KIMO

KOMMUNENES INTERNASJONALE MILJØORGANISASJON

The Transport of Mixed Oxide Fuel and other Radioactive Cargoes by Ship in Europe

John Mouat

KIMO Project Co-ordinator

A Growing CONCERN

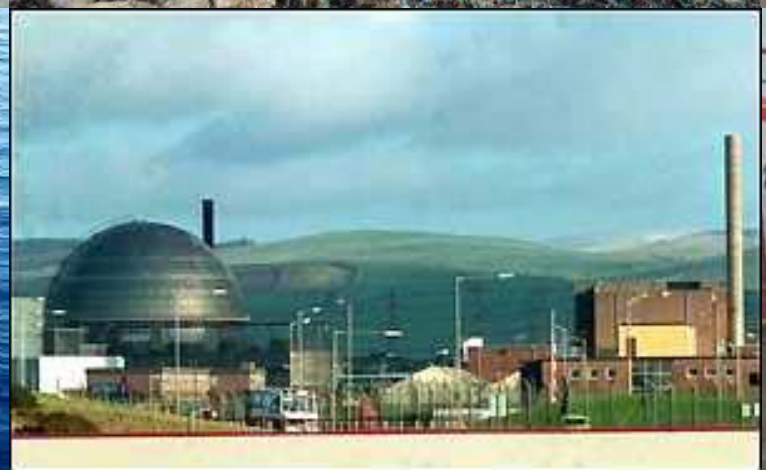
Your local government voice on marine pollution

Kommunenes Internasjonale Miljøorganisasjon

KIMO

KOMMUNENES INTERNASJONALE MILJØORGANISASJON

Local Authorities International Environmental Organisation



Maritime Nuclear Transport

KIMO
KOMMUNENES INTERNASJONALE MILJØORGANISASJON

- Increase of Shipments in Europe
- Quality of Ships
- Quality of Shipping Flasks
- Potential Terrorist Threat
- Military Escorts
- Contingency Planning

Increased Shipments in Europe

Office Of Civil Nuclear Security UK

KIMO
KOMMUNENES INTERNASJONALE MILJØORGANISASJON

~ *"There are , of course, differences in the detail of the security arrangements between the two types of shipments (to Japan and to Europe), one of nearly 2 months duration covering many thousands of miles, and one of a few days;* ***but there are no differences in the standards we require BNFL to maintain****."*

Atlantic Osprey

KIMO

KOMMUNENES INTERNASJONALE MILJØORGANISASJON

A Growing CONCERN

Your local government voice on marine pollution

Pacific Pintail

KIMO
KOMMUNENES INTERNASJONALE MILJØORGANISASJON

A Growing CONCERN

Your local government voice on marine pollution

Comparison

KIMO
KOMMUNENES INTERNASJONALE MILJØORGANISASJON

Features	Pacific Pintail	Atlantic Osprey
Purpose built	√	X
Double hull	√	X
Dual propulsion	√	X
Dual controls	√	X
Ability to flood hold	√	X
100 tonne flask	√	X
Designed to withstand collision	√	X
Escorted	√	X
Naval Guns	√	X
INF3 certified	√	X

MV Sigyn

KIMO
KOMMUNENES INTERNASJONALE MILJØORGANISASJON

A Growing CONCERN

Your local government voice on marine pollution

Flasks

Type B Flask

KIMO
KOMMUNENES INTERNASJONALE MILJØORGANISASJON

- Type B Flask Requirements
  - Drop test
    - Free drop from 9 meters
  - Puncture test
  - Immersion test
    - 15 meters for 8 hours
  - Fire test
    - 800 C for 30 minutes
- No ice test has been carried out to the best of our knowledge

Vessel Fires (1300 ºC)

