INSPECTION OF A SHIP RECYCLING FACILITY IN INDIA

Site Inspection Report
Application 003

European Commission Directorate-General for the Environment

Report No.: 2019-0072, Rev. 0
Document No.: 117PB67Y-7
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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

ASSRGWA - The Alang Sosiya Ship Recycling and General Workers’ Association
CPCB - Central Pollution Control Board, a government body under the Ministry of Environment, Forest and Climate Change
CSIR - Council of Scientific and Industrial Research
DISH - Director 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
GVK-EMRI - Emergency Management and Research Institute
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
PAH - Polycyclic aromatic hydrocarbon
PESO - Petroleum and Explosives Safety Organisation
PPE - Personal protective equipment
QMS - Quality management system
SRFP - Ship Recycling Facility Plan
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 on-site inspection took place on 24th and 25th of September 2018. Further to the inspection, the facility sent substantial additional information, which was taken into account in this report.

The report concludes that further improvements are required before the evaluators can confirm compliance with the requirements of Regulation (EU) No 1257/2013 (‘the Ship Recycling Regulation’, the ‘SRR’). During the site inspection, the facility demonstrated that it is approved by its authorities, has a suitable organisation with a proven track record, has sufficient procedures with regards to health and safety and has put in place well-functioning facilities (cranes, paved areas, warehouses etc.). These are important elements for assessing if and how the facility carries out ship recycling in accordance with the requirements of the Ship Recycling Regulation. The facility had also made important investments in the last years to upgrade its ship recycling activities.

The governing document for the site inspection, defining the baseline of the facility’s performance, is the Ship Recycling Facility Plan (SRFP). A paramount task of the inspection was to verify that the SRFP is a living, logic and systematic document accurately reflecting the operational practices on the ground. DNV GL could not verify that all procedures and practices observed on the ground were included and explained in the SRFP. The Ship Recycling Facility Plan needs to be considerably updated according to comments in this report.

During the site inspection, the evaluators also specified areas where compliance with the requirements of the Ship Recycling Regulation could not be confirmed:

1. The desk assessment, sent to the yard before the inspection and based on its application file, concluded that the health and environment monitoring program of the facility was not compliant. Notably the data produced on the presence of polluting substances in the environment did not appear to be reliable. As a response to the desk assessment, the applicant had initiated new measurements, but compliance could not be confirmed during the site inspection. It is recommended that the monitoring program is developed and maintained by an independent third party to satisfy with the requirements of Article 13(1)(d) of the Ship Recycling Regulation.

2. Compliance could not be confirmed for Article 13.1 (f) and Article 13.1 (g) (i) of the Ship Recycling Regulation. 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 was ready to do so. Their policy so far is to dismantle ships as per agreement with the ship owners of the vessels concerned (i.e. pursuant to the requirements from the Hong Kong Convention if so required by the ship owners, or pursuant to domestic provisions in Indian law otherwise). Cutting of the bottom of the hull takes place in the intertidal zone and not on impermeable floor with effective drainage system. Based on the information provided, it cannot be concluded by the evaluators that leakage is sufficiently prevented, and tanks sufficiently cleaned, in particular in the intertidal zone, at all stages of recycling and for all ship types.

3. The inspection revealed that only one ambulance with paramedics is available, stationed in Alang. The 2 hospitals in Alang, including a Red Cross facility, can only treat minor injuries. Patients with
more severe injuries must be driven to the hospital in Bhavnagar, 55 kilometres away, on a road with heavy traffic. The absence of hospital facilities equipped to treat severe injuries in Alang is a serious problem, and of direct relevance for checking compliance with the provisions on worker’s safety in the Ship Recycling Regulation, in view of the hazardous nature of the ship breaking activities.

5. Most materials and equipment from dismantled ships, lose or fixed, is removed and sold. This is problematic as the applicant until now, has not ensured that the materials are free from hazardous waste.

6. Many types of waste generated by the ship dismantling activities at the yard are transferred at the waste management facility in Alang (GEPIL). It is likely that this facility is operated in accordance with human health and environmental protection standards that are broadly equivalent to relevant international or Union standards for most of the waste streams it is authorised to handle. Other types of waste are not transferred to GEPIL, but to other waste management facilities. The applicant has not demonstrated that these facilities will be operated in accordance with human health and environmental protection standards that are broadly equivalent to international or Union standards.

A draft inspection report, including recommendations for possible improvements, was sent to the facility on 16th of October 2018. The yard responded to the draft report with substantial additional information and documentation in November and December 2018. This report takes account of the results of the on-site inspection as well as of the subsequent response by the facility to the draft inspection report. The additional information and documentation provided in response to the draft report contained a lot of useful elements in response to the findings of the inspection, which is appreciated and shows the applicant’s commitment for further improvements. Many procedures have been updated in response to the draft report, however the implementation of these procedures must be evaluated on-site prior to concluding recommendations with regard to inclusion in the European list.
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 note. 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 article 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

• 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
6 RESULTS OF THE ASSESSMENT

The assessment of the facility was carried out on the 24th and 25th of September 2018 at Priya Blue Industries Pvt. Ltd., operating at plot V-1 in the Alang-Sosyia district, Gujarat, India. 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 SRF is located in Sosyia, a town close to the city of Bhavnagar in Gujarat in India. 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. The facility holds the Guinness World record in having recycled the biggest ship in the world, the Jahre Viking. Two floating production storage and offloading units (FPSOs) were under dismantling during the site inspection, and the assessment team boarded one of them.

Priya Blue had submitted an application for inclusion in 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, Priya Blue sent additional information in June 2018. In view of these elements, it was agreed between the European Commission and Priya Blue that an on-site inspection could take place to verify compliance with the requirements of the Ship Recycling Regulation.

The key management representatives from the facility during the inspection were the owner, CEO/ Business Manager, General Manager, HSE Manager and Production Manager.

The evaluators from DNV GL were accompanied by from the EU Commission.

The delegation visited the downstream waste management facility Gujarat Enviro Protection and Infrastructure (GEPIL) in the morning on the 26th of September, where the Gujarat Pollution Control Board (GPCB) was present. We met from GEPIL and from the GPCB. In the afternoon, the delegation visited The Alang Sosiya Ship Recycling and General Workers’ Association (ASSRGWA) were we met and plus 20 workers in the ship recycling industry.

The table below summarises the results of the site inspection with respect to article 13, 15 and 16 SRR requirements for inclusion of a ship recycling facility in 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 we were well cared for and that everything went smoothly. Facilities for the assessment were excellent and the fullest degree of access to all aspects of the facility’s areas and management was offered.
### Site inspection results

<table>
<thead>
<tr>
<th>Article 13-1 (a) it is authorised by its competent authorities to conduct ship recycling operation</th>
<th>Compliant?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Authorisation</strong></td>
<td><strong>Priya Blue holds the necessary authorisations to conduct ship recycling by GMB (Gujarat maritime Board) and GPCB (Gujarat Pollution Control Board).</strong></td>
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<thead>
<tr>
<th>Article 13-1 (b) it is designed, constructed and operated in a safe and environmentally sound manner</th>
<th>Compliant?</th>
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<tbody>
<tr>
<td><strong>Measures and infrastructure</strong></td>
<td>Measures and infrastructure are partially in place to prevent adverse health, accidents and leakages to the environment. The facility uses the beaching/intertidal landing method. Primary cutting is conducted in the intertidal zone, including cutting of the double bottom. The cut open hull is thus awash and partly floating at high tide. All secondary cutting takes place on concrete flooring with drainage. Dismantled materials from the ship to shore are transported by crane, in appropriate containers for smaller parts, reportedly without contact with the intertidal zone for EU-flagged vessels. Cut parts are not allowed to fall on the beach, they are cut to fall on the ship’s hull itself. Detailed analysis can be found in the following sections of this report.</td>
</tr>
<tr>
<td></td>
<td>The entire industrial cluster of Alang lacks hospital facilities equipped to treat severe injuries and sufficient ambulance capacity.</td>
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<tr>
<td></td>
<td>See comments under the relevant articles.</td>
</tr>
<tr>
<td></td>
<td>The desk assessment did not show compliance with this point. The site inspection could only partially confirm compliance.</td>
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<tr>
<td></td>
<td>The clarifications after site inspection documents did not further demonstrate compliance with this point.</td>
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<tr>
<th>Article 13-1 (c) it operates from built structures</th>
<th>Compliant?</th>
</tr>
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<tbody>
<tr>
<td><strong>Operates from built structures</strong></td>
<td>The facility consists of a total lease area in the intertidal zone of 6000 m², and total paved area of the front- and back yards combined is 38,581 m².</td>
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<tr>
<td></td>
<td>The operation on dry shore is from built structures with cranes, winches, trucks, and forklifts on reinforced concrete flooring. The smaller cranes operate in the intertidal zone.</td>
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<tr>
<td></td>
<td>Storage tanks, storage and separation areas, store room and offices, sanitary equipment, workers rest and recreation rooms, drinking water supply and asbestos decontamination unit was identified on site.</td>
</tr>
<tr>
<td></td>
<td>The desk assessment showed partial compliance with this point. Compliance for dismantling of rigs offshore could not be confirmed during the inspection.</td>
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</tbody>
</table>
Rigs would be beached approximately 1000 meters from shore, until sufficient weight is being removed allowing to pull the rig closer to shore. It could not be confirmed that the facility’s cranes would be able to reach the top of derricks, to lift them down during the inspection.

Apart from the primary cutting area in the intertidal zone, the remaining facilities including secondary cutting area and back yard, were found more or less covered with impermeable, reinforced concrete. The yard has built a high and solid rampart between the beach and the secondary cutting zone, which will (unless torn down) prohibit any future ramp allowing hulls subject to primary cutting to be pulled up on impermeable flooring. Hence, the primary cutting of the vessels is not operated from a built structure.

The evaluators have been made aware that the Conservation Action Trust (CAT) is a petitioner in a case being heard by the Indian National Green Tribunal contesting the EIA issued for the enlargement of the Alang area. The applicant is asked to provide further information on the ongoing Indian National Green Tribunal hearing.

In reply to the draft report the applicant forwarded an updated SRFP.

The revised SRFP (page 42) updates the facility area to be 10,818 m$^2$ front yard, and 65,000 m$^2$ back yard. The total impermeable area is 10,818 m$^2$ front yard, and 27,763 m$^2$ back yard. The back yard includes large areas outside the “production” (secondary cutting) including dormitories and some forest area. All of the front yard was seen by and large concreted, from the rampart facing the intertidal zone.

In addition to the revised SRFP, the applicant forwarded information and photos of a floating barge crane, which reportedly can lift up to 1200 tons, equipped with a platform deck which allow the applicant to lift blocks from the vessel and lower them onto the platform deck, which could lead to important changes in the way according to which the primary cutting of vessels is operated by the yard. These changes should be evaluated during a future site inspection.

The clarifications after site inspection documents did not further demonstrate compliance with this point.
Rigs: The revised SRFP includes a section 3.2.6. The description is brief and does not differ from that of recycling ships. No detail instructions are provided. There are different challenges in cutting down rigs, for example semi-submersibles with multiple columns and structural piping cross members, derricks, pontoons (securing against toppling) and a lot of work at severe heights. The initial cutting of rigs will take place far from shore and more detailed descriptions are requested from the applicant.

With regards to the ongoing Indian National Green Tribunal hearing the applicant replied: “This matter has been presently adjourned by the concerned authorities. SRF shall provide auditors with any updates (if any) in future”. Further information would be appreciated by the evaluators.

