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Environmentally sustainable ship recycling

Ship recycling takes place today using various methods such as beaching, sideways, alongside or dry-docking. The majority of recycling occurs in Asia, particularly Bangladesh, India and Pakistan, with some activity in Turkey and elsewhere globally. This Information Note highlights two mechanisms to advance sustainable ship recycling, focusing on the environmental dimensions. The purpose is to raise awareness by IMCA Members of two mechanisms to advance sustainable ship recycling.

Environmental challenges from ship recycling can arise from the hazardous materials contained on board. This could take the form of asbestos, chemicals, and heavy metals, such as lead and mercury. Other issues relate to the presence and removal of plastics, ozone depleting substances, bilge water containing oil, oil sludge, anti-fouling paints, polystyrene, foam, ash, glass, and insulation. Waste discharges to the sea and environment surrounding the recycling facility are also potential risks. Dismantling can impact on air, water, and soil quality, therein affecting biodiversity and local ecosystems. And recycling can generate heavy metals and pollutants in cutting areas.

Legal Regime to Advance Sustainable Ship Recycling

Existing legal instruments governing more sustainable ship recycling, include the EU Ship Recycling Regulation and the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (the Basel Convention). These work in tandem to encourage more sustainable ship recycling and to bring heightened attention to sustainability of ship recycling yards and the end-of-life decisions of shipowners. The Hong Kong Convention may serve as a part of the future legal regime but remains pending more than 11 years after adoption.

1. The EU Ship Recycling Regulation (EUSRR) (1257/2013)

The 2013 EU Ship Recycling Regulation (EUSRR) (1257/2013) which came into force on 31 December 2018 aims to “prevent, reduce, minimise and, to the extent practicable, eliminate accidents, injuries and other adverse effects on human health and the environment caused by ship recycling”. It further aims to “enhance safety, the protection of the human health and of the Union marine environment throughout a ship’s life-cycle, in particular to ensure that hazardous waste from such ship recycling is subject to environmentally sound management” (Article 1). It requires commercial sea-going EU-flagged ships, typically over 500 GT, regardless of their location globally, to be recycled in EU-approved facilities. These are listed on the European List of ship recycling facilities which meet the safety and environmental requirements specified in the 2016 technical guidance note under the EUSRR (<https://ec.europa.eu/environment/waste/ships/list.htm>).

In January 2020, there were 41 facilities on the European List, including 34 in 12 EU Member States and Norway, 6 in Turkey, 1 in the USA. They are authorised by the Competent Authority of each country to conduct ship recycling (Article 13(1)(a)). Each ship recycling facility is required to prepare a ship recycling facility plan. The facility is required to establish and maintain an emergency preparedness and response plan, and appropriate management and monitoring systems (Article 13(1)(h) and (d)). These systems “cover water and hazardous materials, environmental damage caused by the ship recycling activity in general...”. It also refers to the IMO guidelines on environmental monitoring which categorise negative environmental impacts associated with ship recycling relating to release of hazardous materials to ground and sediments and to water; emissions of hazardous materials to air; and noise and vibrations.

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The EUSRR requires ships of 500 GT and above and flying the flag of countries in the EU and all other ships regardless of the flag they are flying, when calling at a port or anchorage of a country that is a member of the EU, to carry on-board an Inventory of Hazardous Materials (IHM) from 31 December 2020. The IHM is required to be maintained during the ship's operational life, to support safe and responsible recycling when the ship is taken out of service.

Recognising the challenges Members face in complying with this requirement in light of the COVID-19 restrictions, IMCA, collaborating with Industry partners, has issued best management guidance to Members on how to manage their fleets (See <https://www.bimco.org/-/media/bimco/news-and-trends/news/environment-protection/2020/industry-guidance-on-ihm-compliance.ashx?la=en&hash=E0F98AF5E4490FBECD423A9D6C084B4E4FFF63F1>).

The EU guidance details in Section 2.2. the environmental requirements and refers to:

- ◆ Part II of the ILO's Safety and health in shipbreaking guidelines;
- ◆ Section 5 of the Basel Convention's Technical Guidelines for Environmental Sound Management of the Full and Partial Dismantling of Ships;
- ◆ Basel Convention Secretariat's Guidance for Competent Authorities of Ship Recycling Facilities.

Specific details are provided about preventing adverse effects on the environment. There is also an inspection and independent verification process for facilities outside the EU.

Article 13(1)(f) of the EUSRR mandates that a facility is required to *"prevent adverse effects on human health and the environment, including the demonstration of the control of any leakage, in particular in intertidal zones."* Moreover, under Article 13(1)(i) the *"facility ensures safe and environmentally sound management and storage of hazardous materials and waste, including...the handling of hazardous materials, and of waste generated during the ship recycling process, only in impermeable floors with effective drainage systems."* And the facility should also ensure *"safe and environmentally sound management and storage of hazardous materials and waste, including the containment of all hazardous materials present on board during the entire ship recycling process so as to prevent any release of those materials into the environment"* (Article 13(1)(g)(i)).

2. The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009

The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (the Hong Kong Convention) is aimed at ensuring that ships, when being recycled after reaching the end of their operational lives, do not pose any unnecessary risk to human health and safety or to the environment.

The Hong Kong Convention was adopted on 15 May 2009. It will enter into force 24 months after ratification by 15 States and representing 40 per cent of world merchant shipping by gross tonnage. It is intended to form a key part of the legal framework for sustainable ship recycling. There are various provisions in the Articles under the Convention and in the Regulations contained in the Annex to the Convention. Under Article 2, ships are defined as vessels of any type whatsoever operating or having operated in the marine environment. This therefore includes many vessels used by IMCA members, such as submersibles, floating craft, floating platforms, self-elevating platforms, Floating Storage Units (FSUs), and Floating Production Storage and Offloading Units (FPSOs) and vessels stripped of equipment or being towed.

