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An Introduction on International Convention on Marine Pollution From Ships

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Introduction

Marine Pollution

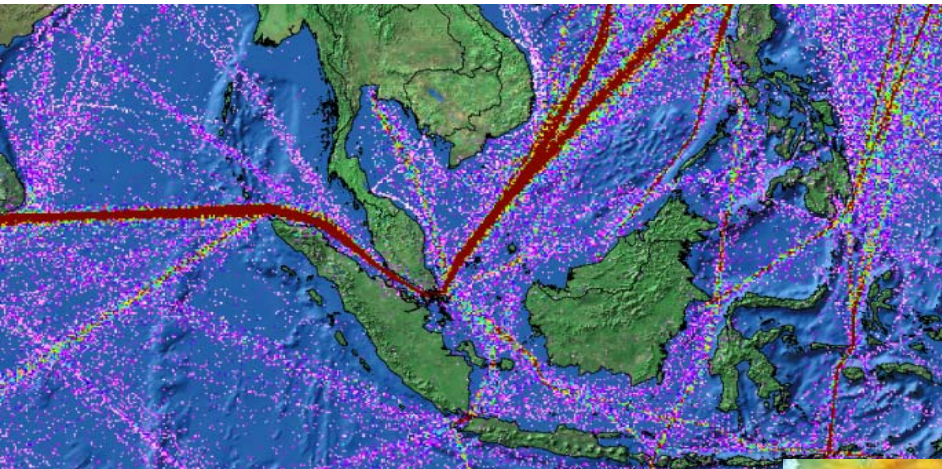
National Law

International Law

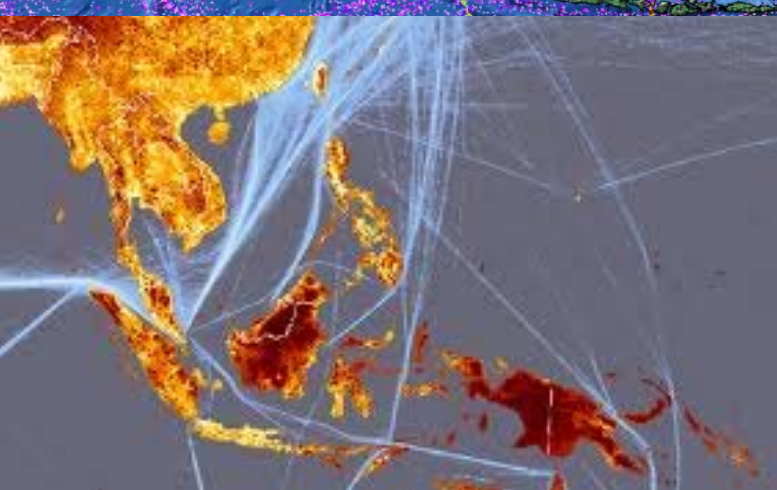
Conclusion

Introduction

- ▶ Pollution :-
 - ▶ Land based;
 - ▶ Vessel based (ship source):
- ▶ About 70% of all marine pollution originates from land, 10% from maritime transportation and another 10% from dumping at sea, 10% etc .

