ASM MARITIME

THINK
BEFORE YOU DO
SAFETY
STARTS WITH YOU

ENVIRONMENTAL COMPLIANCE

IN ACCORDANCE WITH MARPOL REGULATIONS

ISSUE MAY 2019

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From the CEO's desk:

It is the policy and objective of ASM Maritime B.V. to operate our ships in a safe and efficient manner so as to prevent any pollution as well as to protect the marine environment.

Marpol compliance is a condition of employment, and failure to comply is a dismissible offence.

Nowadays many efforts are done to protect our environment in better and efficient way, many new ideas are followed by new regulations and suggested practice. ASM Maritime commit oneself to follow all new requirements and keep our environment cleaner and safer by adopting newer methods!

We have prepared this booklet to help you have a clear understanding of the company's environmental compliance plan, which will ensure proper compliance with the Marpol regulations.

Request each one of you to review the booklet and make yourself well familiar with the content. In case of any doubt or feedback please don't hesitate to approach head office.

We are committed to clean environment. Company is responsible to ensure that the world we pass on is as clean as we found it, making these seas and oceans of ours a safer and cleaner place for us all.

I trust this booklet will help in achieving our goals of operating our vessels in a safe and efficient manner so as to prevent any pollution as well to protect the marine environment.

As per our slogan; **THINK BEFORE YOU DO, SAFETY STARTS WITH YOU**

CEO
Nir Geva

THINK
BEFORE YOU DO
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ENVIRONMENTAL POLICY STATEMENT

ASM Maritime BV is committed to protecting the environment from all forms & types of pollution caused by its activities. To achieve this objective, ASM Maritime BV is dedicated to:

- **Taking all practical steps to safeguard the working environment and ensuring the safety of all personnel working in or visiting any facility operated by the Company;**
- **Setting and reviewing of environmental objectives and targets;**
- **Taking all reasonable measures to eliminate the risk of pollution and promote a Zero Spill mindset.**
- **Providing adequate resources to meet the set company objectives and targets;**
- **Raising awareness of the environment amongst personnel;**
- **Achieving continual improvement in the company's safety and environmental record;**
- **Reviewing the suitability of alternative or new technology, systems or equipment which can enhance safer operations and reducing environmental impact;**
- **Being open to approaches from start-up companies looking for suitable testing platforms to establish new protective methods or to evaluate new environmental protective technologies;**
- **Disposing, handling and controlling all waste in an environmentally sound manner;**
- **Considering all environmental consequences where practical when engaging in goods or services from third parties;**
- **Providing appropriate training to all personnel whose work may create a significant impact upon safety and environment;**
- **Ensuring compliance with all applicable national and international laws, regulations and other requirements as applicable and identified by the Company;**
- **Observing the requirements of the company's Quality & Environmental system (ISO 9001 and ISO 14001) and the IMO's International Safety Management Code;**
- **Encouraging our crew to report directly or anonymously regarding any MARPOL violation onboard the vessels without fear of any retaliation from the company's side.**
- **Making the company's policy available for public scrutiny.**

SIGNED:……Nir Geva CEO ASM Maritime BV…… **DATE: 01.05.2019**

CEO
NIR GEVA

WE ARE COMMITTED TO MAKING THESE SEAS AND OCEANS OF OURS A SAFER AND CLEANER PLACE FOR US ALL.

WE ENCOURAGE YOU TO REPORT

DİRECTLY OR ANONYMOUSLY

REGARDING ANY MARPOL VIOLATION ONBOARD THIS VESSEL WİTHOUT FEAR OF ANY RETALIATION ON THE PART OF THE COMPANY

IF YOU KNOW OF MARPOL VIOLATIONS ON YOUR VESSEL PLEASE INFORM US AS SOON AS POSSIBLE. BE ASSURED

YOU AND YOUR IDENTITY WILL BE PROTECTED.

YOU MAY INFORM THE DPA AS SOON AS POSSIBLE BY ANY OF THE FOLLOWING MEANS:

Email: env@asm-maritime.com

Tel: +31 207 17 9793, +31 611 768 546

SMS: +31 611 768 546

ALL COMMUNICATION WILL BE KEPT CONFIDENTIAL BE ASSURED

YOU WILL BE PROTECTED.

MACHINERY SPACE

Oily bilge water

Oily bilge water means water which may be contaminated by oil resulting from things such as leakage or maintenance work in machinery spaces. Any liquid entering the bilge system including bilge wells, bilge piping, tank top or bilge holding tanks is considered oily bilge water.

Storage:

- Bilge holding tank
  The bilge holding tank is listed in the vessels IOPP certificate appendix Form B item 3.3. No other tanks may be used without written permission from class.

