

ClassNK's Activities on Ship Recycling

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- ✓ ClassNK's activities on ship recycling
- ✓ Outline of the project in India
- ✓ Discussion and Conclusion



The Hong Kong Convention* (HKC) was adopted on 15 May 2009.

* The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009

IHM for Ships



SRP for
Ship Recycling



SRFP for
Ship Recycling
Facilities



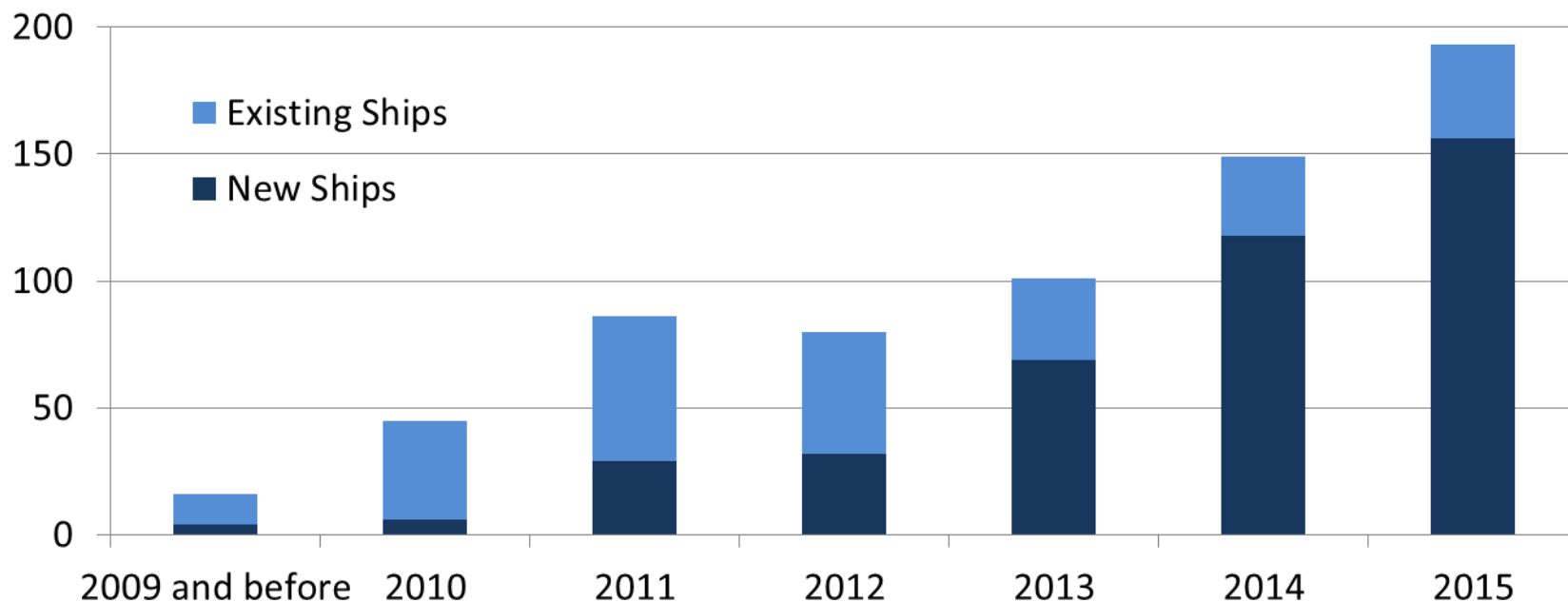
- ✓ ClassNK provides “**PrimeShip-GREEN/SRM**”, software to facilitate IHM development utilizing a cloud computing system in cooperation with IBM. About 2,500 users are registered as of December 2015.
- ✓ ClassNK Consulting Service Co., Ltd. (NKCS) is providing **expert services** to develop IHMs for existing ships.

No	Detail	Division	Purchase Item Category	Purchase Item Code	Purchase Item	Supplier code	Supplier	Inspection Method	Status	Completed On	Include IHM Above Threshold	Inspection Request No.	Date of Request	Contact Person
1				11498680DR	9000 DR Light Orey	MZ00044	Supplier 3	Inspection request	Inspection In Progress		<input type="checkbox"/>	AJ00000000000000000116	2011-02-01	Ship Builder 1 admin

<https://www.psgreensrm.com/>



- ✓ ClassNK issues **Statements of Compliance** for IHMs.
- ✓ Once the Convention enters into force, the Statements shall be reissued as conventional certificates.
- ✓ **Class notation “IHM”** is also provided.



