







## PREPAREDNESS FOR HNS INCIDENTS

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*A Successful Response: Effective Implementation of the NOSDCP - Mumbai, 29 January 2015*

### INTRODUCTION TO ITOPF



- Not-for-profit organisation established in 1968
- Primarily funded by shipping (via P&I Clubs)
- Main role: advice on marine spills from ships
- Based in London but provides a global service

### ITOPF MEMBERSHIP





Photo: Steena  
Photo: Maersk

- **ITOPF MEMBERS:** 6,350 tanker owners and bareboat charterers
- 10,950 tankers, barges & OBOs - 340 million GT (>97% world fleet)
- **ITOPF ASSOCIATES:** Owners of other types of ship (since 1999)
- 721 million GT of non-tanker shipping (>90% world fleet)

### ITOPF RESOURCES







- Single office in London with 32 staff
- Technical team with 16 responders:
  - Scientific background & spill experience
  - On site at >700 spills in 99 countries
- In-house databases and technical library

### SPILL RESPONSE

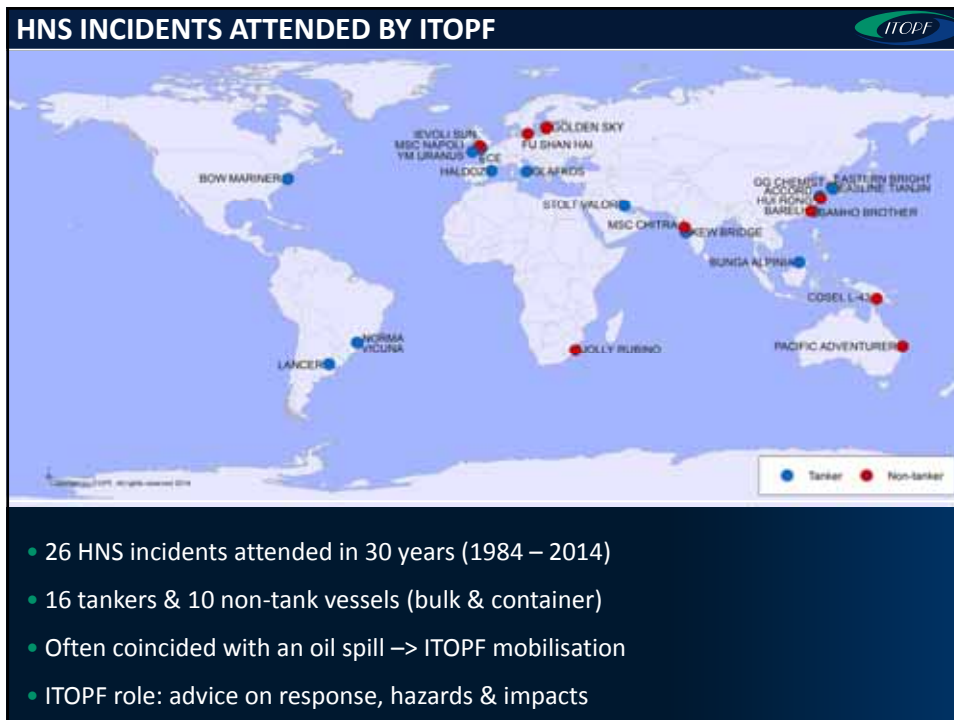



- Role varies depending on the requirements and preparedness
- Provide technical advice to government, responders & victims
- Promote effective response, joint assessments & cooperation
- Monitor spill response & investigate damage to sensitive resources
- Arrange for additional expertise & equipment to be brought on site

### RECENT INCIDENTS ATTENDED

- 28 cases in 12 months (usual range: 15-30 per annum)
- 11 tanker incidents & 17 involving other vessel types
- Mainly small-scale bunker spills – often complex issues



