IRSO meeting 2015

Ballast Water Management Convention

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Introduction

The International Convention for the Control and Management of Ships' Ballast Water and Sediments was adopted in 2004 by IMO, and will enter into force 12 months after ratification by at least 30 States representing 35% of the world's merchant shipping tonnage.
By the end of August 2015 the Faroes ratify the convention. A total of 44 States have ratified the Convention, representing 32.86% of the world merchant fleet tonnage, the BWM Convention has not entered into force yet.

The US Coast Guard (USCG) Regulations on BWM (33 CFR part 151 & 46 CFR part 162) entered into force 21st of June 2012. All ships calling US ports must have a treatment system installed acc. to the given implementation scheme.

On1July2001, Australia introduced mandatory ballast water management requirements to reduce the risk of introducing harmful aquatic organisms into Australia's marine environment through ballast water from international vessels (Quarantine Act 1908).

Which ships will the Convention apply to?

A ship is defined in the Convention as a vessel of any type whatsoever operating in the aquatic environment and includes submersibles, floating craft, floating platforms, FSUs and FPSOs".

The Convention will apply to:

- Ships 400gt and above.
- Ships from Flag States that have ratified, and ships entering jurisdictions of Flag States.

Ships below 400 gt will be subject to national survey and certification regimes.

The Convention will NOT apply to:

- Ships not designed or constructed to carry ballast water,
- Ships operating only in waters of one member State (unless the member State determines otherwise),
- Ships of one member State operating only in waters of another member State and the latter authorizes an exclusion.
- Ships which only operate in waters of one member State and on the high seas (subject to conditions).
- Any warship,naval or State owned ships.
- Ships with permanent ballast water in sealed tanks not subject to discharge

BWMC Compliance schedule

Ballast capacity	Existing ships Constructed (keel laid) before 2009	Existing Ships Constructed (keel laid) in or after 2009 but before 2012	Existing Ships Constructed (keel laid) in or after 2012
Less than 1,500m^2	Entry into force (EIF)* before 1 January, 2017: compliance by first IOPP** renewal survey after the anniversary date of the delivery of the ship in 2016 EIF after 31 December, 2016: compliance by first IOPP renewal survey after EIF	Compliance by first IOPP renewal survey after EIF	
Between 1,500m^3 and 5,000m^3	Compliance by first IOPP renewal survey after EIF		
Greater than 5,000m^3	EIF before 1 January, 2017: compliance by first IOPP** renewal survey after the anniversary date of the delivery of the ship in 2016 EIF after 31 December, 2016: compliance by first IOPP renewal survey after EIF		Compliance by first IOPP renewal survey after EIF

Table 1 – The compliance schedule for treatment

USCG Compliance schedule

	Ballast water capacity	Date constructed	Compliance date
New vessels	All	On or after 1 December, 2013	On delivery
Existing vessels	Less than 1,500m^3	Before 1 December, 2013	First scheduled drydocking after 1 January, 2016
	1,500 – 5,000m3	Before 1 December, 2013	First scheduled drydocking after 1 January, 2014
	Greater than 5,000m^3	Before 1 December, 2013	First scheduled drydocking after 1 January, 2016

Table 2 – The USCG compliance schedule

Compliance schedule

IFREMER FLEET

- Pourquoi pas 14/03/2020
- ATA 07/05/2019
- THALASSA 02/05/2021
- L'EUROPE 02/2020

IRD FLEET

- ANTEA 15/01/2017 Renewal of IOPP certificate in 2017

Once the BWM Convention has entered into force all ships of 400 gross tonnes (gt) and above will be required to have on board

- an approved Ballast Water Management Plan
- a Ballast Water Record Book
- an International Ballast Water Management Certificate.

