

# Major Components of an Effective Oil Spill Prevention Program

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# Overview

- The main problem with regard shipping incidents – operational discharges and ‘accidental’ oil spills
- Preventative elements, government and industry:
  - Implementation & enforcement IMO Conventions
  - Flag State, Port State and Coastal State responsibilities
  - Shipping and petroleum industry responsibilities
  - Liability and compensation
- Oil industry ‘Release Prevention Awareness’.

# Statistics by the US National Research Council- Oil in the Sea III Report 2002 on average annual oil spills:

- All ship types:
  - 107 000 tonnes 'accidental' spills i.e. collisions and groundings or 34%
  - 312 000 tonnes operational discharges or 66%
- Tank vessels
  - 99 900 tonnes 'accidental' spills 71%
  - 42 000 tonnes operational spills 29%
- Non tank vessels:
  - 7 100 tonnes 'accidental' spills 2.5%
  - 270 000 tonnes operational discharges 97.5%.

# Most Likely Causes for Oil Spills

- Operational Spills
  - Equipment failure, poor maintenance, equipment intervention, inadequate shore reception facilities
- 'Accidental Spills'
  - Non compliance with international regulatory regime i.e. sub standard shipping, collisions and groundings
  - Human element failures on board ships and ashore.

# Data on 'Accidental' Oil Spills by Edkin.

- Total average annual 105 000 tonnes:
  - Tank vessels 89 000 tonnes
  - Non tank vessels 5 600 tonnes
  - On shore pipelines 4 600 tonnes
  - On shore facilities 2 7 00 tonnes
  - Barges 2 600 tonnes
  - Offshore exploration & production 403 tonnes.

# International Regulatory Regime

- International Maritime Organization (IMO)
- International Labour Organization (ILO)
- International Oil Pollution Compensation Fund (IOPC).

# What is IMO?



*Safer Shipping*

*Cleaner Oceans*

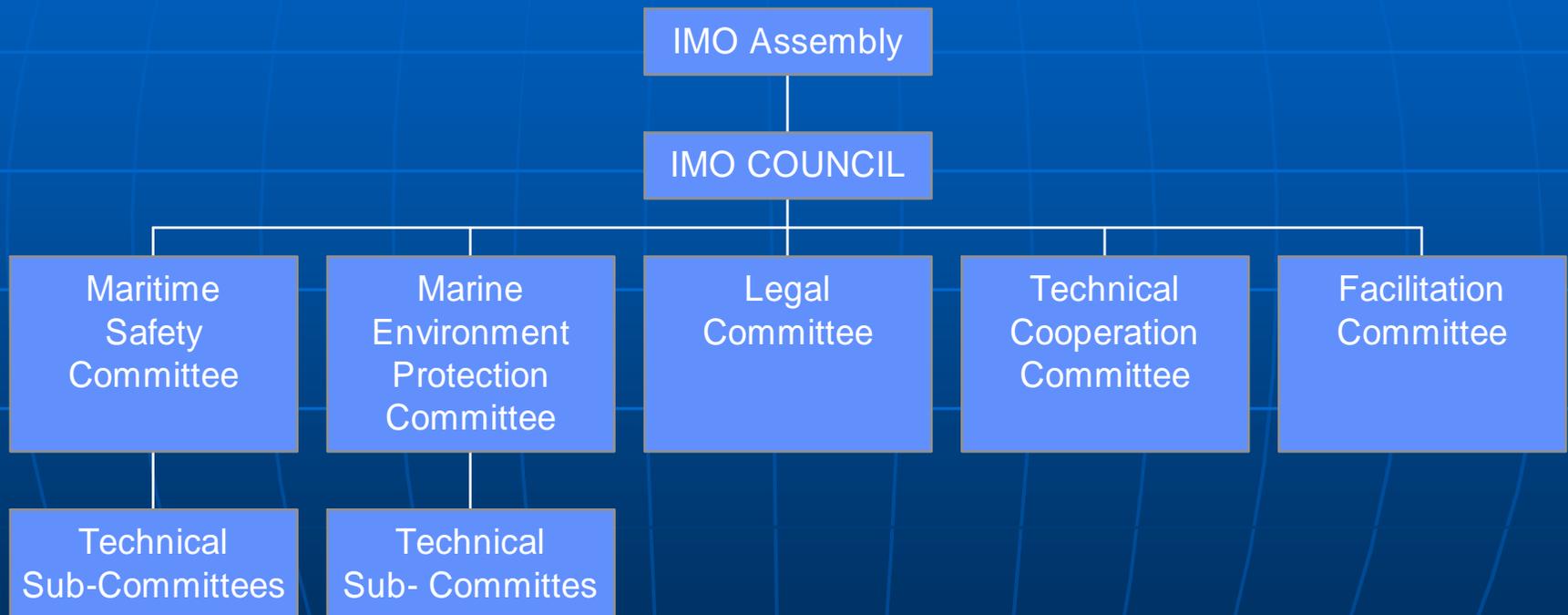
IMO



# IMO is:

- Specialised UN agency, established by the IMO Convention in 1948, responsible for maritime safety and marine environmental protection
- Essentially IMO is a technical organization
- IMO is the 165 Member States & 3 Associate Member States
  - not the Secretary General or 300 Secretariat
  - considerable value provided by industry and environmental Non Government Organisations (NGO's).