Ship Recycling refers to the *"activity of complete or partial dismantling of a ship at a Ship Recycling Facility in order to recover components and materials for reprocessing and re-use, whilst taking care of hazardous and other materials, and includes associated operations such as storage and treatment of components and materials on site, but not their further processing or disposal in separate facilities"*.

As signatories to the Hong Kong Convention, Member States undertake to give full and complete effect to its provisions so as *"to prevent, reduce, minimise, and to the extent practicable, eliminate accidents, injuries and other adverse effects on human health and the environment caused by Ship Recycling, and enhance ship safety, protection of human health and the environment through a ship's operating life"* (Article 1(1)). The Hong Kong Convention further encourages continued development of technologies and practices to achieve this outcome.

Member States require ships, typically over 500GT with some exceptions, entitled to fly their flag or operating under their authority, and ship recycling facilities under its jurisdiction, to comply with the Hong Kong Convention provisions.

- ◆ Articles 5 and 6 in the Annex - Regulations for Safe and Environmentally Sound Recycling of Ships (the Regulations) contain requirements for survey and certification of ships and authorizing ship recycling facilities;
- ◆ Article 8 allows for inspection of ships to verify the ship has an International Certificate on Inventory of Hazardous Materials or an International Ready for Recycling Certificate on board;
- ◆ Article 9 allows for ship investigation. Parties are required to disclose certain information such as annual lists of ships flying the flag of that party to which an International Ready for Recycling Certificate has been issued, and disclose ships recycled within the party's jurisdictions (Article 12);
- ◆ Regulation 3 recognises the interface with technical standards, recommendations and guidance developed under the Basel Convention.

The Regulations also set out ship design, construction, operation and maintenance requirements (Chapter 2, Part A). There is a prohibition and/or restriction on certain hazardous materials in Appendix 1 (Controls of Hazardous Materials) on ships and their installation or use on ships whilst in each Member State's ports, shipyards, ship repairs yards or offshore terminals. Under the Convention, ships to be sent for recycling will be required to carry an inventory of hazardous materials, which will be specific to each ship. New ships are required to have an Inventory of Hazardous Materials (IHM) on board (Regulation 5). It is required to be maintained and updated throughout the vessel's operational life, reflecting new installations containing hazardous materials, as well as changes in ship structure and equipment. Prior to recycling, the IHM should incorporate operationally-generated wastes and stores and be verified. Existing ships are required to comply with this requirement within five years of the entry of force of the Hong Kong Convention, or before going for recycling if this is earlier.

Moreover, the Regulations require ships be prepared for recycling (Chapter 2, Part B). Regulation 8 calls for ships to be recycled at authorized ship recycling facilities, which are fully authorised to undertake the ship recycling activities in the "Ship Recycling Plan", a cornerstone of the Hong Kong Convention. The ship recycling facility(ies) are required to develop a ship-specific Ship Recycling Plan before recycling, taking into account the IMO guidelines (Regulation 9). This contains information on establishing, maintaining, and monitoring Safe-for-entry and Safe-for-hot work conditions, and how the materials, including those in the IHM, will be managed with approval by the authorizing Competent Authority.

The Regulations also prescribe certain survey and certification requirements. For example, Regulation 10 requires an initial survey before the ship is put in service or before the International Certificate on Hazardous Materials is issued, with renewal at least every 5 years. Moreover, there is a requirement to have a final survey before the ship be taken out of service and prior to recycling. There are specific provisions regarding the issuance, endorsement, form, duration, and validity of an International Certification on Inventory of Hazardous Materials (See Regulations 11-14).

There are specific requirements for ship recycling facilities themselves. For example, each Party is required to establish the regulatory framework and standards to ensure that ship recycling facilities are designed, constructed and operated in a safe and environmentally sound manner (Regulation 15). Regulation 16 covers authorisation of the facilities. Regulation 17 contains general requirements of the facilities, such as taking into account the IMO guidelines to "establish management systems, procedures and techniques which... will prevent, reduce, minimise and to the extent practicable eliminate adverse effects on the environment caused by Ship Recycling...". Regulation 18 specifies the ship recycling facilities plan's contents. This includes developing a health, safety and environmental policy with objectives to eliminate/minimize adverse effects of recycling, and creating a system for reporting discharges, emissions, incidents and accidents. Regulation 19 focuses on prevention of adverse effects to human health and the environment and related procedures and Regulation 20 addresses safe and environmentally sound management of hazardous materials. Further reporting requirements are outlined in Chapter 4.

Conclusion

The EU Ship Recycling Regulation offers a systematic means of achieving more sustainable ship recycling. The Hong Kong Convention may serve as a part of the future legal regime but remains pending more than 11 years after adoption. Moreover, there is a heightened focus on sustainable ship recycling globally, arising not only from regulatory drivers but also from advocacy by NGOs (e.g. the NGO Shipbreaking Platform, see www.shipbreakingplatform.org). With multi-stakeholder initiatives such as the Ship Recycling Transparency (see www.shiprecyclingtransparency.org), growing demands from investors for material Environment, Social and Governance (ESG) information, and given the current offshore market conditions and Covid-19 pandemic, this may lead to an increase in the number of vessels being recycled. This will bring into sharper focus the important issue of how this is done in an environmentally sustainable way.

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