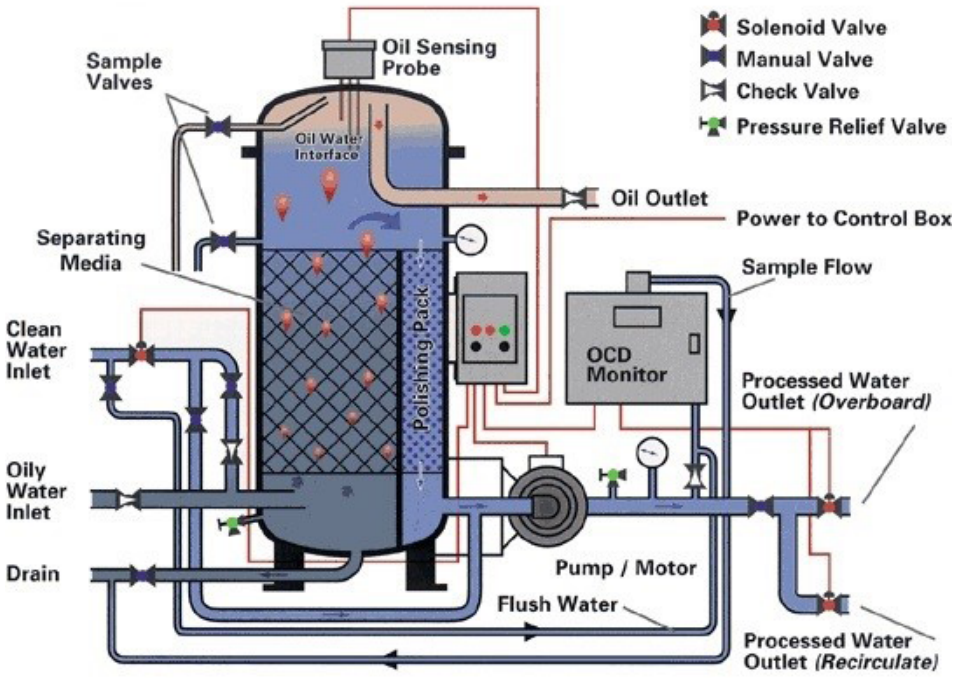
Disposal:

- Oily water separator (OWS)
  The oil content of the bilge water must not exceed 15ppm (parts per million).
  The OWS can be used anywhere except in the Antarctic area as long as the vessel is en route and the OWS it is fitted with an alarm and stop function in case oil content is above 15ppm. Even can be disposed in special area for annex 1, as long complying with the above requirements

- To shore reception facility
  The Standard MARPOL Discharge Connection shall be used.

Record:

- Receipt from shore reception facility.
- Oil record book part I.



MACHINERY SPACE

Sludge

Oil residue (sludge) means the residual waste oil products generated during the normal operation of a ship such as those resulting from the purification of fuel or lubricating oil for main or auxiliary machinery, separated waste oil from oil filtering equipment, waste oil collected in drip trays, and waste hydraulic and lubricating oils.

Storage:

- Oil residue (sludge) tanks
  The sludge tanks is listed in the vessels IOPP certificate appendix Form B item 3.1. No other tanks may be used without written permission from class.

Disposal:

Means of disposal of sludge except to shore reception facility shall be approved by class and indicated in the vessels IOPP appendix Form B item 3.2.

- Incinerator
  Refer also to limitations of the use of incinerator under MARPOL annex VI.

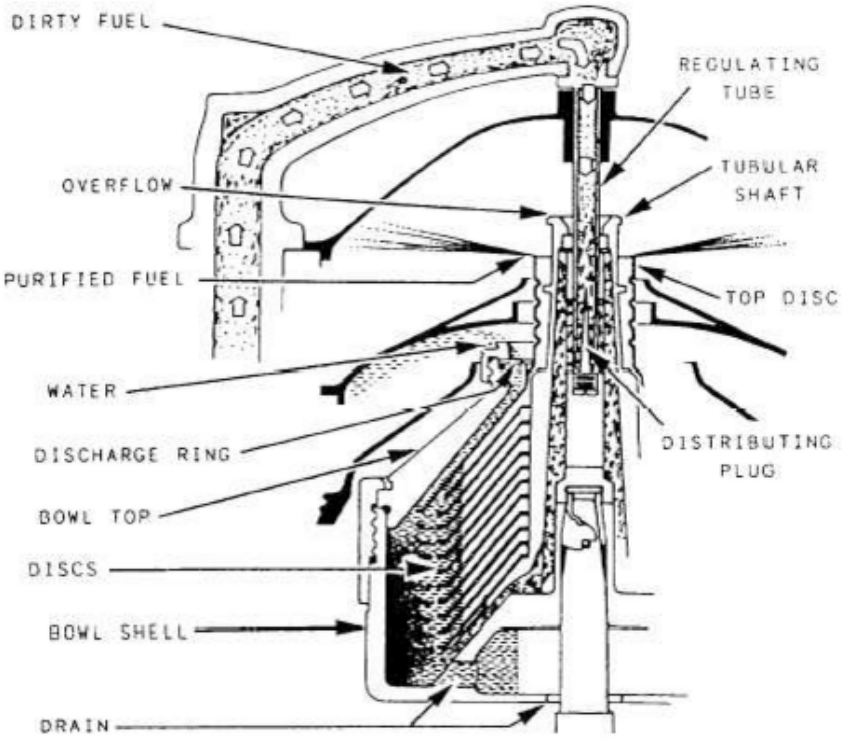
- Auxiliary boiler

- Other acceptably means

- To shore reception facility
  The Standard MARPOL Discharge Connection shall be used.

Record:

- Receipt from shore reception facility.
- Oil record book part I.



CARGO AREA

Slop (Oily mixture)
Slop means tank draining, tank washings and other oily mixtures originating from the carriage of oil (cargo).

Storage:

- Slop tanks
  The sludge tanks is listed in the vessels IOPP certificate appendix Form B item 6.2 and may be dedicated or cargo tanks that have been designed as slop tanks.