Ballast Water Management Plans

The Ballast Water Management Plan is required to:

— assist the ship in complying with international regulations to minimise the risk of the transfer of harmful aquatic organisms and pathogens in ships' ballast water and associated sediments

— identify the ship's Ballast Water Management Officer

— consider ship safety elements, provide information to PSC officers on the ship's ballast handling system and confirm that ballast water management can be effectively planned

— include training on BWM operational practices

— be written in the working language of the ship. If this language is not English, French or Spanish a translation into one of these languages must be included.

Sampling and analysis

The IMO's guidance on ballast water sampling and analysis is given in the G2 Guidelines. The purpose of this guidance is to provide general recommendations on methodologies and approaches to sampling and analysis to test for compliance with the standards described in regulations D-1 and D-2 of the BWM Convention.

Sampling and analysis for compliance testing is a complex issue. According to the guidelines, testing for compliance can be performed in two steps. An indicative analysis of ballast water discharge may be undertaken as a first step to establish whether a ship is potentially in compliance with the BWM Convention prior to a detailed analysis.

When testing for compliance, the sampling protocol used should result in a representative sample of the whole discharge of the ballast water from any single tank or any combination of tanks being discharged.

Port state control

PSC inspections are limited to:

— verifying certification

— inspecting the ballast water record book

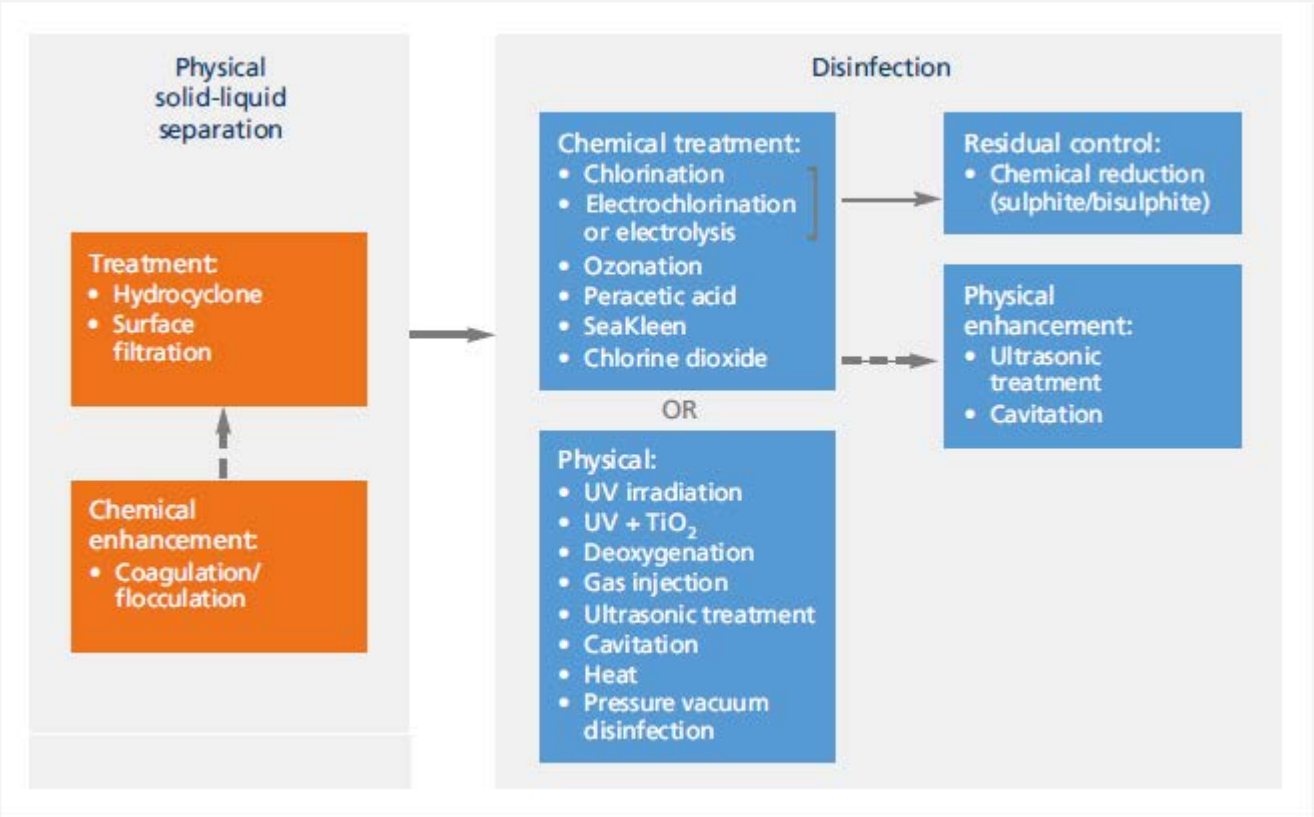
— sampling ballast water in accordance with the IMO's guidelines.

