

OSCE

Technical Workshop on Oil Spills Response and Remediation

Turkmenbashy, 10-11 March, 2008
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Status: Draft

1

Norwegian Continental Shelf– scenario



Challenges

- Harsh environmental conditions with an extensive coastline(82000 km).
- Growing number of installations and increased diversity in composition of oil.
- Arctic environment in the Barents region:
 - Low light in winter
 - Low temperatures
 - Limited infrastructure
- Exploration & Developments close to the coast(40-60 km)
- The oil spill contingency must be effective and robust

Regulations and responsibilities

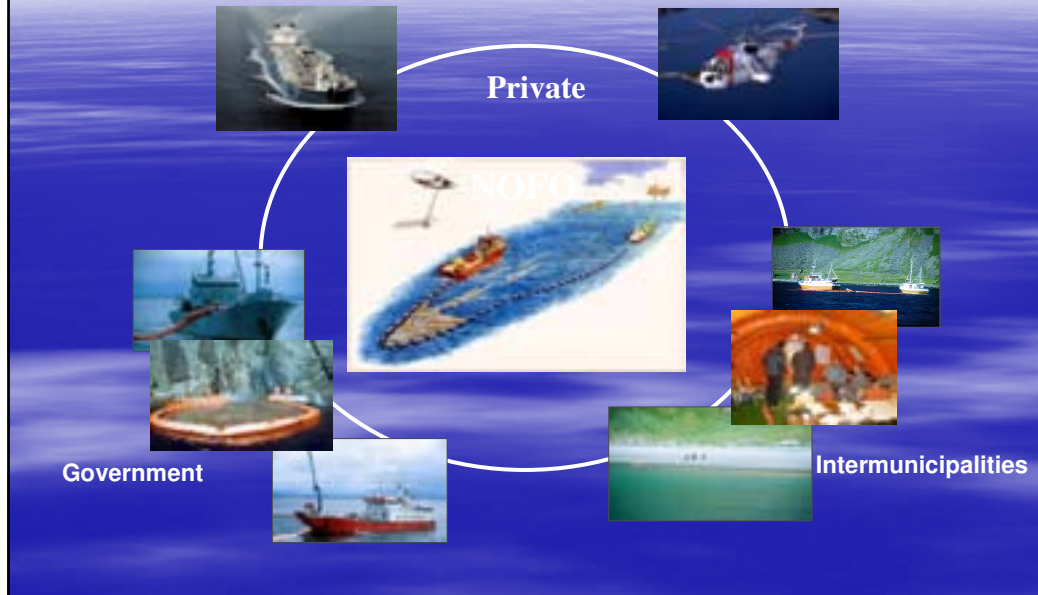
- According to Norwegian Law, any industry with a potential for polluting the environment must have an emergency preparedness, proportional to the probability and consequence of the event.
- Norwegian oil spill response is organized with three regimes, depending on the source and extent of pollution:
 - In the case of small oil spills, regional municipal oil spill combat groups are responsible for oil spill combat, cleanup and restoration.
 - In the case of larger oil spills from ships, the Norwegian Coastal Administration (NCA) has the responsibility for oil spill combat, cleanup and restoration. **NCA may, as a government organization, order mobilization of all Norwegian combat resources, including NOFO.** NCA will compensate resource owners for use of their equipment.
 - In the case of oil spills from offshore installations, the operator has the responsibility for oil spill combat, cleanup and restoration.
- **In any large incident – NOFO will be involved!**

NOFO

- NOFO is a cooperation of operating companies on the Norwegian Continental Shelf
- NOFO is financed by member companies according to established principles of cost sharing
- Established in 1978
- The main objectives of NOFO are to:
 - Establish and maintain oil spill emergency preparedness
 - Coordinate and communicate relevant oil spill contingency issues between members and regulating authorities



Concept of cooperation



Main response philosophy



Combat strategy

- Mechanical recovery, focused on operations near the release point.
- Barrier 1: Recovery offshore, close to the release point.
- Barrier 2: Recovery of specific slicks between barrier 1 and nearshore areas
- Barrier 3 & 4: Recovery in nearshore waters, protecting high priority sites and minimizing shoreline oiling.
- Barrier 5: Shoreline cleanup.



9



OR- fartøyer i NOFO pool, 26 september 2008

Tugboats



- 1 system from the National Coastal Agency or the Coast Guard
- 3 systems from the municipality



IUA In action

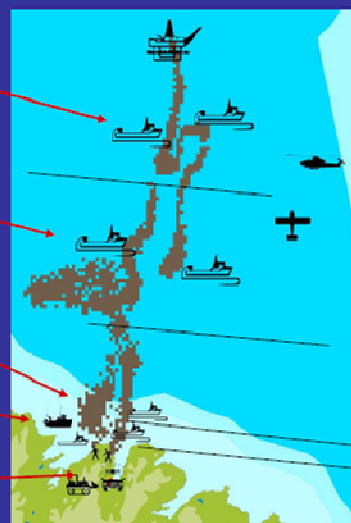


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13

Five barriers established

- Tier 1 – At the location
- Tier 2 – Open Sea
- Tier 3 – Coastal barrier
- Tier 4 – Shoreline barrier
- Tier 5 – Shoreline clean-up