### TRAINING & EDUCATION



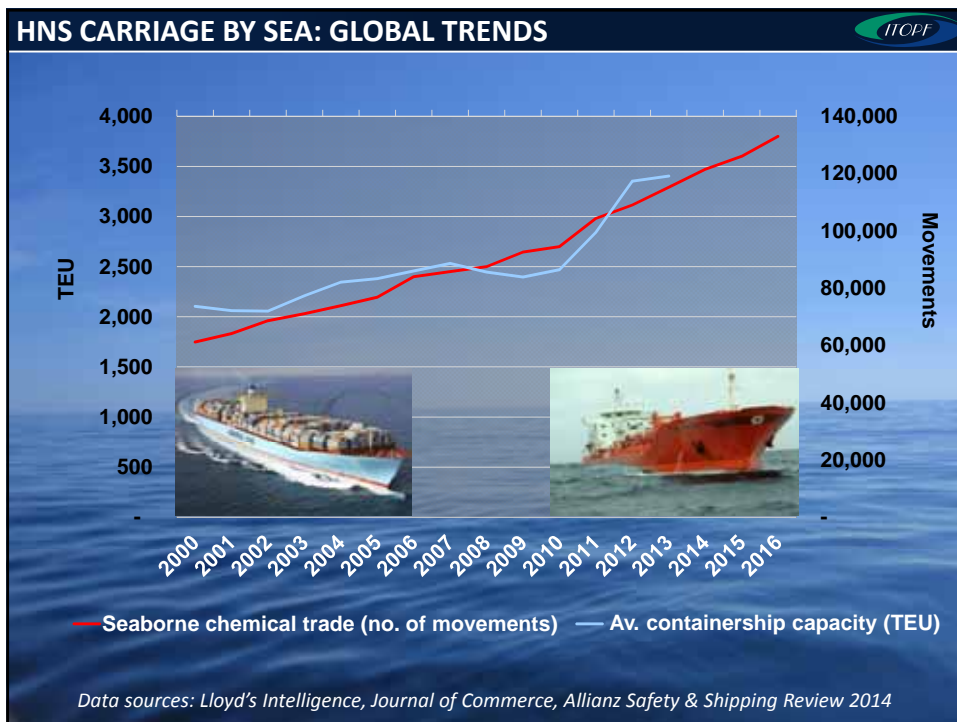
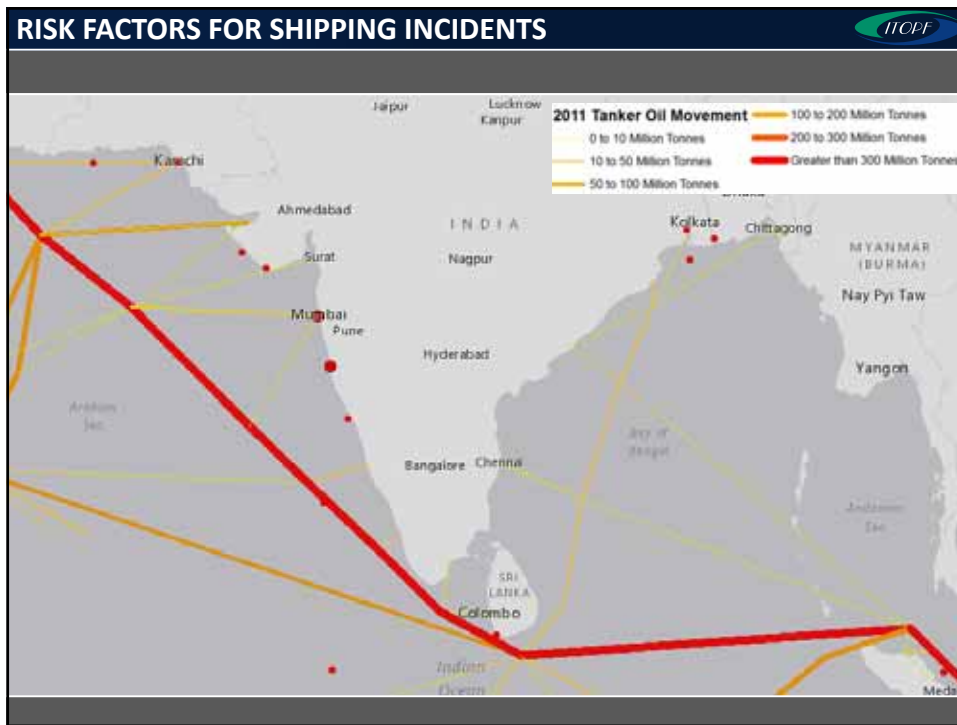
- Main aim of ITOPF: to promote effective response to marine oil & HNS spills
- Organise & participate in training courses, seminars, workshops & conferences
- Key partners include the IMO, the IMO-UNEP Regional Seas Centres & IOPC Funds