In 2014, the IMO adopted Guidelines for Port State Control under the BWM Convention (Resolution MEPC.252(67)). These provide basic guidance for conducting port state control inspections to verify compliance with the requirements of the BWM Convention. They are not intended to limit the rights the port state has in verifying compliance with the BWM Convention.

Technical solutions

Ballast water treatment processes

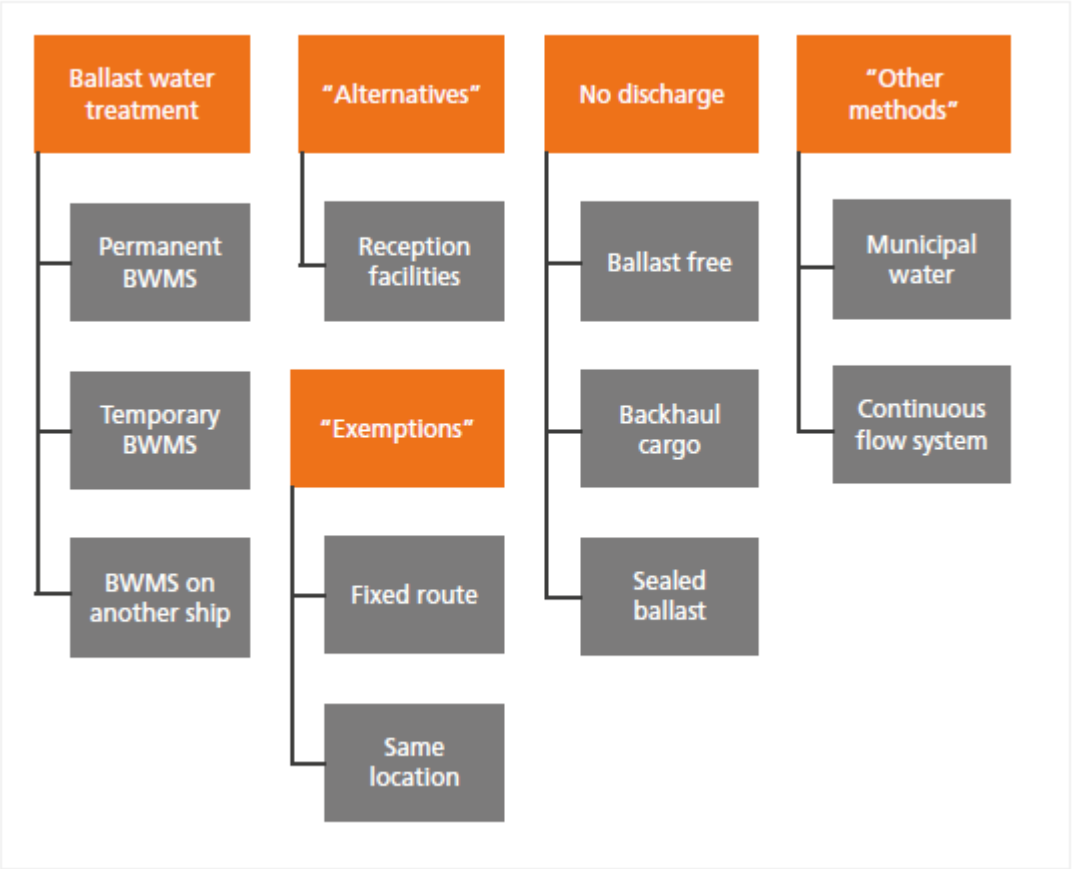
- Solid/Liquid separation)
- Chemical disinfection
- Physiqual disinfection



Alternative solutions

Piping arrangement

- Flume tank connected to reception ballast
- Heeling tanks in closed circuit
- ….



