

INSPECTION OF A SHIP RECYCLING FACILITY IN INDIA

Site Inspection Report Application 003

European Commission Directorate-General for the
Environment

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Objective: The objective of the on-site inspection is to verify compliance of the Facility with the requirements set out in the Ship Recycling Regulation.

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List of Abbreviations

AERB – Atomic Energy Regulatory Board

ASSRGWA - Alang Soshiya Ship Recycling and General Workers' Association

CSIR - Council of Scientific and Industrial Research

DISH – Directorate of Industrial Safety & Health

DNV GL - a global quality assurance and risk management company

EPRP - Emergency Preparedness and Response Plan

ESIC - Employees' State Insurance Corporation

GEPIL - Gujarat Enviro Protection and Infrastructure (waste management facility in Alang)

GMB - Gujarat Maritime Board

GPCB - Gujarat Pollution Control Board

HSE – Health, safety and environment

IHM - Inventory of Hazardous Materials

ILO – International Labour Organization

IMO – International Maritime Organization

NABL - National Accreditation Board for Testing and Calibration Laboratories, a Constituent Board of Quality Council of India

PESO - Petroleum and Explosives Safety Organisation

PPE - Personal protective equipment

QMS - Quality management system

RPCB – Rajasthan Pollution Control Board

SOC - Safety Observation Card

SRF – Ship Recycling Facility

SRFP - Ship Recycling Facility Plan

SRIA - Indian Ship Recycling Industry Association

SRP - Ship Recycling Plan

SRR - EU Ship Recycling Regulation

SRIA - Indian Ship Recycling Industry Association

SRP - Ship Recycling Plan

SRR - EU Ship Recycling Regulation

1 EXECUTIVE SUMMARY

The objective of this report is to document the results of the site inspection at Priya Blue Industries Pvt. Ltd., located in Alang-Sosiya (Gujarat, India), following the facility's application for inclusion in the European List of ship recycling facilities.

The first on-site inspection took place on the 24th and 25th of September 2018. This was followed by a second inspection on the 23rd of January 2020. In the context of the two inspection visits, the evaluators also had separate meetings with the Gujarat Enviro Protection and Infrastructure (GEPIL) and the Alang Sosiya Ship Recycling and General Workers' Association (ASSRGWA).

During the site inspections, the facility demonstrated that it is approved by its authorities, has procedures with regards to health and safety and has put in place functioning facilities (cranes, paved areas, warehouses etc.). The facility had also made important investments in the last years to upgrade its ship recycling activities.

During the two on-site inspections, the facility has stated that it is committed to achieving compliance with the requirements of the EU Ship Recycling Regulation. However, based on the results of the inspections, there remain several important areas where the evaluators could not confirm compliance. The identified shortcomings include the following:

1. **SRFP:** The governing document for the site inspections, defining the baseline of the facility's performance, was the Ship Recycling Facility Plan (SRFP). A paramount task of the inspections was to verify that the SRFP is a living, logical and systematic document accurately reflecting operational practices on the ground. During the inspections, the evaluators could not verify that all procedures and practices observed on the ground were included and explained in the SRFP.
2. **Control of leakage:** During the first inspection, the facility could not fully demonstrate its ability to sufficiently control leakage, in particular in the intertidal zone. Also, questions remained regarding the facility's compliance with the requirement for handling of hazardous materials only on impermeable floors with effective drainage systems. The main concerns of the evaluators related to the cutting of the ship's double bottom in the intertidal zone. The applicant updated the relevant instructions and procedures related to the protection of the intertidal zone, however further improvements are needed. Furthermore, the applicant has to ensure that the new procedures are actually implemented in practice. This could not be verified during the second inspection.
3. **Crane barge:** The applicant has acquired a crane barge after the first inspection. The barge was reportedly taken into use around April 2019. The crane barge is used for lifting but also as an area for secondary cutting, hence the applicant must demonstrate how they are ensuring compliance with the requirements of the EU SRR as they are required to do for their shoreside facility. Workers safety, prevention of adverse effects on the environment (including impermeable floors and drainage) do not appear to have been given the necessary level of consideration. In addition, the status of the crane barge with regard to local requirements needs to be clarified.
4. **Waste management:** Most equipment, loose or fixed, removed from the ship during the dismantling process is sold by the facility for re-use. At the time of the first inspection, no additional sampling regime was in place at the yard to identify equipment potentially containing hazardous materials and not listed in the ship's IHM prior to selling such material for re-use. Further progress could not be demonstrated by the applicant at the time of the second inspection.

5. Labour laws: The inspections did not allow the evaluators to confirm that the facility is acting in accordance with the relevant provisions of Indian law on social and labour issues (the Factories Act and Minimum Wages Act), notably in relation to working on Sundays, public holidays and paid leave.
6. Environmental monitoring: The facility has yet to develop an environmental monitoring plan.
7. Medical facilities: The lack of adequate hospital facilities in the Alang area remains an issue, which has not been resolved. Although the new GMB Multi Speciality Hospital has improved the situation, it appears that this facility at present has only limited emergency capabilities. Discussions with the ASSRGWA also confirmed that this hospital has inadequate capacity for the whole Alang workforce and lack of capacity to treat serious injuries. As of today, the only public hospital with sufficient emergency capabilities equipped to treat serious injuries is located in the city of Bhavnagar, approximately 1.5 hours' drive away from the Alang yards.
8. Downstream waste management: Ensuring sustainable downstream management of wastes generated by the ship dismantling activities is an important requirement under the EU Ship Recycling Regulation. Most types of waste generated by the ship dismantling activities of the yard are transferred to the local TSDF (Treatment Storage and Disposal Facility) in Alang operated by GEPIL. Based on the information currently available to the evaluators, it appears that this facility is likely operated in accordance with human health and environmental protection standards that are broadly equivalent to relevant international or Union standards. However, GEPIL is not able to handle certain types of wastes (such as e-waste, batteries etc.), which are therefore transferred to other waste management facilities. The applicant has not demonstrated that these downstream waste management facilities operate according to standards broadly equivalent to EU and international standards.

A draft report with the evaluators' findings and requests for further information and clarifications was forwarded to the applicant facility after the second inspection but no replies received up to the completion of the present report.

2 INTRODUCTION

The European Commission DG Environment (hereafter referred to as The Commission) has contracted DNV GL to conduct a site inspection of the recycling facility Priya Blue Industries Pvt. Ltd., located in Alang-Sosiya (Gujarat, India), hereafter referred to as the facility. An application for inclusion in the European List of ship recycling facilities has been registered for this facility in June 2016 under application number 003.

3 OBJECTIVE

The objective of the on-site inspection is to verify compliance of the facility with the requirements set out in the Ship Recycling Regulation Articles 13, 15 and 16 and clarified in the 2016 Technical guidance note¹.

Hereunder the objectives of DNV GL's methodology is to:

- Verify the Facility's capability to comply with the regulations and requirements listed in the assessment scope
- Assure that documented recycling processes, work procedures, quality controls and document handling are managed and implemented as specified in the regulations and requirements
- Ensure that the Facility has sufficient knowledge and understanding of the regulations and requirements for recycling facilities
- Assure consistent evaluation of facilities on equal terms

4 SCOPE OF WORK

The scope of the assessment is, according to contract:

- Ship recycling regulation (EU) No 1257/2013
- Technical guidance note under Regulation (EU) No 1257/2013 on ship recycling

Both documents refer extensively to the provisions of the Hong Kong Convention and the relevant guidelines of the IMO, the ILO, the Basel Convention and of the Stockholm Convention on Persistent Organic Pollutants, which are also taken into consideration for this assessment.

The scope for the methodology is divided into three main elements and a number of second and third level sub-elements. These practical steps ensured that all articles 13, 15 and 16 SRR requirements for inclusion of a ship recycling facility in the European List were checked.

1. Management

- Facility business model and quality statement
- Policy
- Management, ownership and organisation
- Quality assurance systems and certificates

¹ C/2016/1900, Communication from the Commission — Requirements and procedure for inclusion of facilities located in third countries in the European List of ship recycling facilities — Technical guidance note under Regulation (EU) No 1257/2013 on ship recycling. Available at: [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016XC0412\(01\)&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016XC0412(01)&from=EN)

- Human resources (availability, skills and experience, training, stability etc.)

2. Safety, security and the environment

- Safety & health (PPE, hazardous materials, fire safety, medical services etc.)
- Security
- Environment (spills, emissions, etc.)
- Emergency preparedness and response (fire, medical, environmental etc.)
- Regional conditions (acts of nature, political, etc.)

3. Vessel demolition

- Applied rules, regulations and internal standards
- Recycling control, inspection and supervision regime
- Non-conformities and corrective actions
- Document control
- Facilities (methods, capacities, condition of equipment, logistics, etc.)
- Maintenance
- Recycling planning and execution
- Methodology, criteria and performance regarding:
 - Project start-up, commercial process etc.
 - Ship Recycling Facility Plan (SRFP)
 - Contract review, verification and acceptance criteria owner / cash-buyer / facility
 - Pre-planning
 - Vessel preparation (IHM, Ship Recycling Plan, flag state clearance, pre-cleaning etc.)
 - Vessel arrival and securing
 - Demolition management (methodology, "safe for entry", "safe for hot work", working at heights, lifting, supervision and reporting)
 - Waste disposal (sorting, sub-contractors, end users)
 - Completion instruction
 - Project close-out with de-briefing, lessons learned, suggestions for improvement

5 METHODOLOGY AND ACTIVITIES

The methodology followed the framework of DNV GL's facility assessment protocols and reporting formats, calibrated with the requirements and criteria of the Ship Recycling Regulation as clarified in the 2016 Technical guidance note.

Activities:

- Preparations, scheduling, travel arrangements, fact-finding, etc.
- Issue objective, scope and schedule to facility in advance
- Site assessment (2 days; 3 assessors)
- Reporting
- Issue of draft report
- Implement comments to the draft report
- Final report

The on-site assessment was performed according to a schedule advised to the Facility in advance, incorporating:

- Opening meeting
 - Introductions, present objective, scope and methodology, agree on schedule
 - Review of facility history, current activities, future ambitions
- Interviews with key responsible personnel in all relevant disciplines, including
 - Ownership and management
 - Contracts
 - Planning, preparations, vessel arrival and securing
 - Quality assurance, quality management systems
 - Human resources
 - Health, safety, security and environment
 - Vessel dismantling management
 - Quality control, document control
 - Project management
- Document review
 - Spot checks and evaluation of consistency, content, validation and language. Traceability
- Facility site inspection
 - Inspection of Facility, all workstations and worker facilities

- Inspection of vessel, for access and escape-ways
- Spot-checks of worker certificates and permits, crane certificates
- Lifting equipment, fall barriers, safe for entry, safe for hot-work etc.
- Questioning (brief) of foremen / supervisors on key procedures
- Closing meeting
 - Reiterate the objective of the inspection and present preliminary results in way of initial observations and findings
 - Facility may respond to the initial results, and agree to rectify non-conformities including deadlines and corresponding responsible persons
 - Acknowledgements and departure

The objective of the inspection is to verify compliance with the provisions of Articles 13, 15 and 16 of the Regulation as well as with the information submitted by the recycling facility with its application for the inclusion in the European List.

6 RESULTS OF THE ASSESSMENT

Priya Blue had submitted an application for inclusion on the European list of ship recycling facilities in June 2016. Several additional documents were sent to the European Commission afterwards. Based on this information, a desk assessment report was transmitted to Priya Blue in March 2018. As a response to this desk assessment report, the facility sent additional information in June 2018. In view of these elements, it was agreed between the European Commission and the facility that an on-site inspection could take place to verify compliance with the requirements of the Ship Recycling Regulation.

The first on-site inspection of the facility took place on the 24th and 25th of September 2018. The second inspection was carried out on the 23rd of January 2020.

The facility is operating at plot V-1 in the Alang-Sosyia district, Gujarat, India. The SRF is one of the many ship recycling facilities located within the designated 'Alang-Sosiyia Ship Recycling Yard' under the administrative control of Gujarat Maritime Board (GMB). Adjacent to the facility and both to the east and the west are similar facilities. Access road connecting with the road transportation network is accessible to the north of the facility.

Priya Blue is a privately-owned company that has operated in the ship dismantling industry for several decades, the earliest vessel in the SRFP list being from 1994.

The key management representatives from the facility during the first inspection were the owner [REDACTED], CEO/ Business Manager [REDACTED], General Manager [REDACTED], HSE Manager [REDACTED] and Production Manager [REDACTED]. For the second inspection the main representative was [REDACTED] the HSE Manager.

For the first inspection the evaluators from DNV GL were [REDACTED] and [REDACTED], accompanied by [REDACTED] from the EU Commission. For the second inspection the evaluators from DNV GL were [REDACTED] and [REDACTED], accompanied by [REDACTED] from the EU Commission.

In the context of the first inspection, the delegation visited the downstream waste management facility Gujarat Enviro Protection and Infrastructure (GEPIL) in the morning on the 26th of September 2018. The Gujarat Pollution Control Board (GPCB) was present at the visit, represented by [REDACTED]. The GEPIL representatives at the visit were [REDACTED] and [REDACTED]. The same day, the delegation visited the Alang Soshiya Ship Recycling and General Workers' Association (ASSRGWA). The delegation met with [REDACTED] and approximately 20 workers from the ship recycling industry.

During the second inspection, the delegation had a follow up meeting with GEPIL on the 24th of January with [REDACTED] and [REDACTED].

The table below summarises the results of the site inspection with respect to article 13, 15 and 16 of the SRR requirements for inclusion of a ship recycling facility on the European List.

DNV GL wishes to thank the management and key personnel at Priya Blue for the friendly reception and good co-operation extended during the assessment, ensuring that the inspections could be carried out in an effective manner. Facilities for the assessment itself were excellent and the fullest degree of access to all aspects of the facility's areas and management was offered.

Site inspection results			Compliant?
Article 13-1 (a) it is authorised by its competent authorities to conduct ship recycling operation			
Technical guidance note 2.2.1, MEPC 210(63) Section 3.2.2	Authorisation	<p>Priya Blue holds the necessary authorisations to conduct ship recycling by Gujarat Maritime Board (GMB) and Gujarat Pollution Control Board (GPCB).</p> <p>A license from GMB to utilise the plot is provided in the SRFP. The permit is valid until 18.01.2026. The license from GPCB is valid until 30.09.2023.</p>	Compliance was confirmed during the site inspections.
Article 13-1 (b) it is designed, constructed and operated in a safe and environmentally sound manner			
Technical guidance note 2.2.1	Measures and infrastructure	<p>The facility uses the beaching/intertidal landing method. Primary cutting of the hull is conducted in the intertidal zone using the interior of the ship itself as an impermeable floor. Cutting of the double bottom takes place in the intertidal zone.</p> <p>Secondary cutting takes place on concrete flooring with drainage on shore and on a crane barge.</p> <p>During the two inspections, mobile cranes were observed in the intertidal zone. It was understood that dismantled materials from the ship to shore are transported by these cranes, in appropriate containers for smaller parts. In addition, it was observed that the facility has small steel open pontoons which are understood to be used for transporting materials from the ship to shore, then onwards to land by way of craneage.</p> <p>The deficiencies noted were:</p> <ul style="list-style-type: none"> - Zero impact on the environment during primary cutting could not be verified - Environmental monitoring is not fully in place - Workers safety, prevention of adverse effects on the environment (including impermeable floors and drainage) do not appear to have been given the necessary level of consideration on the crane barge <p>Detailed evaluation can be found in the following sections of this report.</p>	Compliance was not confirmed during the site inspections.

Article 13-1 (c) it operates from built structures

Technical
guidance note
2.2.4

Operates from
built structures

During the first inspection it was observed that the operation on dry shore is from built structures with cranes, winches and trucks, on concrete flooring. The secondary cutting area ends in an embankment towards the intertidal landing area, with a significant height. The secondary cutting area was found covered with concrete, with steel plates in designated cutting areas.

Storage tanks, storage- and separation areas, storerooms and offices, sanitary equipment, workers rest- and recreation rooms, first aid room, emergency room and emergency chests, worker facilities, workshops and drinking water supply were identified on site.

The secondary cutting areas were covered with impermeable, reinforced concrete.

However, this was not the case for the primary cutting area in the intertidal zone; hence, the primary cutting of the vessel is not operated from a built structure.

During the second inspection, the facility was seen with a crane barge, recently put into operation. The revised SRFP suggests that the barge may be deployed during the initial cutting. Detailed information on the use of this barge could not be located in the revised SRFP. The applicant was therefore requested to provide more details on how and when the barge could be deployed in the initial cutting. However, no response to this request has been received after the second inspection.

Further, the crane barge appears to be repurposed heavy lift crane barge, which is now used to assist in the lightening process of rigs and larger vessels. During the site inspection the evaluators discussed the certifications of the crane. The applicant was asked to forward further information regarding GMBs opinion on the status of the crane barge, and any requirements they shall impose, considering the different scenarios in which the applicant intends to utilize the crane barge. However, no further information has been received after the second inspection.

Also, limited information is available under the cutting and recycling operation procedure in the SRFP.

Compliance was not confirmed during the site inspections.