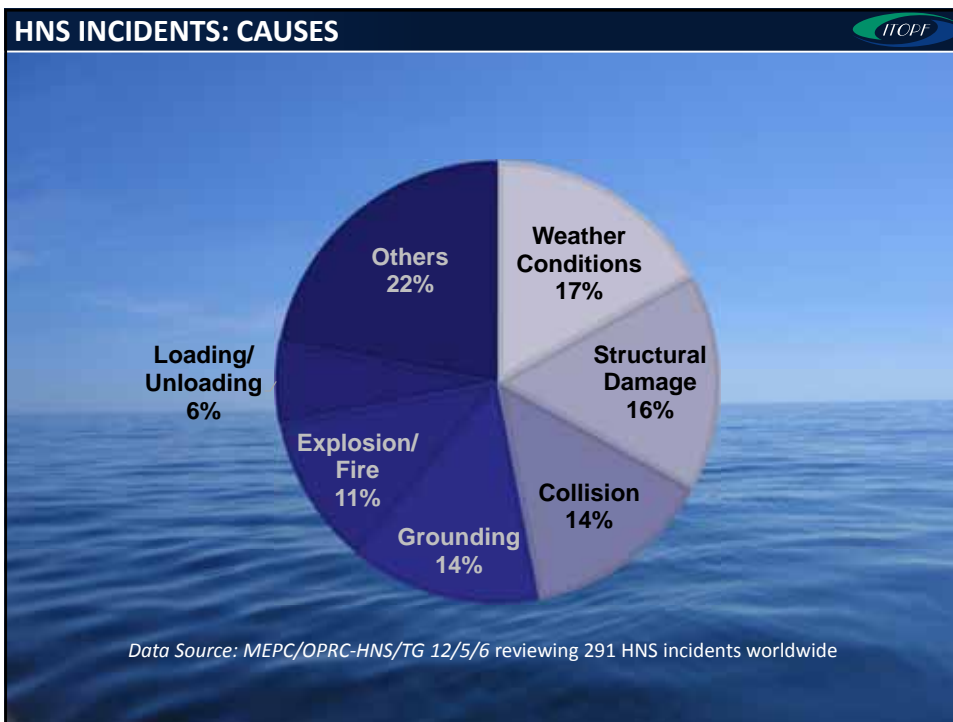
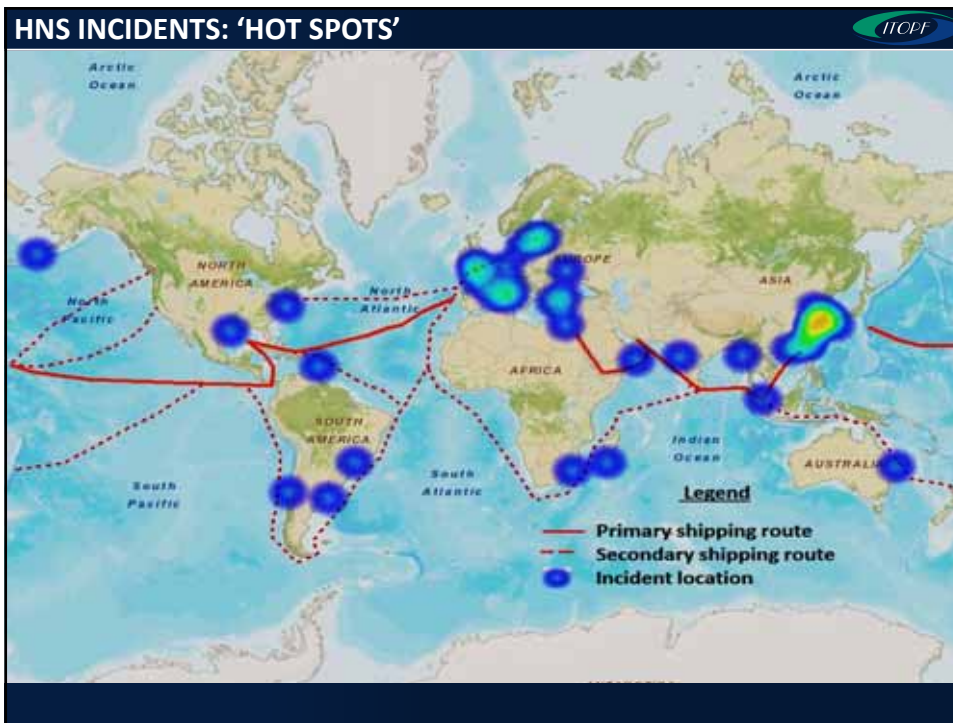
### ITOPF INFORMATION SERVICES