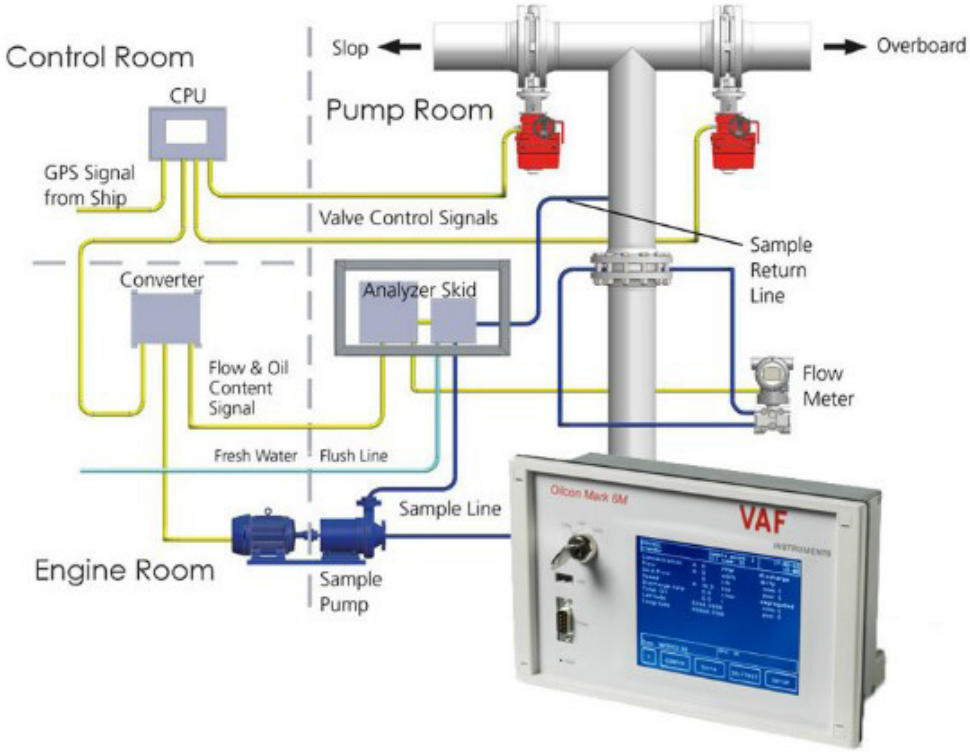
Disposal:

- Oil discharge monitor equipment (ODME)
  The slop water oil content must not exceed 15ppm (parts per million) with a rate of 30 liters / Nm and maximum oil discharged limited to 1/30 000 of the cargo.
  The OWS can be used when the tanker is en route, 50 Nm from nearest land and outside a special area. **Not in special area**.

- To shore reception facility

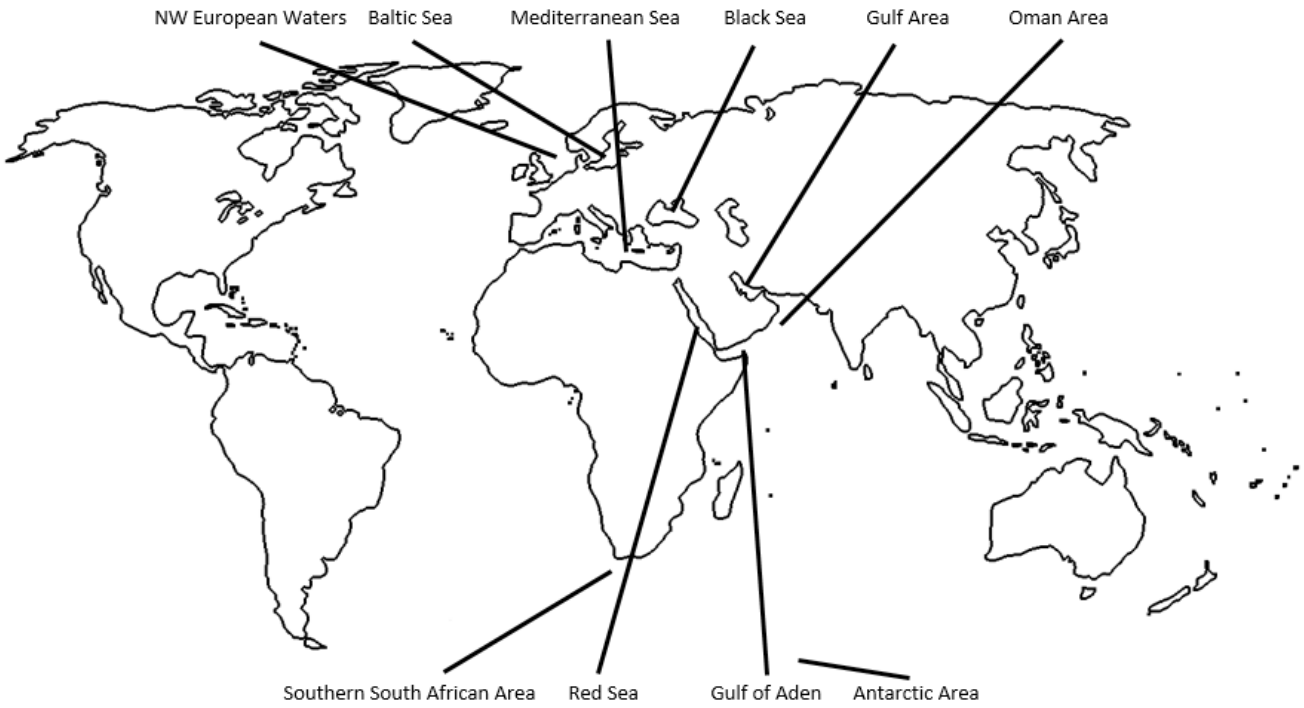
Record:

- Receipt from shore reception facility.
- Oil record book part II.



Special areas

- Mediterranean Sea
- Baltic Sea
- Black Sea
- Red Sea
- “Gulfs” area
- Gulf of Aden
- Antarctic area
- North West European Waters
- Oman area of the Arabian Sea
- Southern South African waters



Chemical Cargoes
Refer to the vessels class approved P & A (procedure and arrangement) manual

Special areas
Refer to the vessels class approved P & A (procedure and arrangement manual

- Antarctic area

Particularly Sensitive Sea Area (PSSA)

PSSA is an area that needs special protection through action by IMO because of its significance for recognized ecological or socio-economic or scientific reasons and which may be vulnerable to damage by international maritime activities. The criteria for the identification of particularly sensitive sea areas and the criteria for the designation of special areas are not mutually exclusive. In many cases a Particularly Sensitive Sea Area may be identified within a Special Area and vice versa.