The evaluators' understanding is that the cranes are only used for lifting when the barge is grounded, and that the barge is moved to the required position when water depth permits.

The evaluators also understand that the Gujarat Maritime Board's approval of such operations is not covered by GMB regulations and/or GMB have not commented on the acceptability of these operations.

The GMB's "Conditions & Procedures for granting permission for Utilizing Ship Recycling Plots" Ship Recycling Regulations, 2015 – states:

2.6 No permanent structures on the plot:

1. A permission holder shall not construct or erect any permanent structure on the plot. The permission holder may, with the prior approval of the Chief Executive Officer and other concerned authorities, put up a temporary or semi-permanent structure on the plot at his risk and cost, to carryout ship recycling activities, after compliance of mandatory requirements under relevant laws / acts.
2. The structure(s) so put up by a permission holder shall not create or shall not be deemed to create any right or interest in the plot in his or its favour nor shall it, in any manner, affect the right of ownership of the Board.
3. On expiry or termination of the permission, the permission holder shall forthwith remove such structure(s) put up or erected on the plot at his cost and the permission holder shall not be entitled to claim any compensation whatsoever in this regard.
4. In case of failure on the part of the permission holder to remove such structure(s) put up with prior approval under Cl. 2.6.1 above, the Chief Executive Officer shall be empowered to remove it at the risk and cost of the permission holder.

From this it appears that the definition of the crane barge needs to be established in each individual case, including if the GMB consider them to be permanent, semi-permanent or temporary. It is also then assumed that the GMB will be able to advise which "mandatory requirements under relevant laws / acts" they consider applicable to each definition.

From a general maritime safety perspective, the minimum of information that should be presented for such solutions is as follows:

- Operations Manual



		<ul style="list-style-type: none">○ Incl. limitations of use○ Incl. ballasting○ Incl. requirements for, and qualifications of, the persons operating the crane barges.• Stability booklet• Structural calculations<ul style="list-style-type: none">○ Demonstrating adequate strength of the barge/pedestal/crane for the intended use.• Crane certification• Barge certification <p>Furthermore, as the crane barge is used as an area for secondary cutting, the applicant has to demonstrate how they are ensuring compliance with the requirements of the EU SRR as they are required to do for their shoreside facility. On site, the evaluators observed that workers safety, prevention of adverse effects on the environment (including impermeable floors and drainage) have not been given the necessary level of consideration.</p> <p>The applicant was therefore invited to:</p> <ul style="list-style-type: none">a) Seek clarification from GMB as to the applicable requirements for the intended uses of the crane barge.b) Consider the crane barge operations at the same level of detail given to their shore side operations and facilities.c) Include relevant details from point 1) and 2) in the SRFP.	
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Article 13(1) (d) it establishes management and monitoring systems, procedures and techniques which have the purpose of preventing, reducing, minimising and to the extent practicable eliminating health risks to the workers concerned and to the population in the vicinity of the ship recycling facility, and adverse effects on the environment caused by ship recycling

<p>Technical guidance note 2.1.4 (a), (b) MEPC210(63) Section 3.4.1 / BC TG 6.2</p>	<p>General</p>	<p>At the time of the first inspection, monitoring was only briefly mentioned in the SRFP.</p> <p>After the first inspection the applicant contracted a third party (Central Salt and Marine Chemicals Research Institute) to prepare a monitoring plan of health risks to the population in the vicinity of the ship recycling facility, and adverse effects on the environment, but a complete monitoring program was never received from the applicant.</p> <p>During the second inspection the applicant informed that they had not completed the monitoring program but would initiate it.</p> <p>A monitoring plan is expected to:</p> <ul style="list-style-type: none"> - Include regular monitoring of air, water, soil, sediments and noise, or surveys/explanations to support why this should not be monitored; - Include a map of sources and sampling points for emissions to air, water, soil and sediments and noise; - Include description of roles and responsibilities; - Ensure representative sampling, and that normal activities are conducted at the facility when sampling is done; - Include specific monitoring of hazardous materials listed in part 4.2 in the application (Annex 1 and 2) (ODS and radioactive substances may be excluded) and other relevant substances (copper, zinc, PAH, oil etc.) for water, soil and sediment, either as surveys or as part of regular monitoring. The applicant must evaluate if other parameters are relevant based on its operations and experiences; - Use well-established standards for sampling. Examples of such standards include (but is not limited to) ISO 18400-101:2017, Soil quality - Sampling - Part 101: Framework for the preparation and application of a sampling plan and ISO 5667- 19:2004, Water quality -Sampling - Part 19: Guidance on sampling of marine sediments; - Use well-established standards and accredited laboratories for analysis with adequate detection limits. - Compare the analysis results with well-established soil, sediment and water 	<p>Compliance was not confirmed during the site inspections.</p>
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		<p>standards. Many countries have developed their own soil guidelines for contaminated soil. It is appropriate to evaluate the results in soil against such guidelines. Similarly, guidelines exist for contaminated sediments and water. Such types of guidelines take into account the risk to human health and the environment at increasing level of pollution.</p> <p>The applicant is invited to prepare an environmental monitoring program according to the above guidelines.</p> <p>It should be noted that the National Green Tribunal of India has recently ordered a comprehensive environmental audit to be conducted with respect to the existing environmental impact of the shipbreaking activities in Alang (link: http://www.indiaenvironmentportal.org.in/files/file/ship-breaking-environment-impact-NGT-order.pdf). It is understood that this study should have been completed by December 2019. Reportedly, the GMB is a project proponent and would facilitate the environmental audit team. It appears that the environmental audit will be conducted by Central Salt and Marine Chemicals Research Institute.</p>	
	Soil	The applicant is invited to prepare an environmental monitoring program covering pollution to soil. This should also include possible counter measures for the possible exceeding parameters.	Compliance was not confirmed during the site inspections.
	Sediment	The applicant is invited to prepare an environmental monitoring program covering pollution to sediments. This should also include possible counter measures for the possible exceeding parameters.	Compliance was not confirmed during the site inspections.
	Water	The applicant is invited to prepare an environmental monitoring program covering pollution to water. The applicant is asked to investigate possible counter measures for the possible exceeding parameters.	Compliance was not confirmed during the site inspections.
	Air	The applicant is invited to prepare an environmental monitoring program covering emissions to air. This should also include possible counter measures for the possible exceeding parameters.	Compliance was not confirmed during the site inspections.

	Noise	The applicant is invited to prepare an environmental monitoring program covering noise. This should also include possible counter measures for the possible exceeding parameters.	Compliance was not confirmed during the site inspections.
	Surrounding area	The applicant is invited to prepare an environmental monitoring program. This should also include possible counter measures for the possible exceeding parameters.	Compliance was not confirmed during the site inspections.
Technical guidance note 2.1.4 (b),	Health	<p>The applicant has conducted annual medical monitoring of its employees and examples were witnessed on site for a gas cutter during the first inspection. Blood pressure, hemogram, eyesight, ears and lung capacity were checked. Asbestos workers had X-ray of lungs annually. In the evaluator's opinion, the medical monitoring was not sufficient to assess workers' health in order to detect and identify any abnormality. Additionally, the monitoring program had not been set up to be able to construct exposure profiles of jobs.</p> <p>Upfront of the second inspection, the applicant had revised its description of the health monitoring program in the revised SRFP, which was found adequate. The implementation of this procedure was verified during the second inspection. The new monitoring program for workers' health is a good improvement, however it is still in its initial phase.</p>	Compliance was confirmed during the second inspection.
2.1.4 Technical guidance note 2.1.4 (b), MEPC 210(63) 3.1.1 (5)	ISO certificates / management system / QMS	<p>HSE manager is reportedly responsible for the ISO certificates. Priya Blue holds the following ISO certificates:</p> <p>ISO 14001:2015 by ████████ valid to January 2022</p> <p>ISO 9001:2015 by ████████ valid to January 2022</p> <p>ISO 30000:2009 by ████████ valid to January 2022</p> <p>OHSAS 18001:2007 by ████████ valid to March 2021</p> <p>During the first inspection the evaluators could not conclude that the QMS system was implemented in practice. Reportedly, management reviews were held every sixth months however the facility could not demonstrate any minutes of the meetings (MoM), action plan or systematic proof that the management system was alive including continuous</p>	Compliance was not confirmed during the site inspections.

		<p>improvement.</p> <p>During the second inspection, it was not demonstrated by the applicant that they had fully implemented a QMS system. Typical key documents in a QMS system would be incident reporting, traceability and record keeping etc. but this was not seen implemented.</p> <p>The evaluators recommended to further harmonize the QMS to the facility's actual operations.</p>	
<p>ILO SHG p21-23, p138:18.1, 18.3, p139:18.5</p>	<p>Workers facilities</p>	<p>The Facility has a building with a kitchen with cooks and a mess rooms for management. Both were found in good and welcoming condition. Most workers, however, had no access to a mess room.</p> <p>Toilet and drinking water facilities with reverse osmosis filters were found good, the drinking water was tested by public health every second week, a next test date label was found stuck to the reservoir tank.</p> <p>The facility has a small worker dormitory complex on the plot, this is primarily reserved for supervisors or persons with positions of similar responsibility. A separate workers dormitory, with reported capacity for 180 persons, is located a short distance away from the plot's back yard. The evaluators were told during the first inspection that the dormitory was reserved for permanent staff (supervisors, crane drivers, dumper drivers, watchman, galley staff and fitter).</p> <p>The facilities were inspected, and although perhaps above the minimum wage worker local village standard, it was by the evaluators found somewhat basic regarding cleanliness, furnishing, lighting and upkeep. There were no showers. The evaluators recommended that the facility made an effort to improve the conditions.</p> <p>After the first inspection the applicant has built a toilet/shower block and covered rest area at the rear of the backyard. The block contained 5 showers, 10 toilets and 2 sinks and was found clean and tidy.</p> <p>The dormitory was found in the same condition as during the first inspection. Reportedly the dormitory is available to labours working on a daily basis such as cutters, helpers,</p>	<p>Compliance was partly confirmed during the site inspections.</p>



		<p>sweepers, wire rope handlers (Jodi), nonferrous metal handlers, waste handlers and plate handlers as well as permanent staff.</p> <p>According to the ILOs helpdesk fact sheet no. 6 adequate sanitary facilities should include a minimum of one toilet, one wash basin and one tub or shower for every six persons. Although the dormitory appeared to have sufficient toilets, the applicant was asked to evaluate the need for further improvements with regard to sinks and washing facilities in line with the referred ILO helpdesk fact sheet.</p> <p>The evaluators were told on-site that the applicant plans to demolish the current dormitory and build a new one, but no timeline for this could be provided.</p> <p>It is the evaluators' opinion that the facility dormitory could be cleaner and have more lighting indoors and be better equipped.</p>	
Article 13 (1) (e) it prepares a ship recycling facility plan			
<p>Technical guidance note 2.1.2</p>	<p>SRFP</p>	<p>During the first inspection, the evaluators advised on the intention of the SRFP and the number of discrepancies between various instructions. Following this additional input, the facility advised they would re-write the SRFP.</p> <p>In response to the draft report of the first inspection, the applicant forwarded a revised SRFP dated 15.11.2018, which was a good improvement. However, it remained the opinion of the evaluators that the SRFP still did not fulfil the objective of the SRFP, to be an efficient internal instruction.</p> <p>Several comments were provided to the applicant in the report of the first inspection and in several e-mail exchanges.</p> <p>Upfront of the second inspection, the applicant forwarded a revised SRFP, dated 01.09.2019. The revised SRFP was an improvement from its previous version, but it did not reflect all day to day operations at the facility with clear instructions to workers. This was expressed in a feedback document to the applicant upfront of the second inspection.</p> <p>During the second inspection another revised SRFP was presented, dated 01.11.2019. Still, it could not be confirmed that the SRFP fully described all the operations and procedures</p>	<p>Compliance was not confirmed during the site inspections.</p>

		<p>that are in place at the facility.</p> <p>The new SRFP includes a new procedure for cutting and recycling of rigs. The steps involved in the instructions are written narratively rather than procedurally. The instructions should be revised in order to be clear, concise and provide guidance to the persons executing the work. Additionally, more details should be provided for the steps; e.g. what is to be done, who will do it and by when does it need to be done.</p> <p>It could not be confirmed that all procedures are implemented in full at the facility during the second inspection.</p> <p>Please see relevant rows in this report for further comments.</p>	
MEPC 210(63) Section 3.1.1 (1)	Ownership	The facility is privately owned by ██████████.	Compliance was confirmed during the first inspection.
MEPC 210(63) Section 3.1.1 (3), (4)	Facility organisation	<p>During the first inspection the organisation depicted ██████████ as chairman and managing director and ██████████ as the CEO. Under them, the General Manager (GM) ██████████. Below that an assistant GM, the Business Manager, the Finance Manager, Production Manager and HSE Manager. The HSE manager had 3 supervisor reporting to him, one specializing in IHM marking, firefighting and training. All 3 supervisors were reportedly equally trained in environmental protection as well as health and safety. The facility had also shortly before the first inspection hired a naval architect.</p> <p>The organization was during the first inspection deemed experienced and solid, proud and ambitious, and eager to develop in order to comply. The necessity to assure the necessary competence and academic capability to compile and format a proper SRFP was emphasized by the evaluators.</p> <p>During the second inspection the facility advised that they had recently (in November 2019) hired an HSE supervisor, an Environmental Manager and an additional HSE Manager. These positions could not be located in the organisation chart in the latest SRFP. The applicant was therefore invited to update its organisation chart.</p>	Compliance was partly confirmed during the second inspection.

<p>MEPC 210(63) Section 3.1.1 (4)</p>	<p>Roles and responsibilities</p>	<p>During the first inspection, the job descriptions in the SRFP did not match the actual organisation or the responsibilities of the individual positions. In response to this, the applicant forwarded a revised SRFP, dated 15.11.2018, with an updated organization structure with new roles, responsibilities and authorities, included under sections 3.1.1 and 3.1.3 of the revised SRFP. The new description of the organization and roles were found in good order.</p> <p>The applicant has recently hired additional resources as mentioned above. The roles and responsibilities of these positions could not be found in the latest SRFP dated 01.11.2019. Further, formal employment contracts for these positions could not be provided during the inspection.</p> <p>The applicant was invited to update its roles and responsibilities.</p>	<p>Compliance was partly confirmed during the second inspection.</p>
<p>MEPC 210(63) Section 3.1.1 (6)</p>	<p>Policy</p>	<p>The facility has an environmental, health and safety policy, available to all employees.</p>	<p>Compliance was confirmed during the first inspection.</p>
	<p>Working hours and annual leave</p>	<p>All ship recycling plots are termed as a factory in India and therefore the Factories Act 1948 is applicable to them. In short:</p> <ul style="list-style-type: none"> • Workers can work in a factory for up to nine hours a day (excluding rest) and up to forty-eight hours in a week. • Workers that work more than nine hours in any day or for more than forty-eight hours in any week are entitled to twice the ordinary rate of wage. • Total working hours including overtime shall not exceed 60 hours per week. • Workers are generally entitled to at least 24 hours of weekly rest on Sunday. The weekly rest period is reckoned as paid time. • Workers required to work on weekly holiday are entitled to the substitute holiday three days before or after the usual weekly holiday. 	<p>Compliance was not confirmed during the site inspections.</p>



		<ul style="list-style-type: none">• Annual leave of 12 working days is foreseen for all the workers who have worked at least 240 days in a year. An adult worker is entitled to one day of earned leave for every 20 days of service. Workers shall be paid their usual daily wage rates for the days of earned leave. A worker is entitled to full daily wages during the term of annual leave.• Workers are entitled to paid leave for Festival (public and religious) holidays. These include memorial holidays and religious holidays. There are many festival and religious holidays in India, three of which are fully covered national public holidays. These are Republic Day (January 26), Independence Day (August 15) and Mahatma Gandhi's Birthday (October 2). <p>On-site the applicant explained that regular daily working hours were from 08:00 -17:00, with a 1-hour lunch break. It is understood that overtime work happens on a regular basis, depending on the workload (see more on this point below).</p> <p>Regular hours per week was maximum 48 hours, according to law. Sundays are reportedly totally off. The workers were reportedly entitled to overtime payment from the first hour and national holidays are always holidays.</p> <p>During the second inspection the evaluators asked to see muster cards for a cutter, a helper and a waste handler. The muster cards presented showed that all three workers worked on the 12th of January 2020 which was a Sunday. Further, two of three workers worked on the 14th of January which is a public holiday in Gujarat, the "Makara Sankranti". The applicant was requested to explain this situation, but no further information was received after the second inspection.</p> <p>Also, records were not available on-site during the second inspection and the applicant was therefore invited to:</p> <ul style="list-style-type: none">- explain workers entitlement to paid leave- explain how the workers receive pay for paid leave	
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		<ul style="list-style-type: none"> - advise when it started to pay paid leave - forward documentation supporting these explanations <p>However, no further information on the above elements has been received after the second inspection. Therefore, based on the currently available documentation, it not possible to confirm that the applicant operates in accordance with the Factories Act 1948.</p> <p>In this context, it is further noted that during a meeting with the Alang Sosiya Ship Recycling and General Workers’ Association (ASSRGWA), which took place on the 11th of October 2019, where several workers were present, the Union representatives stated that none of the Alang shipbreaking yards comply with the relevant legal requirements regarding paid annual leave.</p>																	
	<p>Workers contracts, minimum wages, paid overtime, insurance</p>	<p>At the time of the first inspection, workers did not have contracts. Reportedly the applicant and workers have working relationships based on trust. This situation was the same during the second inspection.</p> <p>The newly hired resources did not have work contracts, but the evaluators witnessed appointment letters.</p> <p>There is a special salary range for ship recycling employees published in the Gujarat Government Gazette, dated 21.02.2014, specifying the minimum rates of wages per day for workers in the ship breaking industry in the State of Gujarat. It consists of a fixed minimum amount and a special allowance, which is adjusted every six months. At the time of the first inspection, the minimum rates of wages per day (in INR) were as follows:</p> <table border="1" data-bbox="584 1150 1635 1275"> <thead> <tr> <th>Classes of Employees</th> <th>Basic Minimum Wages</th> <th>Daily allowance</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Skilled</td> <td>255</td> <td>41.5</td> <td>296.5</td> </tr> <tr> <td>Semi-skilled</td> <td>245</td> <td>41.5</td> <td>286.5</td> </tr> <tr> <td>Unskilled</td> <td>235</td> <td>41.5</td> <td>276.5</td> </tr> </tbody> </table> <p>On-site the evaluators witnessed records showing that the wages paid to their workers were according to these minimum rates.</p> <p>Further, during the second inspection, the applicant described that the workers receive</p>	Classes of Employees	Basic Minimum Wages	Daily allowance	Total	Skilled	255	41.5	296.5	Semi-skilled	245	41.5	286.5	Unskilled	235	41.5	276.5	<p>Compliance was not confirmed during the site inspections.</p>
Classes of Employees	Basic Minimum Wages	Daily allowance	Total																
Skilled	255	41.5	296.5																
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Unskilled	235	41.5	276.5																