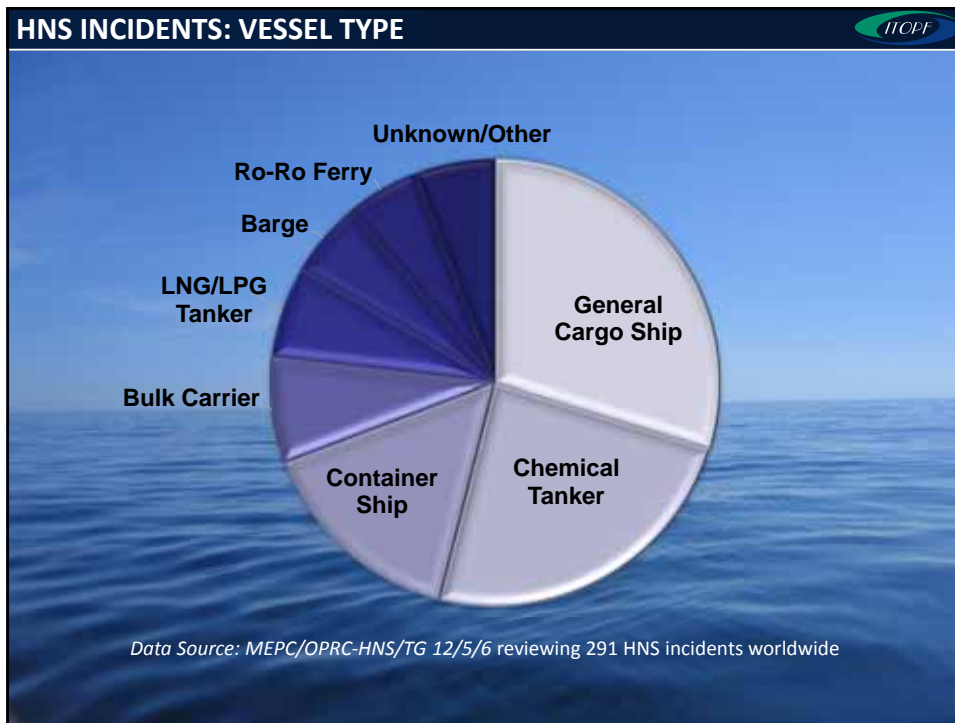


[www.itopf.com](http://www.itopf.com)












**CHEMICAL TANKER INCIDENTS** 



**STOLT VALOR – off Saudi Arabia (15<sup>th</sup> March 2012)**

- Chemical tanker (15,732 GT; Built 2004; Stolt Tankers)
- 13,000 MT MTBE + 1,300 MT IBAL + 430 MT HFO
- Fire eventually controlled by salvors after 5 days
- Delay in providing port of refuge for three months

