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NORWEGIAN CLEAN SEAS ASSOCIATION FOR OPERATING COMPANIES – ORGANISATION AND RESOURCES

by

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Abstract

The Norwegian Clean Seas Association for Operating Companies (NOFO) is a cooperation of operating companies on the Norwegian Continental Shelf. NOFO is financed by members according to established principles of cost sharing.

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.

A major element in NOFO's work to reach the above objectives is the development of 14 heavy offshore systems, each consisting of a high capacity skimmer and 400m of heavy oil booms. These systems are operated by heavy-duty offshore recovery (OR) classed supply vessels, and are located on NOFO's five bases along the Norwegian coast.

In addition to these NOFO owned and operated resources, the main principle is to achieve an optimal utilization of the resources available on a national basis, whether local, regional or national, owned by the government or commercial providers. This is done by cooperation and agreements.

By following this principle, NOFO may draw on a range of resources, from offshore tankers to local fishing vessels. As an indispensable component in the organization, NOFO trains six contingency groups with competent personnel from the member companies. These groups will form the core of operations in the case of an emergency.

This paper will include further information about;

- NOFO organization
 - Agreement between the member companies
 - General Assembly
 - Board of Directors
 - Agreements and co-operation for access to different resources (Helicopters, vessels, personnel etc.)
- Oil Spill Combat Resources
- The Oil Spill Contingency Planning System
- Training and Exercises
- Research and Development

NOFO has been a driving force in the development and implementation of a risk based oil spill response for producing installations on the Norwegian Continental Shelf, and will continue to play a leading role in the future.

Introduction

The Norwegian Clean Seas Association for Operating Companies (NOFO) is a cooperation of operating companies on the Norwegian shelf. The main objectives of NOFO are a) to establish and maintain oil spill emergency preparedness, and b) coordinate and communicate relevant oil spill contingency issues between members and regulating authorities.

NOFO maintains a high contingency level and an extensive oil spill response capability. From five supply bases along the 56 000 km of Norwegian coastline, NOFO may respond to offshore oil spills,

deploying a maximum of 14 complete heavy offshore oil spill combat systems.

On behalf of the operators, NOFO recently completed the development of a risk based oil spill contingency regime for the offshore Norwegian continental shelf. This regime was implemented as of July 1st, 2001, and all results and documentation are available on the World Wide Web (<http://planverk.nofo.no>).

Under the new regime, NOFO also has the responsibility for oil spill response in near shore waters, as well as the inter tidal zone and the shoreline.

To identify the response requirements related to risk from accidental events in the offshore industry, extensive R & D efforts were made, addressing issues as e.g.:

- Activity levels for operations potentially leading to accidental events
- A range of oil simulations reporting on a standardized format
- Development of databases and data sets on environmentally sensitive areas
- Development of a standardized methodology on oil spill contingency analysis
- Establishing regional oil spill contingency plans.

The process of establishing this risk base oil spill response level is described in a series of papers presented at international conferences the past few years. All papers are available for download at <http://planverk.nofo.no/welcome.htm>.

Organization

NOFO is a cooperation of operating companies on the Norwegian shelf. NOFO is financed by members according to established principles of cost sharing.

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

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.

In the case of oil spills from offshore installations, the operator has the responsibility for oil spill combat.

On behalf of, and in cooperation with, the operator, NOFO implements and coordinates all oil spill combat operations.

NOFO administration is organized as presented in Figure 1. The managing director of NOFO reports to the board of directors, and all members are represented in the general assembly.

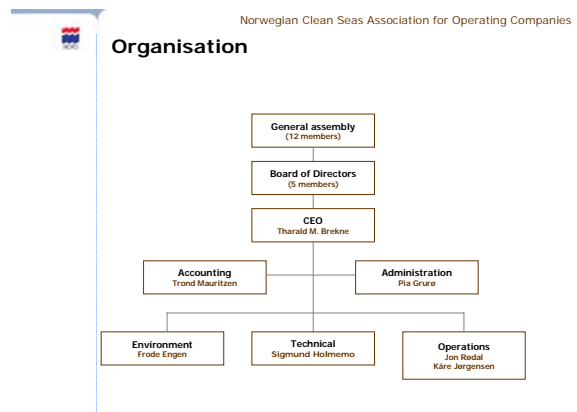


Figure 1. NOFO organization.

In the event of a significant oil spill, oil spill combat operations comprise offshore, near shore and inter tidal operations, including short and long term monitoring.

To provide an adequate response to such an event, NOFO has a core of key personnel, including:

- NOFO administration (7 persons)
- Contingency groups (36 persons)
- Technical staff (45 persons)

NOFO administration and technical staff is available on a 24 hour basis.

To supplement NOFO and operator owned resources, NOFO has established a concept of agreements (Figure 2) incorporating all Norwegian combat resources, including:

- Norwegian Coastal Administration (NCA)
- Intermunicipal Oil Spill Combat groups (IUA)
- Member companies
- Refineries and terminals
- Commercial suppliers

c) NOFO trains six contingency groups with competent personnel from the member companies. These groups will form the core of operations in the case of an emergency.

The Oil Spill Contingency Planning System

One of the objectives of the process to establish the risk based oil spill response regime was to ensure that data collected and reviewed in the process are compiled in a way that allowed easy reference in the future. During the development process, it soon emerged that the importance of this was even larger than originally anticipated and significant efforts were invested in this part of the work.

As a result, NOFO opened a web portal on Norwegian oil spill contingency and planning. Through this portal, access is provided to all elements of the new regime, including background data, methodology, regional analyses and plans. The structure of the web portal is presented below. The web system is navigated according to Internet standards, following hyperlinks. The structure is visualized in Figure 5.