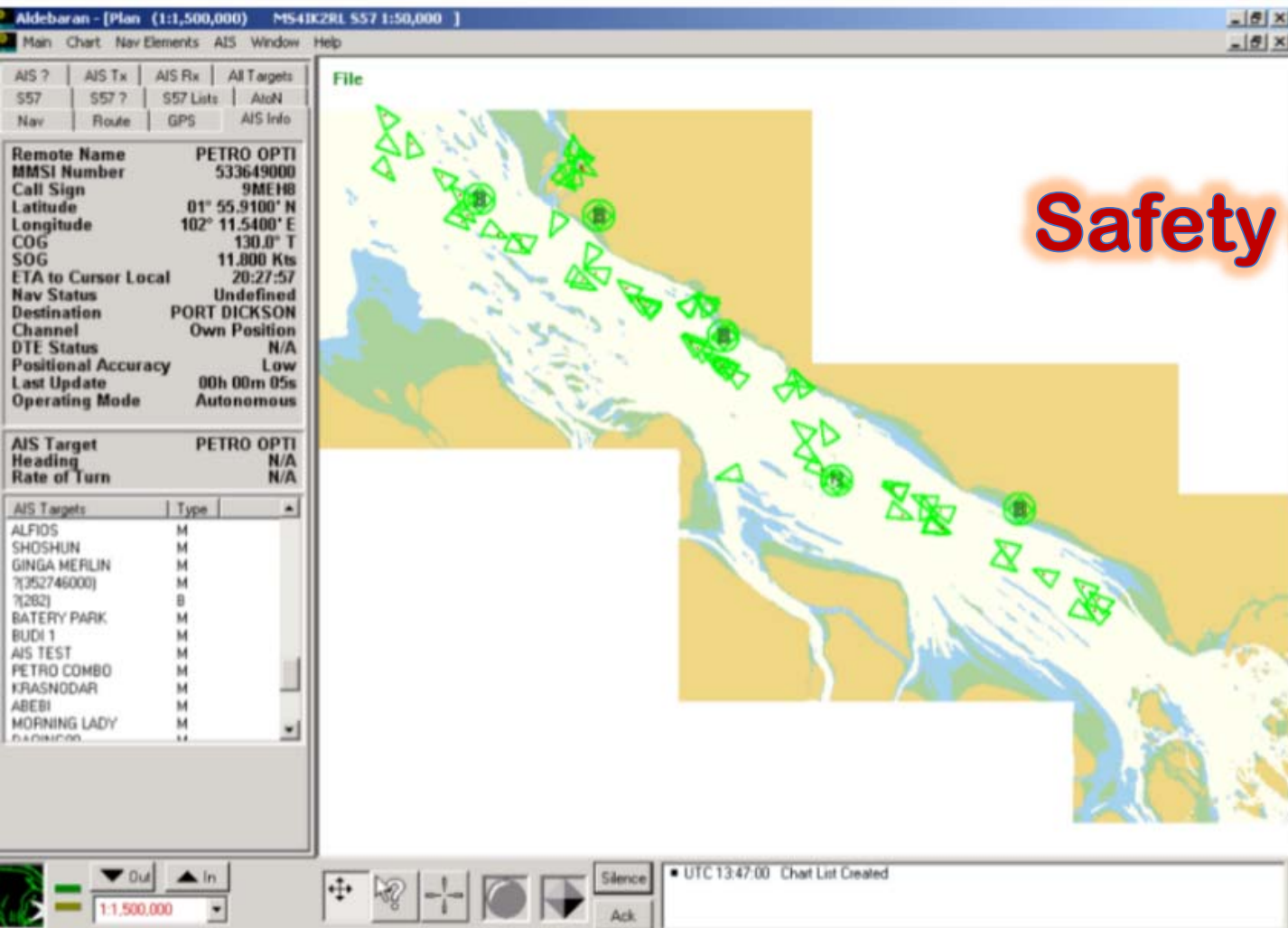


Vessel Reported to VTS Port Klang



Year	No of Vessel
2013	77,973
2014	79,344
2015	80,959
2016	83,740
2017	82,644
2018	85,030





Safety of Navigation

Screenshots of
JLM AIS
Network in
2004



Screenshots of JLM AIS Network in 2018

Safety of Navigation

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Image courtesy Jabatan Laut Malaysia

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Marine Pollution?

- United Nation Convention on the Law of the Sea (UNCLOS) 1982
 - “The **introduction** by man, directly, or indirectly, of **substances or energy** to the marine environment resulting in **deleterious effects** such as: hazards to human health, hindrance to marine activities, impairment of the quality of seawater for various uses and reduction of amenities”
- Marine pollution occurs when harmful, or potentially harmful, effects result from the entry into the ocean of **chemicals**, particles, industrial, agricultural and residential waste, **noise**, or the spread of **invasive organisms** **BUT most sources of marine pollution are land based.**

Marine Pollution?

- International Maritime Organization (IMO) Perspectives.....
 - **Accidental spills** from ships carrying hazardous substances, oil, gas etc;
 - **Leaks from facilities** such as marine terminal, harbors, offshore drilling platform, etc;
 - **Oily discharges** from ballast water and bilge water during routine ship operations and illegal dumping of solid waste;
 - Designated **dumping** grounds at sea (dredged spoil, old munitions, sewage sludge, fly ash, oil based drilling muds);

National Law - Akta Fungsi-Fungsi Menteri 1969

- Perintah Menteri-Menteri Kerajaan Persekutuan (P.U.A 184) bertarikh 26 Jun 2013 – JLSM, JL Sarawak dan JL Sabah



Keselamatan Kapal



Pendaftaran & perlesenan kapal-kapal



Pemeriksaan Kapal-kapal



Menyelaraskan operasi kargo berbahaya



Melaksanakan pelan kontigensi melawan tumpahan minyak dari kapal



Kerja pengerukan dan kerja pengukuran hidrografi



Program pembangunan dan pensijilan pelaut

Obselete!!