Photo: Swire Pacific

**CHEMICAL TANKER INCIDENTS** 



**MARITIME MAISE JOURNEY POST COLLISION**


**KOREA**

**JAPAN**

**MARITIME MAISE**



## HIGH RISK SUBSTANCES





| Rank | Chemical          | Rank | Chemical         |
|------|-------------------|------|------------------|
| 1    | Sulphuric acid    | 11   | Styrene          |
| 2    | Hydrochloric acid | 12   | Methanol         |
| 3    | Sodium hydroxide  | 13   | Ethylene glycol  |
| 4    | Phosphoric acid   | 14   | Chlorine         |
| 5    | Nitric acid       | 15   | Acetone          |
| 6    | LPG/LNG           | 16   | Ammonium nitrate |
| 7    | Ammonia           | 17   | Urea             |
| 8    | Benzene           | 18   | Toluene          |
| 9    | Xylene            | 19   | Acrylonitrile    |
| 10   | Phenol            | 20   | Vinyl acetate    |

Source: MEPC/OPRC-HNS/TG 10/5/4

- IMO risk assessment of top 20 chemicals (excl. oils & products)
- Takes account of volumes produced, transported and spilled
- Majority of incidents involved Dissolvers or Evaporators

## OPRC-HNS PROTOCOL






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 IMO (IMO) (accessed 07/04/2014)

OPRC 90
OPRC / HNS

### PROTOCOL ON PREPAREDNESS, RESPONSE & COOPERATION TO POLLUTION INCIDENTS BY HNS 2000


- Modelled on OPRC 90: aims to facilitate preparedness for HNS incidents  
NATIONAL PLANS – REGIONAL AGREEMENTS – TRAINING/DRILLS
- Provides framework for international co-operation and support via IMO
- Entered into force 2007 and ratified by 33 states (OPRC 90 - 107 States)

### CONTINGENCY PLANNING FOR HNS



- Many features of Oil Spill Contingency Plan are transferable to HNS incidents
- Accurate contact details and clear notification protocols are even more essential
- May be less time available for establishing roles, responsibilities and strategy
- Front line response: Civil Defence? Fire Brigade? Military? Salvors? Private contractor?
- Specialised training of responders and equipment stockpiles (PPE) are a necessity

### INDUSTRY RESPONSIBILITIES



- Shipboard Marine Pollution Emergency Plan (SMPEP) onboard chemical tankers
- Advance provision of MSDS information to authorities – ideally, a 24hr centre  
**CHEMTREC (USA) – CANUTEC (Canada) – MAR-ICE Network (European Union)**
- Rapid assistance in the event of an incident: e.g. cargo manifests, expertise

## HNS INCIDENTS vs OIL SPILLS ITOPF



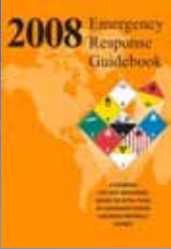

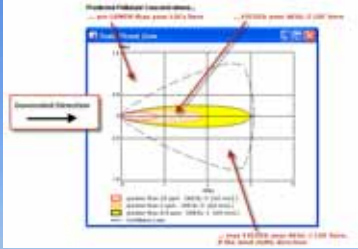

**OIL**

- Preparedness and response requirements relatively well understood
- Different oil types, but some uniformity in properties & behaviour
- Established techniques for response at sea and on the shoreline
- Typical effects on marine environment and livelihoods well known

**HNS**

- Response likely to be difficult or limited and potentially very dangerous
- Variety of substances with range of properties, behaviours & hazards
- Need to consider reactions with air, water and other chemicals
- Potential public health effects and loss of life – may be 'invisible'

## USEFUL EXPERTISE & TOOLS ITOPF

- IMO, ITOPF, CEDRE and pro-active government agencies (Transport Canada, NOAA)
- Emergency centres (NCEC, CHEMTREC) and government/industry networks (MAR-ICE)
- Front line responders: salvage industry, chemical industry and private contractors
- Guidebooks, databases and computer models: ALOHA, CAMEO and CHEMSIS

### HNS RESPONSE PLAN IMPLEMENTATION



- Less opportunities to learn lessons from incidents than oil spills
- Plan needs regular testing with exercises on different scales
- All parties must be aware of their roles and responsibilities
- Training is essential for front line responders and decision-makers