

# Managing HSE at Alang Ship Recycling Yards



European shipowners in Alang, 2017.

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Fundamentally, the ship recycling activity is environmentally conscious and supports sustainability as it reduces the need to mine virgin metal ore. However, the ship recycling industry is under constant scanner of international environmental groups for causing harm to the environment and human health and safety. In this article, we shed light on the health, safety and environment (HSE) procedures followed at ship recycling yards in Alang which hold statements of compliance (SoC) with the Hong Kong Convention (HKC) issued by IACS-member classification societies such as ClassNK, RINA and IR Class.

## Infrastructure

Within the past few years, we have seen tremendous changes in the HSE standards at the ship recycling yards in India as currently 61 yards (almost half of the active yards) in Alang hold valid HKC SoC. This has resulted in improved infrastructure as well as in the implementation of standard operating procedures at ship recycling yards.

The compliant yards in Alang use impervious flooring to undertake cutting operations of blocks obtained from ships into smaller pieces as well as to keep machinery and electrical equipment. At the same time, hazardous waste obtained from dismantling ships is kept at dedicated storage rooms also fitted with impervious floors. The use of impervious flooring for secondary cutting and storage prevents the seepage of oil, chemicals, heavy metals and other hazardous materials into the soil.

For yards holding HKC SoC, it is compulsory to inspect blocks dismantled from ships since only clean blocks are allowed to fall in the inter-tidal zone during low tide. Such blocks must be immediately lifted and placed on impervious floor for further cutting. In most cases, almost all blocks are made to fall within the vessel to prevent polluting the soil and sea water. In a few yards, heavy cranes are fixed close

to the inter-tidal zone that can reach from forepeak to aft of the vessel, and every block is lifted by cranes and placed on impervious floor meeting the EUSRR requirements.

### **Waste Management**

All recycling yards in Alang are obliged to use government approved sub-contractors to manage waste generated during the ship recycling process. Various government agencies have approved sub-contractors to undertake activities such as asbestos decontamination, disposal of special hazardous wastes including garbage, batteries, bilge water, electronic waste, cables, bio-medical waste, ozone-depleting substances, etc., and dismantling activities related to smoke detectors, removal of oil and oily waste such as rags, sand, sludge, etc.

There are also specialized approved agencies to issue naked light certificates (hot work permits) and permits for confined space entry. Moreover, cutting work can only be started on a ship once a decontamination certificate is issued by the Gujarat Pollution Control Board and cutting permission is granted by the Gujarat Maritime Board after a thorough inspection by the officials.

### **Training and Welfare**

Yards in Alang holding HKC SoC have an education and training plan for workers in place. This plan consists of training courses related to general safety, handling and management of hazardous materials, fire protection and prevention, first aid, oil spill on sea and plot, gas cutting operation, working at height, confined space entry, removal of asbestos-containing material, crane and forklift operation, batteries handling operation, and mock drills on fire-fighting, first-aid, evacuation, oil/chemical spill on ground or in sea.

We, at GMS, in collaboration with the classification society IR Class provide frequent training to safety officers and workers of ship recycling yards located in Alang. Safety training is also provided by government bodies such as the Gujarat Maritime Board and other stakeholders including yard owners in collaboration with well-known classification societies.

In fact, a 12-day training program organized by the Gujarat Maritime Board is compulsory for all workers working on ship recycling yards in Alang. Every worker is issued with an identity card by the Board before they are allowed to work on the yards. Child labor is strictly prohibited, and every worker is insured with Employees' State Insurance Corporation, a scheme run by the government of India. Some yard owners provide an accommodation facility designed as per ILO standards for workers.

### **Standard Operating Procedures**

In order to streamline yard operations, all yards in Alang holding HKC SoC are required to have standard operating procedures (SOPs) for various tasks that are required to be undertaken during recycling of ships. This includes SOPs for safe-for-entry; safe-for-hot work; welding, cutting, grinding and heating; prevention of falling from heights and accidents caused by falling objects; housekeeping and illumination; maintenance and decontamination of tools and equipment; health and sanitation; personal protective equipment; worker exposure and medical monitoring; emergency preparedness and response plan (EPRP); fire and explosion prevention, detection and response; environmental monitoring.

SOPs are also in place for management of hazardous materials including asbestos, PCBs, ODSs, TBTs, paints, oil, bilge and ballast water and heavy metals; spill prevention, control and countermeasures; storm-water pollution prevention; debris prevention and control; and incident and spills reporting. Also, each HKC-compliant yard has a dedicated fire-fighting, first aid, oil spill control and emergency response team.

The SOPs aim to achieve worker safety and health compliance as well as environmental compliance. Such procedures would be useful to prevent adverse effects to human health and safety. At the same time, these procedures will facilitate environmental monitoring, environmentally sound management of hazardous materials and prevention of adverse effects to environment.

The SOPs are further supported by the plethora of records that are required to be maintained by the yards. These records are audited from time to time by the classification society that certifies the yard. Moreover, Gujarat Maritime Board is strict with respect to the implementation of domestic regulations, in particular, the Ship Breaking Code 2013. Therefore, 11 dedicated safety officers are allotted zone-wise to ensure safety measures are implemented at yards. There is a provision to impose fines in case any deviation from the Code is observed.

The improvements related to infrastructure, waste management, workers' training and operating procedures have changed the face of the ship recycling industry in Alang as the process employed to recycle end-of-life ships now takes care of implications to environment and workers' health and safety. The use of technical documents such as the Ship Recycling Facility Plan (SRFP) for every yard, the Ship Recycling Plan (SRP) and the Inventory of Hazardous Materials (IHM) for every ship within the purview of the HKC has also improved the overall recycling process on yards holding HKC SoC. Some yards in Alang operate with the principle of "one ship two safety officers" – one safety officer on board and the other on ground – to ensure the safe and environmentally sound operations.

Shipowners are increasingly recognizing India as a preferred destination for 'green' recycling services. This is likely to be increased further in the coming years with Chinese market closing for foreign flagged ships after December 2018. However, it is still not clear what stance will be taken by the European Commission on the inclusion of Indian yards in its long-awaited list of approved recycling facilities.

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The opinions expressed herein are the author's and not necessarily those of The Maritime Executive.

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