National Law - Akta Fungsi-Fungsi Menteri 1969

- Perintah Menteri-Menteri Kerajaan Persekutuan (P.U.A 184) bertarikh 26 Jun 2013 – Jabatan Alam Sekitar



Melaksanakan fungsi dan kuasa di bawah Akta Kualiti Alam Sekeliling 1974



Melaksanakan fungsi dan kuasa di bawah Bahagian IV Akta Zon Ekonomi Eksklusif 1984



Pencegahan dan pengawalan pencemaran alam sekitar



Perlindungan dan pembaikan kualiti alam sekitar

Obselete!!

National Law

- Perintah Menteri-Menteri Kerajaan Persekutuan (P.U.A 132) bertarikh 14 Mei 2019 –
 - Jabatan Alam Sekitar
 - Jabatan Laut Malaysia

- *Yang dipertanggung dengan tanggungjawab mengenai Jabatan/perkara yang berikut:-*
- *Melaksanakan fungsi dan menjalankan kuasa dibawah undang-undang berikut:-*

Recent!!

National Law



Department of Environment
• Environmental Quality Act, 1974 (Act 127);



Marine Department Malaysia
• Part VA, Merchant Shipping Ordinance 1952
• Merchant Shipping (Oil Pollution) Act 1994
• Merchant Shipping (Amendment and Extension) Act 2011 – Act A1393



Port Authorities & Other Related Government Agencies

National Law – Part VA, MSO 1952

- Act A1393 amends Part VA, MSO 1952;
- Extends the coverage up to **EEZ and atmosphere**;
- Section 306B – Applicable to :-
 - **Registered Malaysian ships**;
 - **Foreign ships while in Malaysian waters**;
 - **Fishing vessels**; and
 - Such vessels or class of vessels as the Minister may prescribe (i.e floating structure, platforms, offshore structures);
- Ships of war, troopships & government vessels **exempted**;

National Law – Part VA, MSO 1952

- Section 306C (1) – Definition :-
 - “**discharge**” means any release of oil or harmful substances from a ship includes any **escape, disposal, spilling, leaking, pumping, emitting or emptying**, but does not include :-
 - Release of harmful substances or chemicals for purposes of legitimate scientific research into pollution abatement or control;
 - Dumping within the meaning of the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matters 1972, or dumping with the consent of the Government; or
 - Release of harmful substances directly arising from the exploration, exploitation and associated offshore processing of seabed mineral resources;

National Law – Part VA, MSO 1952

- Section 306C (1) – Definition :-
 - “oil” means any **persistent or non persistent** hydrocarbon mineral oil in any form, including any mixture with any oil content, whether carried on board a ship as a cargo in bulk or in bunkers of the ship;
 - “oil mixture” means a mixture with any oil content;
 - “owner” includes a charterer or operator of a ship;
- Section 306C (2) – Where oil or harmful substance has been, is being or is likely to be discharged, intentionally or otherwise, from a ship, the discharge or likely discharge of the oil or harmful substance from the ship shall, for the purpose of this Part, be deemed to be an escape or likely escape of oil or harmful substance from the ship;

National Law – Part VA, MSO 1952

- Section 306D (I) requires that
 - “where oil or harmful substance is escaping from, or where the Director of Marine is satisfied that **oil or harmful substances** is likely to escape from, a ship, then, for a purpose of preventing or reducing the extend of the pollution or likely pollution by the oil or harmful substance of **any Malaysian waters, any part of Malaysian coast or any Malaysian reef**, the Director of Marine with consultation of **DG of the DOE**, by notice in writing addressed to the owner of the ship and served in accordance with section 306E, do all or any of the following :-
 - Require such **notice** to be taken in relation to the ship or its cargo as is specified in the notice;
 - Prohibit the removal of the ship from a place specified in the notice except with his approval; and
 - Prohibit the removal of the ship or any cargo, or any cargo specified in the notice, except with his approval;

National Law – Part VA, MSO 1952

- Section 306J (I) requires that
 - “the master of a ship in Malaysian waters which experiences a maritime casualty as defined in the Section 306I or which has discharged any **oil or harmful substances** shall report incident to :
 - The **Port Officer**, within **twenty-four (24) hours** or as soon as possible, where the ship is **in port**; or
 - The **Director of Marine**, as soon as possible, where the ship is **outside a port**;

International Law / Convention



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Safe, Secure and Efficient Shipping on Clean Oceans

IMO is the United Nations' specialized agency responsible for safety and security of shipping and the prevention of marine pollution by ships.



Maritime Safety

IMO's work in developing international safety regulations and recommendations for shipping.



Maritime Security

Maritime security is an integral part of IMO's responsibilities. A comprehensive security regime for international shipping entered into force on 1 July 2004.



Marine Environment

IMO's work in developing international regulations and recommendations to prevent pollution of the seas by ships.