**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**

<table>
<thead>
<tr>
<th>Technical guidance note 2.1.4 (a), (b) MEPC210(63) Section 3.4.1 / BC TG 6.2</th>
<th>General</th>
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<tbody>
<tr>
<td>Monitoring was only briefly mentioned in the initial SRFP. The purpose of the monitoring programme is to establish the state of the environment surrounding the ship dismantling facility.</td>
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<tr>
<td>A monitoring plan is expected to:</td>
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<tr>
<td>- Be site specific</td>
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<tr>
<td>- Include regular monitoring of air, water, soil, sediments and noise, or surveys/explanations to support why this should not be monitored.</td>
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<tr>
<td>- Include a map of sources and sampling points for emissions to air, water, soil and sediments and noise.</td>
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<tr>
<td>- Ensure representative sampling, and that normal activities are conducted at the facility when sampling is done.</td>
<td></td>
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<tr>
<td>- Include specific monitoring of relevant hazardous materials either as surveys or as part of regular monitoring.</td>
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<tr>
<td>- Describe roles and responsibilities.</td>
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</tr>
<tr>
<td>- Based on &quot;well-established standards for the sampling and analysis of environmental parameters&quot; (as required in the IMO and EU 2016 technical guidelines) and results</td>
<td></td>
</tr>
<tr>
<td>Compliance could not be confirmed during the site inspection.</td>
<td></td>
</tr>
<tr>
<td>The clarifications after site inspection documents did not further demonstrate compliance with this point.</td>
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</table>
must be compared with adequate standards.

Based on the discussions during the site inspections the evaluators recommended that the applicant hires third party assistance in developing and setting up a suitable monitoring program. It is common that a monitoring program is developed and maintained by an independent third party, specialised in the field of monitoring.

In response to the draft report the applicant forwarded an updated SRFP. Section 3.4.1 includes an introduction to the applicant’s environmental monitoring policy. The remaining part of 3.4.1, after the general introduction, contains facsimiles of test reports from Cherry Green Environment. Cherry Green Environment laboratory was accredited by the National Accreditation Board for Testing and Calibration Laboratories (NABL) in India 30.08.2018. The accreditation is for a specific range of testing/limits of detection for various parameters. The accreditation can be downloaded from https://www.nabl-india.org/nabl/index.php?c=search&m=searchlabcertificate&cno=5785.

Additionally, the applicant forwarded on 20.12.2018 a draft report for environmental monitoring prepared by Central Salt and Marine Chemicals Research Institute (CSIR). The report is not yet finalised, but the forwarded results are commented below. The applicant reports that new samples will be taken and that the results will be forwarded to the evaluators for review and acceptance.

The well-established standards for the sampling of environmental parameters (as required in the IMO and EU 2016 technical guidelines) are not provided. Page 5 of the draft report for environmental monitoring lists specific testing techniques and test methods for various parameters in water and waste water, including heavy metals according to what appears to be Indian standard (Extraction method Part 3120).

It is not described in the draft environmental monitoring report if the Central Salt and Marine Chemicals Research Institute analysed the samples or if they used a different laboratory. It appears that Central Salt and Marine Chemicals Research Institute (CSIR) is not an accredited laboratory by searching the National Accreditation Board for Testing and
Calibration Laboratories (NABL) of India (https://www.nabl-india.org/).

The final monitoring program can be evaluated in preparations for a future site inspection.

| Soil | Attachment 14 in the initial SRFP is titled soil monitoring program but shows the results of a “marine beach soil sample”. Other soil samples are not attached in the SRFP. The applicant had initiated new measurements in preparation for the site inspection, but compliance could not be confirmed during the site inspection. In response to the draft report the applicant forwarded an updated SRFP with results of soil testing dated 22.06.2018 presented on page 291-305. The analyses have been conducted by Cherry Green Environment. Most parameters are found below the detection limit. By looking at the accreditation of Cherry Green Environment it appears that the range of testing/limits of detection is not sufficient to detect concentration of contaminants in soil that could have a negative impact on the environment. | Compliance could not be confirmed during the site inspection. The clarifications after site inspection documents did not further demonstrate compliance with this point. |

| Sediment | Attachment 14 in the initial SRFP is titled soil monitoring program but shows the results of a “marine beach soil sample”. The results are questionable. For “oil and grease” it is reported that it was “Nill”, which the evaluators find surprising considering the historical use of the site. The applicant had initiated new measurements in preparation for the site inspection, but compliance could not be confirmed during the site inspection. In response to the draft report the applicant forwarded a draft environmental monitoring report 20.12.2018 and the results of the sediment measurements are presented on page 15. For four out of seven parameters the concentration is reportedly below the detection limit. The detection limit is not provided. It is surprising that these parameters are below the detection limit as these are naturally occurring heavy metals, normally found in sediments, in concentrations above what would be expected to be within the detection limit. For example, lead can be expected naturally occurring in concentrations up to 25 mg/kg, which should be | Compliance could not be confirmed during the site inspection. The clarifications after site inspection documents did not further demonstrate compliance with this point. |
well within the detection limit of a laboratory. Cobalt, Copper and Nickle is reportedly present in concentrations below the detection limit.

Water

| The applicant has provided results of a sea water sample in Attachment 15 of the initial SRFP, dated 20.08.2014. The results are questionable. For some parameters (e.g. Cadmium, Chromium, Lead, Mercury) it is reported that it was “Nil”, which the evaluators find surprising considering the natural background levels of these metals. Ground water is not part of the sampling program attached in the original SRFP. The applicant had initiated new measurements in preparation for the site inspection, but compliance could not be confirmed during the site inspection. In response to the draft report the applicant forwarded an updated SRFP with results of ground water testing dated 22.06.2018 presented on page 268-272. The analyses have been conducted by Cherry Green Environment. Most parameters are found below the detection limit. By looking at the accreditation of Cherry Green Environment it appears that the range of testing/limits of detection is far above the detection limit expected for analysing water samples. For example, for Benzo(a)pyrene (a PAH compound) the range of testing/limits of detection for Cherry Green Environment is 3 mg/l to 1000 mg/l. According to the EU water framework directive a water sample containing more than 0.046 ug/l of Bezo(a)pyrene would be classified in the worst category. Similarly, for PBDE compounds, the range of testing/limits of detection is 0.2 mg/l to 50 mg/l. According to the EU water framework directive a water sample containing more than 2.8 ug/l of PBDE would be classified in the worst category. Hence, the detection limit of Cherry Green Environment is not sufficient to detect concentration of contaminants in water that could have a negative impact on the environment. According to the accreditation it appears that Cherry Green Environment is not accredited to analyse the concentration of Mercury, TBT, PFOS or SCCP in water. Additionally, the applicant forwarded a draft environmental monitoring report on 20.12.2018 and the results of the water measurements are presented on page 7-14. Two samples have been taken of sea water and one sample of ground water. The samples have |

| Compliance could not be confirmed during the site inspection. The clarifications after site inspection documents did not further demonstrate compliance with this point. |
been analysed for heavy metals and polyaromatic hydrocarbons (PAH), but not for TBT or persistent organic pollutants (PCB, PBB, PBDE, PFOS etc.). Reportedly the applicant is negotiating sampling of some of these parameters with different laboratories and will advise shortly on the outcome. Reportedly the applicant finds the charges exorbitant.

According to the report, the concentration of heavy metals, except for zinc, was found below the permissible limit set by the Central Pollution Control Board (CPCB) Guideline in the two sea water samples. The CPCB is a government body under the Ministry of Environment, Forest and Climate Change. PAH concentration was reportedly below the detection limit in the two sea water samples. The detection limit is not provided.

In the ground water sample, the concentration of cadmium and lead was found above the permissible limit set by the Central Pollution Control Board (CPCB) Guideline. No comments are provided on any counter measures. PAH was not analysed in the ground water sample. It is not described why it was decided not to analyse PAH in the ground water sample.

It would be beneficial to receive more specific references to the GPCB guideline the report refers to. The webpages of CPCB refer to various water quality guidelines but it is not clear to the evaluators which one they have used (http://cpcb.nic.in/water-quality-criteria/).

### Air

The results of air monitoring reports are provided on page 150 SRFP. The air monitoring has been sampled at four locations by Cherry Green Environment. It not possible to assess how the air monitoring has been performed as information is not provided. The air monitoring results included in the SRFP includes particular matter, NOx and SOx. The monitoring report is dated 20.09.2014.

The applicant had initiated new measurements in preparation for the site inspection, but compliance could not be confirmed during the site inspection.

In response to the draft report the applicant forwarded an updated SRFP with results of ambient air measurements dated 22.06.2018 presented on page 278-289.

Additionally, the applicant forwarded a draft environmental monitoring report 20.12.2018, compliance could not be confirmed during the site inspection. The clarifications after site inspection documents did not further demonstrate compliance with this point.
prepared by CSIR, and the results of the air measurement is presented on page 16. No information is provided on how the air quality was measured, why the different sampling locations were selected, or the equipment used. The permissible limits as per the Central Pollution Control Board (CPCB) Guideline are reportedly not exceeded for any of the measured parameters.

It is noted that the air testing conducted by Cherry Green Environment is lower for the measured air parameters than the measured air parameters by CSIR.

Noise

The results of noise measurements are provided in Attachment 17 of the SRFP, dated 20.09.2014, with noise level ranging from 72 dB on the west side of the plot to 74 dB on the east side of the plot. The evaluators observe that the maximum measured noise is like the noise expected from a shower. In comparison, it is expected that an oxygen torch cutter may results in noise level of 90 dB. It was not possible to assess how the noise has been measured as information is not attached to the application. The evaluators question the reliability of the noise measurements made by Cherry Green Environment. No information is provided on how the noise levels were measured, why the different sampling locations were selected, or the equipment used.

The applicant had initiated new measurements in preparation for the site inspection, but compliance could not be confirmed during the site inspection.

In response to the draft report the applicant forwarded an updated SRFP with results of noise measurements dated 22.06.2018 presented on page 290. The measured noise ranges from 60.5 dB in the “Cutting zone” to 72.5 dB in the “Working front yard”. It is not possible to assess how the noise has been measured as information is not attached. The evaluators question the reliability of the noise measurements made by Cherry Green Environment. No information is provided on how the noise levels were measured, why the different sampling locations were selected, or the equipment used.

Additionally, the applicant forwarded on 20.12.2018 a draft environmental monitoring report prepared by CSIR, and the results of the noise measurement is presented on page 19.

Compliance could not be confirmed during the site inspection.

The clarifications after site inspection documents did not further demonstrate compliance with this point.
No information is provided on how the noise levels were measured, why the different sampling locations were selected, or the equipment used. The permissible limit for noise level at Industrial area as per the Central Pollution Control Board (CPCB) Guideline is reportedly 75 dB(A). No comments are provided even though the permissible limit is exceeded for all three locations.

### Surrounding area

The monitoring program does not include measurements for the population in the vicinity of the ship recycling facility.

The neighbouring areas to the backyard are used for agricultural purposes, hence monitoring of these areas must be included in the program.

Monitoring of fish and mussels is not part of the monitoring program.

Compliance could not be confirmed during the site inspection.

The clarifications after site inspection documents did not further demonstrate compliance with this point.

### Health

The facility is required to follow national health laws on medical monitoring of its employees, requiring annual health check-ups. The facility conducts annual medical monitoring of its employees and examples were witnessed on site for a gas cutter. Blood pressure, hemogram, eyesight, ears and lung capacity are checked. Asbestos workers have X-ray of lungs annually.

In the evaluators opinion, the existing medical monitoring is not sufficient to assess workers’ health in order to detect and identify any abnormality. Additionally, the air monitoring program has not been set up to be able to construct exposure profiles of particular jobs or occupational categories.

The applicant immediately started to look into how this can be improved.

In response to the desk assessment the applicant refers to the updated SRFP and section 3.3.1, ‘Worker health and safety’. This part contains extensive information on worker

The desk assessment showed partial compliance with this point. Full compliance could not be confirmed during the site inspection.

The clarifications after site inspection documents did not further demonstrate compliance with this point.
conditions, within many important areas and disciplines. From page 171 in the revised SRFP, worker health monitoring is addressed. In the first table on page 171, 15 health tests/checks are listed, but several of these tests (Pulmonary Function Test, Computed Tomography Scan, Bronchoscopy and Sputum Test) are not part of the periodical health check-up as presented in the table on page 172. If these tests are not conducted it is recommended to remove them from the table over health tests/checks performed on page 171.

