



Pollution from EOLV dismantling and the corresponding countermeasures



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ABSTRACT

There are problems associated with dismantling vessels that have reached the end of their life, when pollution problems associated with the process need to be addressed. The first problem in “end-of-life vessels” (EOLV) is to define their legal frameworks. The second problem is their dismantlement for recycling of ships. In order to reduce the effects of pollution caused by EOLV dismantling, the International Maritime Organization (IMO) adopted the *Hong Kong Convention* on 15 May 2009. While preparing for implementing the obligations under the Hong Kong Convention, China shall make effort on five aspects: (i) establish an ISRT for the safe and environmentally sound recycling of ships, (ii) improve the competitiveness of ship dismantling plants, (iii) strengthen international exchanges, (iv) amend the domestic laws and regulations, and (v) support from the China Classification Society.

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1. Status of the EOLV

Globally, the number of vessels reaching the end of their lives is estimated to be between 600 and 700 (<http://www.greenpeaceweb.org/shipbreak/whatis.asp>.) The technical progress, particularly the safety norms imposed by international conventions to protect the marine environment against pollution is going to substantially increase it further. End-of-life vessels (EOLV) have multiple drawbacks. The increasing number of EOLV has made “ship recycling” a matter of public concern (Voelckel, 2004), because of health and environmental reasons, which require adopting strict rules to amend or recycle them. However, they cause considerable environmental pollution in their final stage.

Although ship dismantling is a long-practiced process, the “awakening” of international organizations facing problems linked to this activity is rather late, only in the beginning of the 21st century. Some international nongovernmental organizations (NGOs) such as Greenpeace International were the first to react in the mid-1990s. It is important to note that the first problem in EOLV was to define their legal frameworks. The existence of a formal legal framework could not still prevent some countries having some case laws related to EOLV. The second problem concerning the EOLV, which attracts much attention, is their dismantlement for recycling of ships, because of the presence of vessels of some dangerous or hazardous products, and which can harm health and environment during dismantling. The increasing numbers of EOLV has made the international responsible entities to act.

The concept of EOLV is based on the idea that a ship may lose its quality at the end of its life span. It is difficult to, first, provide a clear definition of a ship, and second, determine the actual time that the ship actually loses its definitive characteristics. However, usually, the disappearance of the main elements, which characterize the ship, is sufficient to determine the loss of the quality of ship (Guenole, 2006).

In general, international conventions and domestic laws define a ship according to its effective needs without considering the distinction between private and public ships. Geneva Conventions on Law of the Sea of 1958 does not provide a clear definition of the ship as well. The United Nations Convention on Law of the Sea of 1982 (UNCLOS) was also a failure. This is also the case in approximately 20 other international maritime conventions. The International Convention for the Prevention of Pollution from Ships (the MARPOL Convention) defined the ship as “a vessel of any type whatsoever operating in the marine environment and includes hydrofoil boats, air-cushion vehicles, submersibles, floating craft and fixed or floating platforms.” It is an extensive definition because, being a convention for the protection and preservation of the marine environment, it should apply to the largest possible number of seagoing vessels. Some other minor conventions such as Athens Convention Carriage of Passengers and their Luggage by Sea of 1974 limit the scope of the definition of ship only to a seagoing vessel, excluding an air-cushion vehicle.

The French jurisprudence has based its criteria of the ship on the ability to navigate at sea, and mostly the ability to face the “perils of the sea,” as a main requirement to qualify as a ship (French Court de Cassation Req. 13 January 1919, French Court de Cassation Req. 25 May 1938). The US admiralty court (Lewis, 1980), on its side (Dardar v. State of Louisiana.), does not take into account the capacity to face

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the perils of the sea, and according to the American regulation, the maritime domain includes both seas and rivers as navigable waters.

In conclusion, although there is no general definition of the EOLV, it is possible to make EOLV an international convention, according to its nature or operation.

2. Marine environmental pollution caused by EOLV and the related factors

2.1. Can the EOLV cause marine pollution?

It is rather curious to accuse the EOLV of producing waste, on the premises of the Basel Convention on the Control of Trans-boundary Movements of Hazardous Wastes and their Disposal (also known as Basel Convention, which, in its nature, is not a maritime convention). The EOLV is to be scrapped or dismantled, and the majority if not all ships contain some dangerous products on board or inside their structures. During the ships' useful life, the concerns on those materials are usually not brought to public view, but they attract all the attention during recycling. Therefore, the question of whether the presence of dangerous products on a ship is sufficient to make us consider a ship as "environmentally dangerous" becomes a major concern.

First, we need to know whether the EOLV is within the scope of the definition of a waste. Definitions can vary between the article 2 of the Basel Convention to the Article L541-1 under French Environment Code and the European Commission Directive 2006/12/CE concerning waste. The common point between the aforementioned three conventions is the intention of the owner to dispose the waste. In general, a waste can be defined as unwanted or unusable items, remains, or by-products, or garbage, without any value, that the owner does not want it or want to dispose it. The owner of a ship decides to scrap it because the maintenance and reparations of an old ship cost more, and sometimes even more than the value of the ship. However, the ship remains valuable, as all the metal can be recycled. Declaring a ship as a waste is not automatically considered as such from a legal point of view, and as long as it is a ship, it is under regulations in terms of collisions, assistance, seizures, security, and safety. Determining a ship as a waste poses questions of applicable legislation.