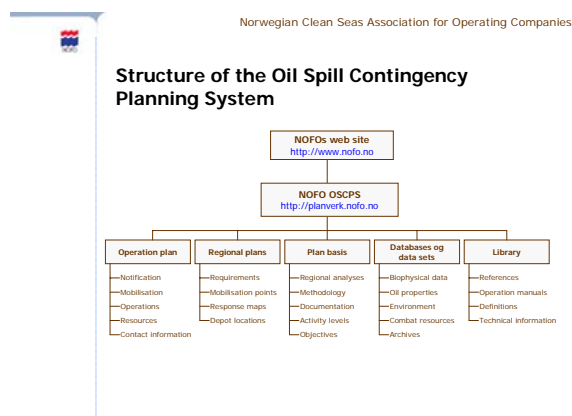


Figure 5. Structure of the Oil Spill Contingency Planning System.

The main levels of the system are as follows:

- **Operative plan;** which is the initial starting point for use in an emergency situation, i.e. an oil spill event. The plan describes the overall organization, as well as positions and tasks for all involved personnel.
- **Regional plans;** Specific oil spill contingency plans are available for each contingency region. For each region, the plan describes what resources are drawn upon to establish an adequate oil spill response for the region.
- **Plan basis;** This part describes the basis for establishing the regional plans, including analytical methodology, assumptions, strategies and results from the regional oil spill contingency analyses. Selected

documentation is also placed in this part of the web.

- **Databases and data sets;** This part of the web provides the interactive access to a collection of databases, including Wind and wave statistics, Air and sea temperatures, Tidal amplitudes, National and international oil spill combat resources, Weathering characteristics for oils on the shelf, Areas of particular environmental sensitivity
- **Library;** In this part of the web, a general library of relevant information is provided. Standards and detailed technical information on major recovery systems are also presented here.

A brief English overview of the OSCPS is available at <http://planverk.nofa.no/welcome.htm>. Detailed information of the system may be found in Rødal *et al.* (2003) and Skeie *et al.* (2000).

In addition to the web portal, NOFO has a suite of GIS tools, providing access to all relevant information. The ActLog and ContAct systems provide access to high resolution bathymetric and topographic digital maps of the entire Norwegian coastline (Figure 6), as well as links to predictions and observations of oil on the sea surface. For this purpose, NOFO has a set of portable computers, to be transported to any command centers in the case of a polluting event.

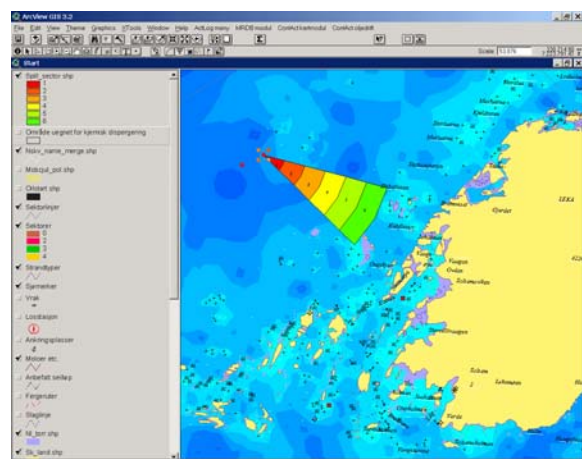


Figure 6. Example map from the high resolution GIS systems applied by NOFO.

Training and exercises

As major oil spills from offshore installations are few and far between, training and exercises are of vital importance for maintaining an operational oil spill response capability.

NOFO has established an ambitious plan for training and exercises, including:

- Monthly exercises including NOFO resources
- Monthly table top exercises including members
- 2 – 4 full scale exercises involving all partners
- Minimum 2 team building sessions with contingency groups
- Annual NOFO courses on various topics

The full scale exercises, where all parts of the response organization participate, are the most important part of the programme.

These joint exercises have been undertaken twice a year since the implementation of the new regime. Each exercise involves 200 - 500 personnel and significant technical resources. The feedback from these exercises has been very positive, especially in terms of building a network of relations between the persons and parties involved. The term “new team spirit” in the emergency preparedness field has been frequently used.

NOFO spends 15 % of the annual budget on training and exercises.

Research and development

NOFO has prepared a Research and Development plan for the years 2001 to 2005. Mobility and flexibility are key elements in this plan.

Development of new skimmers and booms that may be transported by road are among the prime objectives, which will provide a flexibility in response for heavy duty equipment that has not been possible before. A new concept for helicopter based application of chemical dispersants from offshore mobile and fixed depots are also important to allow flexibility in combat of oil spills.

A detailed presentation on NOFO research and development is given in another paper presented at the 2003 SOBENA conference; see Brekne *et al.* (2003).

Conclusions

On behalf of the Norwegian operators, NOFO has established a risk based oil spill response regime for the Norwegian continental shelf.

All information relevant for oil spill response issues are made available to all stakeholders through an internet interface. This provides easy access to information relevant for planning, training and exercises, from any location with an Internet connection, whether in the office or from portable

computers. As a result of the development work, NOFO is confident that a proper level of oil spill contingency has been achieved, reflecting the level of risk for oil contamination from the offshore petroleum industry.

In order to achieve this proper level of oil spill response, NOFO has entered a series of agreements, ensuring access to all Norwegian oil spill combat equipment, governmental as well as private.

In the event of a significant oil spill from offshore installations, NOFO mobilizes resources and organize combat operations on behalf of the operator responsible for the spill.

Through a comprehensive programme for training and exercises, oil spill response capability is maintained at a high level. Improvement and development are addressed through extensive R & D efforts.

NOFO has been a driving force in the development and implementation of this regime, and will continue to play a lead role in the future.

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