Overall the regime and documentation are improved but the evaluators have some comments:

- It is not stated where and by whom the various health tests shall be carried out
- Tests for heavy metals tests must be included
- Page 172 refers to the 24/7 available cardio ambulance. Cardiac tests are however not included in the list of medical tests in the table on page 171.
- It is noted that the ship- and yard safety supervisors are not subject to skin infection or injury testing despite they are hands-on the production premises at all times.
- The reason for selecting the indicated six particular positions for liver and kidney testing is not understood, in particular why cutters are not included. For comparisons purposes, at Turkish recycling facilities, all workers (including office workers) have regular blood and urine samples at specific intervals.
- Test 2, chest X-ray PA (posteroanterior) is scheduled for equipment operators HSE but not for equipment operators in the production. It is mandatory for cutters but not for helpers or others working in the same atmospheric environment as the cutters, and other air pollutants such as dust and particles. This is not understood by the evaluators.
- Eyesight test not for general manager but for assistant general manager; not for health officer or medical in-charge, who really need good eyesight. Same for hearing.
- It should be asserted in the monitoring regime that the annual doctor check-ups not only consist of physical tests but is also the opportunity for the worker to discuss psychological conditions such as stress or addiction, without risking reprimands.

It is recommended that the health monitoring program is further developed with external
expertise. The implementation of these new measures can be evaluated during a future site inspection.

Section 3.3.1 also includes a section on alcohol and drugs policy on page 159. It is stated in the rules that reporting for work when unfit due to alcohol or drugs is a gross misconduct, where the company will take disciplinary action including summary dismissal. Contractors and services may be terminated immediately. On the other hand, it is also stated in the principles that those who admit to having a problem with alcohol or drugs shall be fully supported and are encouraged to disclose this at the earliest opportunity to ensure support and help with treatment.

| 2.1.4 Technical guidance note 2.1.4 (b), MEPC 210(63) 3.1.1 (5) | Management system | The SRFP includes a section on its occupational safety and health (OHS) management system (section 9, page 81-onwards). The section is rather generic. The applicant holds an OHSAS 18001:2007 certificate, issued by [redacted] and valid up to 6th January 2019.

Reportedly, management reviews were held every sixth month 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 improvement. This observation was in line with the impression from the SRFP, that does not mention the use of the QMS system at all. Typical key documents in a QMS system would be incident reporting, training certificates and record keeping but this was not seen implemented, as in the SRFP described as blocks of words, that the ISO QMS is on the side of the facility’s daily operation, the evaluators suspect it is not used much at all. The HSE Manager was reportedly responsible for ISO upkeep

It was also noted in the desk-top assessment, and commented during the site visit, that the SRFP was not an ISO-governed document, as it had no ID, revision number, date or revision dates (including no footers / headers with same), only signature and stamp on front page and page numbers.

In response to the draft report the applicant forwarded a revised SRFP. The revised SRFP

The desk assessment showed partial compliance with this point. Compliance could not be confirmed during the site inspection.

The clarifications after site inspection documents did not further demonstrate full compliance with this point. Compliance needs to be assessed by future site inspection.
dated 15.11.2018 is marked with revision 00 and has a unique document ID in the footer on each page: IMS / SRFP / 01.

Part 3.3 covers ‘Worker safety and health compliance approach’ and has extensive descriptions on various policies and topics, however the topics are not chaptered thus not readily found. Each topic ends with a date (January 1st) and the name of the Managing Director. Page 150 has a section called ‘IMS and Recycling Policy’, which consists of statements of commitment and policies. It does not describe what relevant HSE records and documents shall be compiled and filed, who shall do it and how.

OHSAS 18001:2007 is not mentioned as the standard to be followed, in Part 3.3 anywhere. Part 3.1.4 Records Management explains that the SRF “has established system to ensure that the policies and procedures for retaining vital records associated with the operations and specifically, the recycling of ship.” It includes a list of records which is complete, but the part does not describe this established system, by whom, when and how the records shall be managed and filed.

Part 3.1.2 page 19 reads: “Apart from above listed trainings, SRF also providing training to meet the requirement of different management system certifications, i.e. ISO 9001, ISO 14001, BS OHSAS 18001 and ISO 30000”. According to the SRFP however, it appears that the SRF is only certified to OHSAS 18001:2007.

The evaluator suggests to format Part 3.3.1 to be same as the rest of the SRFP, with chaptering. In general, Part 3.3.1 explains what the SRF does and shall do, more than how.

<table>
<thead>
<tr>
<th>ILO SHG p21-23, p138:18.1, 18.3, p139:18.5</th>
<th>Workers facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>The facility had a building that had been extended through the yard, with a kitchen with cooks and mess rooms – for management - eating in shifts. Both found in good and welcoming condition. Most workers had no access to mess room as it had just been demolished, as a new building will be constructed. A temporary room was set up in the front yard.</td>
<td></td>
</tr>
<tr>
<td>WC and drinking water facilities with reverse osmosis filters were found good, the drinking</td>
<td></td>
</tr>
<tr>
<td>Compliance could not be confirmed during the site inspection.</td>
<td></td>
</tr>
<tr>
<td>Compliance can be assessed by future site inspection.</td>
<td></td>
</tr>
</tbody>
</table>
water was tested by public health every second week, next date label was found stuck to the reservoir tank.

The facility had an on-site dormitory complex, for permanent use for an approximately 140 workers, at no cost. The dormitory was reserved for permanent staff (supervisors, crane drivers, dumper drivers, watchman, galley staff and fitter). It was reportedly not available to labours working on a daily basis such as cutters, helpers, sweepers, wire rope handlers (Jodi), nonferrous metal handlers, waste handlers and plate handlers.

The facilities were inspected, and although perhaps above the minimum wage worker local village standard, it was by the evaluators found somewhat different than presented in the facility’s commercial video regarding cleanliness, furnishing, lighting and upkeep. There were no showers. Most predominantly was the dampness and strong smell of mould all over, which in itself can cause illness. The evaluators recommended that the facility made an effort to improve the conditions.

It is not known to the evaluators if the competent authority, assumed to be GMB, specify the minimum standards for housing, including its construction material, minimum size and layout of accommodation, cooking, washing, storage, water supply and sanitary facilities.

It is the evaluator’s opinion that the facility dormitory could be cleaner and have more lighting indoors and be better equipped.

In response to the draft report the applicant states that it is upgrading the infrastructure for workers i.e. rest room, messroom, toilets, showers, blocks and dormitories, in line with different guidelines and requirements specified under the Factories Act and The Gujarat Factories Rule. The upgrade will be completed early 2019. The SRF reports that the dormitory facilities are available for all permanent and daily wage personnel, contradictory to what they informed during the inspection.

Article 13 (1) (e) it prepares a ship recycling facility plan

| Technical guidance note | Although above average considering all applications assessed, the SRFP as assessed in the The desk assessment |
|-------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
2.1.2
desk-top review and furthermore valid during the site inspection, was based on the same, template seen in many other applications, with the same mismatches, inconsistencies and lack of readability and very limited orientation towards actual facility operation and other governing documents.

During the site visit, the evaluators pointed further out and 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.

In response to the draft report the applicant forwarded a revised SRFP. The revised SRFP of 15.11.2018 is a good improvement, as it is written by the facility and for the facility. It is a goods basis for further development.

General recommendations to the revised SRFP:

- Although improved from the previous version, it remains the opinion of the evaluators that the SRFP still does not fulfil the objective of the SRFP, to be an efficient internal instruction and not a promotional document towards third party. The objective of the SRFP written on page 6 is well formulated accordingly however not fully implemented in the document.

- The SRFP starts with basic information and instructions up to page 57, then continues with a full 35 pages of certificate facsimiles and examples and legal compliance registers, before useful information is again resumed on page 93. Considering the intention of the SRFP of being a useful and readable instruction for the workers, these 35 pages are interruptive. It is recommended that key permits and certificates at most are listed in a table, with expiry dates, and that the facsimiles are put in an appendix or attachment.

- The same as above occurs from pages 99 to 132, copies of certificates, many of them barely legible. Page 102 for example has four pages of facsimiles with dense, illegible text squeezed down to one sheet.

- Instructions do not necessarily get better the more the words. On the contrary. Writing to-the-point, minimizing promotional content, makes it easier to read and understand for the users, which are the SRF workers and staff. Especially 3.3.1 can showed partial compliance with this point. Compliance could not be confirmed during the site inspection due to the lack of updating following the desk-top assessment.

The clarifications after site inspection documents did not further demonstrate full compliance with this point; see the various comments per chapter. Compliance needs to be assessed by future site inspection.
favourably be cut down, removing repeats, detail behavioural instructions, formalities and promotional text.

- Many important sections are not chaptered and thus cannot be looked up in the table of contents.
- The part on Child Labour Part 3.3.1 page 153 should be revised to a more specific procedure for the applicant, including the responsibility to report to for example authorities and child care institutions. See separate comment under Social Corporate Responsibility.

<table>
<thead>
<tr>
<th>MEPC 210(63) Section 3.1.1 (1)</th>
<th>Ownership</th>
<th>The facility is privately owned by Mr. Sanjay Mehta</th>
<th>Compliance could be confirmed during the site inspection.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEPC 210(63) Section 3.1.1 (3), (4)</td>
<td>Facility organisation</td>
<td>As foreseen, the generic organization chart in the outsourced SRFP template had not been changed to reflect the facility’s actual, and quite different, organization. Under — chairman and managing director, was the CEO. Under them, was 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 reports, 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 very recently hired a naval architect, whom during the site inspection was still in the on-boarding process. The organization was 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.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>MEPC 210(63) Section 3.1.1 (4)</td>
<td>Roles and responsibilities</td>
<td>The job descriptions in the SRFP did not match the actual organisation or the responsibilities of the individual positions. For example, there was no naval architect described, and the HSE Manager’s description did not include his responsibility for the upkeep of ISO. Added to that,</td>
<td>Compliance could not be confirmed during the site inspection, but</td>
</tr>
</tbody>
</table>
the HSE manager also held the positions of his reports, the Health and Safety Officer and the Environmental Officer, which neither existed under those titles.

It was agreed that the applicant would compile a real set of job descriptions, according to the actual organisation, with consistent job titles, and include it in the new SRFP.

The revised SRFP 15.11.2018 has 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.

| MEPC 210(63) Section 3.1.1 (5) | ISO 9001/ISO 14000 | HSE manager is reportedly responsible for the ISO certificates. Priya Blue holds the following ISO certificates:  
• ISO 9001: 2015 by Class NK, valid to January 2019  
• ISO 14001: 2015 by Class NK, valid to January 2019 | the applicant started on this work immediately.  
Compliance was confirmed in response to the draft report.  
It is not a requirement to have ISO certificates |
| Quality Management System | As described above in this table. | It is not a requirement to have a QMS system, but considering MEPC 210(63) Section 3.1.1 (5), (7) and (8), this is comparable to a QMS. |
| MEPC 210(63) Section 3.1.1 (6) | Policy | The facility has an environmental, health and safety policy, available to all employees. ref. SRFP. | Compliance could be confirmed during the site inspection. |
| Working hours and annual leave | | | |
Workers contracts, minimum wages, insurance
### MEPC 210(63) Section 3.1.1 (7)

**Instructions and procedures**

The various, fragmented procedures of varying quality and scope witnessed at the site inspection, matched with the generic and substandard SRFP as previously discussed and commented in the desk-top review, eventually led the assessment team to change approach in the sessions. Rightfully, many procedures in the SRFP and the ones observed fit in, but the lack of oversight and confusion led the evaluators to abandon further document review and instead focus on finding out what the facility actually does.

The instructions for tank cleaning dismantling in the intertidal zone was asked to be compiled in detail, assuring how the process protects against environmental impact, and block bouncing potentially causing injury, in way of final cut.

The updated SRFP with new and extensive instructions requires further improvements. Please refer to separate comments for each topic.

The updated instructions and their implementation can be evaluated during a future inspection.

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### MEPC 210(63) Section 3.1.4

**Project management progress reporting**

The facility advised that no formal progress reporting i.e. from production manager etc. was implemented.

Compliance could be confirmed during the site inspection.

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**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;**

- **Technical guidance note**
  - **Intertidal zone**
  - The tidal range can be up to 11 metres, the shoreline disappearing more than 1 kilometre

The desk assessment
<table>
<thead>
<tr>
<th>Control of leakage</th>
<th>out at low tide.</th>
</tr>
</thead>
</table>

Part 7.1 page 75 in the SRFP confirms that cutting operations (primary cuttings) start in the intertidal zone. The SRFP and the witnessed documents on site describe only superficially the primary cutting procedures, limited to “Primary cutting is conducted under consideration of all precautions as described in this SRFP. Potential adverse effects on the environment caused by paint chips in the soil, water or intertidal zone are avoided and minimized by let blocks fall inside the ship whenever possible or lift them with cranes to onshore.”