No. of issued HKC Statements of Compliance



- ✓ NKCS provides services so that ship recycling facilities (SRFs) can implement the requirements of the Convention, including the development of SRFPs.
- ✓ ClassNK recently issued HKC Statements of Compliance (SOC) to **9 SRFs** in the world;
 - Japan: 1
 - China: 4
 - India: 4

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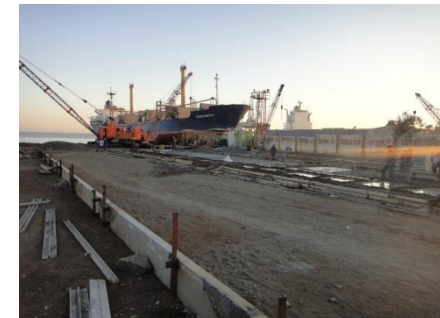
First Group: Completed in December 2015

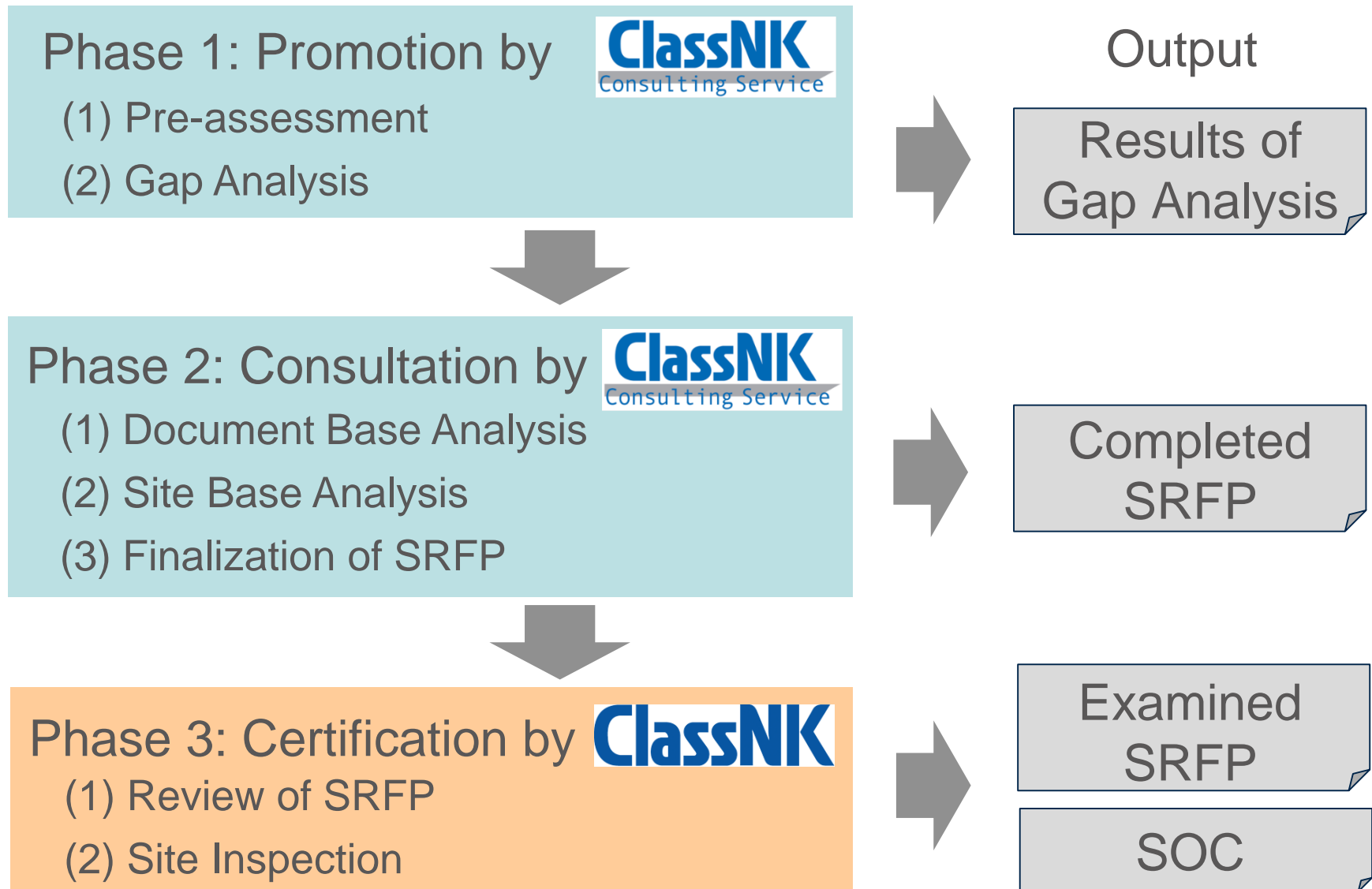
1. RL Kalthia Ship Breaking
2. Priya Blue Industries
3. Shree Ram Vessel Scrap
4. Leela Ship Recycling



