



**REGULATORY & LEGISLATIVE MECHANISM
TO
PREVENT & CONTROL MARINE POLLUTION
DUE TO
OIL AND OTHER NOXIOUS SUBSTANCES**

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INTRODUCTION

"...Man's fingerprint is found everywhere in the oceans. Chemical contamination and litter can be observed from the poles to the tropics and from beaches to abyssal depths...But conditions in the marine environment vary widely. The open sea is still relatively clean...In contrast to the open ocean, the margins of the sea are affected by man almost everywhere, and encroachment on coastal areas continues worldwide...If unchecked, this trend will lead to global deterioration in the quality and productivity of the marine environment."



MARINE POLLUTION

The alteration of the physical, chemical and biological properties of any body of water as a result of discharges of substances in any form, liquid, gaseous or solid, that are likely to create or render such waters harmful, detrimental or injurious to public health, marine life, sea birds, safety and welfare as well as to commercial, industrial, recreational or other legitimate uses.



SOURCES OF MARINE POLLUTION

Under the framework of international law, sources of marine pollution are :

- Land-based sources and activities;
- Shipping and other sea-based activities such as fishing and aquaculture;
- Dumping of wastes;
- Seabed activities, both near and offshore; and
- Atmospheric sources.



SOURCES OF MARINE POLLUTION

- Construction activities.
- Disposal of domestic & industrial wastes.
- Mining.
- Oil spills.
- Ship-breaking.
- Ocean dumping of fly ash.

SOURCES OF MARINE POLLUTION

Various substances causing pollution are:


- Halogenated hydrocarbons, PCB's and pesticides;
- Petroleum and its derivatives;
- Other organic chemicals like marine biotoxins and detergents;
- Nutrient chemicals,
- Inorganic chemicals, especially mercury and lead;

Contd.....



SOURCES OF MARINE POLLUTION

- Suspended solids;
- Radioactive substances;
- Thermal wastes; and
- Ship paints containing hazardous substances like Tri-Butyl Tin (TBT).



INTERNATIONAL CONVENTIONS FOR PREVENTION & CONTROL OF MARINE POLLUTION

- International Conventions for Prevention of Pollution of Sea by Oil (OILPOL), 1954.
- The First Law of Sea Conference ,1958 (Geneva).
- The Convention on Intervention on the High Seas in Cases of Oil Pollution Casualties, 1969 (Bursfels).
- The Convention on Civil Liability for Oil Pollution Damage, 1969.



INTERNATIONAL CONVENTIONS FOR PREVENTION & CONTROL OF MARINE POLLUTION

- The International Convention on the Prevention of Marine Pollution by Dumping of Wastes and other matter, 1972 (London), popularly known as London Dumping Convention.
- The International Convention for the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971.
- The UN Third Law of Sea Conference (UNCLOS-III), 1973.



INTERNATIONAL CONVENTIONS FOR PREVENTION & CONTROL OF MARINE POLLUTION

- International Convention for the Prevention of Pollution from Ships, 1973(MARPOL).
- Convention on the Safety of Life at Sea,1974 (SOLAS)
- Conference on Tanker Safety and Pollution Prevention, 1978.
- The International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC)1990.



INTERNATIONAL CONVENTIONS FOR PREVENTION & CONTROL OF MARINE POLLUTION

MARPOL CONVENTION

- **Objective:** To entirely eliminate pollution of the marine environment by discharges of oil and other hazardous substances from ships and to minimise such discharges in connection with ships' accidents.
- One shall thus prevent pollution of the marine environment due to discharges of oil, chemicals (transported in bulk or in packaged form), sewage and household waste (solid waste, also including solid cargo wastes) from ships.



INTERNATIONAL CONVENTIONS FOR PREVENTION & CONTROL OF MARINE POLLUTION

The MARPOL 73/78 Convention is a framework convention with six Annexes containing detailed regulations regarding permissible discharges, equipment on board the ships, etc.

- **Annex I:** Comprises regulations to prevent discharges of oil or oily residues. The Annex came into force in 1983;
- **Annex II:** Comprises regulations to prevent discharges of noxious liquid substances (chemicals) in bulk. The Annex came into force in 1987 (after some modifications);

Contd.....