Legal Affairs

Information on Liability and compensation regimes developed by IMO and issues dealt with by IMO's Legal Committee.



Human Element

Focuses on the human side of shipping - the people involved in every aspect of ship safety and prevention of marine pollution, from seafarers to ship operators to port state control officers.



Facilitation

Information relating to IMO's work at the ship-port interface, including standardisation and harmonisation of procedures as well as security issues.



Technical Cooperation

Information on IMO's Technical Cooperation Programme which is designed to assist Governments which lack the



Member State Audit Scheme & Implementation Support

Implementation of IMO treaty instruments lies with States that are Parties to those instruments. The Member State Audit aims

Legal

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International Law / Convention

Marine Environment

► **Pollution Prevention**

Oil Pollution

Chemical Pollution

Sewage

Garbage

Air Pollution and GHG Emissions

Pollution Preparedness and Response

Ballast Water Management

Biofouling

Anti-fouling Systems

Ship Recycling

Port Reception Facilities

Special Areas Under MARPOL

Particularly Sensitive Sea Areas

London Convention and Protocol



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Special Areas Under MARPOL

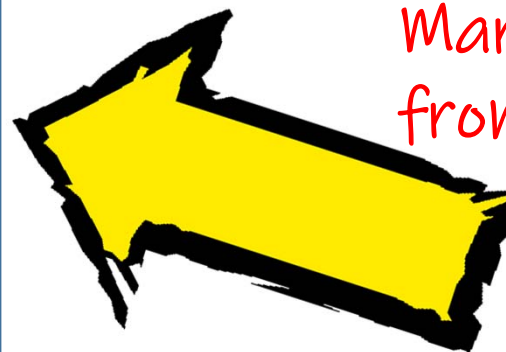
Particularly Sensitive Sea Areas

London Convention and Protocol

Pollution Prevention

In 1973, IMO adopted the International Convention for the Prevention of Pollution from Ships, now known universally as MARPOL, which has been amended by the Protocols of 1978 and 1997 and kept updated with relevant amendments. The MARPOL Convention addresses pollution from ships by oil; by noxious liquid substances carried in bulk; harmful substances carried by sea in packaged form; sewage, garbage; and the prevention of air pollution from ships. MARPOL has greatly contributed to a significant decrease in pollution from international shipping and applies to 99% of the world's merchant tonnage.

Other treaties address anti-fouling systems used on ships, the transfer of alien species by ships' ballast water and the environmentally sound recycling of ships. Reductions of pollution generated by ships have been achieved by addressing technical, operational and human element issues and are all the more noteworthy when compared with the significant growth in the world's shipping industry – both in the size of the world fleet and the distances that it travels. IMO is continuously pursuing a pro-active approach to enhance implementation and enforcement, both by flag and port States, including a pro-active action plan to ensure that shore-based reception facilities for ship generated waste keep up with international regulatory requirements.



Marine pollution from vessel based!!

International Instrument on Pollution Preparedness & Response

Oil Pollution Preparedness, Response & Cooperation (OPRC) 1990

The Protocol on Preparedness, Response and Co-Operation To Pollution Incidents by Hazardous and Noxious Substances (OPRC HNS), 2000

No	International Convention	Enforcement Date
1	The Protocol on Preparedness, Response and Co-Operation To Pollution Incidents by Hazardous and Noxious Substances (OPRC HNS), 2000	21 th February 2014
2	International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC) 1990	13 th October 1997

OPRC 1990 & OPRC HNS 2000

- The international instrument that provides a framework designed to facilitate international co-operation and mutual assistance in preparing for and **responding to major pollution incidents** and requires States to plan and prepare by developing national systems for pollution response in their respective countries, and by maintaining adequate capacity and resources to address oil pollution emergencies;
- States which are party to OPRC 90 and OPRC-HNS Protocol are required to establish a **national system** for responding to oil and HNS pollution incidents, including a **designated national authority**, a national operational **contact point** and a national contingency plan.
- This needs to be backstopped by a minimum level of **response equipment, communications plans, regular training and exercises.**

OPRC 1990

- DoE Malaysia – Chairman@custodian of National Oil Spill Contingency Plan (NOSCP);
 - Coordination
 - Waste management
- MMD – Technical / “Operating Arm”
 - On Scene Commander;
 - Response Equipment (stockpile, vessel & trajectory software),
 - Competent resources,
 - Claims & Compensation,
 - Salvage & Wreck,
 - Safety of Navigation activities