Second Group: Started from August 2015 (ongoing)

5. Y. S. Investments
6. J.R.D. Industries





As per the **ClassNK Check List** based on the requirements of the IMO Guidelines, document examinations and site inspections are carried out.



2012 Guidelines for Safe and Environmentally Sound Ship Recycling (Res. MEPC.210(63))

- ✓ Facility management
- ✓ Facility operation
- ✓ Worker safety and health compliance approach
Safe for entry, Safe for hot work, etc.
- ✓ Environmental compliance approach
↓ Management of Hazardous Materials, etc.

Major points for SRFs in India

Oil removal before cutting

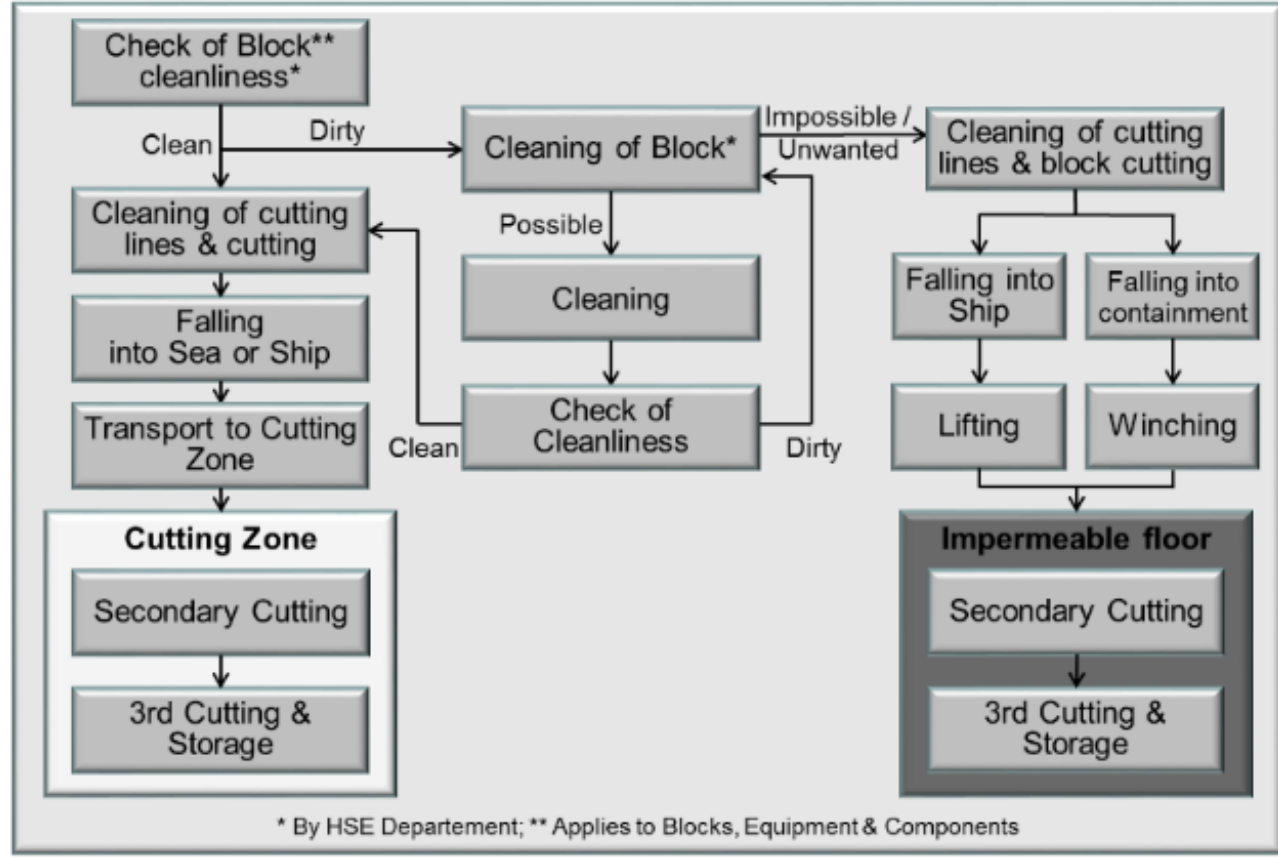
- ✓ Bunkers and oils should be minimized prior to beaching.
- ✓ All remaining bunker and lubricating oil should be collected for recycling before commencement of cutting.
- ✓ Residual oil storage tank should be protected against leaking, overflow, fire and other potential accidents.
- ✓ Oily waste such as sludge should be collected and transported to licensed disposal facilities.



