should carry on board at all times a ship operating manual and training manual, as appropriate, for all Ice Navigators, ... and a Polar Ship Certificate

- **Polar Ship Certificate.**
  - Define capability, operational limitations
  - Approved by Flag State
- **Operating and training manuals**
  - Define procedures, voyage planning, ...
  - Qualified training and experience
  - Approved by Flag State

# Operating manual. Normal operation

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- .1 principal particulars of the ship;
- .2 loading procedures and limitations including any applicable recommendations against carrying pollutants in tanks and compartments against the hull envelope, maximum operational weight, position of centre of gravity and distribution of load necessary for operation in polar waters;
- .3 acknowledgment of changes in standard operating procedures for radio equipment and navigational aids applicable to Arctic and Antarctic operations;
- .4 operating limitations for the ship and essential systems in anticipated ice conditions and temperatures;
- .5 passage planning procedures accounting for anticipated ice conditions;
- .6 deviations in standard operating procedures associated with operation of propulsion and auxiliary machinery systems, remote control and warning systems and electronic and electrical systems made necessary by operations in polar waters

# Operating manual. Risk management

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- .7 deviations in standard damage control procedures made necessary by operations in polar ice-covered waters;
- .8 evacuation procedures into water, onto ice, or into a combination of the two, with due regard to chapter 11 of these Guidelines;
- .9 information regarding the handling of the ship as determined in accordance with chapter 16 of these Guidelines (Environmental protection and damage control);
- .10 maximum towing speeds and towing loads where applicable;
- .11 procedures for checking the integrity of hull structure;
- .12 description and operation of fire detection and fire-extinguishing equipment in a polar environment;
- .13 details arising from the standards of chapter 3 of the Guidelines (Subdivision and stability) likely to be of direct practical use to the crew in an emergency; and
- .14 guidance taking into account the results of any risk or failure analysis reports developed during the ship's operational history and its design limits and redundancy features.

# Polar Code. Next steps

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- MSC 95 (03-12 June) revise and adopt a number amendments related to the Code
- Some papers presented in MSC 95 regarding the appliance of the Polar Code to non SOLAS ships (fishing & yachts) ... Polar Code 2?
- Some other initiatives (IAATO Workshop, Courses, etc...)
  
- **Expected to enter into force on 1st January 2017**
  - It will apply to new vessels constructed after that date
  - Ships constructed before will be required to meet the relevant requirements of the Polar Code by the first intermediate or renewal survey, whichever occurs first, after 1st January 2018

**Not much time ... but still**

# MLC 2006

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The MLC, 2006, has been designed to become a global legal instrument that will be the “fourth pillar” of the international regulatory regime for quality shipping (MLC+SOLAS+STWC+MARPOL)

## *Basic aims*

- ✦ to ensure comprehensive worldwide protection of the rights of seafarers (the Convention is sometimes called the seafarers’ Bill of Rights)
- ✦ to establish a level playing field for countries and shipowners committed to providing decent working and living conditions for seafarers

Title 1 - Minimum requirements for seafarers to work on a ship

Title 2 - Conditions of employment

Title 3 - Accommodation, recreational facilities, food and catering

Title 4 - Health protection, medical care, welfare and social security protection

Title 5 - Compliance and enforcement

**At the moment 65 countries have ratified MLC.  
30% ILO members and 80% world gross tonnage**

# What affect us?

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Title 1 - Minimum requirements for seafarers to work on a ship

Training – “passengers” vs technicians and researchers, STCW requirement  
Seafarers?

Training level or requirements?

Title 2 – Conditions of employment

Provisions for maximum hours of work & minimum hours of rest include the Master

Title 3 - Accommodation, recreational facilities, food and catering

Requirements in new ships constructions (single cabins?)

Grandfather clause for existing ships

Title 4 - Health protection, medical care, welfare and social security protection

Shipowner responsibility

Medical? (COMNAP?)

Title 5 - Compliance and enforcement

Inspections / Port State Control

**ERVO Standards or recommendations?**

Thank you for your attention!!

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