

**IMO Seminar on Development of a
Regulatory Framework for Maritime
Autonomous Surface Ships (MASS)
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**1982 UNCLOS, MASS
and IMO Instruments**

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Part 1

Overview

OVERVIEW

1. 1982 UNCLOS is a **framework convention** that was intended to be updated by IMO instruments in order to keep pace with technological developments
2. The provisions in 1982 UNCLOS, including those referring to the obligations of **flag States** with respect to vessels flying their flag, can be interpreted in light of IMO instruments dealing with MASS
3. Under both UNCLOS and IMO conventions it is the **flag State** that has primary responsibility to ensure that ships flying its flag comply with the applicable rules and regulations on the safety of navigation and ship-source pollution
4. Therefore, the **flag State** that must have primary responsibility to ensure that MASS comply with the IMO Conventions and UNCLOS

OVERVIEW

4. The IMO can impose obligations on the **flag State** to be in constant communication with MASS flying their flag, and to ensure that MASS are continuously under the control of persons who are serving as the “master” and “crew” of the vessel
5. The IMO can also impose regulations to ensure that the authorities of the **flag State** are able to communicate with other ships and coastal authorities with regard to the passage of MASS flying their flag
6. Given the significance of the development of MASS on the provisions in UNCLOS, the IMO Legal Committee or the IMO Secretariat should consult the UN Division on Oceans and Law of the Sea regarding the interpretation of 1982 UNCLOS in light of the IMO Instruments relating to MASS

Part 2

IMO and UNCLOS

UNCLOS Rules of Reference

- During the 9 years of negotiations leading to the adoption of UNCLOS in 1982, the Secretariat of IMO (formerly IMCO) actively contributed to the work of Conference in order to ensure that the elaboration of IMO instruments conformed with the basic principles guiding the elaboration of UNCLOS.

Implications of UNCLOS for the IMO

- **LEG/MISC.8 of 30 January 2014**
 - Implication of UNCLOS for the IMO
 - Study by the Secretariat of the IMO
 - Analysis of relationship between UNCLOS and IMO Instruments
 - Covers many of the issues that must be addressed on the implications of MASS on UNCLOS
 - Envisages other possible roles for IMO in connection with the implementation of UNCLOS

LEG/MISC.8 of 30 January 2014

- “In addition to the new or modified functions and responsibilities directly or indirectly imposed on IMO by UNCLOS, it may be necessary to consider **what other possible roles, if any, may legitimately be played by IMO** in connection with implementation of the provisions of the Convention that deal with matters within the field of competence of IMO, **particularly the provisions whose interpretation or application may be assisted by work within IMO.**”

LEG/MISC.8 of 30 January 2014

- “Reference may be made in this connection to the articles of the Convention that relate to safety at sea and the prevention, reduction and control of pollution of the marine environment, since many of these articles refer to or presuppose the existence of international regulations and standards adopted by IMO and by reference to which States may implement the provisions of UNCLOS.”

UNCLOS Rules of Reference

- 1982 UNCLOS is a “**framework convention**” – therefore, many of its provisions can be implemented only through specific operative provisions in other international agreements, especially IMO Conventions
- UNCLOS has numerous provisions requiring States to “take account of”, “conform to”, “give effect to” or “implement” the relevant provisions in the
 - “applicable international rules and standards”,
 - “generally accepted international regulations, procedures and practices”, etc.

UNCLOS Rules of Reference

- Many “Rules of Reference” in UNCLOS impose obligations on States to ensure that ships flying their flag comply with or implement IMO Rules when exercising navigation rights or freedoms
- Example: Article 39 (2) of UNCLOS provides that ship exercising the right of transit passage in a strait used for international navigation shall
 - comply with **generally accepted international regulations, procedures and practices** for safety at sea, including the International Regulations for Preventing Collisions at Sea;
 - comply with **generally accepted international regulations, procedures and practices** for the prevention, reduction and control of pollution from ships.