	<p>overtime pay, but evidence / records were not available. The applicant was therefore invited to forward documentation showing that workers have received overtime pay. Such documentation was not received after the second inspection.</p> <p>The applicant provides ESIC insurance. Payment of ESIC receipt was witnessed on site during the first inspection. The applicant has ESIC coverage for 500 employees. In general, they have 350 workers. The overshooting number is because of the daily fluctuation of workers, some come, some leave.</p> <p>Sickness Benefits under the ESIC scheme entitles workers to 70% of the average daily wages during the period of certified sickness and is payable for 91 days during 2 consecutive benefit periods. To qualify for sickness benefit, the insured worker is required to contribute for 78 days in a contribution period of 6 months. Extended Sickness Benefit may be granted up to two years for 34 malignant and long-term diseases at an enhanced rate of 80 per cent of wages (https://www.esic.nic.in/extended-sickness-benefit).</p> <p>Per ESIC, dependent benefits are paid at the rate of 90% of wage in the form of monthly payment to the dependants of a deceased insured person, in cases where death occurs due to employment injury or occupational hazards.</p> <p>Beyond the ESCI scheme, the facility also offers additional insurance for its workers.</p> <p>On-site the evaluators were also told that the employees had got paid for training time, including travel expenses and daily allowance. The applicant was requested to forward relevant documentation, however no further information was received after the second inspection</p> <p>Also, records were not available on-site during the second inspection and the applicant was therefore invited to:</p> <ul style="list-style-type: none">- explain if and how workers are entitled to sick leave- how the workers receive sick leave- when the applicant started to pay sick leave and	
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		<ul style="list-style-type: none"> - forward documentation supporting their explanations <p>However, no further information on the above elements has been received after the second inspection.</p> <p>In this context, it is further noted that during a meeting with the Alang Sosiya Ship Recycling and General Workers' Association (ASSRGWA), which took place on the 11th of October 2019, where several workers were presents, the Union representatives stated that none of the Alang shipbreaking yards comply with the relevant legal requirements regarding paid sick leave and overtime compensation.</p>	
MEPC 210(63) Section 3.1.1 (7)	Instructions and procedures	<p>It was concluded after the first inspection that the updated SRFP with new and extensive instructions required further improvements. for the evaluators advised that the instructions for tank cleaning and dismantling in the intertidal zone needs to be compiled in detail, assuring how the process protects against environmental impact, and block bouncing potentially causing injury, in way of final cutting.</p> <p>Upfront of the second inspection the applicant submitted a revised SRFP dated 15.10.2018. The revised SRFP presents the ship recycling methodology on page 66-71.</p> <p>During the second site inspection another revised SRFP dated 01.11.2019 was presented. The steps involved in the instructions are written narratively rather than procedurally. The instructions should be revised in order to be clear, concise and provide guidance to the persons executing the work. Additionally, more details should be provided for the steps; e.g. what is to be done, who will do it and by when does it need to be done.</p> <p>Additionally, it could not be verified that the applicant actually follows its new procedures in practice as they have conducted secondary cutting in the intertidal zone in between the two site inspections.</p>	Compliance was not confirmed during the site inspections.
MEPC 210(63) Section 3.1.4	Project management progress reporting	<p>During the first inspection, the facility advised that they did not have a formal progress reporting but described how they did it in practice, which was seen adequate.</p> <p>However, given the recent new organisation with unclear roles and responsibilities, it is unclear to the evaluators who is responsible for project management and progress</p>	Compliance was partly confirmed during the site inspections.

		reporting and how this is now handled in practice. The applicant was requested to clarify this, but no further information was received after the second inspection.	
Article 13 (1) (f): it prevents adverse effects on human health and the environment, including the demonstration of the control of any leakage, in particular in intertidal zones;			
<p>Technical guidance note 2.2, 2.2.1, p8: footnote (26), 2.2.2 (f), MEPC 210(63) Section 3.4.4.3/BC TG: p13: Table 1, p33: Table 5, p44: 4.1 / ILO SHG: p65: 7.2.4.4</p>	<p>Intertidal zone</p> <p>Control of leakage</p> <p>Preventive actions</p>	<p>The tidal range can be up to 11 metres, the shoreline disappearing more than 1 kilometre out at low tide. The primary cutting is not operated from a built structure, also including the cutting of the double bottom. In dismantling ships, the facility considers the hull itself as the built structure. This either by letting the blocks fall into the ship then to be lifted by crane across the intertidal zone to the impermeable secondary cutting zone. At the time of the first inspection, the applicant had no practical experience in lifting all blocks from ship to shore and had not dismantled a vessel in accordance with the EU requirements.</p> <p>Further, during the first site inspection the facility could not demonstrate its ability to sufficiently control leakage, in particular in the intertidal zone. Questions remained regarding the facility's compliance with the requirement for handling of hazardous materials only on impermeable floors with effective drainage systems. The main concerns of the evaluators related to the cutting of the ship's double bottom in the intertidal zone. The slicing of the double bottom is carried out from one watertight bulkhead to the next. The applicant was asked to include detailed instructions and method of closing openings in non-watertight double bottom floors.</p> <p>Upfront of the second inspection the applicant forwarded a revised SRFP dated 15.10.2018.</p> <p>During the second inspection it was confirmed that the applicant has conducted secondary cutting in the intertidal zone in between the two site inspections. At the time of the second inspection, the applicant had not tried to dismantle a vessel in accordance with the EU requirements, and verification of the new procedures was not possible.</p> <p>In order to compensate for the lack of drain line, and the consequent uncertainty to the method, it is imperative to assure that, during high tide, no seawater enters and flushes the exposed double bottom, by receding tide discharging remaining oil- or sediment</p>	<p>Compliance was not confirmed during the site inspections.</p>



		<p>residues and debris into the sea.</p> <p>Double bottom floors may be watertight, from tank to tank, or intermediate with manholes, openings, lighting holes etc.</p> <p>Watertight double bottom tanks are used for water ballast, containing sediments, and on old ships also for fuel oil, and may be of 30 plus metres length. It is not obvious that a full-length section from tank to tank can be cut in one low-tide timeframe, in such cases intermediate floor openings must be closed watertight by welded plate before tide starts to rise, a task related to shipbuilding.</p> <p>It has neither been verified by the evaluators that the cleanliness of open double bottom tanks, after cleaning with water and eventual application of sawdust or sand, removing sediments and oily residues by shovel and rags, are clean enough from film or residue to allow exposure to flushing at high tide.</p> <p>The applicant must, in the SRFP, describe and instruct step by step in detail, to the workers, how exposed double bottoms shall be cleaned and remain integrated at high tide. The instructions may be accompanied by photos or graphics and shall be proper instructions to workers:</p> <ul style="list-style-type: none">• Detail instruction of the cleaning of double bottom (DB) tanks, including methods, equipment, and inspection- and acceptance criteria• Detail instructions on how to weld shut openings in intermediate DB floors, assuring watertight integrity. Including schematics, photos etc. of instructive nature. The instructions shall include closing of open cut pipes etc., for example ballast or fuel.• Detail instructions on how to dismantle and drain fuel- and oil pipes, and oily machinery, and closing the ends / openings, before being lifted / traversed from the vessel to the secondary cutting area, over the intertidal zone. There shall be no dripping or spill at all.• Instructions on how to clean oil spills on machinery space floors, including double	
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		<p>bottom, from oily dismantling activities</p> <ul style="list-style-type: none"> • Instructions and graphics on how to collect slag underneath, when cutting the outer bottom from the inside out. • Slag- and paint chip collection when cutting the outer hull, in general • Debris control: How to prevent loose items, parts and debris of all sorts to fly or fall off the vessel onto the intertidal zone • Periodic beach cleaning procedures and documentation / filing of results, before and after 	
<p>Article 13 (1) (g) (i); 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; and in addition, the handling of hazardous materials, and of waste generated during the ship recycling process, only on impermeable floors with effective drainage systems;</p>			
<p>Technical guidance note 2.2.2, MEPC 210(63) Section 3.3.4.3 / BC TG: p78ff: 5.3, p67: figure 6</p>	<p>Cutting areas</p>	<p>The secondary and tertiary (back yard) cutting areas were seen with impermeable concrete flooring, partly covered in steel plates, with surrounded curbs and drains. In general, the facility was found in tidy, swept and orderly condition during both inspections.</p> <p>The applicant has since the first inspection acquired a crane barge to assist in the lightening process of rigs and larger vessels and the deck of the barge is used as a secondary cutting area. The barge was observed to have mainly wooden deck, partly covered in steel plates. The deck was observed with several oil spills. It could not be established how the applicant was ensuring prevention of release of hazardous materials to the environment from the barge.</p> <p>The applicant was asked to provide details explaining how the crane barge is used in the ship recycling process, including how an impermeable floor and effective drainage system is employed. However, no further information was received after the second inspection.</p>	<p>Compliance was partly confirmed during the second inspection.</p>
<p>Technical guidance note 2.2.2, MEPC210(63) Section p34: 3.4.4.1</p>	<p>Drainage</p>	<p>There are separate drainage systems in the front and back yard. In the front yard there is a drainage system for oily water and another drainage system for storm water. In the back yard there is a drainage system for storm water. The dimensions of the drainage system</p>	<p>Compliance was not confirmed during the site inspections.</p>

itself appears adequate but the tank capacities appears to be on the low side.

During the first inspection, it was observed that secondary cutting took place in the intertidal zone, on the exposed double bottom, then to be lifted by crane to the impermeable floor in the secondary cutting zone.

During the second inspection, the applicant was asked to consider the effectiveness of the openings in the storm water drainage system in the front yard and to clean the sediment traps, that were seen partly filled up.

It was described on-site during the second inspection that the last monsoon brought heavy rains. The facility has a tank capacity of 65 000 litres, 70 000 litres and 190 000 litres. The applicants own calculations on page 197 of the SRFP show:

Oily Block Area		Rain fall [mm]	Duration [days]	Cal. Tank Capacity [cbm]	Actual Tank Capacity [cbm]
Width[m]	Length[m]				
19.78	28.43	22.5	1.5	19.03	65.00
Impermeable Floor Area Front Yard		Rain fall [mm]	Duration [days]	Cal. Tank Capacity [cbm]	Actual Tank Capacity [cbm]
Width[m]	Length[m]				
120.46	88.92	22.5	1.5	361.50	70.00

Impermeable Floor Area Back Yard		Rain fall [mm]	Duration [days]	Cal. Tank Capacity [cbm]	Actual Tank Capacity [cbm]
Width[m]	Length[m]				
92.41	132.37	22.5	1.5	412.85	190.00

From this table the storm water system in the front yard may collect 361.5 m³ in a 1.5-day period. The tank in the front yard has 70m³ capacity. Similarly, the backyard may collect 412m³ in a 1.5-day period. The tank in the backyard has 190m³ capacity. Although the applicant has quite good tank capacity, it may not be sufficient during heavy rainfalls. The

		<p>applicant admitted, during the second inspection, that stormwater had been released to sea during heavy rain falls under the monsoon in 2019. Based on this, the applicant was requested to evaluate if the current capacity is sufficient and advise the outcome, however no further information was received after the second inspection</p> <p>During the second inspection it was also confirmed that the applicant had since the first inspection, conducted secondary cutting on the exposed bottom, on the crane barge and directly in the intertidal zone. Drainage on the barge does not appear to have been given the necessary level of consideration for the secondary cutting area of the crane barge. The applicant was asked to explain how wastewater collected on the barge is handled but no further information was received after the second inspection.</p> <p>Based on the documentation provided to the evaluators and the observations made on site it was not possible for the evaluators to establish that the handling of all hazardous material generated during the ship recycling process, only is conducted on impermeable floors with effective drainage systems.</p>	
<p>Technical guidance note 2.2.</p>	<p>Wastewater treatment plant</p>	<p>There are two drainage systems on site, one for the "oily block area" and one for the "clean block area". During the first inspection it was explained that water from the "oily block area" was collected and stored in a tank prior to disposal at GEPIL. Water from the "clean block area" was reportedly collected and temporary stored in a tank. It was further explained that the water was visually inspected for contaminants. If found ok, the water was reportedly released to sea. The evaluators questioned how it was possible to define water to be clean/not clean based on visual inspection.</p> <p>After the first inspection the applicant had reportedly collected stormwater and delivered it to GEPIL for treatment. In a meeting with GEPIL on 24 January 2020 it was explained that only a small number of recycling yards request collection of stormwaters by GEPIL. It was understood that the applicant is one of these yards.</p> <p>The applicant was asked to provide further explanation on their management of wastewater and provide documentation of the volumes of "Oily block area" and "Clean block area" wastewater that was collected by GEPIL for 2018 and 2019. However, no</p>	<p>Compliance was not confirmed during the site inspections.</p>

		further information was received after the second inspection.	
	Impermeable floors	<p>During the first inspection, secondary and tertiary cutting areas were found on impermeable, reinforced concrete impermeable flooring. The applicant has impermeable floor that has been extended into the intertidal zone, with a clear drop of a couple of meters.</p> <p>It is unclear to the evaluators if permits for this extension were required by the Indian Coastal Zone Management law.</p> <p>During the second inspection, the applicant used the deck on a crane barge for secondary cutting. The barge was observed to have mainly wooden deck, partly covered in steel plates, observed with several oil spills. Impermeable floors on the barge do not appear to have been given the necessary level of consideration for the secondary cutting area of the crane barge.</p>	Compliance was partly confirmed during the second inspection.
Technical guidance note 2.1.4, 2.2.2, 2.2.3, 2.2.5, 3.5, MEPC 210(63) Section 3.4.2.5 / BC TG 3.1, 3.3, 3.4.3, 4.1, 5.1, 5.2(Zone D), 5.3(Zone D), p92: Table 11	Waste and hazardous waste storage	Waste storage rooms for glass wool, plastics, chemicals, paint chips, batteries, asbestos etc. were inspected and found very clean, and more or less empty.	Compliance was confirmed during the first inspection.
Article 13 (1) (g) (ii): that all waste generated from the ship recycling activity and their quantities are documented and are only transferred to waste management facilities, including waste recycling facilities, authorised to deal with their treatment without endangering human health and in an environmentally sound manner;			
Technical guidance note 2.1.4, 2.2.2, 2.2.3, 2.2.5, 3.5, MEPC 210(63) Section 3.4.2,	Waste management	It is a requirement that all wastes generated from the ship recycling activity are properly documented. The 2016 Technical Guidance clarifies this further in section 2.2.2, where it is written: <i>All elements separated from the ship, including large blocks, constitute either 'hazardous materials' or 'waste generated during the ship recycling process'.</i>	Compliance was not confirmed during the site inspections.

3.4.3/ BC TG
p11, p12,
p48ff: 41,
p50ff: 4.2,

Most materials and equipment, loose or fixed, is removed and sold. It was described that traders come in with their own workers to collect various equipment. This is problematic as the applicant has not sampled these materials to ensure that they are free from hazardous waste. For example, electronic equipment is sold to traders, short cables are sold to authorised dealer, while long cables are reportedly re-used.

The applicant has until recently mainly relied on the IHM and has not considered the presence of e.g. PBDE, PBB, HBCDD, PCN, SCCP and PFOS prior to selling material and equipment.

Hazardous materials described in the IHM is removed and sent to waste management facilities authorised by GPCB. At the time of inspection, the applicant had never removed any waste containing PCB, PBB, PBDE, or HBCDD.