Guidelines on designating a “particularly sensitive sea area” (PSSA) are contained in resolution A.982(24) Revised guidelines for the identification and designation of Particularly Sensitive Sea Areas (PSSAs)

MARPOL COMPLIANCE ANNEX III
(Regulations for the Prevention of Pollution by Harmful Substances Carried by sea in packaged form)

- Annex III contains regulations which include requirements on packaging, marking, labelling, documentation, stowage & quantity limitations. Packages containing a harmful substance shall be durably marked or labelled to indicate that the substance is a harmful substance in accordance with the relevant provisions of the IMDG Code. The method of affixing marks or labels on packages containing a harmful substance shall be in accordance with the relevant provisions of the IMDG Code.

- It aims to prevent or minimize pollution of the marine environment by harmful substances in packaged forms or in freight containers, portable tanks or road and rail tank wagons, or other forms of containment specified in the schedule for harmful substances in the International Maritime Dangerous Goods (IMDG) Code

- If any Marine Pollutant (as per IMDG) leaks from a container into the hold bilges or on deck, it must be collected taking due precautions, as per EMS and disposed off ashore. Accidental loss overboard of containers must be notified to shore authorities, also mentioning the nature of contents esp. if they are a Marine Pollutant. Handling Chemicals and Hazardous waste)

  Note : Residues of chemicals, paint and other items used on board for operational purposes, must be disposed off ashore and recorded in Garbage Record Book.

- **Ships carrying harmful substances must have a special list, manifest or stowage plan setting forth, in accordance with the relevant provisions of the IMDG Code, the harmful substances on board and the location thereof.**

- **Jettisoning of harmful substances carried in packaged form is prohibited, except where necessary for the purpose of securing the safety of the ship or saving life at sea.**

A ship when in a port or an offshore terminal is subject to inspection concerning operational requirements under this Annex.

Sewage

Sewage means:

- Drainage and other wastes from any form of toilets and urinals.
- Drainage from medical premises (dispensary, sick bay, etc.) via wash basins, wash tubs and scuppers located in such premises.
- Drainage from spaces containing living animals.
- Other waste waters when mixed with the drainages defined above.

Storage:

- Sewage holding tank

Disposal:

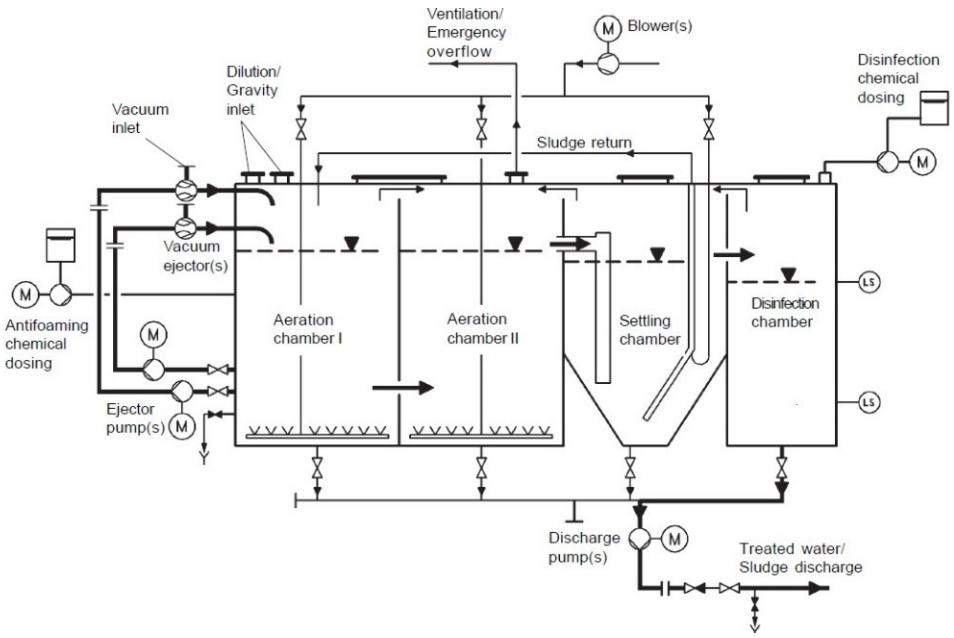
- Sewage treatment plant
  Sewage processed thru a sewage treatment plant can be disposed within and outside special areas.

- A sewage comminuting and disinfecting system
  Sewage commuted and disinfected can be disposed 3 nautical miles from shore

- Untreated Sewage
  Untreated sewage from a raw sewage holding tank can be discharged more than 12 nautical miles from shore at a rate approved by the flag state at different speeds.

Special Area:

- Baltic Sea



Garbage

Garbage means all kinds of:

- *Domestic waste* **(Cat C)**
- *Operational was* **(Cat: F)**
- *Plastics* **(Cat A)**
- *Cooking oil* **(Cat D)**
- *Cargo residues* **(Cat G)**
- *Food waste* **(Cat B)**
- *Incinerator ash* **(Cat E)**
- *Electronic waste* **(Cat I)**

Generated during the normal operation of the ship and liable to be disposed of continuously or periodically except those substances which are defined or listed in other Annexes to the present Convention.

**Cargo residues means: (Applicable for dry vessels)*
The remnants of any cargo which are not covered by other Annexes to the present Convention and which remain on the deck or in holds following loading or unloading, including loading and unloading excess or spillage, whether in wet or dry condition or entrained in wash water but does not include cargo dust remaining on the deck after sweeping or dust on the external surfaces of the ship.