OPRC HNS 2000

- The Protocol on Preparedness, Response and Co-operation to Pollution Incidents by Hazardous and Noxious Substances, 2000 (OPRC-HNS Protocol)
- Extends this regulatory framework to address pollution **incidents involving hazardous and noxious substances**, i.e. chemicals.
- HNS Action Plan by Marine Department Malaysia
 - National Law;
 - Risk Profiling;
 - Draft National Chemical Spill Response Plan;
 - Chemical Spill Trajectory & Equipment – RMK10 & RMK11;
 - Training with Fire & Rescue Department (Hazmat)
 - Personnel Competency;
 - Claims & Compensation

International Instrument – Liability & Compensation

No	International Convention	Enforcement Date
1	The International Convention on Civil Liability for Bunker Oil Pollution Damage, 2001 (Bunkers Convention 2001)	12 th December 2009
2	The International Convention for the Limitation of Liability for Maritime Claims, 1976 as Amended by Protocol of 1996 (LLMC Convention 1996)	10 th February 2009
3	International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND) Protocol 1992	9 th June 2005
4	International Convention on Civil Liability for Oil Pollution Damage (CLC) 1992	9 th June 2005

International Instrument on Pollution Prevention

No	International Convention	Enforcement Date
1	International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL), Annex VI : Prevention of Air Pollution from Ships	27 th December 2010
2	International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL), Annex IV : Prevention of Pollution by Sewage from Ships	27 th December 2010
3	International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL), Annex III : Prevention of Pollution from harmful substances in Packaged Form	27 th December 2010
4	Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships (MARPOL) 1973, as amended (Annexes I, II and V)	1 st May 1997