Clearly, it is rather complicated to apply the Basel Convention to the EOLV. Indeed, this convention is about the transport of wastes, and it is difficult to consider that the EOLV would be a waste that can "transport" by itself, nor being "packed and marked," to comply with the article 4 (7) (b) of the convention. On the contrary, the convention mainly recognizes two categories of States: the State of export and the State of import, mentioning the State of "transit" as the "accessory." However, it rather fails to mention the flag State or the State from which the owner is a national. The convention predicts obligations for each category of State, so the question is how to divide these obligations between those different States. The problem is that the port State could be easily considered as the State of export, but it is obvious that the State of the owner has also some obligations in this regard. The ship is crisscrossing the seas and oceans, and it is hard to know where it would be when its owner has decided its elimination. The notions of exportation and importation States are then nonadapted to the cases of the EOLV.

There is also some uncertainty about the application of the rights recognized to the transit State, particularly about their physical and geographical scopes: Are they limited to the land territory or extended to the internal waters and other maritime zones under jurisdiction such as the contiguous zone and the exclusive economic zone?

Indeed, in the case of the ex-Clemenceau, the Egyptian authorities with application of the State of transit's rights, for the first time, refused the passage to the Suez Canal considering the passage of "waste" on the Egyptian territory.

The convention aims at the cross boarders' movement of hazardous wastes, but even if the EOLV is not considered a hazardous waste by its nature, it is still not mentioned in the convention's annexes. However,

the link to the convention is the actual presence of dangerous products on the ship. According to the convention, each Party shall take appropriate measures, not only to ensure that the generation of hazardous wastes and other wastes within it is reduced to a minimum, but also to ensure the availability of adequate disposal facilities, for the environmentally sound management of hazardous wastes and other wastes, that shall be located, to the extent possible, within it, regardless the place of their disposal. These provisions are not adapted to EOLV because of the fact that most ship-building yards are located in developed countries, but in Europe or North America, there are no ship-scraping yards capable of dismantling all the ships that are being built there, most of such sites are located in South Asia.

In the aforementioned case law, the States' authorities have taken into account the presence of dangerous products, mostly asbestos, to impeach the dismantling. The Indian Supreme Court has rejected the access of the ex-Clemenceau into the Indian waters, on consideration of it as a toxic waste by a special commission. However, in the *Bleu Lady* case, still in India, the Indian Supreme Court has authorized the dismantling, despite the protests of Greenpeace International because of the huge amount of asbestos on board. Precisely, when legislation is lacking, the judicial organs treat the cases on different standards.

Following the case of the ex-Clemenceau, the Basel Convention Secretariat issued a statement on the legal status of the EOLV: "The international legal status of obsolete ships such as the Clemenceau is currently a matter of debate. The question of debate is whether a ship on its final voyage to the scrapping yards should be regulated by the International Maritime Organization (IMO), or it should already be covered by the Basel Convention on the Trans-boundary Movement of Hazardous Wastes and their Disposal. The Secretariat of the Basel Convention does not have a mandate to render its own legal judgment on this question. Until Governments reach a final conclusion on this question, individual States will need to be guided by their own national laws" (Dawe, 2006).

The action of States in applying the Basel Convention could be interpreted as originating from the application of some principles of international environmental law, among them the "precautionary principle," which is generally acknowledged to be a powerful tool for protecting health, but it was originally invoked by policy makers for dealing with environmental issues (Gignon et al., 2013), as they have to prevent pollution from their territory affecting the people's health and the environment of another State.

2.2. Factors that may cause marine pollution during EOLV dismantling

The risks to health and environment represented by the ships to be dismantled indeed exist, and hence the authorities fill the blank of legislation to control and manage them. In fact, two main criteria must be satisfied to apply the Basel Convention to the EOLV: the presence of dangerous products and the trans-boundary movements of the ship.

2.2.1. Residual oil pollution in EOLV dismantling

Oil scattering in water is a common problem that occurs during dismantling. In general, ships that are long used, particularly oil tankers, are dismantled. After such a long-term use, oil tankers will inevitably be flooded with grease, and dragged with a lot of residual oil. Thus, they cause oil sludge and oil discharge, which can seriously affect the water-quality environment.

2.2.2. Scrap pollution at EOLV dismantling

It is a general belief that for safety reasons, a ship must be scrapped after 20–25 years (Sakhuja, 2006). Normally, some measures will be taken to upgrade anticorrosion resistance of the vessel. However, in view of its own chemical properties of iron and steel, and the chemicals in the sea, if the scrap from EOLV dismantling is disposed into the sea, it is bound to produce a chemical reaction after a period of immersion. In

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