INTERNATIONAL CONVENTIONS FOR PREVENTION & CONTROL OF MARINE POLLUTION

- **Annex III:** Comprises regulations to prevent discharges of harmful substances transported in packed form. The Annex came into force in 1992;
- **Annex IV:** Comprises regulations to prevent discharges of sewage. The Annex is not yet in force;
- **Annex V:** Comprises regulations to prevent discharges of garbage (household waste and other solid waste including cargo related waste). The Annex came into force in 1988; and
- **Annex VI:** Was approved at a Marpol Conference in September 1997. It is intended to reduce the discharges of air pollutants from ships. This Annex came into force in 2000 .



THE LIABILITY REGIME

Their prospects may depend on the type and the source of pollution:

- Oil pollution caused by a tanker;
- Oil pollution caused by any other ship;
- Pollution caused by bunkers;
- Hazardous and noxious substances emanating from ships; and
- Other, non-hazardous/noxious, forms of pollution emanating from ships.

MARINE POLLUTION DUE TO HAZARDOUS AND NOXIOUS SUBSTANCES (HNS)

- Protocol to the Oil Pollution Response & Cooperation Convention (OPRC Convention) adopted in London in March 2000 to require member governments to provide response arrangements to spills of hazardous and noxious substances in a similar way to their provision of response arrangements for oil spills.
- Pollution caused by hazardous and noxious substances is dealt with by the Protocol on Preparedness, Response and Co-operation to pollution Incidents by Hazardous and Noxious Substances, 2000 (OPRC - HNS Protocol). This protocol came into force on 14th June 2007.



THE OPRC-HNS PROTOCOL, 2000

The OPRC-HNS Protocol, 2000, is similar to OPRC 1990. It requires signatories to establish measures for dealing with pollution incidents, and vessels will be required to carry a shipboard pollution emergency plan to deal specifically with incidents involving hazardous and noxious substances.



THE OPRC-HNS PROTOCOL, 2000

HNS Definition

For the purposes of the OPRC-HNS Protocol, 2000, a Hazardous and Noxious Substance is defined as any substance other than oil which, if introduced into the marine environment is likely to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.



THE OPRC-HNS PROTOCOL, 2000

SALIENT FEATURE

- Parties to the Protocol either individually or jointly have to make necessary arrangements and establish the capability to prepare for and respond to a pollution incident by hazardous and noxious substances.
- Parties shall require their flag ships to have a pollution incident emergency plan.
- Port authorities and operators will be required to have appropriate HNS pollution emergency plans.



THE OPRC-HNS PROTOCOL, 2000

SALIENT FEATURE

- National and Regional systems for preparedness and response will have to be established, including having a national contingency plan, access to a minimum level of pre positioned response equipment, adequate and trained resources
- Parties agree to cooperate and provide assistance within the capability of their resources to international requests in severe incidents



THE OPRC-HNS PROTOCOL, 2000

SALIENT FEATURE

- This will be a significant challenge to governments and that part of the shipping industry involved in the carriage of HNS cargoes. However, it is not a task to be undertaken in isolation of existing arrangements.
- A sensible approach, as adopted by Australia, is to combine the response arrangements for oil and chemicals into one national contingency plan



INDIAN LEGISLATIONS FOR PREVENTION & CONTROL OF MARINE POLLUTION

- The Merchant Shipping Act, 1958.
- Water (Prevention and Control of Pollution) Act, 1974.
- Maritime Zones Act 1976.
- Coast Guard Act, 1978.
- Environment (Protection) Act, 1986.
- Coastal Regulation Zone Notification, 1991.
- Environment Impact Assessment Notification, 1994/2006.



SEA CHANGE

A MESSAGE OF THE OCEANS

"It does not matter where on Earth you live, everyone is utterly dependent on the existence of that lovely, living saltwater soup. There's plenty of water in the universe without life, but nowhere is there life without water. The living ocean drives planetary chemistry, governs climate and weather, and otherwise provides the cornerstone of the life-support system for all creatures on our planet, from deep-sea starfish to desert sagebrush. That's why the ocean matters. If the sea is sick, we'll feel it. If it dies, we die. Our future and the state of the oceans are one."



CONCLUSION

Protection of the marine environment is part of the 'core business' for all of us at this conference, that being said we need to have a better understanding of some of the challenges that face us whether we represent a government agency, the shipping or petroleum industries or a pollution response organisation.