Another instruction, same page, reads “Dirty block and machinery to be transferred with proper spill prevention”. The yard advised that after cutting a section of the double bottom, openings subject to water ingress at high tide, including cut pipes, were welded shut with cover plates. During a close-up inspection of the actual vessel under dismantling, cut in way of a main transverse floor, it could be observed that the cut-outs allowing the passage of the longitudinal bottom frames were not closed watertight by filler plate. The evaluators inspected a number of tanks on the vessel, observing dirty water up to bottom floor web flange level. The facility also stated that ballast tanks normally never contained sediments anyway, so they had no experience in handling it. A rather surprising statement to the evaluators. The facility later withdrew the statement and agreed there were sediments in ballast water tanks.

The facility reported that all tanks prepared for primary cutting were perfectly clean, subject to a cleanliness report issued by internal inspection. Further clearance from independent party such as GMB, GPCB and Petroleum and Explosives Safety Organisation (PESO) respectively was not explicitly demonstrated.

The facility explained that double bottoms were cut open for access, and tanks cleaned with hot water and sand, the latter collected in bags and sent downstream. How the hot water from flushing is collected and treated was not clear to the evaluators. Later the facility explained that only machinery and machinery piping was flushed with hot water.

It was advised that no blocks were allowed to fall onto the intertidal zone, approved as clean showed partial compliance with this point. Compliance could not be confirmed during the site inspection.

The clarifications after site inspection documents did not further demonstrate full compliance with this point.
or not.

No proper cutting plan was demonstrated, cutting is decided every morning by the supervisors. The facility reported that each primary cut was average about 100 tons, subsequently craned to impermeable surface. The yard reported however, that they also winched parts from ship to shore, provided they were clean.

Observed during low tide, the intertidal zone was severely littered with all kinds of debris including cables, plastics, ceramics, cardboard, rubber etc. The facility deployed a cleaning team at each low tide to pick up debris, but the sheer amount was far too much for the cleaners to control in way of one tidal cycle. It shall rightfully be noted that the neighbouring yard was in the middle of dismantling a large cruise ship with the superstructure half cut and exposed all the way to the upper sun deck. Debris was flying from the vessel, with all the materials possible to find in a passenger ship accommodation. The facility had erected a barrier net facing this neighbour but the amount of macro- and microparticles escaping the net was seen extensive, releasing this debris also to the ocean. There were large blackened patches in the intertidal soil, and what seemed to be oils slicks were observed in puddles at low tide.

It is clear that tankers or other commodity vessels do not generate such amounts of debris, and the facility advised the superstructures on such ships were gutted down to steel before commencement of cutting. Nevertheless, the facility (SRFP page 10) states that it does accept passenger ships, and they have dismantled passenger ships in the past, most notably the famous ex *France* cruise ship *Norway*, in her time the longest passenger ship in the world – indeed a challenging task, providing a lot of learning for the facility they said.

The question is how such debris can be assured to be contained, in the recycling of all ship types with large accommodation areas.

As witnessed, it is clear to the evaluators that the facility can, considering the methods explained, not assure prevention against spills and leakages. The actual performance of the facility’s methodology would require much closer investigation and inspection during an
actual dismantling process. Based on the information provided and conditions observed it cannot be concluded by the evaluator, that leakage is sufficiently prevented, and tanks sufficiently cleaned, in particular in the intertidal zone, at all stages of recycling and for all ship types.

The applicant replied in the clarification document referring to the revised SRFP and further assuring that procedures and certifications assured compliance. The explanations in the ‘Site Inspection Report – Observations.pdf’ includes a few new points, not seen in the SRFP. For example, high density net, and checklists for water tightness of hull and intertidal zone cleanliness respectively.

The SRFP Part 3.2.6 does not contain the necessary detail as required. Comments based on the revised SRFP are as follows:

Primary cutting
The facility refers to the revised SRFP 15.11.2018 section 3.2.6. This section is a high-level explanation of the primary cutting in the intertidal zone but does not provide any more detailed information. As the previous SRFP it describes that blocks and double bottom sections are thoroughly cleaned and re-cleaned if still dirty, dropped inside the ship itself and not on the beach, to be lifted by crane to the impermeable secondary zone. The main concerns of the evaluators are the cutting of the double bottom, removal of pipes and outfitting / accommodation, with the assurance that debris and spill do not land on the intertidal zone. The site visit saw an intertidal zone heavily littered with debris and residue, with oil slicks in pools at low tide. It was understood that most of the debris could originate from the passenger ship next door, but it nevertheless remains to the applicant to in detail instruct how to maintain own standards.

The information asked for are detailed instructions to workers, the methods and equipment to be used and how, to assure no spill to the environment. The SRFP is still more of an overall explanation to convince third parties with too little detail. For example:

- ‘Cutting and Recycling Operation’ and the other instructions under 3.2.6 should be
sub-chaptered in the table of contents to be found more easily.

- In the decontamination part, it explains how tanks are cleaned but does not instruct to the workers how the remaining cleaning water in the space shall be collected and transferred to the GEPIL facility, and how to prevent cleaning water from re-cleaning to enter the intertidal zone.
- The revised SRFP 15.11.2018 explains that pipe ends are blanked and transferred to oily block handling area for further internal cleaning of pipes. It does not instruct to the workers how pipes shall be drained, and pipe ends shall be blanked.
- Photos from the site inspection revealed that even though blanks were seen fitted to pipes and partly longitudinal frame cut-outs in the main floors, there were still openings into the exposed double bottom, rendering the compartments within awash at high tide. The SRFP states that “The bottom of the vessel is divided into blocks by transverse bulkheads from bow to stern...” however it is not stated if the double bottom is cut at every watertight transverse main floor /bulkhead.
- It is written: “cleaning of the affected area of the intertidal zone will be carried out by the yard personnel” which is a good measure and witnessed during the site inspection. It is nevertheless the intention of the regulation that such cleaning should be in case of accidental pollution only, or as an extra precaution, but it shall not be a necessity.

The implementation of the new instructions can be evaluated during a future inspection.

| Preventive actions | Preventive actions against environmental impact and adverse effect on human health is described in the SRFP, however as previously commented on, the SRFP is generic hence the evaluation of actual preventive measures has to be verified during the site inspection. During the site inspection, it became apparent that the quality and level of implementation of preventive measures in way of fulfilling documentation and records were seen lacking, fragmented and uncertain. Overall, the facility has thought of and partly documented preventive measures. Comments to these are listed under the relevant parts of the updated SRFP below in this table. | Compliance could not be confirmed during the site inspection. The clarifications after site inspection documents did not further demonstrate compliance with this point. |
**Exception is ‘Job risk assessment’ section 3.3.3. This is still a generic, partly completed with fragmented and not logic lists of risks, made by the facility.**

The new documentation does not mitigate the evaluator’s comment. Further improvement can be evaluated during a future site inspection.

**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:**

| Technical guidance note 2.2.2, MEPC 210(63) Section 3.3.4.3 / BC TG: p78ff: 5.3, p67: figure 6 | Cutting areas | The secondary and tertiary (back yard) cutting areas, and the facilities in general, were found tidy, swept, clean and orderly. Gas hoses and -manifolds were generally seen in good condition. The facility had reportedly partly dismantled a vessel following the EU regulation, by lifting some blocks directly or from the hull. | Compliance could be confirmed during the site inspection. |
| Technical guidance note 2.2.2, MEPC210(63) Section p34: 3.4.4.1 | Drainage | Secondary and third cutting was seen to take place above drainage lines, meaning that leakages from these activities can mostly be captured by the drainage system. The primary cutting is nevertheless not protected by any drainage system and the hull remains awash and more or less floating at high tide. This is a critical stage in the recycling. It was also observed that secondary cutting took place already in the intertidal zone, on the exposed double bottom, then to be lifted by crane to the impermeable floor in the secondary cutting zone. Cutting of the double bottom in the intertidal zone is problematic in light of the technical guidance note 2.2.2 (f) which reads: “as early as is feasible, transfer of the remainder of the ship’s bottom itself to impermeable floor areas is carried out in a safe and environmentally sound manner, e.g. through the use of cranes, sleds or beams coupled with winches, to allow for the cutting of the bottom to take place above an impermeable floor with effective drainage system, including above a floating structure such as a floating dry dock, a flat top | Compliance could not be confirmed during the site inspection. The clarifications after site inspection documents did not further demonstrate compliance with this point. |
Due to the extension of the impermeable floor with a clear drop of a couple of meters, it will not be possible at any stage of the recycling process to pull the double bottom beyond the drainage line.

The clarification documents received in response to the draft report, includes a reference to a folder 13(1)(f) which is not what the title indicates but a set of documents from an example vessel. Please see comments on intertidal zone leakage prevention.

<table>
<thead>
<tr>
<th>Technical guidance note 2.2.</th>
<th>Wastewater treatment plant</th>
<th>There are two drainage systems on site, one for the “oily block area” and one for the “clean block area”. Water from the “oily block area” is collected and stored in a tank prior to disposal at GEPIL. The measures appear adequate. Water from the “clean block area” is collected and temporary stored in a tank. The water is visually inspected for contaminants. If found ok, the water is released to sea. If found not ok, the water is disposed of at GEPIL. It is not adequate to visually inspect drained water to determine if it is contaminated or not. It is considered inappropriate to release drained water to sea unless it is properly analysed. In response to the draft report the applicant referred to section 3.4.4.2 of the revised SRFP. Page 353 and 354 shows schematic drawing of rain/storm water drainage and collection tanks for the front and back yard. The schematic drawing shows that drained rain/storm water from the clean block area is no longer released to sea but transferred to trucks for disposal at GEPIL. The implementation of this new procedure can be evaluated during a future inspection.</th>
<th>Compliance could not be confirmed during the site inspection. The clarifications after site inspection documents did not demonstrate full compliance with this point.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impermeable floors</td>
<td>Secondary and third cutting areas were founded on impermeable, reinforced concrete impermeable flooring. The impermeable floor has been extended into the intertidal zone, with a clear drop of a couple of meters. It is unclear to the evaluators if permits for this extension were required by</td>
<td>Compliance could be confirmed during the site inspection.</td>
<td></td>
</tr>
</tbody>
</table>
the Indian Coastal Zone Management law.

<table>
<thead>
<tr>
<th>Waste storage</th>
<th>Waste storage rooms for glass wool, plastics, chemicals, paint chips and batteries respectively, were inspected and found very clean, and more or less empty.</th>
<th>Compliance could be confirmed during the site inspection.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazardous waste storage</td>
<td>Waste storage rooms for asbestos, chemicals, paint chips and batteries respectively, were inspected and found very clean, and more or less empty.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
</tbody>
</table>

**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;

<table>
<thead>
<tr>
<th>Waste management</th>
<th>Hazardous materials described in the IHM is removed and sent to waste management facilities authorised by GPCB.</th>
<th>Compliance could not be confirmed during the site inspection.</th>
</tr>
</thead>
</table>

Most materials and equipment, lose or fixed, is removed and sold. This is problematic as the applicant until now, has not ensured that the materials are free from hazardous waste. For example, electronic equipment is sold to traders, cables are sold to authorised dealers, short cables are sold to authorised dealer Sanyia Traders, while long cables are reportedly re-used. Carpets are sold to traders, broken parts sent to GEPIL. Intact flooring is sold provided it does not contain asbestos, if flooring is damaged or in poor condition it is sold to plastic recyclers. The clarifications after site inspection documents did not further demonstrate compliance with this
In discussions during the inspection it became clear to the evaluators that the applicant mainly relies 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.

Polybrominated diphenyl ethers (PBDEs) including pentabromodiphenyl ether (c-pentaBDE), octabromodiphenyl ether (c-octaBDE), and decabromodiphenyl ether (c-decaBDE) have been used in a number of applications, including cellular rubber, textiles, plastics and wire insulation, in concentration above the threshold level for hazardous waste.