Nucula – preparedness



4 offshore Nofo systems



17 fishing vessels



Landing craft – M/V Sørøysund



Way forward

- Develop the basis agreement between the industry and the IUA's
 - More specific requirements should be established
- Establish a team of key personnel in each IUA
- Make permanent agreements with local fishing vessels
- Establish a training model for the fishing vessels (simulator, practical handling of oil boom & skimmer, safety)
- A support vessels or landing craft need to be included in the costal fleet concept
- Prepare a safety and operational standard for costal fishing vessels
- Make routines for rotation of personnel between different IUA's

Capability through cooperation - 1

- Operator resources (NOFO)
 - 16 heavy duty offshore systems
 - Helicopter based dispersant system
 - Remote sensing; satellites, helicopters, airplanes
 - Operations center with decision support tools
 - 40 trained personnel for the operation center
 - 80 trained personnel for operating and maintaining the equipment
 - 25 Vessels for Oil services (Standby/supply/anchor handling)
 - 30 Fishing vessels permanently on hire for towing

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17

Capability through cooperation - 2

- Municipalities Oil Spill Combat Organisations (IUA)
 - > 50 depots
 - > 2 000 personnel
 - > 3 000 m medium booms
 - > 20 000 m light booms
- Government
 - 15 depots
 - 150 trained personnel
 - 4 oil recovery vessels
 - 8 Coast Guard vessels
 - Additional personnel
- OSRL/EARL
 - Through members a Hercules Aircraft can be used to deploy aerial dispersant

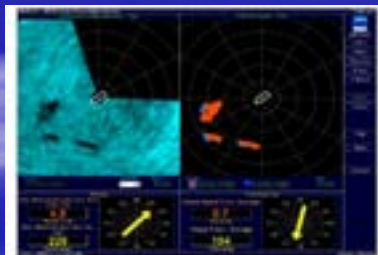
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18

R & D projects

- **Increased effectiveness in low light and visibility**
 - Shipboard radar Oil Spill Detection (OSD)
 - Use of infrared cameras and Down Link
- **Development of new booms**
 - Higher towing speeds , 3-5 knots
- **Redesign of skimmer**
 - Higher efficiency for handling high viscous products (super Hiwax)
- Combination of different sensors (satellite,airplane,Helicopters)
- Various courses for all types of personnel involved in beach cleaning
- NOFO-fund for the northern region (2 Mnok)

Monitoring and remote sensing



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Application of information



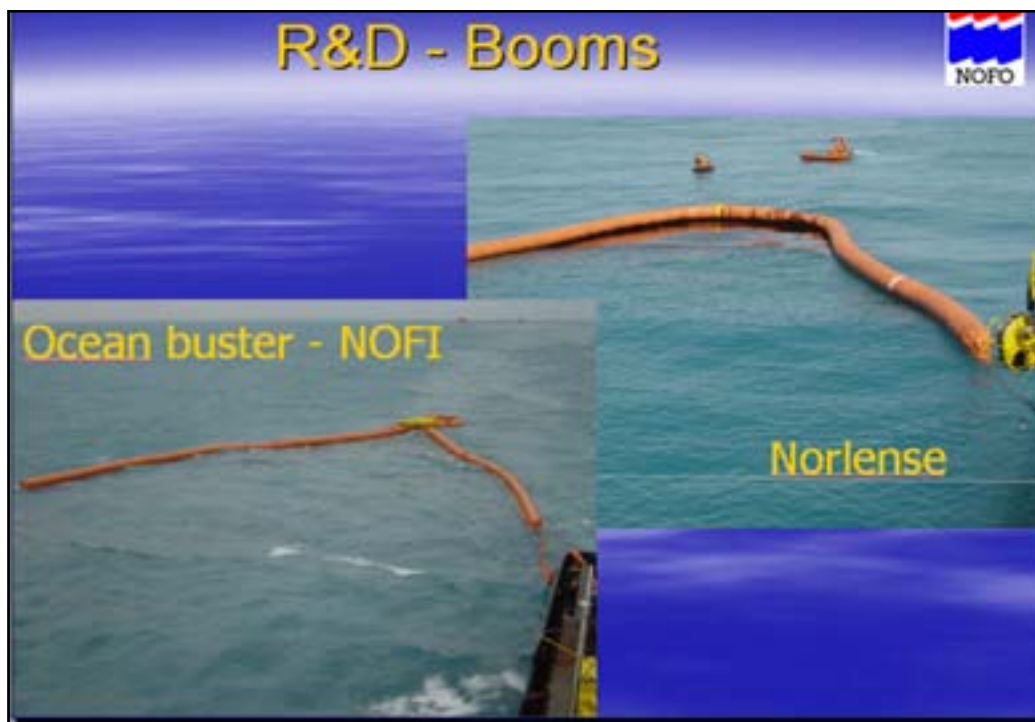
22

Infrared in monitoring



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22



Ocean Buster

- System for high speed 3-5 knots
- Quick maneuvering
- For use in open sea og close to the coast

- Pumping oil from the separator straight to storagetank of the ship.

Hi-Wax skimmer



HiWax S150



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25-jan-07 12:17

Conclusions

- Identifying the challenges and meeting them through cooperation and R&D is a good strategy for the future and to ensure a strong and effective Oil Spill Response