

The Best Practices in Ship Recycling

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GMS announced in July Dr. Anand Hiremath's successful completion of his Doctorate thesis on the "Development of integrated risk assessment framework for best practices in ship recycling" with the Indian Institute of Technology of Mumbai, India. In the following article, Dr. Hiremath presents his findings, and his views of the ship recycling industry.

The recycling of end-of-life vessels in an environmentally friendly and safe manner has been a major challenge faced by ship owners and ship recycling facilities in recent years and it is not a subject that will subside any time soon. In fact, it is estimated that as of today, globally around 20,000 ships over 500 Gross Tonnage are more than 20 years old and will soon be sent for recycling. There are various reasons why an owner may choose to recycle a ship: due to its increasing age, an uneconomic cost of repair, the current oversupply in the market, specific regulatory requirements such as double-hull specifications for tankers or very occasionally due to the introduction of innovative technology and important changes to trading patterns. On an average, vessels tend to go for recycling at around 25 years, however this can be a few years later if they are on long charters, or earlier in periods of economic recession with fewer charters available, as we are seeing at present.

For the last twenty years, ship recycling yards in Bangladesh, China, India, Pakistan and Turkey have been recycling 97% to 98% of all the recycled tonnage in the world. The increase in demand for ship recycling has rightly led to an increase in regulatory pressure at both national and international levels. This regulatory pressure resulted in the development of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (HKC) by the International Maritime Organisation (IMO) in 2009, to mandate safety and environmental protection standards at yards.

Although discussions are at an advanced stage, the HKC has not been ratified yet by the majority of the countries involved. This means that for the time being, the growth of responsible ship recycling is reliant on market dynamics between ship owners and recycling yards. However, the scrutiny that the development of the HKC brought to the yards has been driving change. The shipping industry has become increasingly

aware of its responsibility to improve its sustainability and the ship recycling industry has been developing its best practices accordingly.

The demand for responsible ship recycling now exceeds supply in South Asia. Yards that have invested in achieving the standards of the HKC are now seeing growth in demand for their services based on the good health, safety and environmental practices they follow. This has in turn incentivised other yards to improve their own standards and consider ISO and OHSAS and HKC Statements of Compliance Certifications.

But the key question remains, what does "best practice" in the ship recycling industry look like?

It is needless to emphasize that recycling is the sustainable option for handling end-of-life vessels. When we look for "best practice" in recycling, it means recycling activity with Best Available Techniques (BAT) and Best Environmental Practices (BEP) in use. In other words, best practice in ship recycling is the systematic prevention and the mitigation of safety and environmental risks at yard facilities, in procedures and operations, supported by preparatory work by the ship owners, flag states and classification societies. The standards of the HKC and its guidelines are designed to reflect this best-practice approach in ship recycling and although it is yet to enter into force, it defines the basis of what we mean when we talk about responsible ship recycling. Therefore, responsible ship recycling starts when both the ship owner and the recycling yard comply with the standards and guidelines of the HKC.

GMS under its Responsible Ship Recycling Programme (RSRP) facilitate both Shipowners and yard owners to effectively implement requirements of HKC for the safe and environmentally sound recycling of vessels. Under GMS RSRP, using the BAT and BEP, we develop an environmentally sound ship-specific recycling plan (SRP) and provide advanced training at a number of certified yards in areas such as: the handling of hazardous wastes / materials, working in confined spaces and at heights, fire prevention and control, correct use of protective equipment, emergency evacuations and rescue plans as well as preventive environmental practices through environmental awareness year-round. The company also produces IHM reports with my supervision and in collaboration with the shipowners, for the identification, removal and safe disposal of hazardous materials. Shipowners, who choose to recycle their vessels at a recycling yard that has obtained a SOC with HKC, receive a progress report of the dismantling process, complimentary under GMS RSRP.