Article 5.1 of SRR reads: "Each new ship shall have on board an inventory of hazardous materials, which shall identify at least the hazardous materials referred to in Annex II and contained in the structure or equipment of the ship, their location and approximate quantities". The quality of the IHM's 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 than those possibly listed in the IHM.

SCCPs has been used as a plasticizer in rubber, paints, adhesives and flame retardants for plastics. SCCP has been used in vinyl flooring (including vinyl ties) in concentrations above the hazardous waste limits.

Polybrominated diphenyl ethers (PBDEs) including pentabromodiphenyl ether (c-pentaBDE), octabromodiphenyl ether (c-octaBDE), and decabromodiphenyl ether (c-decaBDE) have been used in a number of applications, including cellular rubber, textiles, plastics and wire insulation, in concentration above the threshold level for hazardous waste.

Amount of electrical wires varies dependent on vessel type and size, from several hundred kilos up to more than a ton.

HBCDD may be present in concentration above the threshold level for hazardous waste in insulation foam e.g in cold provision rooms or LNG tanks.
Amount of flooring varies between ship types and sized, from hundred kilos upwards. PCNs make effective insulating coatings for electrical wires, as rubber and plastic additives, for capacitor dielectrics and in lubricants. PCN has been used similarly to PCB.

The current intentional use of PFOS is widespread and includes electric and electronic parts, fire-fighting foam, photo imaging, hydraulic fluids and textiles. Onboard vessels it is important to ensure that the firefighting foam is free from PFOS, by taking a sample from the tank. It is not sufficient to rely on material safety data sheet. To date, firefighting foam has been resold by the applicant without ensuring the presence of PFOS.

Mobil units in the engine room may contain 50 litres of foam concentrate diluted with water (normally ratio 3 or 6% foam concentrate and 97 or 94 % water). Fixed foam tanks contain concentrate (not diluted with water), required for specific type of vessels. Tanks size varies from 400 - 20 000 litres dependent on ship type and size.

Considering Article 5.1, it is recommended that the applicant ensure that they are updated on upcoming changes in the Stockholm Convention. PFOA is a hazardous substance, belonging to the same group of chemicals as PFOS. PFOA is already regulated in the EU and likely to be added to the Stockholm Convention in 2019. Firefighting foams may contain PFOA rather than PFOS. Hence it is recommended that the applicant ensures that foams containing PFOA is not resold but sent to an adequate downstream waste management facility.

In response to the draft report the applicant refers to the updated SRFP and sections 3.2.1 and 3.2.4, an IHM and additional sampling. Section 3.2.1 includes licenses to various waste management facilities, commented further under Article 15 (5) later in this table. Section 3.2.4 provides little new information. The attached IHM and additional sampling performed is commented below in is table under additional sampling and analysis.

The implementation of new measures related to waste management must be evaluated during a future site inspection
Waste disposal

Please refer to Article 15(5) below.

Compliance could not be confirmed during the site inspection.

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### Waste disposal

Please refer to Article 15(5) below.

Compliance could not be confirmed during the site inspection.

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Please refer to Article 15(5) below.

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Please refer to Article 15(5) below.

Compliance could not be confirmed during the site inspection.

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### Waste disposal

Please refer to Article 15(5) below.

Compliance could not be confirmed during the site inspection.
concerns is unclear.

- Fire on Plot: Not understood why a mock drill shall be carried out every fourth month while every third month on the ship. Otherwise mostly same comments as for Fire on Ship, lack of flame exposure and burns etc.
- Explosion on Ship, 8. Preparedness: Not mentioned maintenance of gas hoses and valves.
- Explosion on Ship, 9. Mitigations: Much the same comments as for Fire on Ship.
- Spillage in Sea Water: 8. Preparedness: It is stated that oil boom shall be deployed while cutting the engine room, which is detrimental to the general instruction of always having the boom deployed around the vessel, at all times. In general, oil spill can occur from other sources than the engine room.
- Spillage in Sea Water: 9. Mitigation: The facility has a standby boat, not mentioned to be used for oil boom or chemicals.
- Falling from height 9. Mitigation:
  - The instruction is severely dangerous. It is written to first shift the injured. How to approach an injured who has fallen from height depends on his condition. If he is lying, cannot move, or unconscious moving an injured can be fatal or cause permanent paralysation, due to dislocation in a broken spine or back. The evaluator insists that the facility gets a professional or a doctor to compile this part.
  - No mention of calling an ambulance. Who decides to call an ambulance or not? Who can determine if there are inner, immediate undetectable injuries? How to deal with possible head injuries and concussion?

- General Accidents 8 Preparedness:
  - Trained manpower for first aid is mentioned, not safety training of the workers themselves
  - Same comment as for Falling from Heights: Acquire professional expertise / doctor to compile mitigating actions on injured people, including burns

- Torch backfire 6 Exposure and 7 Effect: No mention of flame exposure and burns. Only smoke inhalation and pollution due to smoke.
- Torch backfire 8 Preparedness:
- Trained manpower for first aid is mentioned, not safety training of the workers themselves in preventing torch backfires
  - Torch backfire 9 Mitigations: Same instructions as for the other fires, same comments by the evaluators
  - Confined space rescue: The first thing anybody must know, when seeing an unconscious victim in a confined space, is to not enter without gas measuring or SCBA set due to risk of oxygen shortage. Then how to access and evacuate the casualty to shore and to hospital. The evaluators suggest that the facility gets professional assistance to compile a proper procedure for this type of casualty, as it is the instruction is detrimental to safety and dangerous.

| Technical guidance not 2.2.4, MEPC 210(63) Section 3.2.1 | Emergency access routes | The site inspection proved that the facility had clear and amply marked emergency access and evacuation routes, marked as yellow lines and arrows. Signage was found to be good to very good.

Access from the facility to the intertidal zone was found adequate, by a soil slope. Suitable rescue equipment, including stretchers and cages for evacuation of injured personnel, is kept readily. | Compliance could be confirmed during the site inspection. |
| MEPC 210(63) Section 3.2.1 | Access and logistics within facility, Access to the ship for ambulances and fire trucks was found good and well-marked. | Compliance could be confirmed during the site inspection. |
| Technical guidelines 2.1.4 (b), MEPC 210(63) Section 3.2.1, 3.3.5, ILO SHG, Section 3.6 | Medical services and facilities | The facility had a medical room, suitable for treating minor injuries and first aid. The room was found in good condition, with good light conditions and first aid equipment.

The facility monitored employee health by doctor appointments as required but no regular system was demonstrated at the site visit.

The facility also had 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 Compliance could not be confirmed during the site inspection. The revised SRFP and other clarifications did not further demonstrate compliance with this point. |
aiders), initial treatment could not be provided (e.g. stabilising with electrolyte, pain injections etc.)

However, two major issue remain: the limited availability of ambulances with paramedics, and the lack of an adequate medical facility for more severe injuries, in way of a proper local hospital.

The district had a mobile health unit, donated by Maersk, this was observed but its equipment and use were not witnessed or verified. But it was not an ambulance and could only carry out first aid.

Only 1 ambulance with paramedics is available, stationed in Alang approximately 15 minutes’ drive away. The 2 small hospitals in Alang, including a Red Cross facility, can only treat minor injuries. More severe injuries must be driven to the hospital in Bhavnagar, 55 kilometres away, on a road with severe traffic. Ambulances were observed on the road daily, during the 5 days of the site inspections.

The applicant was aware of the criticality and concerned of these issues, as was the workers’ union. It is the evaluator’s opinion that the industry should establish a common initiative on building a hospital in Alang. Referring to the ILO guideline, consideration should be given to the creation of the necessary dispensing and health-care facilities where professional help is not available within a reasonable distance, particularly in remote areas.

In response to the draft report the applicant forwarded comments in the ‘Site Inspection Report_Observations.pdf’.

With reference to the facility’s clarifications:
They have a “well-equipped ambulance available 24X7 stationed inside the premises”. The ambulance was inspected during the site inspection and was not an ambulance as such, manned with paramedics, but a van equipped with first aid equipment including an oxygen breathing apparatus and an ambulance bed. It does not have other life-support equipment, cannot provide out-of-hospital treatment, is not manned by paramedics and the driver had at the time of the inspection never trained on emergency runs with siren in the traffic, to hospital facilities either local or in Bhavnagar. They had only trained by driving inside the
The revised SRFP page 177 depicts tables of necessary first aid items to be kept in the first aid boxes and emergency evacuation from ship, but no ambulance inventory list. The capability of the cardiac ambulance run by GVK-EMRI (Emergency Management and Research Institute), commonly available for all facilities in Alang was not verified during the last visit nevertheless, the fact that the facility has access to one ambulance and partly two, does not change the situation that only two ambulances are available. Should an accident with over two casualties occur, the reaming above two will have to wait the over two hours it takes to transport a casualty to the public hospital in Bhavnagar and return for the next. The traffic on the roads to Bhavnagar is perilous.

Regarding the two local hospitals in Alang, the Indian Red Cross and Alang Hospital respectively, the range of treatments listed in Part 3.3.1 page 177 does not match the statements made by the facility, and the local union, of not being able to hospitalize and treat serious, multiple casualties including amputation (it is written “Artificial limbs”) and serious burns. There is no information on the internet of the two hospitals. The evaluators maintain, based on the information gathered, that the region of Alang is not equipped to transport or handle accidents with multiple casualties and serious injuries.

<table>
<thead>
<tr>
<th>Technical guidelines</th>
<th>Regulatory requirements</th>
<th>The SRFP should identify and demonstrate the knowledge and understanding of applicable worker safety and occupational health processes, procedures, laws, regulations and guidance.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1.4 (b), MEPC.210(63), Section 3.1.1, 3.3.4.11</td>
<td>health and safety</td>
<td>By checking of records, the evaluators deemed the facility to comply with regulatory health and safety requirements.</td>
</tr>
</tbody>
</table>

The facility’s fire safety regime including prevention and mitigation was deemed to be good, and in accordance with regulatory requirements.

Compliance could be confirmed during the site 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;

<table>
<thead>
<tr>
<th>Technical guidance note 2.3.1</th>
<th>Safety inspectors on site</th>
<th>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.</th>
<th>Compliance could be confirmed during the site inspection.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical guidance note 2.3.2</td>
<td>Condition of safety equipment</td>
<td>The standard and condition of safety equipment in general was found good.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>Technical guidance note 2.3.3, MEPC 210(63) Section 3.1.2/3.2.2</td>
<td>Safety induction and training, employees</td>
<td>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.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>Technical guidance note 2.3.3, MEPC 210(63) Section 3.1.2/3.2.2</td>
<td>Safety induction and training, subcontractors</td>
<td>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.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>Technical guidance note 2.3.3, MEPC 210(63) Section 3.1.2/3.2.2</td>
<td>Safety induction, visitors</td>
<td>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.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>Technical guidance note 2.3.3, MEPC 210(63) Section 3.1.2/3.2.2</td>
<td>Risk Assessment</td>
<td>No other risk assessment other than the template in the SRFP was examined. The evaluator questions if risk assessments are regular and ongoing, or if the template “fits all”.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td><strong>MEPC 210(63) Section 3.1.2</strong></td>
<td>Hazardous waste handling training</td>
<td>The applicant is authorised to carry out the removal of hazardous waste as per GPCB authorization no. AWH-60034 dated 23rd January 2014 and valid up to 17th November 2018. The complete authorisation was provided during the desk assessment.</td>
<td>The desk assessment showed compliance with this point. This was confirmed during the site inspection.</td>
</tr>
<tr>
<td>-------------------------------</td>
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<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>MEPC 210(63) Section 3.3.5</strong></td>
<td>Ship access control</td>
<td>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.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td><strong>MEPC 210(63) Section 3.3.4.5</strong></td>
<td>Prevention of falling from heights</td>
<td>Training in force, records of training was witnessed on site. The cut-away exposed deck edges of the vessels were seen fitted with plastic band barriers on deck-welded stanchions.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td><strong>MEPC 210(63) Section 3.3.4.1.8</strong></td>
<td>Safety signage on site</td>
<td>Overall safety signage found good to very good.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td><strong>MEPC 210(63) Section 3.3.4.1.8</strong></td>
<td>Safety signage on vessel</td>
<td>The evaluators were on board a vessel, safety signage was observed to be good.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td><strong>MEPC 210(63) Section 3.3.4.6</strong></td>
<td>Lifting equipment and instructions Cranes</td>
<td>The yard appeared to have adequate lifting safety regime. The cranes are tested by Dharmendra Vora and Associates. Certificates were witnessed on site and valid until 16.06.2019. Even though the certificates look very similar, they are reportedly only issued on the same day, but tested over several days (5-6 days). It is recommended that the testing is supported by photos.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>MEPC 210(63)</td>
<td>Crane operators’ certification</td>
<td>Crane operators are trained and certified.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>MEPC 210(63)</td>
<td>Lifting equipment, authorization</td>
<td>Found adequate.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>MEPC 210(63)</td>
<td>Training of forklift operator</td>
<td>Found adequate.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>MEPC 210(63)</td>
<td>Certification/training of cutters</td>
<td>The cutters are trained by GMB over a period of 15 days. Only workers certified by GMB can work as cutters. Records witnessed and confirmed.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
</tbody>
</table>
| MEPC 210(63)  | Cutting procedures | 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. Their policy so far is to dismantle ships as per agreement with the ship owners of the vessels concerned (i.e. pursuant to the requirements from the Hong Kong Convention if so required by the ship owners, or pursuant to domestic provisions in Indian law otherwise).