KIMO
KOMMUNENES INTERNASJONALE MILJØORGANISASJON

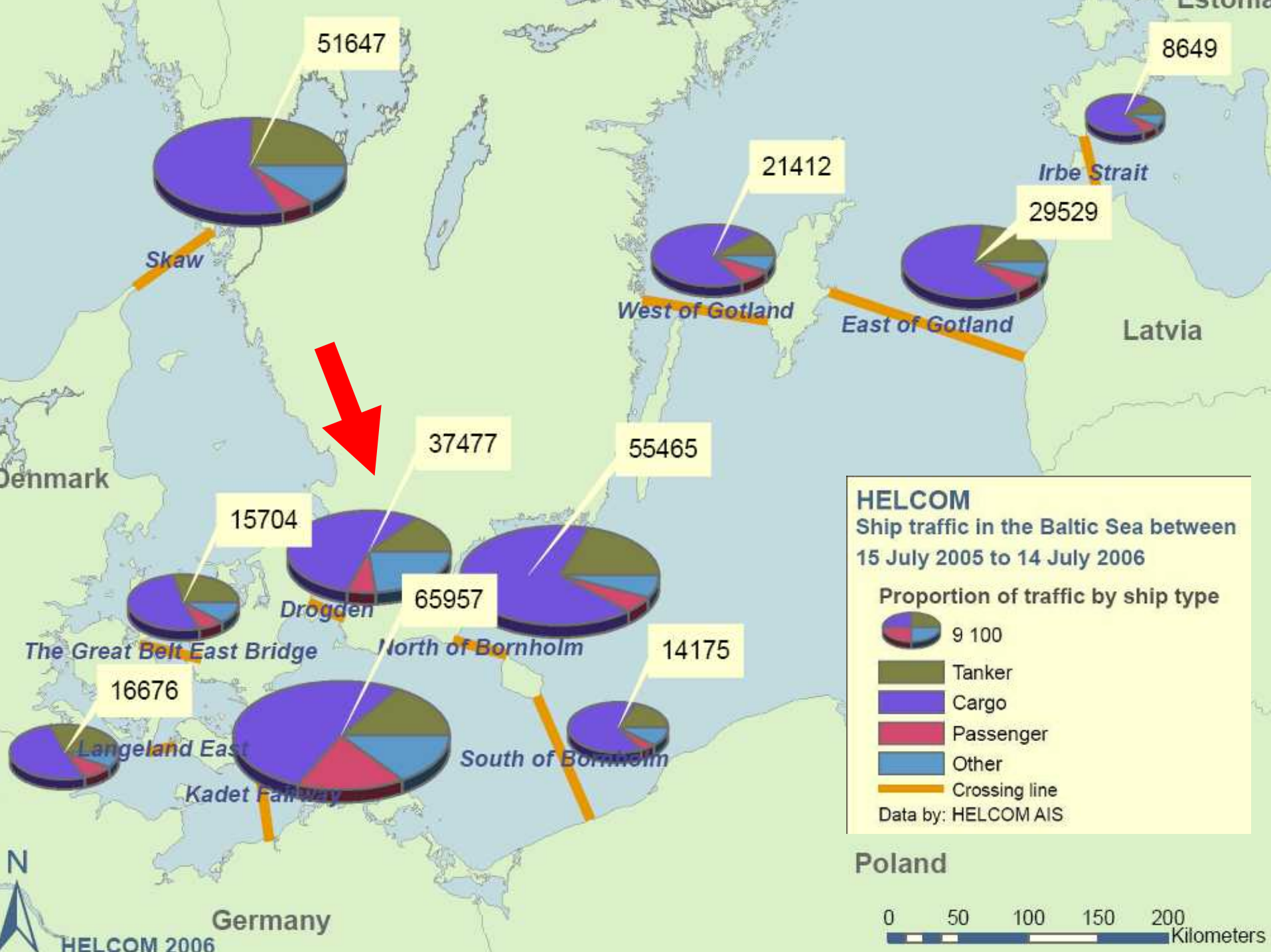
World Nuclear Transport Institute

KIMO
KOMMUNENES INTERNASJONALE MILJØORGANISASJON

~ Nuclear Fuel Cycle Transport – The IAEA Regulations and their Relevance to Severe Accidents.

- Sea Transport Accident Study

" The study concluded the risk posed by the sea transport of spent fuel and vitrified high level waste are very small. This was also the case with respect to other fuel cycle materials.."