Moreover, a HKC-compliant ship recycling yard will produce a Ship Recycling Facility Plan (SRFP), documenting the yard's systems, facilities and processes to ensure safety and environmental protection. Each recycling project is then planned out in advance and managed according to a Ship-specific Ship Recycling Plan (SRP). The SRP is developed by the yard management under the guidance of GMS Green (GMS RSRP) Team, using the SRFP, design particulars of the vessel and its Inventory of Hazardous Materials to plan a safe and environmentally friendly recycling sequence. The GMS Green Team along with the yard management also develop and implement a system of standard operating procedures for each work activity practiced during the recycling of vessel: from beaching to complete recycling, including the safe removal and temporary storage of hazardous wastes (such as negative pressure asbestos handling units that are being operated by employees who have been specifically trained and equipped).

A subject of debate in the industry currently is whether the impending EU regulations represent a 'best practice'. The EU regulations go further than the HKC and will see European flagged vessels only be permitted to be recycled at yards reviewed, accepted and published in the European List of approved ship recycling facilities.

GMS is very concerned that this regulation appears to re-enforce the idea that when implemented, it will be interpreted by the European Commission as a total ban on beach recycling for European flagged vessels. If imposed in this way, the legislation will set the global recycling industry on a knife-edge and threaten a reversal of the significant progress that has been set in motion by the HKC. Dividing the market with a false

interpretation of the EU Regulation, perceived as a ban on beaching will create precisely the false dichotomy that they say they are working to solve; poor conditions on beaches and higher standards elsewhere.

A number of yards from the Indian subcontinent that have already obtained Statements of Compliance with the Hong Kong Convention and verification by IRClass as meeting the requirements and standards of the EU Ship Recycling Regulation, have submitted applications for inclusion in the first list of EU approved yards, which is expected to be released by the end of this year. We sincerely hope that these yards will be accepted, putting to bed this potential "beaching ban" and committing the European Union to supporting the ideal of raising standards at yards, wherever in the world they happen to be.

Legislation that reinforces best practice standards in the industry and drives progressive change, such as the HKC, should be welcomed by all parties. High levels of safety and environmental standards are being introduced and achieved in Alang. With the sixth SOC with HKC being recently awarded to a ship recycling yard in Alang and with thirty more yards currently going through the Statement of Compliance process, the gradual improvements in the ship recycling market are clear to see. To keep progressing towards further improvement we need to make responsible ship recycling a general expectation and we need ship owners across the world to hold recycling yards to these high standards. In this way, best practice will continue to improve and responsible ship recycling at HKC certified yards will become the norm for all shipowners, not the exception.

Written by **Dr. Anand M. Hiremath, Co-ordinator, Responsible Ship Recycling Projects, GMS Inc.**

About Dr. Anand M. Hiremath



Dr. Anand Hiremath is a civil engineer and holds a Master's degree in Environmental Engineering from the Indian Institute of Technology of Guwahati (IIT Guwahati). He spent two years in Alang to carry out extensive research and prepared a doctoral thesis on: Integrated Risk Assessment Framework for Development of Best Practices in Ship Recycling. Recently, he was awarded a Doctorate Degree for his research work on Ship Recycling by the Indian Institute of Technology Bombay (IIT Bombay). He has been a member of the GMS family for the past year as a Green Recycling Specialist, based in Bhavnagar, India, where he works closely with selected yards to ensure compliance with the guidelines set by the Hong Kong Convention (HKC) for the Safe and Environmentally Sound Recycling of Ships. Part of his work is also to collaborate closely with the Ship Recycling Industry Association (SRIA), the Gujarat Maritime Board (GMB), the Ministry of Shipping and other local organizations and governmental institutions.

Moreover, Anand is responsible for the development and implementation of the GMS Responsible Ship Recycling Programme (GRSRP). He has participated in several projects on Green Ship Recycling, including the European Union FP6 funded project (DIVEST) and has conducted a study on preventive technological interventions for the improvement of environmental attributes of ship recycling (Green Alang Initiative) funded by the Gujarat Maritime Board, Government of Gujarat, India. Anand's extensive research is more likely to be the most comprehensive study on Ship Recycling anywhere in the world, which provides conclusive scientific evidence that proves responsible ship recycling can be done in India. Anand's research has been published in scientific journals in USA, Europe, UK and India.