Cutting is decided day by day, each morning by the supervisors. It is performed so that the blocks fall into the ship itself as far as possible. The SRFP states “or on the intertidal zone by necessity” which the yard denied ever happened, ref. compliance to Hong Kong Convention – in addition to that they had since increased the impermeable area closer to the vessel hence more readily reachable by crane.

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.

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... | Compliance could be confirmed during the site inspection. |
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.

The facility was recommended to revise the SRFP with a more detailed cutting- and anti-bouncing procedure.

| 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 could be confirmed during the site 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 could be confirmed during the site inspection. |
| MEPC 210(63) Section 3.3.4.6. | Ropes/chains/slings | The yard reported not to have traceable chains. Hooks and slings were not marked. In response to the draft report the applicant forwarded clarifications in ‘Site Inspection Report – Observations.pdf’, the SRF has reportedly adopted methodology of embossing of identification number on shackles and hooks while attaching embossed metal tags to ropes and slings. This explanation has been included in section 3.3.4.8 of revised SRFP. The SRFP does not however instruct on how it shall be done, just that it is done. There are some facsimiles of some crane maintenance reports. This is not as expected by the evaluator, compliance needs to be verified during a new site inspection. | Compliance could not be confirmed during the site inspection. |
| MEPC 210(63) Section 3.3.4.8 | Maintenance and decontamination of tools and equipment | The SRFP contains a blank “breakdown report” form. In response to the draft report the applicant forwarded clarifications in ‘Site Inspection Report – Observations.pdf’ referring to the revised SRFP. The revised SRFP has more points, but still in “sales pitch” form. It tells that the SRF does this, with a few facsimiles of reports as examples, but no practical instructions. | Compliance could not be confirmed during the site inspection. |

The revised SRFP and other clarifications did not further demonstrate full compliance with this point.
<table>
<thead>
<tr>
<th>Standard</th>
<th>Section</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>ILO SHG 16.1.6</td>
<td></td>
<td>Such examples of actual forms are good as references in attachments.</td>
</tr>
<tr>
<td>MEPC 210(63) Section 3.3.4.8</td>
<td></td>
<td>The facility had a proper and clean eye-wash station, with water supply from the potable water intermediate storage tank.</td>
</tr>
<tr>
<td>MEPC 210(63) Section 3.3.4.7</td>
<td></td>
<td>The condition of electrical equipment and wiring was found in acceptable / good condition.</td>
</tr>
<tr>
<td>MEPC 210(63) Section 3.3.4.8</td>
<td></td>
<td>The facility had a proper and clean eye-wash station, with water supply from the potable water intermediate storage tank.</td>
</tr>
<tr>
<td>Technical guidance note 2.1.3, MEPC 210(63) Section 3.3.5/3.3.6 / BC TG: p63: 4.5</td>
<td></td>
<td>The facility trains certain employees and safety supervisors in basic fire-fighting only.</td>
</tr>
<tr>
<td>ILO SHG: p49: 7.1.7</td>
<td></td>
<td>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.</td>
</tr>
</tbody>
</table>

Compliance could be demonstrated full compliance with this point. Compliance could be confirmed during the site inspection.

Compliance could be confirmed during the site inspection.

Compliance could be confirmed during the site inspection.

Compliance could be confirmed during the site inspection.

Compliance could be confirmed during the site inspection.

Compliance could be confirmed during the site inspection.
<table>
<thead>
<tr>
<th>ILO SHG: p83: 8.8.8</th>
<th>Fire station equipment</th>
<th>not contain PFOS.</th>
<th>Compliance could be confirmed during the site inspection.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEPC 210(63) Section 3.3.6, ILO SHG: 8.8.8</td>
<td>Fire alarm system on shore</td>
<td>The facility fire &amp; 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.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>ILO SHG: 8.8.11</td>
<td>Fire alarm system on vessel</td>
<td>There were reportedly no fire alarms on the vessel, however the alarm system onshore is loud.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>Technical guidance note 2.3.3, MEPC 210(63) Section 3.3.6, ILO SHG: 8.8</td>
<td>Fire prevention measures general</td>
<td>The facility has a smoking ban.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>MEPC 210(63) Section 3.3.6, ILO SHG 13.4.5</td>
<td>Combustible materials and hot-work</td>
<td>The facility has, in its SRFP an instruction in the dismantling process, that all combustible materials are stripped from the vessel before steel cutting.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>MEPC 210(63) Section 3.3.4.4, ILO SHG 8.8.1, 13.5.2.</td>
<td>Condition of AC/OX lines</td>
<td>The facility does not have a central LPG tank, nut 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.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>MEPC 210(63) Section 3.3.4.4</td>
<td>Transporting/storing flammable gases</td>
<td>The bottles were transported on site on carts of acceptable quality.</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>MEPC 210(63):</td>
<td>Fire hydrants</td>
<td>Hydrants and hoses were observed on site and found in good working condition. Lockers</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
</tbody>
</table>
were provided for the hoses.

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 could be confirmed during the site 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 could be confirmed during the site inspection.

Security management

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.

In the updated SRFP received in response to the draft report, the roles and responsibilities of security guards are described on page 168. The roles and the responsibilities of the security guards is already defined on page 34 and the description on page 168 is a whole new set of different instructions. It is recommended that the SRFP is updated with a single, credible set of instructions, according to the actual tasks security carries out in the facility’s daily operation. It is understood that the facility has one security guard, posted at the gate. This new instruction virtually asks the security guard to at several places at once, following up safety, incidents, crime etc. in addition to the gate-keeping. He is also required to organize crowds at the assembly station during emergency, which means he must leave the gate he is supposed to guard. The do’s and don’ts are fine, but it is recommended to remove repetitions to make them lean. It is contradictory that security shall collect mobile phones at the gate, when the EPRP calls for alerting emergencies by mobile phone.

Security management is not a requirement.

Access control to facility; security patrols

The facility was covered by CCTV.

Access control to facility is not a requirement.

Data security

N/A

Data control is not a requirement.

ILO SHG 8.4.2

Entrances / gates, fencing

Employee and visitor access cards are issued by the security office.

Compliance could be confirmed during the site inspection.
Workers enter and leave both the main facility and the back yard through a guarded, heavy main gate, covered by CCTV.

<table>
<thead>
<tr>
<th>Technical guidance note</th>
<th>Training</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>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,</td>
<td></td>
<td>Compliance was confirmed during the desk assessment.</td>
</tr>
</tbody>
</table>

The use of PPE was observed to be well implemented at all times during the site visit. 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 breath, normally every second week.

The evaluators question 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 is unknown. The air monitoring conducted on site per the SRFP is deemed insufficient by the evaluators to determine the level of risk of the helpers/sweepers.

The supervisors had the routine of checking worker PPE during the morning toolbox talk.

The PPE storage / outlet was witnessed and found to be in acceptable condition.

In response to the draft report the applicant answers in the ‘Site Inspection Report – Observations.pdf’ that Helpers & Sweepers working in close proximity of the cutters have been provided with filter masks and been briefed to use them. The revised SRFP section 3.3.4.10 has a table of required PPE based on a selection of type of work, mostly skilled work, which does not cover all activities including specific PPE requirements for the mentioned helpers and sweepers, but also not for crane operators, visitors, contractors etc.

Compliance could be confirmed during the site inspection, but further information is required for adequacy of the masks of helpers of the cutters.

The revised SRFP and other clarifications did not further demonstrate full compliance with this point.
Hence the list is incomplete and ear protection is not included in the list of PPE.

The new measures can be evaluated during a future site inspection.

<table>
<thead>
<tr>
<th>Technical guidance note 2.3.4, MEPC 210(63) Section 3.3.4.11 and Appendix IV, ILO conventions</th>
<th>Medical monitoring</th>
<th>They showed examples for specific workers, including hazmat team. Please refer to health monitoring above in this table.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>The applicant immediately started to look into how to improve further as previously mentioned.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The clarification document ‘Site Inspection Report – Observations.pdf’ answers that details of annual health check-ups of employees are included in section 3.3.1 of the revised SRFP. See comments above in article 2.1.4 (b), Health.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A new section in the SRFP, 3.3.4.11, is titled ‘Worker Exposure and Medical Monitoring’ and includes a table of maximum exposure times depending on work type. It is not understood what this table means, and why the exposure limits are set as they are. The limit for cutting operations on the ship is set to 2 hours, on site 2 hours and 30 minutes. Handling of hazardous waste on the ship is limited to 1 hour, on the yard 2 hours. The difference is not clear, but it states the values are based on past experience. Loading of material is only allowed for 1 hour, any dismantling only 2 hours. The criteria for setting these values lacks logic.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>The SRFP does not instruct on lunch hours or break times, and the table of requirements does not include the necessary resting time between the allowed exposure values. With 250 workers at the plot at one given time, it is not understood and not deemed realistic that a handful of supervisors at any given time can keep track of each individual worker’s exposure time thereby enforcing the requirements.</td>
</tr>
</tbody>
</table>

Compliance could be confirmed during the site inspection.

The revised SRFP and other clarifications did not further demonstrate full compliance with this point.
The implementation of new measures must be evaluated by during a future inspection.

<table>
<thead>
<tr>
<th>Incident monitoring and reporting</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The clarification document ‘Site Inspection Report – Observations.pdf’ advises that Incident / near miss reporting is included in section 3.4.4.4 of the revised SRFP. This section only advises however that instructions are in place, with a facsimile of the Incident Report Form.</td>
</tr>
<tr>
<td></td>
<td>The section does hence not describe what the title suggests, “Incident and Spills Reporting Procedures”. The clarification document reports that &quot;suggestion / drop boxes are located at conspicuous locations in the yard, and that the facility has introduced suggestion system and encourages workers / staff through training to provide the suggestions &amp; to do Incident / near miss reporting. Incident / Near Misses can also be recorded on “Operational Control Checklist” Form No. IMS/F/09.”</td>
</tr>
<tr>
<td></td>
<td>IN the SRFP, page 157, Complaints and Suggestions for Improvement Policy, the suggestion box is also mentioned. Part of the issues preventing workers to submit complaints and suggestions is the fear of being seen. While anonymity and confidentiality are stressed in the policy, the opening time of the suggestion box at 5:30 PM is detrimental to this as a worker will not have the ability to slip a note in the box discreetly at leisure, when nobody else is in the room. Now, he may have to “line-up” at 5:30 in a conspicuous location and be observed doing so by fellow workers and management. This negative effect has been noted by the evaluators at other facilities and yards, world-wide, workers are afraid to be seen submitting a complaint. Just keep the box “open” at all times, mounted in a corridor or similar. The SRFP should be revised with instructions to workers, how to file a complaint or suggestion and how it will be handled, including the location of the suggestion box / boxes.</td>
</tr>
<tr>
<td>Statistics</td>
<td>No accident statistics were provided. The yard claimed that they had not had an LTI since 2006, only minor injuries hence nothing to report.</td>
</tr>
<tr>
<td></td>
<td>Compliance could not be confirmed during the site inspection.</td>
</tr>
<tr>
<td></td>
<td>The revised SRFP and other clarifications did not further demonstrate full compliance with this point. The section will have to be discussed by new site inspection.</td>
</tr>
<tr>
<td></td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
</tbody>
</table>
| Near-miss reporting | No true near miss reporting was implemented.  