The quality of the IHMs varies. Some IHM relies only on documents and no samples, some IHM relies on samples but only for substances listed in Annex I, while other IHMs include samples for both Annex I and II substances. This means that the ship recycling facility must have additional measures to identify hazardous materials other than those possibly listed in the IHM.

This is notably the case for Persistent Organic Pollutants. The list of POPs included in the Stockholm Convention is available here:

<http://chm.pops.int/TheConvention/ThePOPs/AllPOPs/tabid/2509/Default.aspx>

Specific information on the production and use of these compounds can be found under the Persistent Organic Pollutants Review Committee documents:

<http://www.pops.int/Convention/POPsReviewCommittee/Chemicals/tabid/243/Default.aspx>

Guidelines were developed under the Basel Convention on the identification and sampling of wastes containing hazardous/polluting substances, especially the General technical guidelines on the environmentally sound management of wastes consisting of, containing or contaminated with persistent organic pollutants, specific guidelines on wastes containing certain types of POPs (for example PFOS), and guidelines on wastes containing mercury .

		<p>(see also sections on Article 15 (2) (f)) below with respect to disposal of waste).</p> <p>The applicant was, during the first inspection, asked to develop a systematic sampling regime of materials and equipment likely to contain hazardous or polluting substances identified in this section and to ensure that it is well implemented.</p> <p>During the second inspection the evaluators were told that the applicant had not proceeded on this point and compliance could not be confirmed.</p>	
<p>Technical guidance note 2.1.4, 2.2.2, 2.2.3, 2.2.5, 3.6, MEPC 210(63) Section 3.4.2, 3.4.3/ BC TG p11, p45ff: 7. / 4.2</p>	Waste disposal	Please refer to Article 15(5) below.	Compliance was partly confirmed during the site inspections.
<p>Article 13 (1) (h); it establishes and maintain an emergency preparedness and response plan; ensures rapid access for emergency response equipment, such as fire-fighting equipment and vehicles, ambulances and cranes, to the ship and all areas of the ship recycling facility;</p>			
<p>Technical guidance note 2.1.3, MEPC 210(63) Section 3.3.5/ BC TG p3, p5/6, p47, p56, p63/64/65/66/67, p70, p81, p83, p87, p89/ ILO SHG p32: 4.6, p 49: 7.1.8, p 128:16.</p>	Emergency preparedness and response plan	<p>The EPRP presented during the first inspection was not found up to the required standards.</p> <p>Upfront of the second inspection a revised EPRP was forwarded to the evaluators, and a further version was presented during the second inspection.</p> <p>The EPRP covers many of the minimum requirements, but there are areas which should be given further consideration. Comments are provided below:</p> <ul style="list-style-type: none"> • A list of emergency contacts (with phone contact number and photos, and team identification (firefighting, rescue operation, first aider, oil spill control) is provided. <ul style="list-style-type: none"> ○ Comment: Tables running over pages should have headers on each page (e.g. the list of emergency contact team members) • A "fire control plan" for the front and back-yard is provided, showing also evacuation routes. 	Compliance was partly confirmed during the second inspection.



		<ul style="list-style-type: none">○ Comment: It is recommended to include in the SRFP the locations of where copies of the EPRP can found.● The following emergency situations are considered in the EPRP:<ul style="list-style-type: none">○ Fire on ship○ Fire on plot○ Explosion on ship○ Oil/Grease spillage in sea water○ Accident falling from height○ General accidents○ Back-fire from cutting torch○ Natural calamities like Flood, Earthquake, Cyclone, tsunami etc○ Evacuation○ Confined space rescue○ Ingress of water on the ship being recycled or awaiting recycling, within the perimeter of the Facility, or in an adjacent facility○ Evacuation from Rigs landed far away from the shore <p>For the emergency scenarios a standard response form is presented. These however do not contain any visible indications, pictures or flow charts which would aid their effectiveness.</p> <p>No details of relevant information and training provided to all workers (according to their competence) is found in the EPRP, this should be present.</p> <p>The EPRP was presented to the evaluators as part of the SRFP. It is recommended to provide the EPRP also as a separate self-contained document so as to make the</p>	
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		<p>information more readily and easily available.</p> <p>The EPRP should be prepared giving consideration that it is to be communicated to all workers on the facility, including contractor personnel and employees hired for short periods of time.</p> <p>It was also advised that the applicant prepares a more detailed and clear procedure on how they plan to handle a potential major fire on board a rig. The applicant was asked to explain how external fire brigade will reach the rig, with all equipment, across the wet beach.</p> <p>There were a couple of items in the storeroom which were outdated, including emergency gel soaked first aid burn blanket and EEBD (emergency breathing equipment). Also, the marking of the fire extinguishers was unclear.</p>	
<p>Technical guidance not 2.2.4, MEPC 210(63) Section 3.2.1</p>	<p>Emergency access routes</p>	<p>Ensuring rapid access for emergency response equipment, including firefighting equipment and vehicles, ambulances and cranes, to the ship and all areas of the ship recycling facility is an important requirement under the EU Ship Recycling Regulation.</p> <p>On site, it was observed that the facility had clear and amply marked emergency access and evacuation routes, marked as yellow lines. An assembly station was clearly marked. Signage was found good.</p> <p>The main concern of the evaluators is emergency access to a rig under dismantling far from shore. The applicant needs to demonstrate an acceptable and plausible means of rapid emergency evacuation of an injured person from far landing, e.g. demonstrated by mock drill video. Similarly, it must be demonstrated how the applicant can handle a potential major fire on board a rig landed far from shore, including explanation how the external fire brigade will reach the rig, with all equipment, across the wet beach.</p>	<p>Compliance was partly confirmed during the second inspection.</p>
<p>MEPC 210(63) Section 3.2.1</p>	<p>Access and logistics within facility,</p>	<p>Access to the extremities of the embankment within the facility for ambulances and fire trucks was found good and well-marked.</p>	<p>Compliance was confirmed during the first inspection.</p>

<p>Technical guidelines 2.1.4 (b), MEPC 210(63) Section 3.2.1, 3.3.5, ILO SHG, Section 3.6</p>	<p>Medical services and facilities</p>	<p>The facility has a medical room, suitable for treating minor injuries and first aid. The room was found in good condition, with good light and first aid equipment.</p> <p>The facility has a van equipped with blue light, ambulance bed, oxygen apparatus and first aid locker, with one dedicated employee to maintain and drive it. The driver, with a regular driver licence, had however never done a test emergency drive at speed, outside the premises, in real traffic. Hence not a real ambulance manned with paramedics (only first aiders).</p> <p>In terms of medical facilities in the area, the evaluators know that the new GMB Multi Speciality hospital in Alang is now in operation. However, it appears that this hospital has only limited emergency capability even though surgical equipment, including an operating theatre is available. However, this hospital has only limited emergency capability even though surgical equipment, including an operating theatre is available. According to the doctor's schedule obtained from the GMB hospital the 14th of October 2019, a surgeon is only available on Sundays for planned surgery from 09:00 -17:00 and Fridays from 14:00-17:00. Outside of these hours, and in case MRI or CTI is required, an injured worker would need be sent to Bhavnagar, approximately 1.5 hours' drive away. Discussions with the Workers Union also confirmed that this hospital has inadequate capacity for the whole Alang workforce and lack of capacity to treat serious injuries.</p> <p>The regional hospital facilities options were further investigated by the evaluators. The public hospital in Bhavnagar seems to be the only hospital in the region capable of 24/7 emergency surgical capability, however the evaluators have not been there. It takes approximately 1.5 hours to reach the hospital in Bhavnagar. This is problematic in emergency situations.</p> <p>In this context, it is further noted that the absence of hospital facilities equipped to treat severe injuries in Alang has been a longstanding problem. Geetanjoy Sahu reports in the article 'Workers of Alang-Sosiya A Survey of Working Conditions in a Ship-Breaking Yard, 1983-2013' (https://www.epw.in/journal/2014/50/special-articles/workers-alang-sosiya.html) that the inadequate health facilities at Alang have been raised and discussed in various forums, ranging from the Supreme Court to the Inter-Ministerial Meeting in</p>	<p>Compliance was not confirmed during the site inspections.</p>
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<p>Technical guidelines 2.1.4 (b), MEPC.210(63), Section 3.1.1, 3.3.4.11</p>	<p>Regulatory requirements health and safety</p>	<p>India, but has not been resolved.</p> <p>By checking of records, the evaluators deemed the facility to partly to comply with regulatory health and safety requirements.</p> <p>In this context, it is further noted that safety officers appointed by the GMB reportedly <i>"inspects yards on a daily basis and keep a close watch on ship recycling activities and if any violation is observed at plot during ship recycling, a penalty of Rs. 10,000 is levied by GMB and plot activities are also suspended (For 2 to 3 days) in some of the cases and they are only restarted after compliance."</i></p> <p>The applicant experienced a fatal accident in July 2019, in the intertidal zone. The applicant received a penalty for non-compliance with regulatory health and safety requirements from GMB of 200 000 INR and the facility was closed for 5 days. The applicant was required to pay compensation to the victim's family (500 000 INR) and workers compensation (700 000 INR). Labour inspectors, factory inspector and safety inspectors from GMB were required on-site before the facility could restart its operations.</p> <p>In response to the accident the applicant had reportedly taken actions:</p> <ul style="list-style-type: none"> - Use cranes to transport blocks to the secondary cutting area. Reportedly cutting is no longer conducted in the intertidal zone - Toolbox talks about safety and that it is better to do the job safely than quickly and to avoid short cuts - Introduction of a stop card system, but this has not been implemented in practice. <p>The control of health and safety onboard the crane barge was not found to be at the same level as that for the shoreside facility. The applicant should review the health and safety requirements for the crane barge operations and take the necessary actions to satisfy these. The operation of the crane barge should also be included in the SRFP.</p> <p>Reportedly there is no scheduled inspections by labour inspectors or factory inspectors.</p> <p>It should be noted that Comptroller and Auditor General of India released a report in</p>	<p>Compliance was partly confirmed during the second inspection.</p>
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		<p>August 2018 https://saiindia.gov.in/sites/default/files/audit_report_files/Report_No_4_of_2018_-_General_and_Social_Sector_Government_of_Gujarat.pdf) indicating that safety inspections carried out in Alang by the Directorate of Industrial Safety and Health (DISH) in a three-year period (between March 2014 and March 2017) were grossly below target and failed to achieve the desired result to act as deterrence to non-compliance of the provisions of the Factories Act relating to safety, health and welfare of workers thereby leading to accidents.</p>	
MEPC.210(63), Section 3.1.1	Regulatory requirements fire	The facility's fire safety regime including prevention and mitigation was deemed to be good, and in accordance with regulatory requirements.	Compliance was confirmed during the first inspection.
Article 13 (1) (i) it provides for worker safety and training, including ensuring the use of personal protective equipment for operations requiring such use;			
Technical guidance note 2.3.1	Safety inspectors on site	Management / supervisors were identifiable in way of white helmets and grey overalls, the three safety officers in green helmets. They were seen well present on site.	Compliance was confirmed during the first inspection.
Technical guidance note 2.3.2	Condition of safety equipment	<p>During the first inspection, the standard and condition of safety equipment on the facility's plot was generally found to be good.</p> <p>During the second inspection, it was observed that the regime for safety equipment onboard the crane barge needs to be reviewed and actions taken. For example, a container on the crane barge deck was identified as containing lifejackets but when opened was found to contain cables and hoses.</p>	Compliance was partly confirmed during the inspections.
Technical guidance note 2.3.3, MEPC 210(63) Section 3.1.2/3.2.2	Safety induction and training, employees	Overall, the entire staff of the facility, including the HSE supervisors themselves, were deemed subject to good training and re-training programs, from induction, toolbox talks up to advanced firefighting. Migrating workers had to register with the required training certificates before start of work.	Compliance was confirmed during the first inspection.

Technical guidance note 2.3.3, MEPC 210(63) Section 3.1.2/3.2.2	Safety induction and training, subcontractors	Subcontractors, as for migrating workers, had to register with the required training certificates before start of work. All subcontractors were given safety induction and had to sign on, before commencement.	Compliance was confirmed during the first inspection.
Technical guidance note 2.3.3, MEPC 210(63) Section 3.1.2/3.2.2	Safety induction, visitors	During both inspections, the evaluators were subjected to safety induction on arrival the first day and provided with PPE for the site inspection. The PPE consisted of safety shoes, helmet, high visibility vest, safety glasses, dust mask and gloves. The evaluators had to sign in and sign out.	Compliance was confirmed during the inspections.
Technical guidance note 2.3.3, MEPC 210(63) Section 3.1.2/3.2.2	Risk Assessment	A generic risk assessment is available in the SRFP and was examined on-site during the first inspection.	Compliance was confirmed during the first inspection.
MEPC 210(63) Section 3.1.2	Hazardous waste handling training	The applicant is authorised to carry out the removal of hazardous waste as per GPCB authorization valid until 30.09.2023. ██████████, HSE Manager, is responsible for asbestos handling and removal, PCB handling, designated chemical handling hazardous solid waste, non-hazardous solid waste, hazardous liquid waste, hazardous gaseous waste, electronics and electrical waste. ██████████ and ██████████ are responsible for asbestos removal from ship along with ██████████.	Compliance was confirmed during the first inspection.
MEPC 210(63) Section 3.3.5	Ship access control	During the first inspection, workers entering the vessel had to leave a name tag in a tag-cupboard on shore, in order to register as POB. The main access to the vessel was in way of a solid inclined ladders with handrails, resting on the beach and fixed to the vessel. Emergency escape was reportedly provided from the aft ship, in way of a pilot ladder but this was not witnessed.	Compliance was confirmed during the first inspection.

MEPC 210(63) Section 3.3.4.5	Prevention of falling from heights	<p>Training in force, records of training was witnessed on site.</p> <p>The cut-away exposed deck edges of the vessels dismantled during the first inspection were seen fitted with plastic band barriers on deck-welded stanchions.</p>	Compliance was confirmed during the first inspection.
MEPC 210(63) Section 3.3.4.1.8	Safety signage on site	<p>Overall safety signage on the shoreside plot was found to be good during the first inspection.</p> <p>Safety signage on the crane barge was not found to be sufficient during the second inspection.</p>	Compliance was partly confirmed during the second inspection.
MEPC 210(63) Section 3.3.4.1.8	Safety signage on vessel	The evaluators were on board a vessel, during the first site inspection, safety signage was observed to be good.	Compliance was confirmed during the first inspection.
MEPC 210(63) Section 3.3.4.6	Lifting equipment and instructions Cranes	<p>The yard appeared to have an adequate lifting safety regime. The cranes are tested by an independent party. Certificates were sighted during the first site inspection and found to be in date. The testing is conducted every 6 months, reportedly performed over a 5-6 day period and all lifting equipment and cranes are tested at these times.</p> <p>For the new crane barge, the applicant was asked to provide maintenance logs and certification for the crane, but this request was also left unanswered.</p>	Compliance was partly confirmed during the second inspection.
MEPC 210(63) Section 3.3.4.6	Crane operators' certification	Crane operators are trained and certified. Copies of certificates were attached to the initial application.	Compliance was confirmed during the first inspection.
ILO SHG 13.7	Lifting equipment, authorization	Found adequate.	Compliance was confirmed during the first inspection.
MEPC 210(63) Section 3.1.2	Certification/training of	The cutters are trained by GMB over a period of 15 days. Only workers certified by GMB can work as cutters. Several certificates were forwarded in response to the request for clarifications during the desk assessment. Records were witnessed and confirmed during	Compliance was confirmed during the first inspection.

	cutters	the first inspection.	
MEPC 210(63) 3.4.3	Cutting procedures	<p>During the first inspection the managers of the facility indicated that they had not yet dismantled ships in accordance with the requirements of the EU Ship Recycling Regulation but were ready to do so.</p> <p>It was explained that cutting was decided day by day, each morning by the supervisors.</p> <p>No detail cutting plan was compiled for each vessel, and there were no instructions on how to prevent bouncing. The facility reported that the last cut was done by a 3-metre-long torch, "care" was taken that the block did not snap when finally released.</p> <p>The evaluators were concerned about bouncing due to the constant transverse and longitudinal warping and bending cycles of the hull from tidal cycles. At low tide, the centreline of the hull was witnessed resting on a "hill", causing the ship's sides to sag heavily (proven by photo). Such deformations can induce huge tensions in the remaining, broken steel structure, where certain elements are already yielding from the forces. In theory, a wrong cut can release huge amounts of energy. A matter of naval architecture, this concern was conveyed to the facility who reported that this never was a problem but promised to include the matter in a new SRFP. This was done in the SRFP dated 01.11.2019.</p> <p>During the second inspection, the applicant had still not cut any vessel according to the EU Regulation, and they had experienced a fatal accident while conducting secondary cutting in the intertidal zone, although the procedures in the SRFP state that blocks are either directly lifted to the secondary cutting zone or allowed to fall onto the double bottom prior to being lifted to the secondary cutting zone. This shows that the applicant has not implemented its procedures. The applicant claimed that secondary cutting in the intertidal zone would not be practised again.</p>	Compliance was partly confirmed during the second inspection.
MEPC 210(63) Section 3.3.4.3 / ILO SHG: p108ff:13.	Steel cutting machines	The cutters use manual torches with portable LPG bottles.	Compliance was confirmed during the first inspection.