International Instrument – MARPOL 73/78

Oil Pollution

-MARPOL 73/78 Annex I

Chemical Pollution

- MARPOL 73/78 Annex II & III

Sewage Pollution

-MARPOL Annex IV

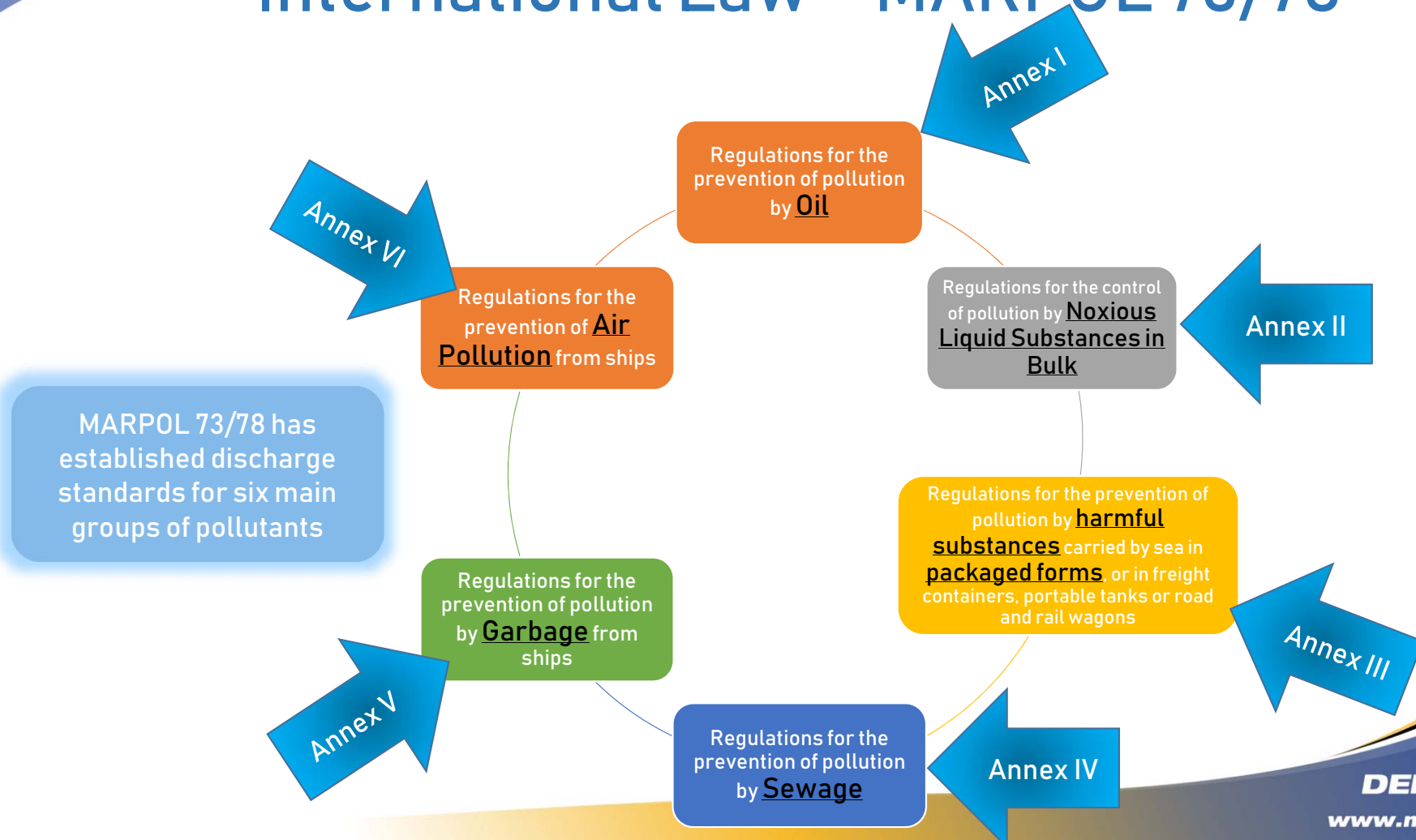
Garbage Pollution

-MARPOL Annex V

Air Pollution / Emission [Green House Gases]

- MARPOL Annex VI

International Law – MARPOL 73/78



International Law – MARPOL 73/78

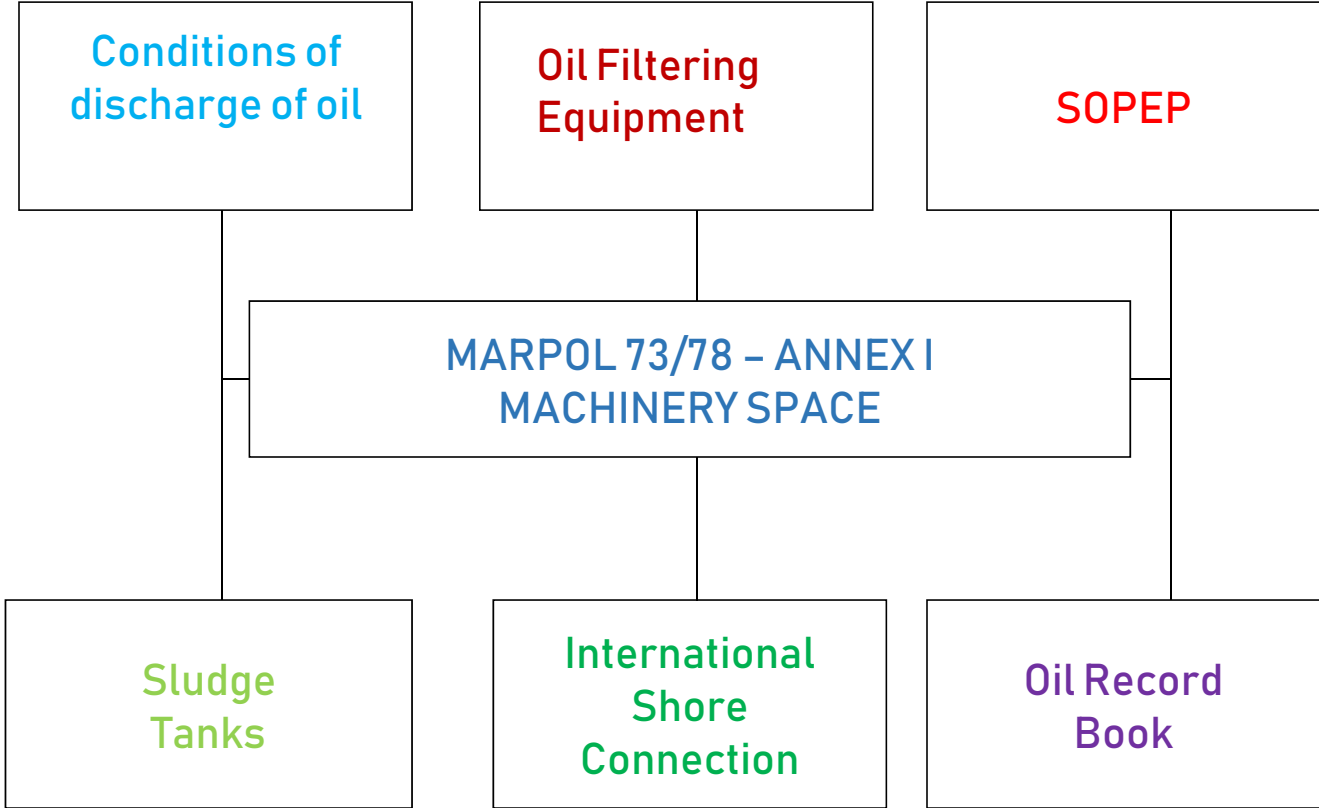
Oil Pollution
- MARPOL 73/78 Annex I

International Law – Annex I MARPOL 73/78

- Regulations for the Prevention of Pollution by **Oil** :-
 - Allowable discharges of bilge water through the oily water separator (with the well-known **15ppm** standard), or
 - Oily waters from the cargo tanks, through the oil discharge and monitoring system;