Storage:

- Storage of garbage shall be done as per the ship specific garbage handling manual.

Used Cooking Oil:

- only to be disposed to shore reception facility.

Disposal:

<table>
<tr><th>Type of Garbage</th><th>Ships outside Special Areas</th><th>Ships within Special Areas</th></tr>
<tr><td>Food waste comminuted or ground</td><td>Discharge permitted ≥3 nm from the nearest land, en route and as far as practicable</td><td>Discharge permitted ≥12 nm from the nearest land, en route and as far as practicable</td></tr>
<tr><td>Food waste not comminuted or ground</td><td>Discharge permitted ≥12 nm from the nearest land, en route and as far as practicable</td><td>Discharge prohibited</td></tr>
<tr><td>Cargo residues [1] not contained in wash water</td><td rowspan="2">Discharge permitted ≥12 nm from the nearest land, en route and as far as practicable</td><td>Discharge prohibited</td></tr>
<tr><td>Cargo residues [1] contained in wash water</td><td>Discharge permitted ≥12 nm from the nearest land, en route, as far as practicable and subject to two additional conditions [2]</td></tr>
<tr><td>Cleaning agents and Additives[1] contained in cargo hold wash water</td><td rowspan="2">Discharge permitted</td><td>Discharge permitted ≥12 nm from the nearest land, en route, as far as practicable and subject to two additional conditions [2]</td></tr>
<tr><td>Cleaning agents and additives[1] in deck and external surfaces wash water</td><td>Discharge permitted</td></tr>
<tr><td>All other garbage including plastics, synthetic ropes, fishing gear, plastic garbage bags, incinerator ashes, clinkers, cooking oil, floating dunnage, lining and packing materials, paper, rags, glass, metal, bottles, crockery and similar refuse</td><td>Discharge prohibited</td><td>Discharge prohibited</td></tr>
<tr><td>Mixed garbage</td><td colspan="2">When garbage is mixed with or contaminated by other substances prohibited from discharge or having different discharge requirements, the more stringent requirements shall apply</td></tr>
</table>

1. These substances must not be harmful to the marine environment.
2. According to regulation 6.1.2 of MARPOL Annex V, the discharge shall only be allowed if: (a) both the port of departure and the next port of destination are within the special area and the ship will not transit outside the special area between these ports (regulation 6.1.2.2); and (b) if no adequate reception facilities are available at those ports (regulation 6.1.2.3).

Record:

- Receipt from shore reception facility.
- Garbage record book.

Special areas

- Mediterranean Sea
- Baltic Sea
- Black Sea
- Red Sea
- “Gulfs” area
- North Sea area
- Antartic area (south of latitude 60 degrees south)
- Wider Caribbean region including the Gulf of Mexico and the Caribbean Sea

Incineration

User:

- Instruction Manual
  The manufacturer's operating manual shall be retained with the unit.
- Responsible Personnel
  Personnel responsible for the operation of the incinerator shall be trained to implement the guidance provided in the manufacturer's operating manual.
- Temperatures
  The combustion chamber gas outlet temperature shall be monitored at all times the unit is in operation.
    - Continuous- feed type: 850˚C - 1200˚C
    - Batch- loaded type: 600˚C (within 5 minutes after start) then stabilize at 850˚C-1200˚C

Prohibited substances:

- Residues of cargoes subject to Annex I, II or III or related contaminated packing materials.
- Polychlorinated biphenyls (PCBs).
- Garbage, as defined by Annex V, containing more than traces of heavy metals.
- Refined petroleum products containing halogen compounds.
- Sewage sludge and sludge oil either of which are not generated on board the ship.
- Exhaust gas cleaning system residues.

Special precautions:

- Polyvinyl chlorides (PVCs) shall be prohibited, except in shipboard incinerator for which an IMO Type Approval Certificates has been issued.

Incineration ash

- Disposed under annex V (only to reception facility)

Use of incinerator is permitted in all areas including ECA except for:

- Operation of incineration within port limits and territorial waters.
- Operation of incinerators in Baltic sea waters and waters covered by the HELCOM treaty is not allowed (ref: Helsinki Convention).

Record:

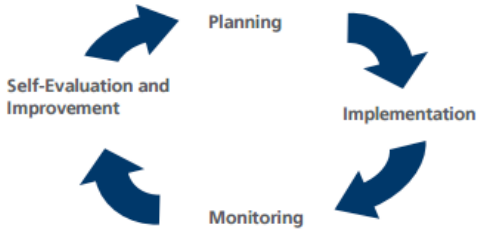
- Oil record book part I – Incineration of sludge.
- Garbage record book – All incineration except sludge.
- MT-123 (Incinerator log) – All entries in the log shall match the relevant log book.

Ship Energy Efficiency Management (SEEMP)

The SEEMP is an operational measure that establishes a mechanism to improve the energy efficiency of a ship in a cost-effective manner.

Containing:

- Incorporates best practices for fuel efficient ship operation.
- Containing key processes that the SEEMP must address and describe and together form a continuous improvement process/cycle:



Planning:

As part of each SEEMP, the ship owner is required to review current practices and energy usage onboard each ship with a view to determining any shortfalls or areas for improvement of energy efficiency.

- Ship-specific measures:
  E.g. speed optimization, weather routeing, hull maintenance, machinery operation
- Company-specific measures:
  E.g. improved communication and interaction with other stakeholders, such as charterers in order to assess feasibility of 'just in time' operation or traffic management services for availability of berth etc.
- Human resource development:
  E.g. Awareness and training of personnel is critical in ensuring successful implementation of any measures.
- Goal setting:
  This aspect is voluntary but serves as a means for a ship owner to provide incentive for energy reduction both at ship level but also at corporate level.

