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AUTONOMOUS SHIPPING: THE LEGAL CHALLENGES

The marine environment has evolved over the years and new technologies are being developed around the globe. Autonomous shipping has been discussed and developed for past numerous years. Throughout the history of shipping, different types of ships have been invented and evolved, and sizes, as well as materials and equipment, have expanded, legislations have also been adopted alongside. This will have a significant impact on digitization and increased automation of shipping in the future years. The Maritime Safety Committee (MSC) is the main body under the International Maritime Organization (IMO) which deals with

Autonomous Shipping (AS), a committee addressing AS-related issues has been introduced under the MSC. The International Maritime Organization (IMO) intends to ensure that the regulatory framework for Maritime Autonomous Surface Ships (MASS) maintains up with rapidly increasing technology developments. In the MSC 104th session, IMO members



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agreed to create a goal-based instrument for Maritime Autonomous Surface Ships (MASS), with a 2025 completion date.

INTERNATIONAL FRAMEWORKS GOVERNING AUTONOMOUS SHIPPING

The Safety of Life at Sea Convention (SOLAS), the International Convention of Standards of Training, Certification, and Watch keeping for Seafarers (STCW), the Convention on the International Regulations for Preventing Collisions at Sea (COLREG) and the International Convention for the Prevention of Pollution from Ships (MARPOL) are among the conventions that govern the operation and maintenance of shipping in the context of autonomous shipping and legislation.

SOLAS defines acceptable standards for building, equipment, and operations. Operating a ship necessitates certification, which verifies compliance with all regulations, class certification and inspection which is carried out by the Flag State to ensure that standards are met, this will be a major legal challenge in AS. Chapter V governs ship manning, including obligations and procedures in a distress event. Similarly, Chapter I of SOLAS does not preclude autonomous ships without crew, however, the rule

must be amended because the law was originally designed for manned ships. The International Ship and Port Facility Security (ISPS) Code in SOLAS Chapter XI-2, outlines security officers and personnel but does not pertain to autonomous ships. SOLAS Chapter IX contains the International Management Code for the Safe Operation of Ships and Pollution Prevention (ISM code), which deals with safety management systems to prevent human injury or death. Since there will be no person onboard, an unmanned vehicle may not experience these challenges.

The STCW applies to manned vessels but not to a person ashore who is remotely operating a ship. The implementation of regulations, as well as the position and responsibilities of the master, is one of the primary challenges in AS shipping. The master's function and responsibilities are outlined under Rule 2 of the COLREG rules; however, these requirements and the definition of the master must be defined for the remote operator. In general, the remote operator should be treated as an equal to the master, with the same rights and obligations, this will bring in the role of the remote controller in AS under the ambit of the COLREG rules.

The International Convention for the Prevention of Pollution from

Ships (MARPOL) establishes pollution prevention rules. Since there are no humans on board, an autonomous, unmanned ship would not generate sewage or garbage for disposal. In short, MASS being completely automated, MARPOL may not come into being as it would be completely electrically equipped with no human interference. Thus, there will be major control in the pollution prevention standards set forth under the MARPOL Convention.

The International Convention on Maritime Search and Rescue (SAR) regulates the rescue of persons in distress and the obligation of ships to assist vessels in distress. Currently, there is no mention of autonomous ships in the SAR convention.

Therefore, the development of remote-controlled and autonomous ships poses a wide range of new challenges. Legislation and implementations are still lacking since the shipping industry and its stakeholder's requirements and expectations for fully automated marine operations have not been settled. The most important challenge for autonomous ships is to operate as safely and reliably as conventional ships with onboard staff. This contemporary challenge may be resolved by the adoption of effective legislation and its implementation exclusively for AS ■

WORLD MARITIME DAY 2023 AND 50 YEARS OF MARPOL

The World Maritime Day takes place on 28th September every year. This year, the International Maritime Organisation (IMO) has declared its World Maritime Theme as "MARPOL at 50 - Our commitment goes on". The Marine Pollution (MARPOL) Convention, short for the International Convention for the Prevention of Pollution from Ships, is a landmark treaty that has played a pivotal role in addressing one of the most pressing global environmental challenges which is marine pollution. Adopted in 1973 and subsequently amended several



times, MARPOL represents a collective commitment by the international community to protect the world's oceans and coastal environments from the adverse effects of pollution caused by shipping activities. MARPOL is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes.