ILO SHG: p67:7.2.4.4, p108ff:13.	Winches, mooring gear	The pulling winches and mooring chains were found in good condition and well anchored by chains embedded in concrete and stones. Reportedly the chains had not moved since they were embedded 25 years ago. The winch stalls were fitted with rope snap protection bars to the operator.	Compliance was confirmed during the first inspection.
MEPC 210(63) Section 3.3.4.6.	Ropes/chains/ slings	<p>During the first inspection, the yard reported not to have traceable chains. Hooks and slings were not marked.</p> <p>In response to the draft report of the first inspection the applicant indicated that they have adopted methodology of embossing of identification number on shackles and hooks while attaching embossed metal tags to ropes and slings. This explanation was included in section 3.3.4.8 of the SRFP dated 01.11.2019. The SRFP does not however instruct on how it shall be done, just that it is done.</p> <p>During the second inspection, the evaluators could not confirm that the applicant has implemented its new procedures in practice.</p>	Compliance was not confirmed during the site inspections.
MEPC 210(63) Section 3.3.4.8	Maintenance and decontamination of tools and equipment	<p>During the first inspection, it could not be confirmed that the applicant addresses this properly. The revised SRFP has more information points but lacks sufficient detail and without practical instructions.</p> <p>During the second inspection, the evaluators could not confirm that the applicant has implemented its new procedures in practice, e.g. hooks and shackles were not clearly identifiable, nor were the tags to ropes and slings embossed.</p>	Compliance was not confirmed during the site inspections.
ILO SHG 16.1.6	Eyewash	The facility had a proper and clean eye-wash station, with water supply from the potable water intermediate storage tank.	Compliance was confirmed during the first inspection.
MEPC 210(63) Section 3.3.4.8	Condition of electrical equipment	The condition of electrical equipment and wiring was found in acceptable / good condition.	Compliance was confirmed during the first inspection.

MEPC 210(63) Section 3.3.4.7	Housekeeping and illumination	During both inspections, housekeeping and illumination was found adequate / good, except for the dormitory complex, where cleaning and lighting could beneficially be improved including mould removal.	Compliance was confirmed during the inspections.
ILO SHG: p49: 7.1.7	Instructions and signage	In general, instructions and signage were seen good to very good. The facility had an information board posted outside with important, ship specific HSE requirements, responsible HSE personnel and supervisors (with photos) and other information. Evacuation, assembly stations, safety equipment and room designations were good all over.	Compliance was confirmed during the first inspection.
Technical guidance note 2.3.3, MEPC 210(63) Section 3.1.2 ILO SHG: 8.8	Fire station manning, fire-fighters	The facility trains certain employees and safety supervisors in basic firefighting only. The facility had a foam tank, portable extinguishers and pumps and hoses, relying on the Alang fire brigade in case of a bigger or escalating fire. The facility also had a good number of fire sand buckets, readily filled. The Material Safety Data Sheet of the foam was witnessed on site and declared that it did not contain PFOS.	Compliance was confirmed during the first inspection.
ILO SHG: p83: 8.8.8	Fire station equipment	The evaluators visited the Alang fire station on March 13 th , 2019 finding it in fair condition with untidy and dirty equipment storage, including hoses mixed used / unused, and locked away firefighting equipment. There was one fire truck in operation, one water truck and one smaller vehicle, while a number of fire trucks were deteriorating in the back yard, some of them designated for auction. No fireman outfits were readily stored on the trucks for rapid response, they had to be retrieved from the store and un-bagged. The accumulated dust on the bags revealed they had not been used for a while. Reportedly the firefighters may use the firefighting equipment at the yards. While the existence of a well-functioning fire brigade is not a requirement in the ILO, IMO or in the Commission's technical guidelines, the evaluators noted that the fire brigade did not seem to be fully equipped to deal with a major fire accident in the Alang-Sosiya ship	N/A

		breaking area.	
MEPC 210(63) Section 3.3.6, ILO SHG: 8.8.11	Fire alarm system on shore	The facility fire & emergency alarm is the same alarm as they use for teatime and lunch break, the latter only lasting for 5 seconds. The alarm does not notify the Alang fire brigade.	Compliance was confirmed during the first inspection.
ILO SHG: 8.8.11	Fire alarm system on vessel	There were reportedly no fire alarms on the vessel under dismantling during the first inspection, however the alarm system onshore appeared to be loud.	Compliance was confirmed during the first inspection.
Technical guidance note 2.3.3, MEPC 210(63) Section 3.3.6, ILO SHG: 8.8	Fire prevention measures general	Fire prevention measures are laid down in the SRFP and EPRP. The primary prevention measure is the safe for hot work procedure, managed by the HSE Manager. General training on fire prevention and mitigation for workers were in place. The facility has a smoking ban.	Compliance was confirmed during the first inspection.
MEPC 210(63) Section 3.3.6, ILO SHG 13.4.5	Combustible materials and hot-work	The facility has, in its SRFP, an instruction in the dismantling process, that all combustible materials are stripped from the vessel before steel cutting.	Compliance was confirmed during the first inspection.
MEPC 210(63) Section 3.3.4.4, ILO SHG 8.8.1, 13.5.2.	Condition of AC/OX lines	The facility does not have a central LPG tank, but uses portable bottles. The liquid oxygen is however centralized. The tank was found to be in good condition. AC/OX hoses, connections and gas manifolds were found in adequate / good condition. Watchmen were seen posted by the manifolds, on the cart of portable gas bottles. The gas bottle store was observed and found tidy and in good condition.	Compliance was confirmed during the first inspection.
MEPC 210(63) Section 3.3.4.4	Transporting/storing flammable gases	The bottles were transported on site on carts of acceptable quality.	Compliance was confirmed during the first inspection.
MEPC 210(63): p21: 3.3.5, p23: 3.3.6	Fire hydrants	Hydrants and hoses were observed on site and found in good working condition. Lockers were provided for the hoses.	Compliance was confirmed during the

			first inspection.
ILO SHG: p83: 8.8.10	Fire extinguishers	Extinguishers were seen all over, and spot checked for expiry date. All were found in order.	Compliance was confirmed during the first inspection.
MEPC 210(63): p22: 3.3.6, ILO SHG: p82: 8.8.3	Smoking areas	The facility has a smoking ban, valid for the entire property.	Compliance was confirmed during the first inspection.
	Access control to facility	The facility has an in-house security team, responsible for 24/7 site security and security procedures. The security office was observed, being the location of signing in and out, with visitor and employee ID cards. The facility was covered by CCTV.	N/A
ILO SHG 8.4.2	Entrances / gates, fencing	Employee and visitor access cards are issued by the security office. Workers enter and leave both the main facility and the back yard through a guarded, heavy main gate, covered by CCTV.	Compliance was confirmed during the first inspection.
Technical guidance note 2.3.3, 2.1.4, 2.3.1, MEPC 210(63) Section 3.1.2, 3.1.4, 3.3.4.3, 3.3.6, 3.4.4 / BC TG: p3: figure 1, p84: 6.1, 6.2,	Training	During the first inspection, the evaluators recommended the facility to tidy up and organize the SRFP training instructions, so that they reflect the facility's actual training plans and records, which by the site inspection proved to be quite good. The SRFP available during the first inspection was not dated, hence it was unclear whether and when it had been revised. In response to the draft report of the first inspection, the applicant revised its SRFP. The revised SRFP dated 15.11.2018 included an updated training program, which was found adequate.	Compliance was confirmed after the first inspection.
Technical guidance note 2.3.2, MEPC 210(63) Section 3.3.4.10	PPE	The use of PPE was observed to be well implemented at all times during the first site inspection. The workers had readily available PPE, at no cost. The workers advised that they had no problems or restrictions in acquiring new PPE when needed, including breathing mask filters which they normally changed when they felt it starting heavier to	Compliance was partly confirmed during the second inspection.



		<p>breath, normally every second week.</p> <p>The supervisors had the routine of checking worker PPE during the morning toolbox talk.</p> <p>The PPE storage / outlet was witnessed and found to be in acceptable condition.</p> <p>The evaluators questioned why the helpers and sweepers working close to the cutters were not equipped with similar masks as the cutters. How the applicant has determined if there is an element of risk to the helpers/sweepers was unclear.</p> <p>In response to the draft report of the first inspection, the applicant clarified that Helpers & Sweepers working in close proximity of the cutters have been provided with filter masks and been briefed to use them.</p> <p>The latest SRFP dated 01.11.2019 describes the use of PPE on page 114, updated according to the evaluators previous comments. During the second site inspection, it was observed that the applicant has implemented its new procedures. The PPE storeroom was witnessed and found well-stocked.</p> <p>However, expiry dates in helmets could not be witnessed on-site. When asked on replacement of helmets, the applicant explained that they did not have a system to follow up on helmets.</p> <p>Helmet life span may vary depending on the conditions of each work site. As a general guideline, most helmet manufacturers recommend replacing hard hats every five years regardless of outside appearance. Exposure to high temperatures, sunlight etc. may reduce the life expectancy to two years from production date. The evaluators suggested that the applicant develops and implement a system to keep track on helmets in cooperation with their manufacturer/supplier of helmets.</p>	
<p>Article 13 (1) (j): it establishes records on incidents, accidents, occupational diseases and chronic effects and, if requested by its competent authorities, reports any incidents, accidents, occupational diseases or chronic effects causing, or with the potential for causing, risks to workers' safety, human health and the environment;</p>			
<p>Technical guidance note 2.3.4, MEPC</p>	<p>Medical</p>	<p>At the time of the first inspection the applicant used to have a medical monitoring program in place using the prescribed Form 32 and 33. However, the facility lacked an overall health</p>	<p>Compliance was confirmed during the</p>

210(63) Section 3.3.4.11 and Appendix IV, ILO conventions	monitoring	<p>monitoring plan or matrix, with oversight over what tests to be taken for what positions, and at what frequency.</p> <p>The applicant had initiated additional health monitoring of workers upfront of the second inspection. The updated program is described on page 74-79 and 116 of the SRFP dated 01.11.2019. The following medical check-ups are provided dependent on work performed: Chest X-ray (PA – Postero Anterior), Chest X-ray (AP – Antero Posterior), Hematology / Complete Blood Count, Liver / Kidney test through blood reports, Eye Sight / Vision Test, Hearing Test, Blood Pressure, Pulse, Weight, Blood Group, Blood Glucose (Diabetic / Non Diabetic), Normal lungs test through Stethoscope, Any skin infection, Any injury on body and Tests for heavy metal in body.</p> <p>During the second inspection, several medical records were witnessed on-site. All records included the medical check-ups described above.</p> <p>The new monitoring program for workers health is a good improvement, however it is in its initial phase.</p>	second inspection.
	Incident monitoring and reporting	<p>During the first inspection a regime of reporting and recording incidents and accidents were claimed to be implemented, however the facility reported that they hardly had incidents to report and that the suggestion box was not used.</p> <p>During the second inspection, suggestion boxes were observed in several locations, including in the workers dormitory complex. The revised SRFP, page 318, mentions the suggestions box under 'Complaints and Suggestions for Improvement Policy'. The suggestions boxes are now "open" at all times.</p> <p>The SRFP (dated 01.11.2019) includes a procedure for incident reporting on page 200. The evaluators could not confirm that the procedure was fully implemented on-site. Secondly, the procedure is difficult to understand. As an example, the SRFP states: '<i>Major incidents which have an effect on the wider environment and/or safety of public community are reported to the appropriate official institution</i>'. However, the procedure does not provide a definition on a major incident, nor does it provide details on the appropriate official</p>	Compliance was partly confirmed during the second inspection.

	<p>institutions.</p> <p>The applicant was requested to revise its instructions in order to be clear, concise and provide guidance to the persons executing the work. Additionally, more details should be provided for the steps; e.g. what is to be done, who will do it and by when does it need to be done.</p> <p>Incident form in the suggestions box is one channel for receiving incident reports. Another channel is observations made in the field. The applicant was asked to provide the number of suggestions they have received in 2019 and a few examples and to provide evidence (e.g. observations made in the field) that an incident monitoring and reporting recording regime has been implemented. However, no additional information was received after the second inspection.</p>	
Statistics	<p>During the first inspection, no accident statistics were provided. The yard claimed not to have had an LTI since 2006, only minor injuries hence nothing to report.</p> <p>The applicant experienced a fatal accident in July 2019, in the intertidal zone.</p> <p>Time did not allow going into the statistics during the second site inspection. The applicant was requested to forward statistics for 2019 but this was not received after the inspection.</p>	Compliance was not confirmed during the second inspection.
Near-miss reporting	<p>No true near miss reporting has been implemented by the applicant.</p> <p>The applicant advised during the second inspection that they were working on improvements in connection with near-miss reporting.</p>	Compliance was not confirmed during the site inspections.
Non-conformance procedures	<p>During the first inspection, it was described that non-conformances were mitigated there and then, by morning toolbox talks or action by supervisors or managers. A proper, live non-conformance and mitigation process was however not implemented.</p> <p>The revised SRFP (dated 01.11.2019) does not include a non-conformance procedure, but it includes a section on incident reporting. Please refer to the row on Incident monitoring and reporting.</p>	Compliance was partly confirmed during the second inspection.

	HSE Incentives	The applicant provides additional insurance, in addition to the ESIC.	Compliance was confirmed during the site inspection.
	Corporate social responsibility	The facility does not have an actual CSR statement or policy in place but was expressively opposed to child labour stating there was no such thing in the region. This view was supported by the Alang Sosiya Ship Recycling and General Worker's Association.	N/A
Article 13 (2) (a): the operator of a ship recycling facility shall send the ship recycling plan, once approved in accordance with Article 7(3), to the ship owner and the administration or a recognised organisation authorised by it;			
MEPC 210(63) Section 3.2.4, 3.4.2.1	Ship recycling plan	A SRP was witnessed on site during the first inspection. The SRP is reportedly forwarded to GMB. The SRP is prepared by the HSE Manager, in cooperation with the Plot / General Manager.	Compliance was confirmed during the first inspection.
Article 13 (2) (b): report to the administration that the ship recycling facility is ready in every respect to start the recycling of the ship;			
MEPC 3.2.3- 3.2.6	Ready for recycling certificate	As part of the application file, the facility submitted the specific statement concerning the recycling of EU Member States flag ships (part 5 of the application). According to the signed statement, the facility will prior to any recycling of the ship: — send the ship recycling plan, approved by the competent authority according to the procedure applicable, to the ship owner and the administration or a recognised organisation authorised by it; — report to the administration that the ship recycling facility is ready in every respect to start the recycling of the ship The evaluators are of the impression that the facility can adapt to these new legal regimes.	The evaluators are of the impression that the organisation can adapt to these new legal regimes.
Article 13 (2) (c): when the total or partial recycling of a ship is completed in accordance with this Regulation, within 14 days of the date of the total or partial recycling in accordance with the ship recycling plan, send a statement of completion to the administration which issued the ready for recycling certificate for the ship. The statement of completion shall include a report on incidents and accidents damaging human health and/or the environment, if any.			
MEPC 210(63) Section 3.2.7	Statement of	A proper completion report was not available during the first inspection. The evaluators	Compliance was partly

	completion	<p>could only witness a certificate of completion.</p> <p>The SRFP dated 01.11.2019 section 3.2.7 "Reporting upon completion" instructs that the "Statement of Completion shall be issued by the Ship Recycling Facility and reported to its Competent Authority (ies). This report must be compiled as per format specified in appendix 7 of the Hong Kong Convention."</p> <p>The applicant was requested to forward a completion statement for the two last vessels (E.g. the completion statements required by GMB) but this request was left unanswered.</p>	confirmed during the site inspections.
<p>Article 15(2) (a): identify the permit, license or authorisation granted by its competent authorities to conduct the ship recycling and, where relevant, the permit, license or authorisation granted by the competent authorities to all its contractors and sub-contractors directly involved in the process of ship recycling and specify all information referred to in Article 16(2);</p>			
<p>Technical guidance note 2.2.1, MEPC 210(63) Section 3.2.2</p>	Authorisation	<p>The SRF holds the necessary authorisations to conduct ship recycling by Gujarat Maritime Board (GMB) and Gujarat Pollution Control Board (GPCB).</p> <p>A license from GMB to utilise the plot is provided in the SRFP. The permit is valid until 18.01.2026. The license from GPCB is valid until 30.09.2023.</p>	Compliance was confirmed during the first inspection.
<p>MEPC 210(63) p8: 3.1.2, p10: 3.2.2 / BC TG: p38: 3.4.3</p>	Sub-contractors	<p>According to the latest SRFP the applicant has the following sub-contractors:</p>	Compliance was confirmed during the second inspection.