Monitoring:

- Quantitatively monitor each one of the energy efficiency measures taken.

Self-evaluation and improvement:

The final stage in the improvement cycle and is the means by which each measure can be assessed and the results fed into the planning stage of the next improvement cycle. Each measure needs to be evaluated individually on a periodic basis and the results should be used to understand the level of improvements seen for each ship:

- Effectiveness of each energy improvement measure
- Determines whether the process by which it is implemented and monitored is suitable and how it can be improved.

Methods for energy improvement:
The table shows methods for energy improvement within SEEMP

Category	Improvement method	Description
Fuel Efficient Operations	Improved voyage planning	Careful planning and execution of voyages.
	Weather routeing	Potential efficiency savings using routeing tools from existing providers.
	Just in time	Optimise speed based on early communication with next port on berth availability.
	Speed optimisation	To minimise fuel consumption, taking into account engine manufacturers optimal settings and arrival times/availability of berths at port.
	Optimised shaft power	Efficiency can be improved by setting constant RPM.
Optimised Ship Handling	Optimum trim	Operating at optimum trim for specified draft and speed.
	Optimum ballast	Ballasting for optimum trim and steering conditions.
	Optimum propeller and propeller inflow considerations	Possible retrofitting of improved propeller designs and/or inflow modifiers such as fins or ducts in order to improve efficiency.
	Optimum use of rudder and heading control systems (autopilots)	Reducing distance sailed 'off track' and minimising losses caused by rudder corrections. Possible improvements through retrofitting optimised rudder designs.
Hull Maintenance		Use of advanced coating systems, better management of cleaning intervals and underwater inspection.
Propulsion System	Propulsion system maintenance	Systematic minimisation of heat and mechanical loss through routine maintenance and optimisation.
Waste Heat Recovery		Thermal heat loss from exhaust gases to generate electricity or propulsion via shaft motors.
Improved Fleet Management		Better utilisation of fleet capacity and use of 'best practise'.
Improved Cargo Handling		Cargo handling matched to ship and port requirements.
Energy Management		Review of energy usage such as electrical and HVAC systems.
Fuel Type		Potential use of emerging alternative fuels.
Other Measures		Computer software to calculate fuel consumption; use of renewable energy technology; use of shore power.

Record:
- VT-110

Emission control areas

SOx (Sulphur Oxides) & PM (Particulate Matters):
SOx and PM emissions are a function of the Sulphur content in the fuel in use. The SOx control requirements provide for a progressive global reduction in the Sulphur content of marine fuels to reduce the emission of SOx and particulate matter from ships.

Sulphur contents in fuel:
- Within ECA: 0.1%
- Outside ECA: 3.5%

Change over:
- Written procedure shall be available explaining the process to change fuel.
- The change shall be completed to allow sufficient time for the fuel oil service system to be fully flushed of all fuel oils exceeding the applicable Sulphur content before entering ECA.

Local regulation:
- Beside the MARPOL implemented ECA there are also local requirements in some states that regulate the Sulphur content in fuels to be used. (Turkey/ China)

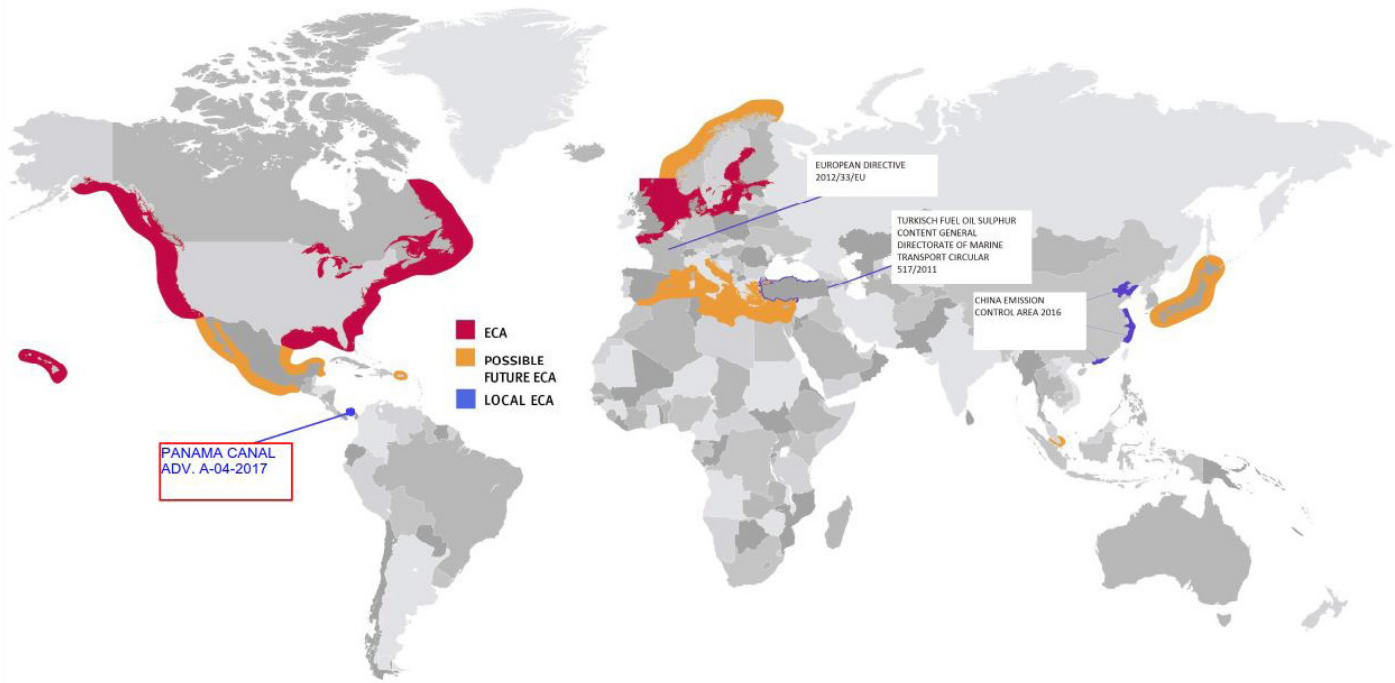
Records:
- Deck log book:
  - Time and position the change was completed
  - Time and position entering ECA
- Engine log book:
  - Time and position the change was completed
- VT-106B (HFO/MDO (MGO) change-over record to be sent to office.