UNCLOS Rules of Reference

- Other “Rules of Reference” in UNCLOS impose limits on the power of coastal States to regulate ships exercising rights of navigation in waters subject to their sovereignty
- For example, Article 21(2) provides that the laws and regulations of coastal States on ships exercising the right of innocent passage in their territorial sea shall not apply to the **design, construction, manning or equipment** of foreign ships **unless they are giving effect to generally accepted international rules or standards.**
- The “generally accepted international rules or standards” are the rules and standards set out in IMO Conventions and Annexes

Part 3

Communication of MASS with Authorities in Coastal State and with other Ships

Communication between MASS and Coastal Authorities

- Authorities in a coastal State must be able to communicate with a MASS or persons in control of a MASS concerning matters such as:
 - 1) Compliance with regulations of the coastal State on mandatory ship reporting, vessel traffic systems, sea lanes and traffic separation schemes
 - 2) Compliance with obligations under UNCLOS following an incident of navigation
 - 3) Compliance with UNCLOS rules on innocent passage when exercising passage in the territorial sea
 - 4) Compliance with rules on archipelagic sea lanes passage or innocent passage when exercising passage through an archipelagic State

Communication between MASS and Coast Guard Vessels

- MASS (or its Master or Remote Control Operator) must be able to communicate with coast guard or naval vessels of a coastal State or archipelagic State concerning incidents in territorial sea or archipelagic waters
 - 1) Collision or other incident of navigation
 - 2) Pollution incident involving a MASS
 - 3) Request by a foreign naval vessel to verify the flag of a MASS
 - 4) Attempt by foreign naval vessel or coast guard vessel to exercise right of “arrest” for criminal offence
 - 5) Attempt by navy or coast guard to exercise “hot pursuit”

Communication if an Emergency on a MASS

- MASS must be able to communicate with coastal authorities and other ships if there is an emergency such as:
 - A fire aboard the MASS
 - A power failure aboard the MASS
 - A technical communications problem resulting in a MASS not being able to communicate with remote control operator or authorities in the flag State
 - A technical communications problem resulting in a MASS not being able to communicate with other vessels
 - The unauthorized boarding of the MASS

Part 4

UNCLOS on Manning of Ships and Crew

Definition of terms in UNCLOS: Ship, Vessel, Master & Crew

- UNCLOS uses the term “ship” in some parts of the Convention and the term “vessel” in other parts of the Convention
- UNCLOS does not contain a definition of either “ship” or “vessel”
- UNCLOS also contains references to “master” and “crew”, but it does not define either term
- Because there are no restrictive definitions of these terms in UNCLOS, IMO should be able to interpret the terms in light of technological developments, including MASS

Duties of Flag State on Manning & Crew

- Article 94(4)(b) specifies *that* such measures must ensure "that each ship is in the charge of a **master** and **officers** who possess appropriate qualifications, in particular in seamanship, navigation, communications and marine engineering, and that the **crew** is appropriate in qualification and numbers for the type, size, machinery and equipment of the ship".
- Article 94(4)(c) specifies that the **master**, **officers** and, to the extent appropriate, the **crew** are fully conversant with and required to observe the applicable international regulations concerning, the safety of life at sea, the prevention of collisions, the prevention, reduction and control of marine pollution, and the maintenance of communications by radio.

Article 94 of UNCLOS on Manning & Crew

- Article 94(5) provides that “in taking the measures called for in paragraphs 3 and 4 each State is required to conform to **generally accepted international regulations, procedures and practices** and to take any steps which may be necessary to secure their observance.”

Article 94 & Autonomy Levels 3 & 4

- In adopting international regulations on MASS ships at autonomy levels 3 and 4, the IMO should include a provision on the functions and responsibility of the person or persons who would serve as the “**master**” of such a ship
 - For Level 3, the master could be the Remote Control Operator
 - For Level 4, the IMO could articulate the qualifications and experience of a person under the jurisdiction and control of the flag State who would be responsible for the voyage of a fully autonomous ship and who would assume control in an emergency
- IMO regulations should also set out the requisite qualifications of the master of a MASS, including their requisite qualifications in seamanship, navigation, communications and marine engineering

Key Issues

1. Whether the person who is designated as the Master under IMO regulations is able to ensure that the ship complies with the applicable international regulations concerning
 - (1) the safety of life at sea,
 - (2) the prevention of collisions,
 - (3) the prevention, reduction and control of marine pollution, and
 - (4) the maintenance of communications by radio.
2. Whether the IMO can amend the relevant laws and regulations on these four matters to take MASS into account in order to protect the interests of (a) other ships and (b) port States and coastal States

Thanks for your attention!

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