FO Tank before & after cleaning with saw dust

Establishment of the system for dirty blocks and machinery

- ✓ Not to be placed at intertidal zone without cleaning
- ✓ To be transported to block cutting area with proper spill prevention, and in short order



Impermeable floor and drainage system



Block falling process (controlled gravity process)

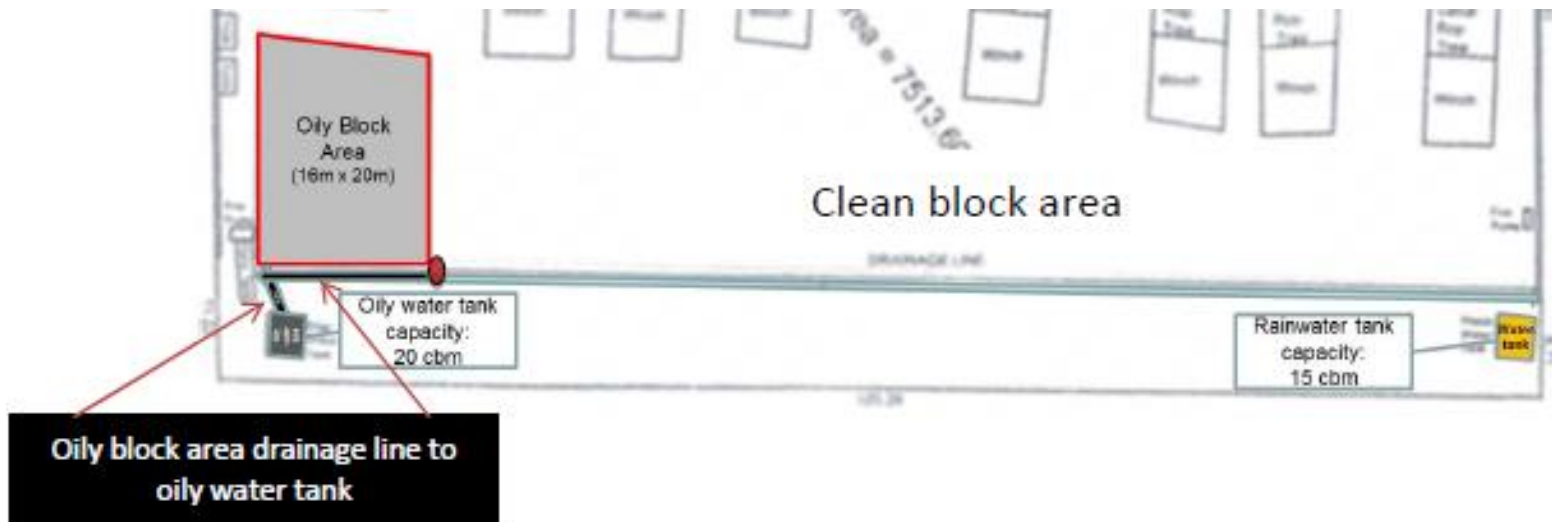
Example of controlled **block falling process**