International Law – Annex I MARPOL 73/78



International Law – Annex I MARPOL 73/78

- Reception Facilities :-
 - The Government of each Party to the Convention undertakes to ensure the provision of facilities at ports and terminals for **the reception of oily waste** , without causing undue delay to ships, adequate to meet the needs of the ships using them.
 - The Government of each Party shall notify the Organization for transmission to the Contracting Governments concerned of all cases where the facilities provided under this regulation are **alleged to be inadequate**.

International Law – MARPOL 73/78

Oil Pollution
-MARPOL 73/78 Annex I

Chemical Pollution
- MARPOL 73/78 Annex II & III

International Law – Annex II & III MARPOL 73/78

- Chemical Pollution through
 - Annex II - Regulations for the Control of Pollution by Noxious Liquid Substances in **Bulk**;
 - Annex III - Regulations for the Prevention of Pollution by Harmful Substances Carried by Sea in **Packaged Form**;

International Law – Annex II MARPOL 73/78

- Regulations for the Control of Pollution by **Noxious Liquid Substances in Bulk** through four categories :-

Category X: Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a **major hazard** to either marine resources or human health and, therefore, justify the prohibition of the discharge into the marine environment;

Category Y: Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a **hazard** to either marine resources or human health or cause harm to amenities or other legitimate uses of the sea and therefore justify a limitation on the quality and quantity of the discharge into the marine environment;
[e.g : vegetable oil / palm oil]

Category Z: Noxious Liquid Substances which, if discharged into the sea from tank cleaning or deballasting operations, are deemed to present a **minor hazard** to either marine resources or human health and therefore justify less stringent restrictions on the quality and quantity of the discharge into the marine environment;

Other Substances: substances which have been evaluated and found to fall outside Category X, Y or Z because they are considered **to present no harm** to marine resources, human health, amenities or other legitimate uses of the sea when discharged into the sea from tank cleaning or deballasting operations. The discharge of bilge or ballast water or other residues or mixtures containing these substances are not subject to any requirements of MARPOL Annex II.

International Law – Annex II MARPOL 73/78

- Reception Facilities :-
 - The Government of each Party to the Convention undertakes to ensure the provision of facilities at ports and terminals for the **reception of chemical waste**, without causing undue delay to ships, adequate to meet the needs of the ships using them.
 - The Government of each Party shall notify the Organization for transmission to the Contracting Governments concerned of all cases where the facilities provided under this regulation are **alleged to be inadequate**.

International Law – Annex III MARPOL 73/78

- Regulations for the Prevention of Pollution by **Harmful Substances** Carried by Sea in **Packaged Form**;
 - Chemicals which are carried in packaged form, in solid form or in bulk are regulated by Part A of SOLAS Chapter VII - Carriage of dangerous goods, which includes provisions for the classification, packing, marking, labelling and placarding, documentation and stowage of dangerous goods.
 - Sets out regulations for the prevention of pollution by **harmful substances in packaged form** and includes general requirements for the issuing of detailed standards on packing, marking, labelling, documentation, stowage, quantity limitations, exceptions and notifications for preventing pollution by harmful substances.
 - For the purpose of Annex III, “**harmful substances**” are those identified as “**marine pollutants**” in the **IMDG Code**.
 - Both SOLAS and MARPOL refer to the International Maritime Dangerous Goods (IMDG) Code, which was developed by IMO as a uniform international code for the transport of dangerous goods by sea.

International Law – MARPOL 73/78

Oil Pollution

-MARPOL 73/78 Annex I

Chemical Pollution

- MARPOL 73/78 Annex II & III

Sewage Pollution

-MARPOL Annex IV

International Law – Annex IV MARPOL 73/78

- Regulations for the Prevention of Pollution by Sewage from Ships;
 - Contains a set of regulations regarding the **discharge of sewage** into the sea from ships, including regulations regarding the ships' equipment and systems for the control of sewage discharge, the provision of **port reception facilities for sewage**, and requirements for survey and certification.
 - Generally considered that on the **high seas**, the oceans are capable of assimilating and dealing with **raw sewage** through natural bacterial action.
 - The regulations **prohibit the discharge of sewage into the sea within a specified distance from the nearest land**, unless otherwise provided.