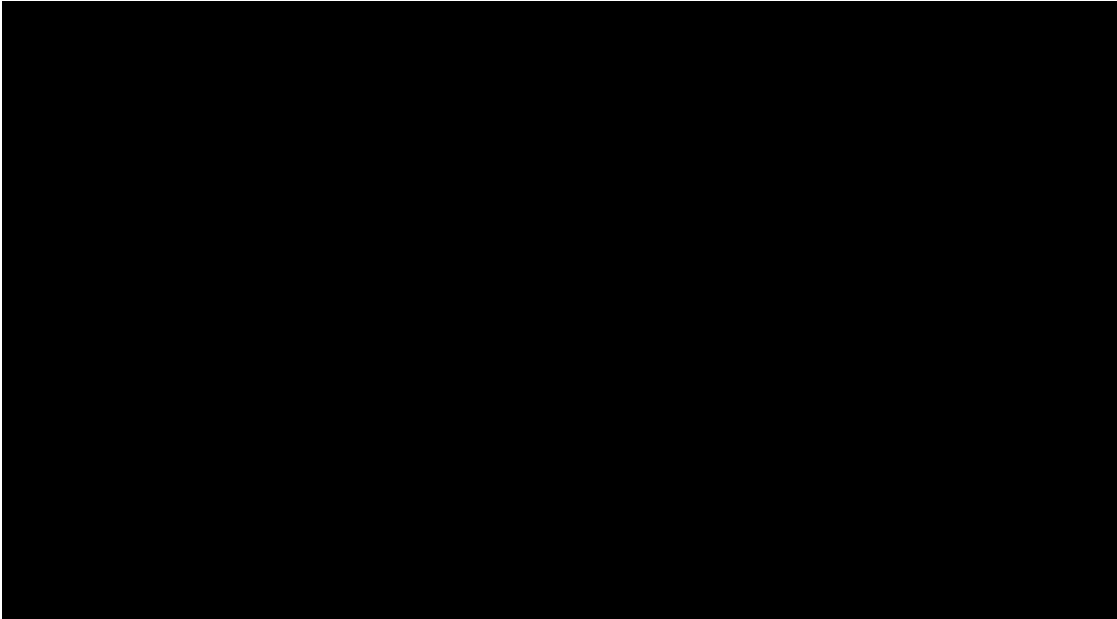
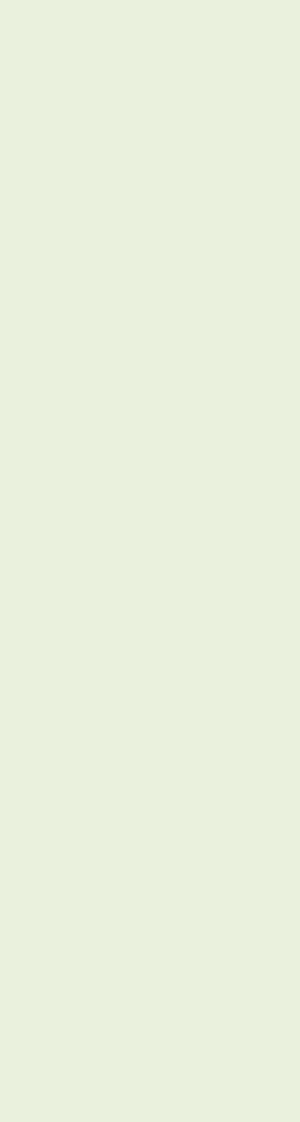
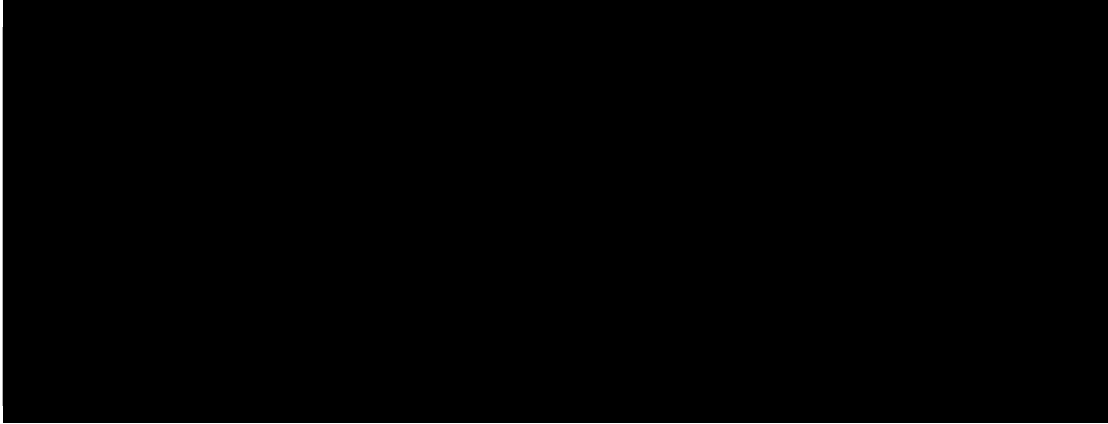


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<p>The applicant was asked to confirm if the above list is correct or there has been any</p>			

		changes, however no answer to this request was received.	
Article 15 (2) (b): indicate whether the ship recycling plan will be approved by the competent authority through a tacit or explicit procedure, specifying the review period relating to tacit approval, in accordance with national requirements, where applicable;			
MEPC.196(62) Section 5	Explicit or tacit procedure	<p>Today the SRP is reportedly approved by explicit approval by GMB. This is specified in the Ship Recycling Code, 2013 under chapter 5.3.</p> <p>The evaluators were of the impression that the organisation could adapt to any new legal regimes with regards to approval of the SRP.</p>	The evaluators are of the impression that the organisation can adapt to these new legal regimes.
Article 16 (2) (a): the method of recycling; (b) the type and size of ships that can be recycled; (c) any limitation and conditions under which the ship recycling facility operates, including as regards hazardous waste management; (d) details on the explicit or tacit procedure, as referred to in Article 7(3), for the approval of the ship recycling plan by the competent authority; (e) the maximum annual ship recycling output.			
	Method of recycling	The operation is by beaching/intertidal landing.	Compliance was confirmed during the first inspection.
	Type and size of ships that can be recycled	<p>The facility can dismantle all ship types with the following ship dimensions:</p> <p>Length: no limit Width: 120 meters Draught: no limit</p>	Compliance was confirmed during the first inspection.
	Any limitation and conditions	<p>The limitations and conditions under which the facility operates are included in the relevant permits issued by the competent national authorities.</p> <p>The evaluators' understanding is that the applicant also accepts rigs. A detailed instruction on rig dismantling is required in the SRFP.</p>	Compliance was partly confirmed during the site inspections.
	Maximum annual ship recycling output	The maximum annual recycling output was reached in 2009, with 127,913 LDT. The maximum annual ship recycling output was supported with beaching permissions from GMB.	Compliance was confirmed during the first inspection.

Article 15 (2) (c): confirm that it will only accept a ship flying the flag of a Member State for recycling in accordance with this Regulation;			
	Confirmation	A formal Confirmation Statement concerning the recycling of EU Member State flag ships was provided and is in accordance with the template (part 5) of Commission Implementing Decision (EU) 2015/2398.	Compliance confirmed during the desk assessment.
Article 15 (2) (d): provide evidence that the ship recycling facility is capable of establishing, maintaining and monitoring of the safe-for-hot work and safe-for-entry criteria throughout the ship recycling process;			
HKC: p14: R1(7), MEPC 210(63) Section 3.3.4.2 / ILO SHG: p110:13.4	Safe- for- hot work certificate, warning signs and labels	During the first inspection the safe for hot-work procedure including competent persons, testing, marking and recording was seen to be in use and in good order.	Compliance was confirmed during the first inspection.
HKC: p26: R19(2), BC TG: p47: 4.2.1	Confined spaces	During the first inspection the safe for entry procedure including competent persons, testing, marking, permits and recording was seen to be fulfilling and in good order.	
Article 15 (2) (e): attach a map of the boundary of the ship recycling facility and the location of ship recycling operations within it;			
HKC: p43: 1.5, MEPC 210(63) Section 3.2.1	Map of facility	The facility has provided a sufficient map.	Compliance was confirmed during the first inspection.
Article 15 (2) (f) for each hazardous material referred to in Annex I and additional hazardous material which might be part of the structure of a ship, specify:			
(i) whether the ship recycling facility is authorised to carry out the removal of the hazardous material. Where it is so authorised, the relevant personnel authorised to carry out the removal shall be identified and evidence of their competence shall be provided;			
MEPC 210(63) Section 3.1.3, 3.1.4	Workers' certificates/ licences	Spot checks during the site inspections confirmed compliance for the persons involved (e.g. HSE manager).	Compliance was confirmed during the site inspections.
(ii) which waste management process will be applied within or outside the ship recycling facility such as incineration, landfilling or another waste treatment method, the name and address of the waste treatment facility if different from that of the ship recycling facility, and provide evidence that the applied process will be carried out without endangering human health and in an environmentally sound manner;			
MEPC.210(63), Section 3.1.1	Regulatory	The main requirements applying for shipbreaking activities under Indian law are currently	Compliance was not

	requirements environment	<p>set out in the Shipbreaking Code 2013.</p> <p>The applicant reportedly follows the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships.</p> <p>In addition, the license issued to the applicant by the GPCB contains specific environmental requirements stemming from relevant international Conventions implemented by India (e.g. the Stockholm Convention and the Basel Convention).</p> <p>However, during the inspections, it was observed that the practices followed by the facility for handling of waste and reselling of equipment possibly containing hazardous materials were not in line with the requirements of these Conventions.</p> <p>Additional information is provided in the sections below dealing with various hazardous or polluting substances.</p>	confirmed during the site inspections.
Technical guidance note 2.1.4, MEPC210(63) Section 3.4.1, Appendix 1, BC TG Executive summary (p1), 4.3, 2.1, 2.5, 3.2, 3.4.2, 3.4.4, 4.1, 4.2.2, 4.2.5, 6.2, 7.1, 7.3,	Environmental management	The HSE manager has the overall responsibility.	Compliance was confirmed during the site inspections.
Technical guidance note 2.2.5, MEPC210(63) Section 3.4.2, BC TG: p45: 4.2, ILO SHG: p4: 2.3.2	Management of hazardous waste	<p>Management of hazardous waste described in the IHM appeared to be carried out adequately.</p> <p>However, as previously mentioned, the quality of the IHMs the evaluators have reviewed varies. Some IHM relies only on documents and no samples, some IHM relies on samples but only for substances listed in Annex I, while other IHM's include samples for both Annex I and II. This means that the ship recycling facility must have additional measures to identify hazardous materials other than those possibly listed in the IHM. This was not in</p>	Compliance was not confirmed during the site inspections.

		<p>place during the first inspection.</p> <p>During the second inspection, the applicant admitted that they had not initiated new measures in this respect.</p>	
<p>Technical guidance note 2.2.3, MEPC210(63) Section 3.4.3.1, ILO SHG p90: 9.2.3</p>	<p>Management of asbestos</p>	<p>The yard has an adequate procedure in the SRFP. Spot-checks on-site confirmed compliance.</p> <p>Asbestos and asbestos containing material (ACM) are delivered to GEPIL.</p>	<p>Compliance was confirmed during the first inspection.</p>
<p>MEPC210(63) Section 3.4.3.2</p>	<p>Management of PCBs</p>	<p>The applicant has reportedly never found or removed PCB. The SRFP includes a procedure for PCB which seems adequate, but the applicant was requested to describe in its procedure at what occasions it will be necessary to take additional samples for PCB.</p> <p>Furthermore, it is unclear where PCB would be sent for disposal as several options are provided in the SRFP: disposal to authorised recycler (page 36), sale/disposal to authorized recycler/sale to authorized re-user/store in secure area (page 41), exported to SAVA Germany (page 52), disposal to authorized recyclers (page 150). The applicant was asked to clarify this, but no further information was provided after the second inspection.</p>	<p>Compliance was partly confirmed during the site inspections.</p>
<p>MEPC210(63) Section 3.4.3.3</p>	<p>Management of Ozone-depleting substances (ODS)</p>	<p>During the first site inspection, the applicant described that a subcontractor removes all the gases on board. It was unclear who this subcontractor was. ODS is reportedly sent to Customs.</p> <p>Halon is reportedly not permitted on board vessels destined for recycling in Alang, but the yard admitted that this sometimes was the case. Reportedly, halon is then sent to Customs. This is different from other local applications who reportedly exports it to UK or USA.</p> <p>If the insulation in the cooling chamber contain ODS, it is reportedly sent to GEPIL. If the insulation in the cooling chambers it is not in the IHM, the applicant reportedly takes a sample. If it contains ODS it is sent to GEPIL for incineration.</p>	<p>Compliance was partly confirmed during the second inspection.</p>

		<p>The procedure on page 172 of the SRF dated 01.11.2019 provides limited instructions and details to workers on how to remove gaseous ODS or ODS in foam, only that it will be removed. The procedure in the SRF does not mention a sub-contractor, although this can be interpreted from the list of sub-contractors. During the second inspection, the evaluators could not confirm that the procedure is implemented in full. The applicant has not initiated additional sampling since the first inspection.</p> <p>The applicant was requested to describe in its procedure at what occasions it will be necessary to take additional samples for ODS. The applicant was also requested to make step by step instructions to workers executing the removal process.</p> <p>The evaluators' understanding is that ODS in foam will be removed by yard workers while gaseous ODS will be extracted by sub-contractors. The applicant was asked to confirm this, but no further information was received after the second inspection.</p> <p>Furthermore, the evaluators' understanding is that the applicant has never removed ODS in foam. The applicant was asked to confirm if this is correctly understood or, if not, to provide supporting evidence (e.g. waste manifest). However, no further information was received after the second inspection.</p>	
MEPC210(63) Section 3.4.3.4	Management of paints and coating including anti-fouling with organotin TBT	<p>Reportedly, the applicant does not remove paint. If described in the IHM, paint may be removed from the cutting line.</p> <p>Ships with TBT are reportedly refused by the applicant.</p> <p>Paint and coating is reportedly incinerated at GEPIL.</p>	Compliance was confirmed during the first inspection.
MEPC210(63) Section 3.4.3.5	Procedures for operationally generated wastes	<p>Reportedly, all operationally generated waste is collected and sent to GEPIL. This includes drainage water on-site, bilge, sludge, contaminated sand, incinerator ash and glass wool.</p> <p>Bottles with CO₂ are reportedly not permitted onboard vessels destined for recycling in Alang. Reportedly, these bottles are emptied by crew before arrival in India. The evaluators witnessed a master declaration that CO₂ had been released to air upon arrival.</p> <p>Sediments in ballast water tanks are reportedly sent to GEPIL. Waste manifest were</p>	Compliance was confirmed during the site inspections.

		witnessed on-site during the second inspection.	
	Perfluorooctane sulfonic acid (PFOS)	<p>The applicant has reportedly never found or removed PFOS. The SRFP dated 01.11.2019 includes a brief procedure for PFOS. During the second inspection it was established that the applicant had not implemented its procedure and compliance could not be confirmed.</p> <p>The applicant was requested to describe in its procedure at what occasions it will be necessary to take additional samples for PFOS. The applicant was also requested to make step by step instructions to workers executing the removal process.</p> <p>Furthermore, it is unclear where PFOS would be sent for disposal as several options are provided in the SRFP: disposal to authorised recycler (page 37), sale/disposal to authorized recycler/sale to authorized re-user/store in secure area (page 41), exported to SAVA Germany (page 52), disposal to authorized recyclers (page 151). The applicant was asked to clarify this, but no further information was received after the second inspection.</p>	Compliance was not confirmed during the site inspections.
MEPC210(63) Section 3.4.3.6	Heavy metals (lead, mercury, cadmium and hexavalent chromium)	<p>The revised SRFP dated 01.11.2019 addresses heavy metals briefly on page 183 with an operational control plan presented on page 184. The operational control plan does not include any specific measures for heavy metals, it is generally a copy/paste from other operational control plans (e.g. page 180).</p> <p>It is unclear from the procedure what type of equipment will be sent for recycling by approved recycler, what material will be sent for disposal and if some equipment will be sold. The applicant was asked to describe how they manage this, but no further information was received after the second inspection.</p> <p>The procedures in the SRFP provide limited instructions and details to workers on how to remove heavy metals, only that it will be removed. The applicant was requested to make step by step instructions to workers executing the removal process.</p>	Compliance was not confirmed during the site inspections.
MEPC210(63) Section 3.4.3.7	Other hazardous materials in Annex II	The applicant has reportedly never found or removed PBB, PBDE, HBCDD, PCN and SCCP. During the first inspection the applicant said that if found, it would be sent to SAVA in Germany.	Compliance was not confirmed during the site inspections.

		<p>The SRFP dated 01.11.2019 includes brief procedures for PBB, PBDE, HBCDD, PCN and SCCP. During the second inspection it was established that the applicant had not implemented its procedure and compliance could not be confirmed.</p> <p>The applicant was requested to describe in its procedure at what occasions it will be necessary to take additional samples for PBB, PBDE, HBCDD, PCN and SCCP. The applicant was also requested to make step by step instructions to workers executing the removal process.</p> <p>Furthermore, it is unclear where PBB, PBDE, HBCDD, PCN and SCCP would be sent for disposal as several options are provided in the SRFP: disposal to authorised recycler (page 37), sale/disposal to authorized recycler/sale to authorized re-user/store in secure area (page 41), exported to SAVA Germany (page 52), disposal to authorized recyclers (page 151). The applicant was asked to clarify this, but no further information was received after the second inspection.</p>	
MEPC210(63) Section 3.4.2.2	Additional sampling and analysis	<p>As noted previously, the applicant relies primarily only on the IHM.</p> <p>During the second inspection, it was established that the applicant had not taken any additional samples since the first inspection.</p> <p>Additional sampling is a necessity to ensure that equipment and materials are free from hazardous substances. This is important as equipment and materials are sold to third parties.</p> <p>The applicant was asked to develop and implement a systematic risk-based sampling methodology to detect hazardous materials. It must be ensured that the laboratory that analyses the samples is accredited for the relevant parameters and with suitable detection levels.</p>	Compliance was not confirmed during the site inspections.
MEPC210(63) Section 3.4.2.3	Identification, marking and labelling	<p>The applicant ensures identification, marking and labelling per the IHM.</p>	Compliance was confirmed during the first inspection.