NOx (Nitrogen Oxides):
The NOx control requirements provide for progressive reductions in NOx emissions from marine diesel engines. The NOx emission limit is set based on the ship's rated engine speed.

Verification of compliance with NOx regulations:
The NOx emission limits for new engines will be met by engine manufacturers and depends on the construction of the ship or new installation of engines on existing ships.
- EIAPP (Engine International Air Pollution Prevention Certificate) as recorded within the technical files.

Special areas

- Baltic Sea (SOx)
- North Sea (SOx)
- North American ECA (SOx and PM / NOx)
- United States Caribbean Sea ECA (SOx and PM / NOx)



EU MRV and IMO DCS

Both the EU and the IMO have clear ambitions to reduce GHG (greenhouse gases) emissions from ships, and two similar albeit separate regimes have been introduced:

EU MRV – EU Monitoring, Reporting and Verification of CO2 emissions (data collection started 1 January 2018).

IMO DCS – IMO Data Collection System on fuel consumption (data collection started 1 January 2019).

Both EU MRV and IMO DCS requirements are mandatory, and intend to be the first step in a process to collect and analyze emission data related to the shipping industry.

EU MRV vs IMO DCS

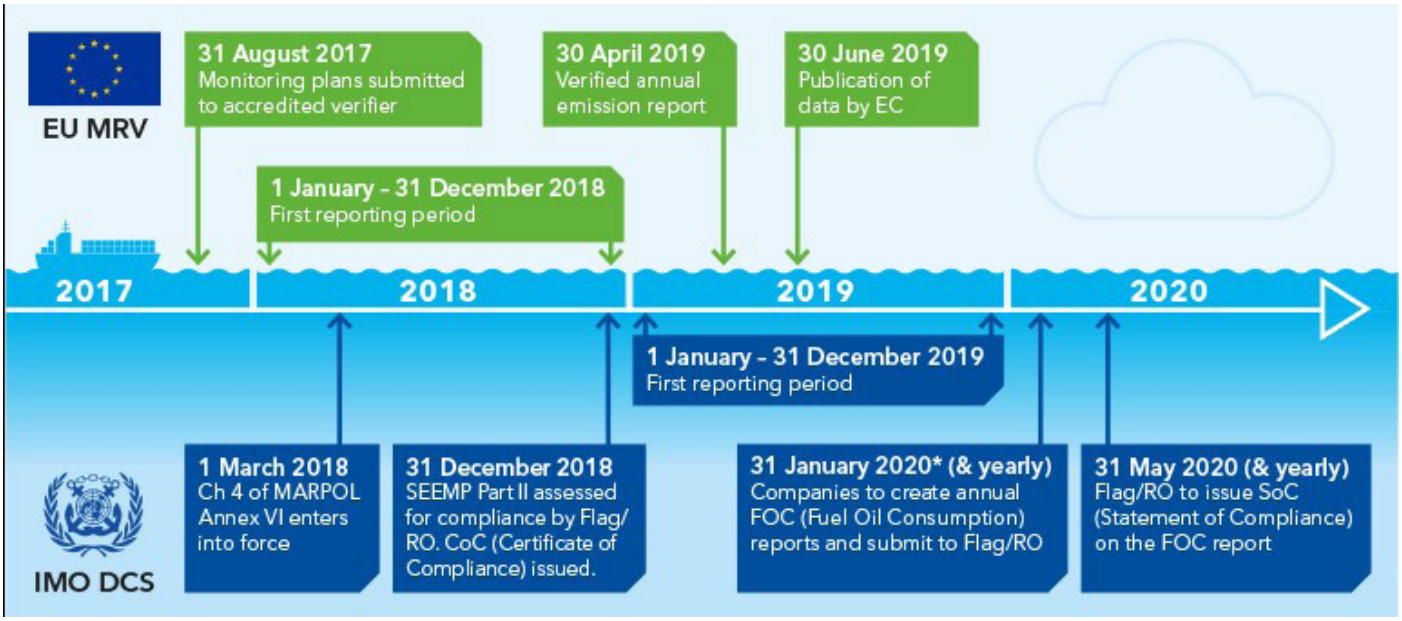
Whilst the EU scheme has focus on CO2 emissions from shipping activities to, from and within the EU area, the IMO scheme covers emissions from shipping globally. Whether, how and when the two regimes will converge is not yet decided. The below table provides an overview of the requirements from the two initiatives in terms of scope and reporting.