1. Prior written notice is given to neighbor slots.
2. The hull is cut except for the final cutting line. (Preparation)
3. Workers are evacuated to outside of the dangerous area except for a minimum number of persons on board to cut the final line.
4. Tension is applied by a winch onshore in order to control direction.
5. The final line is cut off to let the block fall.



Storm-water pollution prevention

- ✓ Dirty blocks and equipment should be treated at oily block area with impermeable floor and drainage system.
- ✓ Rainwater from oily block area should be collected in oily water tank and transported to licensed disposal facility.
- ✓ Preventive measures for minimizing volume of contaminated water should be taken.



✓ Environmental monitoring

- Environmental monitoring is carried out twice a year by the ship recycling facilities. (soil, sea water, air, noise and drinking water)

✓ Management of hazardous materials

- Hazardous materials (Asbestos, PCBs, Ozone- depleting substances, Paint and coatings, Hazardous liquids, and Heavy metals) are treated properly by trained and qualified workers.



Packing of asbestos-containing material (ACM) in special bag



Cleaning of Asbestos handling room



Double bagging of ACM

REPIL		2,200, 225 111, Village: Medan, Prov: Aceh	
A Public Waste Company		Phone: +62 61 4210000	
1. License No. 01/0001/2009/0000000		2. License No. 01/0001/2009/0000000	
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5. License No. 01/0001/2009/0000000		6. License No. 01/0001/2009/0000000	
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Hazardous Waste Manifest

✓ Company information

- Necessary company information is provided in the Ship Recycling Facility Plan (SRFP).

✓ Training programme

- Training plan is developed.

Priya Blue Industries Pvt. Ltd.													
Training plan Plan for the Period: April 15 to March 16											Format No.: IMS / F / 03		
Sr. No.	MONTHS	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16
1	General safety introduction	P											
	a) personal protective equipment b) Housekeeping	A	24/04/15										

Example of Training Plan

✓ Worker Management

- Each employee is registered and insured and receives an ID-card with important information.



Example of ID card for workers

✓ Record Management

- HSE related records, such as environmental monitoring reports, medical check reports, manifests for hazardous wastes, are kept at Ship Recycling Facility (SRF) for at least 5 years.

✓ Facility information

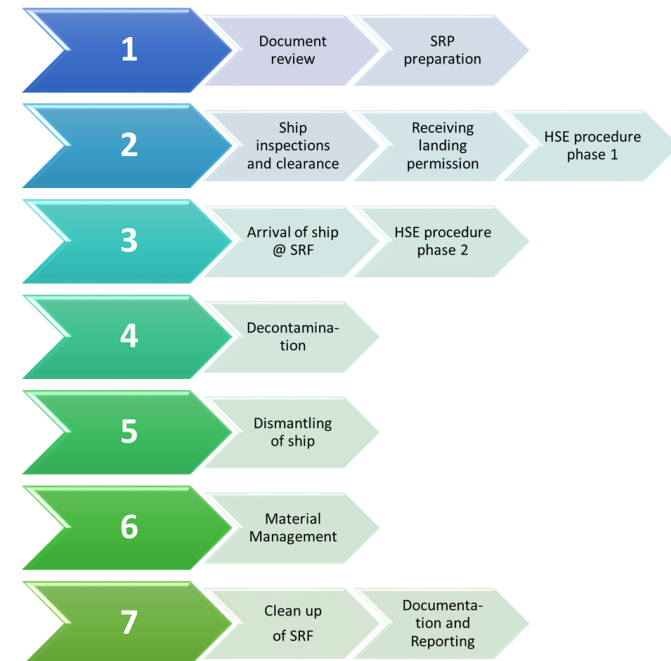
- Necessary facility information is provided in the SRFP.

✓ Permits, licenses and certification

- Necessary permits, licenses and certification are kept in the SRF.