51647
Skaw
21412
West of Gotland
8649
Irbe Strait
29529
East of Gotland
Latvia
Estonia
Denmark
37477
55465
15704
Drogden
The Great Belt East Bridge
65957
North of Bornholm
14175
16676
Langeland East
Kadet Fairway
South of Bornholm
Poland
Germany
N
HELCOM 2006
HELCOM
Ship traffic in the Baltic Sea between
15 July 2005 to 14 July 2006
Proportion of traffic by ship type
9 100
Tanker
Cargo
Passenger
Other
Crossing line
Data by: HELCOM AIS
0 50 100 150 200
Kilometers

Military Escorts

KIMO
KOMMUNENES INTERNASJONALE MILJØORGANISASJON

A Growing CONCERN

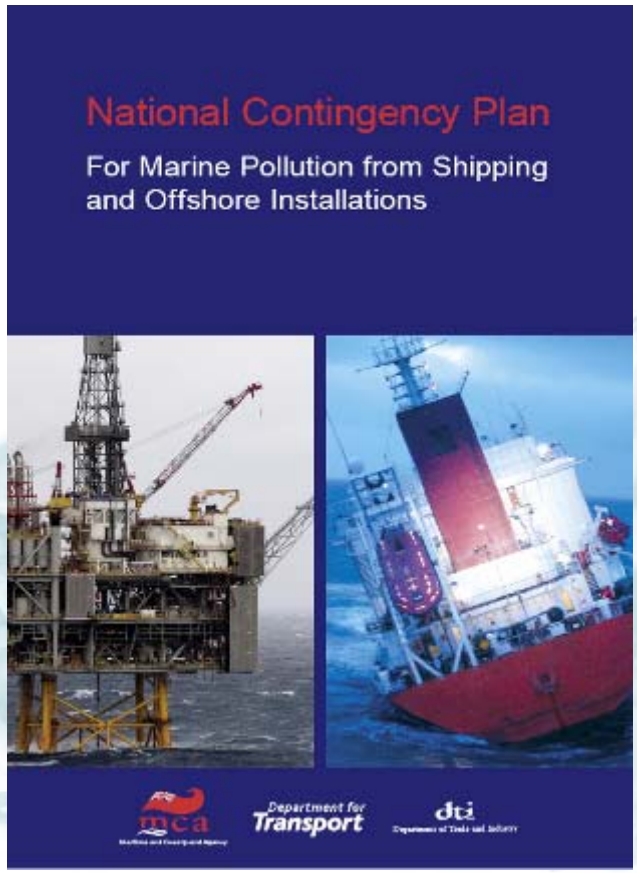
Your local government voice on marine pollution

National Contingency Planning

KIMO
KOMMUNENES INTERNASJONALE MILJØORGANISASJON

8.8 MCA's response to an incident involving a ship carrying radioactive materials generally follows the same principles as its response to any other pollution incident. However, if a ship operated by British Nuclear Fuels plc or by its subsidiary, Pacific Nuclear Transport Limited, is involved in an incident, the special arrangements agreed between the MCA and those companies apply.

8.9 Radioactive Material Transport, Dangerous Goods Division (DGD) in DfT is the UK's Competent Authority responsible for approving package designs for the transport of radioactive materials. Packages containing radioactive material are designed to demanding international standards. DGD maintains expertise in package design and development and should be informed in the event of any incident involving the transport of radioactive materials.



North Sea Ministerial Meeting

KIMO
KOMMUNENES INTERNASJONALE MILJØORGANISASJON

KIMO's position (below) to Ministers was rejected;

- **Ensure** that States apply Best Available Technologies (BAT) to vessels, equipment and containers for transporting nuclear material originating from their country,
- **Review, revise and update** National Pollution Contingency Plans to take into account the potential risks of pollution from nuclear material shipments by sea,
- **Ensure** that armed vessels escort ultra hazardous nuclear shipments passing within their EEZ
- **Review, revise and update** their National Security Plans to take account of the risks from terrorism with regard to ultra hazardous nuclear shipments passing within their EEZ.

KIMO Position

KIMO
KOMMUNENES INTERNASJONALE MILJØORGANISASJON

- No transport of ultra hazardous nuclear waste or fuel cargoes by sea and waste should be stored on site where it is produced.

- Countries where the nuclear material originates should demand the use of BAT on shipments of their nuclear material including military escorts.

A Growing CONCERN

Your local government voice on marine pollution

KIMO

KOMMUNENES INTERNASJONALE
MILJØORGANISASJON

Questions?

www.kimointernational.org

A Growing CONCERN

Your local government voice
on marine pollution