The clarification documents folder 13(1)(d) included an example of an incident report, dated 25/7/2018, i.e. prior to the site inspection, not witnessed by the evaluators. This is OK, but it is not understood why 2 forms need to be filled out with the same information. An example of a toolbox talk report was also provided, dated 12/10/2018.  

A search for “Near miss” in the SRFP provided no results. A toolbox talk form is not mentioned in the SRFP. | Compliance could not be confirmed during the site inspection. The revised SRFP and other clarifications did not further demonstrate full compliance with this point. The section will have to be discussed by new site inspection. |
| Non-conformance procedures | 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. | Compliance could be confirmed during the site inspection. |
| HSE Incentives | No particular benefits.  

The workers were not encouraged to be members of the union, on the contrary – the evaluator had the impression that the union or union membership was not favoured by the management. | Compliance could be confirmed during the site inspection. |
| Corporate social responsibility | The facility did not have an actual CSR statement or policy in placed 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.  

In response to the draft report the applicant forwarded a revised SRFP. Section 3.3.1 includes many important policies and instructions, including child labour and anti-corruption. Child labours is described on page 153 where the policy has been copied from Operational Procedures for Remediation of Child Labour in Industrial Contexts | Not a requirement to have a CSR policy or statement. |
Regarding child labour, it seems that the instructions are targeted to all the workers at the yard and that any one shall “Remove the child from all work immediately. Preventing the continuation of work gives a clear message to factory managers. It also reduces the risk that managers may try to continue to use child workers under the guise of bogus “training centres” or “apprenticeship schemes”. It is questionable if a worker in reality will challenge and defy company management in this way, in a scheme where the supervisors are fully in charge of authority. Furthermore, it is the yard management who is responsible for taking the necessary actions if a child is found working. The instruction goes on with extensive immediate actions, instructing that the SRF shall virtually adopt the underaged, giving food, accommodation, stipends, education, including educating and persuading the parents, with financial support. The evaluator understands that the intentions are the best, however the instructions do not appear credible or compiled by a professional. Nothing is instructed on reporting the case to the authorities and to which authorities, or to institutes such as the Gujarat State Child Protection Society, or schools. It would be assumed that a doctor also would be involved to check his condition, circumstances and not just to verify age. India enforces the National Policy on Child Labour, and it is suggested by the evaluators to seek advice from the relevant authorities to compile an acceptable instruction. The evaluators question if this instruction, as written, has actually previously been executed.

The Alang Sosiya Ship Recycling and General Workers’ Association reported that child labour was generally not a problem in Alang.

| 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; |
| Ship recycling plan | A SRP was witnessed on site. The SRP is reportedly forwarded to GMB. The SRP is prepared by the HSE Manager, in cooperation with the Plot / General Manager. An SRP was witnessed however it did not include a proper cutting plan. An instruction for the SRP was not provided, and the SRFP only states that they do it | Compliance could be confirmed during the site inspection. |

MEPC 210(63) Section 3.2.4, 3.4.2.1
### 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 | The facility has experience in running projects in accordance with IMO procedures with IHM Part 1,2 and 3 and a SRP. | The evaluators are of the impression that the organisation easily 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 completion | A proper completion report was not provided, only a certificate of completion. It is likely that the facility can establish and adapt to a reporting system. The revised SRFP 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.” There is no facility-specific table of contents. A sample report was provided in the clarification documents, dated 2016-10-28. The table of contents has page numbers, but the pages are not numbered. The report includes pictures of scrap dropped in the intertidal zone, next to the hull. A deck cargo tank, a windlass, and Heavy Fuel Oil (HFO) forward bulkheads, HFO tank bottom, side shells, fully equipped life boat decks with davits, a large deck crane, engine room side shell, and other cut pieces (no page numbers). An entire open and equipped engine room side section is seen winched up the intertidal zone. There is a photo of the main engine block, detached from its bottom cradle, upside-down with the open engine top resting on the beach. The Report of Completion is a few years old, it is assumed by the evaluator that such practice as documented here has improved. | Compliance could not be confirmed during the site inspection. The revised SRFP and other clarifications did not further demonstrate full compliance with this point. The section will have to be discussed by new site inspection. |
In Attachment 24, there are 14 incident reports, thus found in good order.

Lessons learned

<table>
<thead>
<tr>
<th>Lessons learned</th>
</tr>
</thead>
<tbody>
<tr>
<td>No true lessons learned process was seen implemented.</td>
</tr>
</tbody>
</table>

The clarification document ‘Site Inspection Report – Observations.pdf’ refers to section 3.2.7 in the SRFP, for the lessons learned process. This section concerns “Reporting upon Completion”, advises: “Lesson learned procedure has been developed and the same has been included in Incident reporting form and in “Operation Control Checklist” form IMS/F/09. Lesson learned shall be recorded and discussed during safety meeting / Toolbox talks and in trainings.” The section does not describe the Lesson learned process itself, and a search in the SRFP for “lessons learned” provided no results.

Suggestions for improvements

<table>
<thead>
<tr>
<th>Suggestions for improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td>As explained earlier.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>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);</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical guidance note 2.2.1, MEPC 210(63) Section 3.2.2</td>
</tr>
<tr>
<td>Authorisation</td>
</tr>
<tr>
<td>The applicant holds the “Permission letter to utilise ship breaking plot at Sosiya” from GMB.</td>
</tr>
<tr>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sub-contractors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Several sub-contractors are listed in the application and in the SRFP, but they are actually not sub-contractors, such as government institutions.</td>
</tr>
<tr>
<td>The applicant is requested to update the SRFP according to actual sub-contractors working on-site and provide their authorisations.</td>
</tr>
<tr>
<td>The sub-contractors list had been updated and included in section 3.2.2. of the revised SRFP but cannot readily be found as the lists are 5 pages among 76 pages of facsimiles licences and permits. The evaluator suggests making this list readily accessible in the document.</td>
</tr>
<tr>
<td>Compliance could not be confirmed during the site inspection. The revised SRFP did not demonstrate full compliance with this point. The section will have to be discussed by new site inspection.</td>
</tr>
</tbody>
</table>
### 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 | Today the SRP is reportedly approved by explicit approval by GMB. The evaluators were of the impression that the organisation easily could adapt to any new legal regimes with regards to approval of the SRP. | The evaluators are of the impression that the organisation easily 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.

<table>
<thead>
<tr>
<th>Method of recycling</th>
<th>The operation is by beaching the vessel/intertidal landing.</th>
<th>Compliance could be confirmed during the site inspection.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type and size of ships that can be recycled</td>
<td>Reportedly no limitations, all ship types</td>
<td>Compliance could be confirmed during the site inspection.</td>
</tr>
<tr>
<td>Any limitation and conditions</td>
<td>Offshore structures are not described in the Ship Recycling Facility Plan; hence the evaluators cannot confirm the method for recycling offshore structures. In response to the draft report the applicant forwarded a revised SRFP. The primary cutting procedure for recycling of rigs is included in section 3.2.6. Please refer to comments under Article 13-1 (c) it operates from built structures. New measures must be evaluated during a future site inspection.</td>
<td>Compliance could not be confirmed during the site inspection. The revised SRFP and other clarifications did not further demonstrate full compliance with this point.</td>
</tr>
<tr>
<td>Maximum annual ship recycling output</td>
<td>Per the desk assessment the reported capacity is 127,913 (2009). Maximum capacity is listed within application file as approx. 120,000.00MT. No completion statements have been provided within the application file; therefore, it is not possible to verify the stated maximum capacity or dismantling works that were carried out in 2009 to achieve the 127,913 LDT output.</td>
<td>Compliance could not be confirmed during the site inspection. Compliance confirmed</td>
</tr>
</tbody>
</table>
In response to the draft report the applicant reports that “the issuance of completion certificates by GMB was not introduced in subject year of 2009. Records of Decontamination Certificates and Cutting Permissions (issued by Government Organization) for vessels beached & recycled in 2009 are attached for your easy reference & acceptance”.

In the clarification documents, beaching permissions for 4 vessels were included, totalling 125,895 LDT, which is the estimated LDT.

<table>
<thead>
<tr>
<th>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;</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirmation</td>
<td>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.</td>
</tr>
<tr>
<td>Compliance confirmed during the desk assessment.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>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;</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HKC: p14: R1(7), MEPC 210(63) Section 3.3.4.2 / ILO SHG: p110:13.4</td>
<td>Safe- for- hot work certificate, warning signs and labels</td>
</tr>
<tr>
<td>Observed on site and found in order. The SRFP has to be updated to demonstrate this clearly.</td>
<td></td>
</tr>
<tr>
<td>Compliance could be confirmed during the site inspection.</td>
<td></td>
</tr>
<tr>
<td>HKC: p26: R19(3), BC TG: p47: 4.2.1</td>
<td>Confined spaces</td>
</tr>
<tr>
<td>Observed on site and found in order. The SRFP has to be updated to demonstrate this clearly.</td>
<td></td>
</tr>
<tr>
<td>Compliance could be confirmed during the site inspection.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Article 15 (2) (e): attach a map of the boundary of the ship recycling facility and the location of ship recycling operations within it;</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>HKC: p43: 1.5, MEPC 210(63) Section 3.2.1</td>
<td>Map of facility</td>
</tr>
<tr>
<td>See desk-top review. Facility has since provided better map.</td>
<td></td>
</tr>
<tr>
<td>Compliance could partially be confirmed during the site inspection.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>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:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) whether the ship recycling facility is authorised to carry out the removal of the hazardous material. Where it is so authorised, the relevant</td>
<td></td>
</tr>
</tbody>
</table>
**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 | Compliance confirmed during desk assessment. Spot checks during the site inspections confirmed compliance for the persons involved (e.g HSE manager). | Compliance confirmed during desk assessment. |

**(ii) which waste management process will be applied within or outside the ship recycling facility such as incineration, landfiling 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 requirements environment | Reportedly, per the SRFP the applicant follows the Ship Recycling Code 2013, guidance from the Indian Ship Recycling Industry Association (SRIA), GPCB, GMB technical guidance and International Labour Organization (ILO). The applicant has never removed PCB, PBB, PBDE, HBCDD, PCN, SCCP or PFOS. These are all regulated by the Stockholm Convention. Where these are likely to be found is provided in the Stockholm Convention and adequate downstream waste management processes is provided in the Basel Conventions technical guidelines. The evaluators conclusions are that these regulations are not well implemented on site. In response to the draft report the applicant refer to their answer for article 13 (1) (g) (ii). Here the applicant refers to attached IHM’s and additional sampling. The attached IHM’s and the additional sampling shows that additional samples have been taken and analysed for asbestos only. Please refer to additional sampling and analysis and Article 15(5). New measures must be evaluated during a future site inspection. | Compliance could not be confirmed during the site inspection. The revised SRFP and other clarifications did not further demonstrate full compliance with this point. |

| 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, | Environmental management | The HSE manager has the overall responsibility. | Compliance could be confirmed during the site inspection. |
| 4.2.2, 4.2.5, 6.2, 7.1, 7.3, 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 | The information provided in the application file is incomplete and at time inconsistent. Please refer to the various substances below for more details. | Compliance could not be confirmed during the site inspection. |
| Technical guidance note 2.2.3, MEPC210(63) Section 3.4.3.1, ILO SHG p90: 9.2.3 | Management of asbestos | The yard has an adequate procedure in the SRFP. Spot-checks confirmed compliance. Asbestos and asbestos containing material (ACM) is delivered to GEPIL. | Compliance could be confirmed during the site inspection. |
| MEPC210(63) Section 3.4.3.2 | Management of PCB’s | The applicant has reportedly never found or removed PCB. If found, it will reportedly be sent to SAVA in Germany. In response to the draft report the applicant replied “Kindly note basis of IHMs received for vessels recycled at the SRF thus far PCB’s have never been received. If received in any future vessels, the same will be initially stored at designated place and then will be disposed of to approved subcontractor. Please find attached extracts of few IHMs for you ready reference”. By studying the two attached IHM, only two samples have been analysed for content of PCB and its presence have as such not been thoroughly investigated in the IHMs. In such cases the evaluators would expect the applicant to ensure sufficient sampling to determine its presence. New measures must be evaluated during a future site inspection. | Compliance could not be confirmed during the site inspection. The revised SRFP and other clarifications did not further demonstrate compliance with this point. |
| MEPC210(63) Section 3.4.3.3 | Management of Ozone-depleting substances (ODS) | Per the desk assessment ODS is sent to Customs. During the site inspection, the applicant described that a subcontractor removes all the gases on board. If the insulation in the cooling chamber contain ODS, it is sent to GEPIL. If the insulation in the cooling chambers it is not in the IHM, the applicant reportedly takes a sample. If it | Compliance could not be confirmed during the site inspection. The revised SRFP and |
contains ODS it is sent to GEPIL for incineration.