# IMO Organizational Structure



# Ratification of IMO Conventions (1)

- International Convention for the Safety of Life At Sea (SOLAS) '74
- International Convention on Load Lines (LL) 1966
- Convention on the International Regulations for Preventing Collisions at Sea (COLREG) 1972
- International Convention on Standards of Training, Certification & Watchkeeping for Seafarers (STCW) 1995
- United Nations Convention on the Law of the Sea (UNCLOS).

# Ratification of IMO Conventions (2)

- International Convention for the Prevention of Pollution from Ships 1973 as modified by the Protocol of 1978 relating thereto (MARPOL 73/78)
- International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC) 1990
- International Convention on Civil Liability for Oil Pollution Damage (CLC) 1992
- International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (Fund) 1992.

# Implementation & Enforcement of IMO Conventions

- Responsibilities of flag States
- Responsibilities of coastal States
- Responsibilities of port States
- Responsibilities of the shipping and petroleum industries.

# Responsibilities of the Flag State

- Certification of ships and seafarers to ensure compliance, prevent from sailing if not in compliance
- Use of Classification Societies as 'Recognised Organisations'
- Flag State Self Assessment
- IMO International Audit Scheme
- Flag State Control Inspections.

# Responsibilities of the Coastal State (1)

- Adequate aerial surveillance scheme, penalties and robust legal system
- Identification of Particularly Sensitive Sea Areas (PSSA's) or use of other areas to be avoided
- Implementation of Traffic Routeing Measures e.g. Traffic Separation Schemes and Ship Reporting Systems (SRS)
- Implementation of Vessel Traffic Services (VTS), Automatic Identification Systems (AIS)
- Provision of navigation charts including Electronic Chart Display and Information System (ECDIS).

# Responsibilities of the Coastal State (2)

- Provision of Differential Global Positioning System (DGPS)
- Establish and implement a policy on Places of Refuge
- Establish and implement a policy on use of tugs and a salvage plan as preventative measures
- Provision and protection of Navigational Aids
- Provision of metrological services.

# Castor seeking a Place of Refuge



# Responsibilities of the Port State (1)

- Implementation of Port State Control (PSC) under IMO and ILO Conventions
- Membership of a Regional PSC Scheme
- Use of the 'no more favourable treatment' rule.







Grounding of the  
Bunga Teratai  
Satu  
November 2000  
Off Cairns, North  
Queensland,  
Australia

# Regional MOU's on PSC

- European Region (Paris MOU 1982)
- Latin American agreement (Acuerdo de Vina del Mar MOU 1992)
- Asia Pacific Region (Tokyo MOU 1993)
- Caribbean Region MOU (1996)
- Mediterranean Region MOU (1997)
- Indian Ocean Region MOU (1998)
- West & Central African Region (Abuja MOU 1992)
- Black Sea Region MOU (2000).

# Responsibilities of Shipping & Petroleum Industries

- Ensure own ships & seafarers meet international convention requirements particularly the ISM Code & Safety Training Certification & Watchkeeping and MARPOL
- Ensure cargo is only carried in 'quality ships'
- Ensure charterers and insurers adopt a quality approach
- Embrace a preventative culture.

# Ensuring Cargo is Carried Only in Quality Ships

- OCIMF Ship Inspection Report Programme (SIRE)
  - Provision of details relating to the condition and operational standards of oil tankers
  - Inspections by accredited personnel
  - Reduces number of 'repeat' inspections.

# Release Prevention Process

- Create a new awareness that spills can be prevented
- Promote environmental excellence as well as safety
- Encourage employees to take proactive action
- RP engineering techniques will save money as well as eliminate spills
- RP will save money vs. clean up costs.

- Example of costs of clean-up of a one gallon crude oil spill in Gulf of Mexico

# Principles of Release Prevention Approach

- Second to safety with same emphasis
- Costs spent on response equipment applied to prevention will save money in the long term
- Safety training proactively prevents personnel accidents likewise proactive release prevention will prevent oil spills
- Change in mindset from defensive /reactive approach
- Better to be the best 'preventer' than the best responder.

# For more information on the Proactive Release Prevention Program

- Contact E. L. 'Ed' Landgraf Release Prevention Coordinator Shell Pipeline Company, USA. 1 504 532 6440 Ex 18 or [landgraf@shellopus.com](mailto:landgraf@shellopus.com)



A proactive prevention plan will assist in maintaining a pristine marine environment.

The lack of a proactive prevention plan will not!!



**Any Questions?**