International Law – Annex IV MARPOL 73/78

- What is **Sewage**?
 - Drainage and other wastes from any form of toilets, urinals, and WC scuppers;
 - 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; or
 - Other waste waters when mixed with the drainages defined above.

International Law – Annex IV MARPOL 73/78

- Application

- **New ship** :-

- 400 tons gross tonnage and above;
 - Less than 400 tons gross tonnage which are certified to carry more than 10 persons;
 - New ships which do not have a measured gross tonnage and are certified to carry more than 15 persons;

- **Existing ships of 400 gross tonnage and above**, five years after the date of entry into force of this Annex; and

- **Existing ships of less than 400 gross tonnage** which are certified to carry more than 15 persons, five years after the date of entry into force of this Annex.

International Law – Annex IV MARPOL 73/78

- Discharge :-
 - The discharge of sewage into the sea is **PROHIBITED**, except when:
 - The ship is discharging **comminuted and disinfected sewage** using a system approved by the Administration at a distance of **more than 4 nautical miles** from the nearest land; or
 - Sewage which is **not comminuted or disinfected** at a distance of **more than 12 nautical miles** from the nearest land, provided that in any case, the sewage that has been stored in holding tanks shall not be discharged instantaneously but at a moderate rate when the ship is en route and proceeding at not less than **4 knots**;
 - The rate of discharge shall be approved by the Administration based upon standards developed by the Organization;

International Law – Annex IV MARPOL 73/78

- Reception Facilities :-
 - The Government of each Party to the Convention undertakes to ensure the provision of facilities at ports and terminals for **the reception of sewage**, without causing undue delay to ships, adequate to meet the needs of the ships using them.
 - The Government of each Party shall notify the Organization for transmission to the Contracting Governments concerned of all cases where the facilities provided under this regulation are **alleged to be inadequate**.

International Law – MARPOL 73/78

Oil Pollution

-MARPOL 73/78 Annex I

Chemical Pollution

- MARPOL 73/78 Annex II & III

Sewage Pollution

-MARPOL Annex IV

Garbage Pollution

-MARPOL Annex V

International Law – Annex V MARPOL 73/78

- Regulations for the Prevention of Pollution by **Garbage** from Ships;
 - To eliminate and reduce the amount of garbage being discharged into the sea from ships;
 - Garbage from ships can be just as deadly to marine life as oil or chemicals.
 - The greatest danger comes from plastic, which can float for years. fish and marine mammals can in some cases mistake plastics for food and they can also become trapped in plastic ropes, nets, bags and other items;

International Law – Annex IV MARPOL 73/78

- Reception Facilities :-
 - The Government of each Party to the Convention undertakes to ensure the provision of facilities at ports and terminals for the reception of garbage, without causing undue delay to ships, adequate to meet the needs of the ships using them.
 - The Government of each Party shall notify the Organization for transmission to the Contracting Governments concerned of all cases where the facilities provided under this regulation are alleged to be inadequate.

International Law – MARPOL 73/78

Oil Pollution

-MARPOL 73/78 Annex I

Chemical Pollution

- SOLAS 1974 Chapter VII
- MARPOL 73/78 Annex II & III

Sewage Pollution

-MARPOL Annex IV

Garbage Pollution

-MARPOL Annex V

Air Pollution & GHG

- MARPOL Annex VI

International Law – Annex VI MARPOL 73/78

- Regulations for the Prevention of **Air Pollution** from Ships
 - To minimize **airborne emissions** from ships (**SO_x, NO_x, CO₂ shipboard incineration**) and their contribution to local and global air pollution and environmental problems.
 - To increase energy efficiency and reduce GHG emissions from international shipping
 - 1 Jan 2020 – 0.5% mass by mass (m/m) Sulphur content (reduce from 3.5%) in the bunker fuel

International Law – Annex IV MARPOL 73/78

- Reception Facilities :-
 - The Government of each Party to the Convention undertakes to ensure the provision of facilities at ports and terminals for the **reception of air emission** (waste), without causing undue delay to ships, adequate to meet the needs of the ships using them.
 - The Government of each Party shall notify the Organization for transmission to the Contracting Governments concerned of all cases where the facilities provided under this regulation are **alleged to be inadequate**.

Conclusion

- Environmental management is a national, sub-regional and international issue.
- The sea will continue to be at risk from maritime transportation due to dependence on seaborne trade and the transportation of oil.
- Much has been done to address the problem through framework of international conventions, non-legal instruments as well as national actions. However the problem still persisted.
- **New areas should be explored.**

Thank you
Dankes xie
Khawp khun
Gum gongxi
Mahalo
Isipamat
Juspañña
SPACIBO
Arigato

Terima kasih