Halon is reportedly not permitted on board vessels destined for recycling in Alang, but the yard admitted that this sometimes was the case. Halon is then sent to Customs.

In response to the draft report the applicant replied “Records for handover of ODS & Halon to Customs and handover of ODS containing cooling chambers to GEPIL are attached for your easy reference”. These documents could not be found by the evaluators in the additional documentation. The evaluators could not find a subcontractor that handles ODS in the revised SRFP.

New measures must be evaluated during a future site inspection.

<table>
<thead>
<tr>
<th>MEPC210(63) Section 3.4.3.4</th>
<th>Management of paints and coating including anti-fouling with organotin TBT</th>
<th>Reportedly the applicant does not remove paint. If described in the IHM, paint may be removed from the cutting line. Ships with TBT are reportedly refused by the applicant. Paint and coating is reportedly incinerated at GEPIL.</th>
<th>other clarifications did not further demonstrate compliance with this point.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MEPC210(63) Section 3.4.3.5</td>
<td>Procedures for operationally generated wastes</td>
<td>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. It is unclear how the applicant disposes of sediments in ballast tanks. 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.</td>
<td>Compliance could not be confirmed during the site inspection.</td>
</tr>
<tr>
<td>Perfluorooctane sulfonic acid (PFOS)</td>
<td>The applicant has reportedly never found or removed PFOS. If found, it will reportedly be sent to SAVA in Germany. In response to the draft report the applicant replied &quot;Kindly note basis of IHMs received for</td>
<td>Compliance could not be confirmed during the site inspection nor by the documents</td>
<td></td>
</tr>
</tbody>
</table>

Compliance could be confirmed during the site inspection.
vessels recycled at the SRF thus far PFO’s have never been received. If received in any future vessels, the same will be initially stored at designated place and then will be disposed of to approved subcontractor. Please find attached extracts of few IHMs for you ready reference”. By studying the two attached IHM it is evident that no samples have been analysed for content of PFOS and its presence have as such not been investigated in the IHM. In such cases the evaluators would expect the applicant to ensure sufficient sampling to determine its presence.

New measures must be evaluated during a future site inspection.

<table>
<thead>
<tr>
<th>MEPC210(63)</th>
<th>Heavy metals (lead, mercury, cadmium and hexavalent chromium)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MEPC210(63)</strong>&lt;br&gt;<strong>Section 3.4.3.6</strong></td>
<td>Lead acid batteries is reportedly sent to Kaycee Industries and Mateswari Metals. In response to the draft report the applicant replied “Please note that both recyclers (Kaycee Industries and Mateswari Metal) are approved and authorised vendors for disposal of said metal. Please refer to section 3.2.2 of the revised SRFP”. The revised SRFP does not refer to Kaycee industries, but licenses for Blaze Metal Works and Mateswari metals are attached. Further information is not provided. Please refer to Article 15(5) below in this table.</td>
</tr>
</tbody>
</table>

Compliance could not be confirmed during the site inspection nor by the documents received in response to the draft report.

<table>
<thead>
<tr>
<th>MEPC210(63)</th>
<th>Other hazardous materials in Annex II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MEPC210(63)</strong>&lt;br&gt;<strong>Section 3.4.3.7</strong></td>
<td>The applicant has reportedly never found or removed PBB, PBDE, HBCDD, PCN and SCCP. If found, it will reportedly be sent to SAVA in Germany. In response to the draft report the applicant replied “Kindly note basis of IHMs received for vessels recycled at the SRF thus far PBB, PBDE, HBCDD, PCN and SCCP’s have never been received. If received in any future vessels, the same will be initially stored at designated place and then will be disposed of to approved subcontractor. Please find attached extracts of few IHMs for you ready reference”. By studying the two attached IHM reports it is evident that no samples have been analysed for content of PBB, PBDE, HBCDD, PCN and SCCP’s and their presence have as such not been investigated in the IHM. In such cases the evaluators would expect the applicant to ensure sufficient sampling to determine their presence.</td>
</tr>
</tbody>
</table>

Compliance could not be confirmed during the site inspection nor by the documents received in response to the draft report.
### Section 3.4.2.2 Additional sampling and analysis

The yard takes to a very little extend additional samples. The evaluators impression during the site inspection is that the applicant relies only on the IHM.

In response to the draft report the applicant replied “SRFP has procedure for carrying out additional sampling included in section 3.4.2.2 of the revised SRFP. Record of additional sampling carried out for a recycled vessel at the SRF is attached for your easy reference”.

The SRFP does not provide detailed information and the attached report for additional sampling is for asbestos only. Reportedly the samples were sent to “American Industrial Hygiene Accredited(AIHA) Laboratory, Bureau Veritas, USA for analysis”. AIHA is a third-party, internationally-recognized accreditation body and not a laboratory. It is unclear to the evaluators which lab the samples were analysed at.

In addition to the sampling report the applicant forwarded the IHM for the vessel. The IHM is built in line with the IMO Resolution A.962(23) and not resolution MEPC.269(68). According to the IHM, no samples were analysed in the preparation of the document, only visual sampling were conducted.

The IHM describe that approximately 35kg of potential PCB/PCT/PBB may be expected in light ballast/capacitors and in electrical cable, but samples have not been analysed. The applicant has not sampled these items and the evaluators question how these items have been managed on site and how downstream waste management was determined.

New measures must be evaluated during a future site inspection.

### Section 3.4.2.3 Identification, marking and labelling

The applicant ensures identification, marking and labelling per the IHM.

Compliance could be confirmed during the site inspection.

### Transport of waste

Transportation of hazardous waste is by licensed trucks from GEPIL. The vehicles from GEPIL is 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](https://www.gpcb.gov.in/payroll/GUIDELINES_4_PA_OF_RULE_9_HAZ_OTH_WASTE_2016.PDF)

Compliance could be confirmed during the site inspection.
A manifest system is used as per the GPCB guideline.

It is unclear to the evaluators if other waste e.g. lead acid batteries and steel is transported by licensed trucks.

In response to the draft report the applicant replied “Kindly note that the vendor handling the lead acid batteries is licensed for handling / transport / disposal of lead acid batteries. However, SRF has dedicated spill proof container specifically for transportation of used batteries from SRF to the vendor premises”.

The information received is not sufficient for the evaluators to confirm compliance. This can be further evaluated during a future site inspection.

| Technical guidance note 2.2.5 (c) | Applied process | Please refer to Article 15 (5) below.

**Article 15 (2) (g)** confirm that the company adopted a ship recycling facility plan, taking into account the relevant IMO guidelines;

Please refer to Article 13 (1) (e) above in this table.

**Article (2) (h):** provide the information necessary to identify the ship recycling facility.

Please refer to Article 13 (1) (a) above in this table.

**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.

The applicant had not demonstrated that the waste management facilities that will receive the waste will be operated broadly equivalent to international or Union standards upfront of the inspection. In preparations for the inspection, the applicant had collected GPCB authorisation for GEPIL.

The evaluators visited GEPIL, a waste management facility located in Alang, during the week of the site inspection. GEPIL is often referred to as TSDF (Treatment, Storage, Disposal,
GEPIIL is authorised by GPCB to handle the following waste streams and treatments:

- Asbestos containing residue - disposal in landfill for asbestos at GEPIIL's premises
- Discarded containers/barrels/liners - these will be stored and sent to authorised recyclers
- Chemical sludge from waste treatment - disposal at GEPIIL's premises
- Ship breaking waste (reportedly mainly plastic residue and ceramic) - disposal at GEPIIL's premises
- Glasswool - disposal in landfill at GEPIIL's premises
- Asbestos/ACM - disposal in landfill for asbestos at GEPIIL's premises
- Cementing material - disposal in landfill at GEPIIL's premises
- Ceramic - disposal in landfill at GEPIIL's premises
- Rusted iron scale- disposal in landfill at GEPIIL's premises
- Thermocool - incinerated at GEPIIL's premises
- Rubber- incinerated at GEPIIL's premises
- PVC/plastic waste - incinerated at GEPIIL's premises
- Contaminated sand - disposal in landfill at GEPIIL's premises
- Oily rags - incinerated at GEPIIL's premises
- Oily sludge - incinerated at GEPIIL's premises

GEPIIL has a special area in its landfill where asbestos and ACM are covered in concrete. Asbestos arriving at site shall be wrapped in two layers of plastic. This is considered broadly equivalent to international /EU standards.

The incinerator at GEPIIL is equipped with venturi scrubber, packed scrubber and HEPA filter. The authorisation requires the facility to operate the incinerator so that norms prescribed by the Central Pollution Control Board is achieved. Parameters and emission standards are provided under 4.3 of the authorisations. The parameters and emission standards are broadly equivalent to parameters and emission standards used in the Union.

Online flue gas analyser is attached for flue gas monitoring (measuring NOx, SOx, HCl, HF,
CO, CO₂, SPM etc.), observed on site by the evaluators.

Contracted third parties conduct air quality monitoring on a regular basis and GCPB conduct regular and unannounced monitoring of GEPIL. The evaluators witnessed third party test results on site. Contracted third parties were e.g. a university and the accredited laboratory Pollucon. The monitoring has sometimes found PM₁₀ in concentration above threshold limit for shorter periods. Heavy metals have 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 incinerator at GEPIL has two combustion chambers, primary (approximately 1000°C) and secondary (approximately 1200°C). 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.

The applicant must demonstrate that incineration of thermocool at GEPIL may be considered broadly equivalent to international/Union standards.

GEPIL had not considered, or been made aware by recycling yards, that insulation foam used in cooling chambers (referred to as thermocool) may not only contain ODS but also HBCDD. If foam contains HBCDD above the threshold level for hazardous waste, the incinerator at GEPIL is not adequate.

The applicant has not demonstrated how ODS delivered to Customs will be managed. It is unclear to the evaluators and information varies. It appears that ODS is stored awaiting further treatments.

The applicant was requested to provide further information on the various downstream waste management facilities, furnace and hot rolling/cold rolling plants.

In response to the draft report the applicant replied “The SRF has updated the requirements of approving the authorized recycler / disposer in section 3.4.2.6 of the SRFP. Regarding
thermocool a mail has been sent requesting procedure for incineration for the same”.

Section 3.4.2.6 does not demonstrate that the waste management facilities that will receive the waste will be operated broadly equivalent to international or Union standards. The applicant has attached licenses of various waste management companies in the revised SRFP on page 100 and onwards for Gujarat Petrochem, Fine Refineries Pvt. Ltd., Sanyia Traders, Cherry Waste Management, Blaze Metal Works, Mateshwer Metals, Bharat Metal Oxide, ECS Environment Ltd. And Pruthvi E Recycle Private Limited. A license in itself does not demonstrate that the waste will be handled broadly equivalent to international or Union standards. The implementation of the requirements in the license and that these measures are broadly equivalent to international or Union standard must be demonstrated by the applicant. Hence, further information is still requested by the evaluators.

New measures must be evaluated during a future site inspection.
7 SUPPORTING PHOTOS FROM THE SITE INSPECTION

A selection of photos from the site inspection is presented below.
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