<p>Technical guidance note 2.2.5 (a), MEPC210(63) Section 3.4.2</p>	<p>Transport of waste</p>	<p>Transportation of hazardous waste to GEPIL is by licensed trucks from GEPIL. The vehicles from GEPIL are equipped with GPS and designed per the Transportation guideline of the GPCB: https://www.gpcb.gov.in/payroll/GUIDELINES_4_PA_OF_RULE_9_HAZ_OTH_WASTE_2016.PDF</p> <p>A manifest system is used as per the GPCB guideline.</p> <p>It remains unclear to the evaluators how waste going to other facilities than GEPIL is transported. The applicant was requested to provide information on transportation of other types of wastes (e.g. how firefighting foam containing PFOS would be transported and what regulations apply for transport of such waste).</p> <p>The improvements made can be evaluated during a future site inspection.</p>	<p>Compliance was partly confirmed during the site inspections.</p>
<p>Technical guidance note 2.2.5 (c)</p>	<p>Applied process</p>	<p>Please refer to Article 15 (5) below.</p>	
<p>Article 15 (2) (g) confirm that the company adopted a ship recycling facility plan, taking into account the relevant IMO guidelines;</p>			
		<p>Please refer to Article 13 (1) (e) above in this table.</p>	
<p>Article (2) (h): provide the information necessary to identify the ship recycling facility.</p>			
		<p>Please refer to Article 13 (1) (a) above in this table.</p>	
<p>Article 15 (5): For the purposes of Article 13, with regard to the waste recovery or disposal operation concerned, environmentally sound management may only be assumed to be in place provided the ship recycling company can demonstrate that the waste management facility which receives the waste will be operated in accordance with human health and environmental protection standards that are broadly equivalent to relevant international and Union standards.</p>			
<p>Technical guidance note 2.2.5 (c)</p>	<p>Waste management facilities</p>	<p>Ensuring sustainable downstream management of wastes generated by the ship dismantling activities is an important requirement under the EU Ship Recycling Regulation.</p> <p>Section 2.2.5 in the EU technical guidance note provide specific information on the requirements for non-EU facilities <u>to demonstrate</u> that the waste management facilities</p>	<p>Compliance was partly confirmed during the site inspections.</p>

follow standards broadly equivalent to international and EU standards. The requirements/standards applied in the waste management facilities must ensure a similar level of protection of human health and the environment as in international/EU standards. The various international and EU standards are listed under section 2.2.5.

According to the last revision of the SRFP dated 01.11.2019, the applicant uses the following downstream waste management facilities with the following applied waste management processes:

Name of facility	Waste types transferred from applicant	Applied waste management process	Relevant permit
GEPIL	Asbestos and asbestos containing materials	Landfill	GPCB / 09.03.2021
	Glass wool		
	Cementing material		
	Ceramic		
	Rusted iron scale		
	Contaminated sand		
	Chemical sludge from waste treatment		
	Foam insulation – 'Thermocol'	Incinerated	
	Rubber		
	PVC/plastics		
	Oily rags		
	Oily sludge		
	Bilge water	Effluent treatment plant (ETP)	
Waste water			
Cherry Waste Management	Radioactive materials containing items (e.g. smoke detectors)	Removal of radioactive source	AERB/ 20.08.2021
Customs	Gaseous ODS	Unknown	Unknown
Fine Refineries	Oily products	Re-refining of oil products	GPCB / 30.09.2021
Bharat Metal Oxides	Batteries	Recycling into new lead products	GPCB/ 23.07.2023
M/S Ecoli waste management	E-waste and Mercury containing equipment	E-waste recycling	GPCB / 13.10.2021
Sanyia Traders	Cables	Recycling of cables	GPCB/



			30.09.2023
REMONDIS SAVA GMBH, Germany	Persistent Organic Pollutants	Incineration	Federal Ordinance on Specialised Waste Management Companies, the EfbV. / 18.03.2020

Below follows a more detailed description of the various downstream waste management companies based on the information received from the applicant and other sources.

GEPIL

Several types of waste generated by the ship dismantling activities of the yard are transferred to the Treatment Storage and Disposal Facility (TSDf) in Alang. This facility was developed by the GMB and is operated by the Gujarat Enviro Protection Infrastructure Limited (GEPIL). The facility consists of a landfill site, an incinerator and an effluent treatment plant (ETP). The evaluators visited the GEPIL in September 2018 and also in January 2020.

GEPIL’s permit and its operation was checked against the requirements of the EU Landfill Directive and the EU Industrial Emissions Directive. Details are provided in the following sections.

a. Landfill

The permit specifies requirements and includes references to Indian guidelines/manuals. The permit was checked against Article 9 of the EU Landfill Directive.

The landfill has five cells where two are currently in operation:

1. Cell 1 - asbestos containing waste and glass wool – closed
2. Cell 2 - Solid and chemical waste cell – closed



		<ol style="list-style-type: none">3. Cell 3 - Municipal solid waste - in operation4. Cell 4.1 - Hazardous waste cell – in operation5. Cell 4.2 - Municipal solid waste- not in operation <p>The permit includes a list of waste that can be landfilled and their quantities. It is understood that GEPIL does not receive any wastes which are non-acceptable according to the EU Landfill Directive.</p> <p>From the documentation provided by GEPIL on-site during the evaluators’ visit in September 2018, it appears that the landfill is constructed in a way to protect soil and water. The landfill has a geological barrier, leachate collection and sealing system. There is a leachate control well for each landfill cell. Specific requirements apply for capping the landfill with compacted soil, HPDE geomembrane, drainage layer, soil and vegetative layer.</p> <p>It is understood that waste disposed of at the landfill is pre-treated, except for asbestos. Asbestos and ACM are immediately covered in concrete in cell 4.1 which is a hazardous waste cell. Asbestos arriving at site shall be wrapped in two layers of plastic.</p> <p>The permit includes requirements for noise. The permit requires (point 5.9) that after closure of a cell, vents shall be installed and regular monitoring of the emission of the vent shall be carried out.</p> <p>The permit requires regular monitoring of ground water and ambient air quality. However, it does not specifically define within which intervals this regular monitoring is carried out. Some monitoring reports were witnessed on-site during the evaluators’ visit in September 2018. The evaluators understand that contracted third parties conduct monitoring and GCPB conducts regular and unannounced monitoring of GEPIL.</p> <p>Based on all the information currently available to the evaluators, it appears that the operation of the landfill likely follow standards broadly equivalent to international and EU standards.</p> <p>The operational landfill Cell 4.1 (Hazardous waste) is close to reaching its full capacity. It is</p>	
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		<p>expected to be full by 2022. It is understood that a new land next to the current GEPIL site has been purchased recently for the purpose of constructing additional landfill capacity. It is expected that the construction of the new landfill will take around 1.5 years.</p> <p>b. Incinerator</p> <p>The incinerator at GEPIL is designed and developed in association with the KETEK Group from Canada. The permit was checked against the EU Industrial Emissions Directive (IED). The permit includes the waste types and quantities that can be incinerated. The incinerator has a capacity of 5 MT/day and designed to handle solid, semi solid and liquid hazardous wastes. GEPIL and GPCB confirmed that the incinerator is not designed for PCB, brominated flame retardants and other POP waste above the threshold level for hazardous waste.</p> <p>The incinerator at GEPIL has two combustion chambers, primary (approximately 1000°C) and secondary (approximately 1200°C). The incinerator at GEPIL is equipped with a venturi scrubber, packed scrubber and HEPA filter.</p> <p>The permit requires that there shall be no odour nuisance and odour mitigation/control measures shall be taken (point 4.5).</p> <p>The permit does not include the maximum permissible period of any technically unavoidable stoppages, disturbances, or failures of the purification devices or the measurement devices, during which the emissions into the air and the discharges of wastewater may exceed the prescribed emission limit values.</p> <p>Waste gases from waste incineration plants is discharged by means of a stack height of 32.5 m.</p> <p>The permit does not include emission limit values for discharges of wastewater from the cleaning of wastewater as specified in Part 5 of Annex VI of the IED. This should however not be required as the wastewater resulting from the cleaning of waste gases is collected in wastewater tank 1 and 2 and reused in the process, in a closed loop system.</p> <p>Requirements for monitoring of emissions are provided in Article 48 of the IED and it is</p>	
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	<p>required that emissions is carried out in accordance with Parts 6 and 7 of Annex VI. Monitoring shall be carried out in accordance with CEN standards or, if CEN standards are not available, ISO, national or other international standards which ensure the provision of data of an equivalent scientific quality. The permit from GPCB does not refer to specific standards, but the third-party monitoring reports refer to Indian standards.</p> <p>Online flue gas analyser is attached for flue gas monitoring (measuring NO_x, SO_x, HCl, HF, CO, CO₂, SPM etc.), observed on site by the evaluators in September 2018. This continuous emission monitoring system is connected to GPCB for real-time monitoring.</p> <p>The evaluators understand that contracted third parties conduct air quality monitoring on a regular basis and GPCB conducts regular and unannounced monitoring. Under Part 6 in Annex VI of the IED it is stated that for periodic measurements at least three measurement values shall be obtained during each measurement exercise. The evaluators cannot confirm that 3 measurements values are obtained each time.</p> <p>During the September 2018 visit to GEPIL, the evaluators witnessed third party test results on site. Contracted third parties were e.g. a university and the accredited laboratory Pollucon. According to the scope accreditation from NABL, Pollucon is accredited to measure the relevant parameters. The air emission limit values for waste incineration plants in part 3 of Annex VI of the IED were compared with the threshold values for GEPIL in the license from GPCB and found broadly equivalent.</p> <p>The monitoring records seen by the evaluators on site had sometimes found PM₁₀ in concentration above threshold limit for shorter periods. Heavy metals had not been measured above threshold level. GEPIL has in addition monitored PCB, brominated flame retardants and other POPs. Indications of these substances were not found during the monitoring period. The evaluators witnessed several monitoring reports from 2019 during a meeting with GEPIL in January 2020. All parameters were within the limits.</p> <p>Based on all the information currently available to the evaluators, it appears that the operation of the incinerator likely follow standards broadly equivalent to international and EU standards.</p>	
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The Japan International Cooperation Agency (JICA) has provided Official Development Assistance Loans for upgradation of environmental management for ship recycling in Alang and Sosiya. Part of the project is to further develop GEPIL. During the meeting with GEPIL in January 2020 it was explained that they would like to upgrade the incinerator to a Rotary kiln in 2-3 years. This would assist GEPIL in expanding their disposal methods to include amongst other ODS and PBB and PBDE in solid material.

c. Effluent treatment plant

GEPIL has an effluent treatment plant to treat wastewater from the recycling yards and leachate water from the landfill. The treatment plant is equipped with an oil and grease trap, followed by an oil skimmer and equalization tank. From this tank the water is pumped to a mixer where chemicals are added to the effluent, among others lime. The water is transferred into the flocculation tank and then to the settling tank. Further on the water is pumped to the aeration tank, then on to the secondary settling tank. The water is then pumped into the treated water storage tank. The daily capacity of the effluent treatment plant is 30K (30 000 litres).

The permit includes limit values for emissions to water. The permit requires the facility to online monitor the effluent treatment plant for the following parameters: flow of outlet, pH, TOC or COD and ammoniacal nitrogen. Various monitoring reports were witnessed on site during the evaluators' latest visit to GEPIL in January 2020.

Based on all the information currently available to the evaluators, it appears that the operation of the effluent treatment plant likely follow standards broadly equivalent to international and EU standards.

However, some questions still remain regarding the collection and storage capacity. In particular, the evaluators understand that GEPIL has only one tank-truck to collect bilge water and drained water from the ship recycling yards. Based on this, the evaluators question if one tank-truck is sufficient during the monsoon season, and, secondly, if the effluent treatment plant has sufficient capacity to handle drained water from the 150+ ship recycling plots located in Alang.