The Convention includes regulations aimed at preventing and minimizing pollution from ships both accidental pollution and from routine operations and currently includes six technical Annexes. Special Areas with strict controls on operational discharges are included in most Annexes. MARPOL's six annexes address different types of pollution sources and substances as follows; Annex I deals with the Prevention of Pollution by Oil, Annex II contains provisions relating to Control of Pollution by Noxious Liquid Substances in Bulk, Annex III deals with Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form, Annex IV with Prevention of Pollution by Sewage from Ships, Annex V covers Prevention of Pollution by Garbage from Ships and Annex VI comprises of Prevention of Air Pollution from Ships.

Annex I Regulations for the Prevention of Pollution by Oil

Annex I which entered into force on 2nd October 1983 covers prevention of pollution by oil from operational measures as well as from accidental discharges; the 1992 amendments to Annex I made it mandatory for new oil tankers to have double hulls and brought in a phase-in schedule for existing tankers to fit double hulls, which was subsequently revised in 2001 and 2003.

Annex II Regulations for the Control of Pollution by Noxious Liquid Substances in Bulk

Annex entered into force on 2nd October 1983 and details the discharge criteria and measures for the control of pollution by noxious liquid substances carried in bulk; some 250 substances were evaluated and included in the



list appended to the Convention; the discharge of their residues is allowed only to reception facilities until certain concentrations and conditions (which vary with the category of substances) are complied with.

In any case, no discharge of residues containing noxious substances is permitted within 12 miles of the nearest land.

Annex III Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form

Annex III entered into force on 1st July 1992 contains general requirements for the issuing of detailed standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications.

For the purpose of this Annex, "harmful substances" are those substances which are identified as marine pollutants in the International Maritime Dangerous Goods Code (IMDG Code) or which meet the

criteria in the Appendix of Annex III.

Annex IV Prevention of Pollution by Sewage from Ships

Annex IV contains requirements to control pollution of the sea by sewage; the discharge of sewage into the sea is prohibited, except when the ship has in operation an approved sewage treatment plant or when the ship is discharging comminuted and disinfected sewage using an approved system at a distance of more than three nautical miles from the nearest land; sewage which is not comminuted or disinfected has to be discharged at a distance of more than 12 nautical miles from the nearest land. It entered into force on 27th September 2003.

Annex V Prevention of Pollution by Garbage from Ships

Annex V entered into force on 31st December 1988 deals with different types of garbage and specifies the distances from land and the manner in

which they may be disposed of; the most important feature of the Annex is the complete ban imposed on the disposal into the sea of all forms of plastics.

Annex VI Prevention of Air Pollution from Ships

Annex VI sets limits on sulphur oxide and nitrogen oxide emissions from ship exhausts and prohibits deliberate emissions of ozone-depleting substances; designated emission control areas set more stringent standards for SO_x, NO_x

and particulate matter. A chapter adopted in 2011 covers mandatory technical and operational energy efficiency measures aimed at reducing greenhouse gas emissions from ships. It entered into force on 19th May 2005.

The Marine Pollution (MARPOL) Convention stands as a testament to the international community's commitment to protecting our oceans and coastal environments from the devastating effects of pollution caused by shipping activities. Through its various annexes, MARPOL has successfully reduced

pollution from ships, safeguarding marine ecosystems and human health and has now successfully completed 50 years.

In a rapidly changing world with evolving environmental challenges, MARPOL remains a dynamic and indispensable tool. As we move forward, continued international cooperation and adherence to MARPOL's provisions are essential to ensure that our oceans, which cover more than 70% of the Earth's surface and which is integral for life remain healthy and vibrant for generations to come ■

THREE MARINERS WASHED FROM SA NAVY SUBMARINE DIE DURING RESUPPLY EXERCISE



An attempt by the South African Navy to conduct a vertical transfer (VERTREP) exercise during rough weather turned tragic after high waves swept seven crewmembers into the sea, causing the death of three marines. Four others were rescued and being treated in a hospital along with a rescue diver. The South African Department of Defence (DoD) confirmed the incident involving the navy's submarine SAS Manthatisi occurred off Kommetjie in the Western Cape region on Wednesday afternoon, September 20. While the submarine was sailing to Table Bay from Simon's Town for the Navy Festival, the navy scheduled a VERTREP resupply

exercise using an SA Air Force Maritime Lynx helicopter. The mission turned tragic after high waves swept seven crewmembers from the deck, forcing the navy to immediately cancel the VERTREP and activate a rescue operation. The VERTREP evolution was immediately cancelled and efforts were launched to recover the members. A surface swimmer was dispatched from the helicopter to assist with the rescue. Unfortunately, the recovery operation was negatively affected by rough sea conditions. The SA Navy and maritime authorities have opened investigations into the incident.

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