EU MRV vs IMO DCS

COMPARISON	EU MRV (MONITORING, REPORTING AND VERIFICATION))	IMO DCS (DATA COLLECTION SYSTEM)
Applicability:	Ships > 5,000 gross tonnage (GT) calling any EU ports.	Ships ≥ 5000 gross tonnage (GT) trading globally.
First reporting period:	• 2018 (1 Jan - 31 Dec 2018) • Reporting to verifier by end of January 2019	• 2019 (1 Jan - 31 Dec) • Reporting to verifier by end March 2020
Monitoring plan:	• Separate document describing the methodology for data collection and reporting. • Pre-defined format published by the European Commission (EC). • Subject to verification by an independent accredited verifier. • Deadline for submission of Monitoring plan was 31 Aug 2017.	• Data collection and reporting methodology shall be described in a SEEMP, Part II. • SEEMP Part II is an integrated part of the Ship Energy Efficiency Management Plan, SEEMP. • Conformation of compliance by Flag/Recognized Organization (RO). • Deadline for submission of SEEMP Part II is 31 Dec 2018.
Reporting details:	• Amount and emission factor for each type of fuel consumed in total • Total CO2 emitted and additionally differentiated to aggregated CO2 emitted - Voyages to and from EU ports - Voyages between EU ports - At berth • Total transport work - Time at sea and in port - Cargo carried • Average energy efficiency	• Period of calendar year for which the data is submitted • Distance travelled • Amount of each type of fuel consumed in total • Hours underway under own propulsion • DWT to be used as cargo proxy
Reporting to:	• European Commission: - Company reports annual emissions to the EMSA data base ("THETIS MRV"). - Annual report to be verified by an accredited verifier (such as DNV GL)	• Flag state: - Annual emission report to be verified by Flag Admin./RO (such as DNV GL) - Flag State (or RO) reports to IMO data base
Disclosure:	• European Commission will make data publicly available	• Individual ship data will be kept confidential

EU MRV and IMO DCS Timeline

A comparison of the overall timeline between EU MRV and IMO DCS looks like this:



Seal program compliance

Every vessel has a ship specific list of valves and flanges that are required to be kept sealed by the seal program. This list has been approved by technical superintendent and is not allowed to be changed. A copy of the list must be attached to the seal log book.

All seals onboard has a unique number in a continuously countable series. The unused seals shall be in the Master's custody and the Master shall request new seals from the Technical Superintendent when required.

Sealing of valves & flanges:
The sealing shall be in such a way that the valve or flange cannot be opened without braking the seal. In some cases it will be necessary to use two seals.

Correctly applied seals,
the seal will break in case the valve or flange is opened.

Wrongly applied seal,
the seal may be manipulated.

Record keeping
The seal log book shall be in Masters Custody and records of:

- Log of Master and Chief Engineer and C/O sign on: In this log each joining of Master and C/E C/O shall be entered including a signature to be recorded for verification purposes in case required
- Seal delivery log: upon receiving new seals from the office this form shall be entered accordingly with the sub sequential serial numbers including the total quantity.
- Seal Handing over log: is to be used during each handover of Master this to ensure a new Master has an accurate number of seals on board. To be signed by both Masters.

- **Recording of a sealed valve in the relevant section of the logbook.**
  - Seal ID.
  - Seal location and description of the item.
  - Old seal serial number.
  - New seal serial number.
  - Reason for replacement.
  - Statement of the reason for replacement of the seal.

The form MT-122 shall be kept by the Master and sent to company monthly. The form shall include all replacements of seals and records of monthly seal inspection. For efficient record keeping, it is highly recommended to keep MT-122 updated after each change and not to wait until end of the month. This form is used to have a cross check with the seal logbook by superintendents and authorities if deemed necessary

Additionally to the record keeping compulsory by the seal program also MARPOL records of optional sealing must be maintained in the ORB (oil record book).

- ORB part I – Under item “I” as per example in MEPC. 1/Circ.736/Rev.2 example# 26 & 27
- ORB part II – Same as above but under item “O”

Inventory of hoses and pumps

Flexible hoses:

- All flexible hoses 40mm in diameter or more currently in use or stored onboard (excl. fire hoses).
  - Kept in inventory.
  - Kept tagged.
  - Marked with intended use.

Portable pumps:

- All portable pumps in engine room or on deck.

Records:

- Deck (BT-134A) / Engine (BT-134B)
  - Number
  - Location/Storage
  - Type
  - Maker, Serial No.
  - Usage, Purpose of usage, Remarks

Marine debris is everyone's problem

Worldwide Sources of Marine Debris

64% Shoreline & Recreational Activities
25% Smoking-related Activities
8% Ocean/Waterway Activities
2% Dumping Activities
1% Medical/Personal Hygiene

Top 10 Marine Debris Items

Cigarettes & cigarette filters, plastic bags, food wrappers and containers, caps and lids, plastic beverage bottles, eating utensils, glass beverage bottles, beverage cans, straws and stirrers, paper bags

How long do items remain in the environment?

- Paper Towel 2-4 WEEKS
- Newspaper 6 WEEKS
- Cotton Rope 1-5 MONTHS
- Cotton Shirt 1-5 MONTHS
- Apple Core 2 MONTHS
- Cigarette Butt 1.5 to 10 YEARS
- Cardboard Box 2 MONTHS
- Waxed Milk Carton 3 MONTHS
- Plastic Beverage Holder 400 YEARS
- Styrofoam Cup 50 YEARS
- Aluminum Cans 200 YEARS
- Plastic Grocery Bag 1-20 YEARS
- Disposable Diaper 450 YEARS
- Plastic Bottle 450 YEARS
- Monofilament Fishing Line 600 YEARS
- Glass bottles UNDETERMINED

Woods Hole Sea Grant

The National Oceanic and Atmospheric Administration (NOAA) defines marine debris as any manmade object discarded, disposed of or abandoned that enters the coastal or marine environment. Each year, tons of plastic and other litter end up in our oceans, rivers, and beaches. The only way to truly manage the marine debris pollution issue is through prevention – help Woods Hole Sea Grant change behaviors that cause marine debris to enter the environment! Reduce, Reuse, Recycle!

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Sources: NOAA Marine Debris Program, Ocean Conservancy, SC Sea Grant
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