	<p>During the meeting with GEPIL in January 2020, storm water records were witnessed on-site from which it was evident that only a few numbers of facilities deliver storm water to GEPIL. It was understood that the applicant is among these facilities.</p> <p>Finally, as mentioned previously, the Japan International Cooperation Agency (JICA) is financing an ongoing project for upgradation of environmental management for ship recycling in Alang and Sosiya. Part of the project is to further develop GEPIL. During the meeting with GEPIL in January 2020, it was explained that they would like to expand the ETP. A timeline is yet to be decided.</p> <p>Cherry Waste Management</p> <p>It is understood from the SRFP that items containing radioactive substance such as smoke detectors are collected by the licensed subcontractor Cherry Waste Management. Per the license from the Atomic Energy Regulatory Board (valid until 20.08.2021) Cherry Waste Management is authorised to 'separate the radioactive source part for volume reduction'. Subsequently, the radioactive materials are handed over to the Atomic Energy Regulatory Board (AERB) for final disposal.</p> <p>In the EU the disposal of ionising smoke detectors is regulated by the Directive 2012/19/EU on waste electrical and electronic equipment (WEEE). Disposal of the smoke detector in normal refuse is prohibited by the WEEE Directive. The radioactive source must be removed from the smoke detector before treatment of the WEEE can begin. Based on the licence issued by the AERB, it appears that this is what Cherry Waste Management does, However, the evaluators have not received information on how or where Cherry Waste Management dispose the smoke detectors after removal of the radioactive source.</p> <p>In addition, questions remain concerning the final disposal of radioactive materials transferred to AERB. It appears that AERB is not a waste management facility but a central government organisation. According to a document titled 'Policies Governing Regulation of Nuclear and Radiation Safety (July 2014)' available at the AERB website (https://www.aerb.gov.in/images/PDF/Policies_Governing_Regulation.pdf), AERB is in charge of carrying out certain regulatory and safety functions envisaged under Section 16,</p>	
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	<p>17 and 23 of the Atomic Energy Act, 1962. Section 16 and 17 of the said Act pertain to control of radioactive substances and special provisions with regard to safety in production, handling, use and disposal of radiation / radioactive substances respectively in India. Section 23 of the Act deals with administration of the Factories Act, 1948, in the factories owned by the Central Government or any authority or corporation established by it or a Government Company and engaged in the use of atomic energy. The Central Government has appointed AERB as the Competent Authority to enforce the safety related rules under the said Act.</p> <p>Hence, it remains unclear to the evaluators which processes, and waste treatment methods apply with respect to the disposal of radioactive materials containing wastes collected by Cherry Waste Management and reportedly transferred to AERB.</p> <p>On the webpages of AERB (https://www.aerb.gov.in/english/) the evaluators found a link to '<i>Wastes from Medical, Industrial and Research Facilities</i>', but waste treatment method of radioactive materials could not be found here.</p> <p>However, the evaluators understand from other local applications that smoke detectors may be sent for safe disposal at Bhabha Atomic Research Centre (BARC). According to the BARC website, management of low-level waste will be stored for 10 to 50 years, which will allow most of the radioactive isotopes to decay. The waste is then disposed of as ordinary waste.</p> <p>It is understood from the information published on the AERB and BARC websites, that these government bodies follow international standards. Therefore, it can be assumed that the treatment of radioactive materials transferred to AERB/BARC occurs according to standards broadly equivalent to relevant international and EU standards.</p> <p>Customs</p> <p>Gaseous ODS are reportedly delivered to Customs while ODS in solid material is sent to GEPIL.</p> <p>Per the Customs Circular no.20/2009, cylinders with ODS can be disposed of to 8 approved</p>	
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		<p>refrigerant filling plants, 'provided they are specifically permitted in writing to decant such gases in approved cylinders by the Chief Controller of Explosives. The intimation to this effect may be given to the Director (Ozone), Ministry of Environment & Forest, who will ensure that the corresponding quantity is accordingly debited from the prescribed quota of the concerned manufacturer'.</p> <p>The applicant was requested to provide a copy of the permits of the refrigerant filling plants referred to above but no response to this request has been received after the second inspection.</p> <p>In the EU, Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer, lays down rules on the production, import, export, placing on the market, use, recovery, recycling, reclamation and destruction of substances that deplete the ozone layer. Per Article 22(2), controlled substances and products containing such substances shall only be destroyed by approved technologies listed in Annex VII or, in the case of controlled substances not referred to in that Annex, by the most environmentally acceptable destruction technology not entailing excessive costs, provided that the use of those technologies complies with Community and national legislation on waste and that additional requirements under such legislation are met.</p> <p>Based on the limited information currently available to the evaluators, it is not possible to conclude that gaseous ODS delivered to the Customs Department is treated according to standards broadly equivalent to relevant international and EU standards.</p> <p>Fine Refineries</p> <p>It is understood that the applicant transfers oily products to Fine Refineries. Details regarding this facility have not been submitted by the applicant. The evaluators have seen neither the relevant permit issued to Fine Refineries by the GPCB, nor any further reports on compliance of this facility with the relevant permit conditions.</p> <p>In the EU, the management of waste oils is regulated by the Waste Framework Directive 2008/98/EC. The management of waste oils should be conducted in accordance with the</p>	
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		<p>priority order of the waste hierarchy and preference should be given to options that deliver the best overall environmental outcome. According to the definition under Article 3(18), the “regeneration of waste oils’ means any recycling operation whereby base oils can be produced by refining waste oils, in particular by removing the contaminants, the oxidation products and the additives contained in such oils”. Article 21 contains further specific requirements for waste oils.</p> <p>The applicant was requested to provide a copy of the relevant permit issued to Fine Refineries and additional information such as monitoring reports to demonstrate compliance but no response to this request has been received after the second inspection.</p> <p>Based on the limited information currently available to the evaluators, it is not possible to conclude that Fine Refineries follow standards broadly equivalent to relevant international and EU standards.</p> <p>Bharat Metal Oxides</p> <p>It is understood that the applicant transfers waste batteries and accumulators to Bharat Metal Oxides. Details regarding this facility have not been submitted by the applicant.</p> <p>In the EU, the general rules concerning the management of waste are laid down in the Waste Framework Directive 2008/98/EC. Specific legislation on waste batteries is embodied in the Batteries Directive 2006/66/EC.</p> <p>The applicant was requested to provide a copy of the relevant permit issued to Bharat Metal Oxides and additional information such as monitoring reports to demonstrate compliance but no response to this request has been received after the second inspection.</p> <p>Based on the limited information currently available to the evaluators, it is not possible to conclude that Bharat Metal Oxides follow standards broadly equivalent to relevant international and EU standards.</p>	
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		<p>M/s. Ecoli Waste Management</p> <p>It is understood that the applicant transfers E-waste to M/s. Eco-Recycling Ltd. Details regarding this facility have not been submitted by the applicant.</p> <p>In the EU, the legislation on E-waste is embodied in the Directive 2012/19/EU on waste electrical and electronic equipment (WEEE). Specific substances listed in Annex VII must be removed from collected WEEE and the operations at treatment facilities must be in accordance with the general requirements under the Waste Framework Directive 2008/98/EC.</p> <p>The applicant was requested to provide a copy of the relevant permit issued to M/s. Eco-Recycling Ltd and additional information such as monitoring reports to demonstrate compliance but no response to this request has been received after the second inspection.</p> <p>Based on the limited information currently available to the evaluators, it is not possible to conclude that M/s. Eco-Recycling Ltd. follow standards broadly equivalent to relevant international and EU standards.</p> <p>Sanyia Traders</p> <p>It is understood that the applicant transfers electrical cables to Sanyia Traders. Details regarding this facility have not been submitted by the applicant.</p> <p>In the EU, the legislation on E-waste is embodied in the Directive 2012/19/EU on waste electrical and electronic equipment (WEEE). Specific substances listed in Annex VII must be removed from collected WEEE and the operations at treatment facilities must be in accordance with the general requirements under the Waste Framework Directive 2008/98/EC.</p> <p>The applicant was requested to provide a copy of the relevant permit issued to Sanyia Traders and additional information such as monitoring reports to demonstrate compliance but no response to this request has been received after the second inspection.</p> <p>Based on the limited information currently available to the evaluators, it is not possible to</p>	
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		<p>conclude that Sanyia Traders follow standards broadly equivalent to relevant international and EU standards.</p> <p>REMONDIS SAVA GmbH</p> <p>The regime for the disposal of POPs remains unclear to the evaluators. The SRFP provides several options for disposal of POPs: disposal to authorised recycler, sale/disposal to authorized recycler, sale to authorized re-user/store in secure area and exported to SAVA.</p> <p>In the SRFP, only Remondis Sava (Germany) is listed as a downstream waste management facility and POPs are reportedly exported. Remondis Sava is certified by ENVIZERT GmbH. The relevant permit is available at the webpages of Remondis Sava. The applicant did not provide information on the treatment method, but by experience the evaluators know that SAVA incinerates hazardous waste. Remondis Sava is assumed to be operating according to relevant EU standards. However, no records of any exports of waste containing POPs were seen during the site inspections.</p> <p>Medical waste</p> <p>A disposal method for medical waste could not be found in the SRFP, but the evaluators assume it is transferred to the Alang hospital. The applicant was requested to provide further details on the management of medical waste, including on where it is sent and how it is treated. The applicant was also asked to provide details regarding the relevant facilities, including a copy of the relevant permits and further information regarding their operation (e.g. monitoring reports). However, no further information has been received after the second inspection.</p> <p>Based on the limited information currently available to the evaluators, it is not possible to conclude that medical waste leaving the facility is treated according to standards broadly equivalent to relevant international and EU standards.</p>	
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	<p>Steel re-rolling mills</p> <p>It is understood that the applicant is using a number of re-rolling mills to process steel recovered from the ship dismantling process. Details regarding such facilities have not been submitted by the applicant.</p> <p>The applicant was requested to provide details regarding the relevant facilities, including a copy of the relevant permits and further information regarding their operation (e.g. monitoring reports). However, no further information has been received after the second inspection.</p> <p>Based on all the information currently available to the evaluators, it is not possible to conclude that steel re-rolling mills used by the applicant follow standards broadly equivalent to relevant international and EU standards.</p> <p>Further considerations regarding public control over downstream waste management facilities</p> <p>In order to be able to draw conclusions regarding the extent to which the concerned downstream waste management facilities follow in practice standards broadly equivalent to international and Union standards, the evaluators have also contacted the GPCB to better understand their control and monitoring and enforcement policies.</p> <p>Based on the limited information currently available to the evaluators, it is not possible to conclude that the GPCB is sufficiently equipped to carry out effective controls over the operation of the concerned downstream waste management companies.</p> <p>During a meeting with the GPCB Bhavnagar office on 14th October 2019, it was explained to the evaluators that GPCB Bhavnagar is responsible to monitor approximately 1500 companies. The GPCB Bhavnagar regional office reportedly has 6 persons responsible to follow up these companies, working in 3 teams of 2 people. The evaluators understand that GPCB officers mainly check waste manifest. Reportedly, the environmental monitoring programs of the waste management companies are not evaluated. The GPCB Bhavnagar regional office is understood to have a risk-based operation where the companies most</p>	
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		<p>likely to pollute are checked more frequently than others. The size of the company is also considered.</p> <p>Based on the above, it remains unclear to the evaluators as to whether the GPCB has the capacity to carry out regular monitoring or inspections of the downstream waste management facilities used by the applicant other than GEPIL.</p>	
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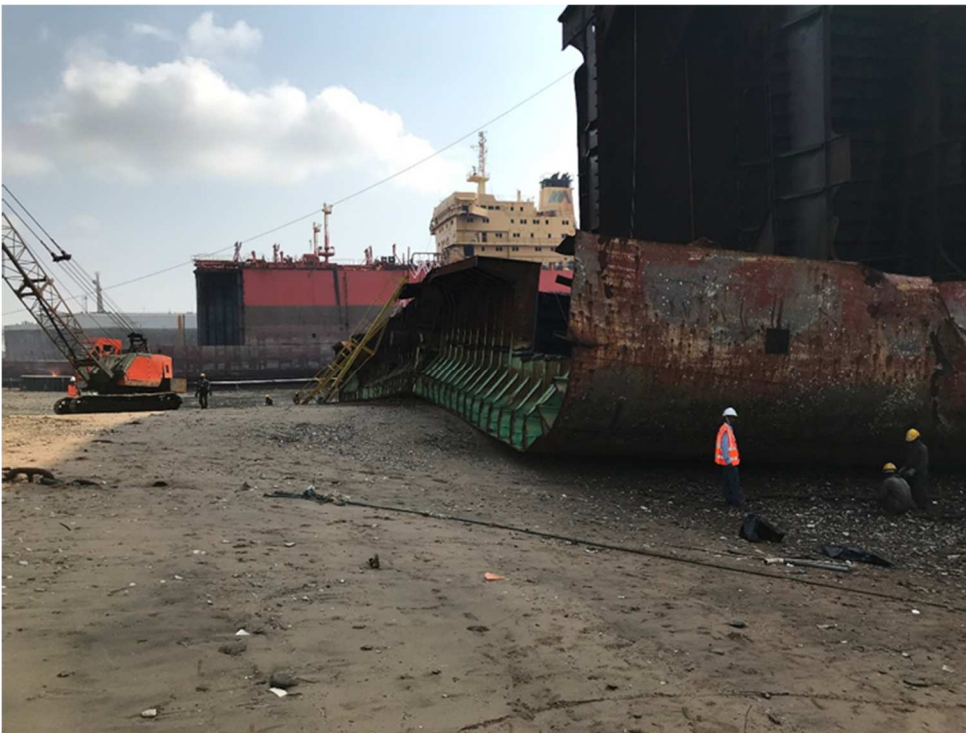
7 SUPPORTING PHOTOS FROM THE SITE INSPECTION

A selection of photos from the site inspections are presented below.

First inspection



In the front yard, there are clear access routes for firefighting and ambulances.



Crane operating in the intertidal zone.



In the back yard, there are clear access routes for firefighting and ambulances.



Helmets, shoes, eye- and respiratory masks was worn throughout the operation by cutters.



The facility normally uses stable stairs for regular access. Secondary (emergency) access is in way of basket and crane.



Secondary cutting area is on impermeable floors connected to a drainage system.



Debris, including electronic equipment were observed in the intertidal zone. It is likely that much of the debris originated from the neighbouring yard where a passenger vessel was being dismantled.



Neighbouring plot behind the netting fence. Waste handlers cleaning the intertidal zone.



Dormitory.



Toilet and cleaning facilities at the dormitory.



Hazardous waste was stored on impermeable floors, in locked rooms.



Toilets for workers.



Drinking water.

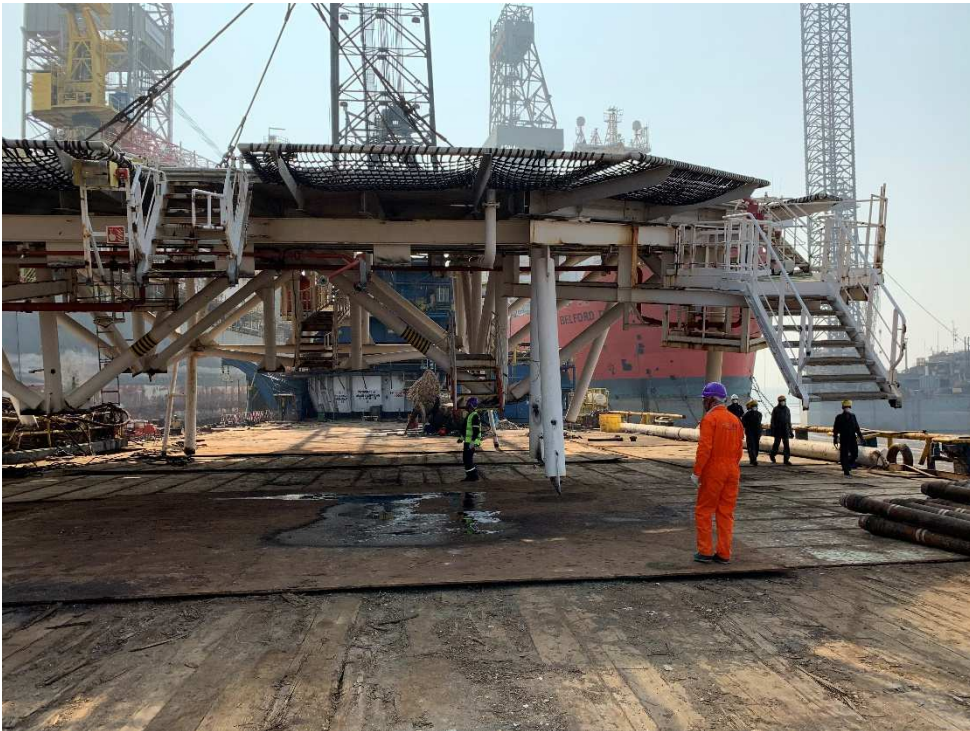


The Priya Blue ambulance.

Second inspection



Crane barge.



Deck on the barge crane.
Wooden deck partly
covered with steel plates.
The deck is used for
secondary cutting.



Prevention of adverse
effects on the
environment, including
drainage, do not appear
to have been given the
necessary level of
consideration.



New workers facility with toilets, showers and shaded rest area.



Shaded rest area.




Showers and toilets.



The regime for safety equipment onboard the crane barge needs to be reviewed and actions taken. For example, a container on the crane barge deck was identified as containing lifejackets but when opened was found to contain cables and hoses.

APPENDIX 1 GEPIL

Overview of available waste treatments methods available at GEPIL Alang:

 GUJARAT ENVORO PROTECTION INFRA STRUCTURE LTD (ALANG-UNIT)	
Landfill Cell-1	
Name:	GLASSWOOL & ASBESTOS CELL
Capacity:	43,038 CuM
Start Date:	October-2005
Close Date:	26th May 2013.
Type of Waste:	SS & SLF i.e. Asbestos, Glasswool and other landfillable waste
Current Status:	CAPPED WITH PRIMARY SOIL
Landfill Cell-2	
Name:	IND. & CHEMICAL WASTE
Capacity:	10,212 CuM
Start Date:	October-2005
Close Date:	31st Dec. 2011
Type of Waste:	SS & SLF i.e. Glasswool and other landfillable waste
Current Status:	CAPPED WITH PRIMARY SOIL
Landfill Cell-3	
Name:	Municipal Solid Waste
Capacity:	8,723.00 CuM
Start Date:	October-2005
Close Date:	In Operation
Type of Waste:	Municipal Solid Waste
Current Status:	In Operation
INCINERATOR	
Name:	Incinerator
Capacity:	5 MT PER DAY
Construction start:	April - 2013
Constructed Completed:	October-2013
Current Status:	In Operation
Type of Waste:	Incinerable Waste (solid/ semisolid & liquid)
Fire Hydrant System	
Tank Capacity:	2,00,000 ltr
Status:	In Operation.
EFFLUENT TREATMENT PLANT (ETP)	
Name:	Effluent Treatment Plant
Capacity:	30 KL per Day
Construction start:	June- 2011
Constructed Completed:	April - 2012
Commissioned on:	May - 2012
Type of Waste:	Bilge Water and waste water from Incinerator, contaminated Rain water, Oil block cleaning water
Landfill Cell 4.1	
Name:	Hazardous Waste Cell
Capacity:	70,000 CuM
Construction start:	June-- 2011
Constructed Completed:	December-- 2012
Commissioned on:	27th May 2013 - IN OPERATION
Type of Waste:	LANDFILLABLE WASTE. (Mainly Glasswool and others.) Asbestos is being solidified in one corner of landfill cell.
Landfill Cell 4.2	
Name:	Municipal Solid Waste
Capacity:	30,000 CuM
Construction start:	June-- 2011
Constructed Completed:	December-- 2012
Commissioned on:	Commissioned but not in operation as existing cell is in operation
Type of Waste:	Municipal Solid Waste
Current Status:	Not in Operation
Salient Features of Incinerator Design	
<ul style="list-style-type: none"> Design Capacity of 5 MT/Day Design developed in association with M/s Westland, Canada Capable of Incinerating Solid/Semi Solid/Liquid Hazardous Waste Temperature of more than 800 Deg C in Primary & 1100 Deg C in Secondary chambers Total residence time of flue gas > 2 seconds in secondary chamber and Breach ducts Two stage scrubbing system for effective cleaning of flue gases DRE ~ 99.99 % Emissions as per CPCB Norms Online flue gas analyzer for monitoring the stack gases round the clock 	
Intermediate Storage	
Use:	To store Incinerable Waste (solid ,semi-solid & liquid)
Capacity:	1000 MT
Status:	In Operation

Photos from GEPIL – Incinerator, landfill, effluent treatment plant, tank truck and trucks.

Incinerator



Incinerator building



Incinerator with primary (lower chamber) and secondary combustion chambers.



Venturi scrubber

Landfill



Landfill Cell 4.1:
Hazardous waste cell



Landfill Cell 4.1:
Hazardous waste cell

Asbestos is solidified in
one corner of the landfill
cell.



Landfill Cell 3:
Municipal solid waste



Leachate sump

Effluent treatment plant



Water samples taken from different stages of the treatment process.



Sludge drying beds

GEPIL tank truck for liquids (bilge, ballast water, oily water, storm water)



GEPIL trucks







About DNV GL

DNV GL is a global quality assurance and risk management company. Driven by our purpose of safeguarding life, property and the environment, we enable our customers to advance the safety and sustainability of their business. We provide classification, technical assurance, software and independent expert advisory services to the maritime, oil & gas, power and renewables industries. We also provide certification, supply chain and data management services to customers across a wide range of industries. Operating in more than 100 countries, our experts are dedicated to helping customers make the world safer, smarter and greener.