✓ Ship recycling methodology, etc.

- Acceptability of ships, ship recycling plan (SRP), vessel arrival management, and ship recycling methodology are described in the SRFP.



Process of ship recycling at the SRF

✓ Key safety and health personnel

- Qualification and responsibility of key safety and health personnel, such as general manager and Health Safety and Environment department, is described in the SRFP.

✓ Job hazard assessment

- Job hazard assessment (Risk Assessment) is carried out in the framework of OHSAS*18001. *Occupational Health and Safety Management Systems

✓ Prevention of adverse effects to human health

- Safe-for-entry and safe-for-hot-work procedures
- Drums, containers and pressure vessels
- Prevention of falling from heights
- Gear and equipment for rigging and materials handling
- Personal protective equipment, etc.



Gas detector



Sticker for Gas Free for Hot Work



Taking care of LPG and O2 cylinders



Guard rail for fall prevention from height

✓ Emergency preparedness and response plan

- EPRP is developed and included in the SRF.
- Training and mock drill are carried out.



First aid training at Red Cross



Mock Drill

✓ Fire and explosion prevention, detection and response

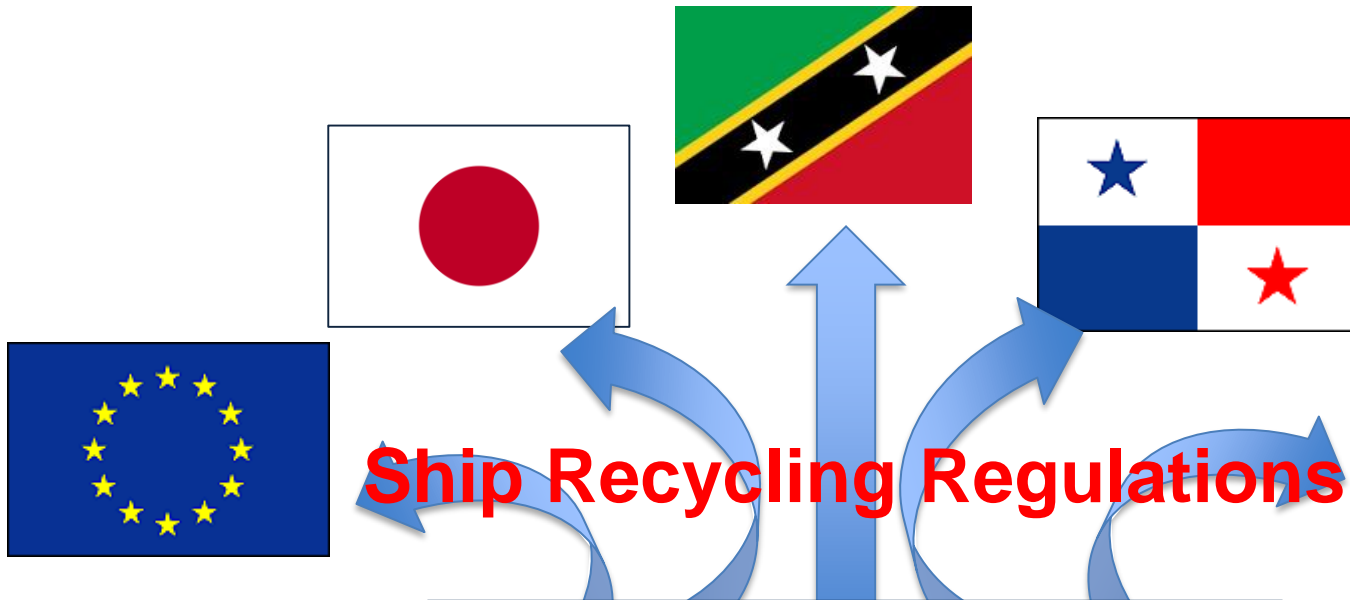
- Firefighting equipment, such as fire pumps and fire extinguishers, are arranged in the SRF and stands by properly.
- Preventive measures, such as removal oils, are properly carried out.



Firefighting found ready inside the engine room

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Platform of Regulation is.....



**We support the prompt entry into force
of the
Hong Kong Convention**

Thank you.