Conclusion

1. Consider if the ship can benefit from an Exception, an Exemption or an Alternative Mode of Compliance?
2. If not, then take steps to have a BWM system fitted.

There remain some unresolved issues and concerns with the Convention

- Sampling and analysis
- Lack of robustness of the current IMO Type approval

There is a real risk in doing nothing.

GENAVIR

Genavir

Ifremer

IRD
Institut de recherche pour le développement

Genavir is an economic interest group (EIG) set up by 5 members :

IFREMER, IRD, CNRS, IRSTEA and BOURBON Surf.

Genavir manages and operates research vessels and equipment owned by IFREMER and IRD.

- 4 deep blue vessels : Pourquoi Pas ?, L'Atalante, Thalassa, Le Suroît,
- 2 regional vessels : Antea and Alis
- 2 coastal vessels : Thalia, L'Europe
- 1 oceanographic boat : Haliotis
- Acoustic equipment such as a seismic acquisition chain (SMT, HR2D, SISRAP),
- Underwater equipment : Nautile, ROV Victor, Penfeld penetrometer...

GENAVIR provides the following services :

- Scientific data collection :

  acquisition, quality control and delivery to scientists.

- Ship management , worlwide H24 7/7

  Crewing and operation of research vessels and equipment's

  Operation of acoustic, seismic and underwater scientific equipment

- Technical management

  Maintenance of research vessels,

  Maintenance of scientific equipment

Permanent staff includes 203 seamen (85 officers), 81 engineers and technicians, 71 administrative staff and 40 fixed term contracts.

UNDERWARTER SYSTEMS / SCIENTIFIC EQUIPMENT

NAUTILE

Main caractéristics :

- Opérationnal depth : 6000 m
- Weight : 19.5 t
- Lenght : 8 m
- Crew : 2 pilots + 1 scientific
- Autonomy (on seafloor) : 5 hours
- Autonomy (security) : 120 hours

ROV VICTOR

Main caractéristics :

- Opérationnal depth : 6000 m
- Weight : 4 t
- Lenght : 3.15 m
- Speed ahead : 1.5 knot
- Vertical speed : 1 knot

SCAMPI

Main caractéristics :

- Opérationnal depth : 6000 m
- Autonomy : 10 hours

AUVs AsterX & IdfX

Main caractéristics :

- Opérationnal depth : 3000 m
- Lenght : 4.5 m

SYSIF

Deep Towed Seismic system

Main caractéristics :

- Opérationnal depth : 6000 m

HROV ARIANE

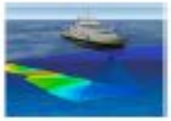
Main caractéristics :

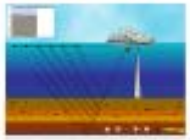
- Opérationnal depth : 2500 m
- Weight : 1.5 t
- Autonomy : 6 at 10 hours

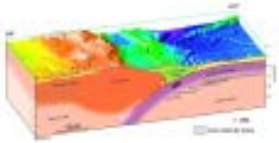
COMING SOON

Acoustic equipment

- Multibeam echosounder
- Fishing echosounder
- ADCP Courantometer
- Side scan sonar
- Sub-bottom profiler







Seismic equipment

- Mutli channel seismic system
- High-resolution 2D and 3D seismic systems
- Light seismic system (Sparker)

Others Equipment

- Penfeld penetrometer

- Piston Corer Calypso 8T / 5T
- Piston Corer Kullenberg
- Vibro-corer