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**BOARD OF DIRECTORS’ REPORT**

**2017**

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*Richard Miller – Chairman of the Board*

***FOREWORD***

*In 2017, NOFO (The Norwegian Clean Seas Association for Operating Companies) has once again experienced a high level of activity and completed many assignments.*

*With its numerous activities and frequent drills and training sessions, NOFO has demonstrated its ability to cover the needs of its members for robust oil spill preparedness on the Norwegian continental shelf. NOFO has carried out risk assessments of activities, and there has been a central focus on successful execution of HSE.*

*Throughout 2017, NOFO has focused on activities related to oil spill preparedness in areas with cold temperatures and ice. With such activities, NOFO has demonstrated the industry’s capacity to operate in remote areas in the Barents Sea.*

*The follow-up and implementation of this strategy and action plan, adopted by the General Meeting in 2015, has been a governing issue also in 2017.*

*NOFO's administration has continued its efforts towards the further development of management systems, and the organisation achieved ISO 9001:2015 certification in February 2017.*

*In 2017, significant efforts have focused on the development of an online set of plans with a view to collecting and standardising the necessary bases for analyses and development of preparedness.*

*Throughout 2017, NOFO has played an active role in international efforts, both as a representative on the programme committee for the International Oil Spill Conference (IOSC) 2017 and as an active member of the Global Response Network (GRN), in which NOFO took over as network leader in May. These roles have enabled NOFO to further strengthen relationships with partners and boost the international reputation of Norwegian oil spill preparedness.*

*The work on the Strategic Investment Plan (SIP) was intensified during the year. This plan laid the foundations for the resolution adopted by the General Meeting. The resolution afforded NOFO the opportunity to increase capacity for ensuring preparedness in the Barents Sea in connection with increased activities in 2018 and general resilience.*

*Follow-up, cost control and reporting routines have been successfully maintained, in close dialogue with the Board of Directors.*

*Throughout 2017, NOFO has fulfilled its activity plans and satisfied the expectations of the Board of Directors.*

*Forus, 20 March 2018*

# SUMMARY

NOFO has completed all its assignments according to schedule and within its financial budgets. The Association reported one personal injury and seven undesired incidents. The Association is well prepared for fulfilling its primary task, which is to develop robust oil spill preparedness on behalf of the operating companies on the Norwegian

continental shelf.

NOFO’s tasks, responsibilities and priorities are presented in the strategy adopted for the years 2016-2020.

The main purpose of this strategy is:

1. Efficient and robust oil spill preparedness
2. Cooperation
3. Development

# QUALITY AND HSE

NOFO's internal control system covers management, HSE, quality and operational aspects. The internal control system is an integrated part of NOFO’s workday, and comprises features such as management of nonconformances, an activity plan, risk assessments, steering documents, document management etc. NOFO gained ISO 9001:2015 certification in early 2017. Internal and external audits have been conducted according to plan. Throughout the year, all the departments at NOFO have carried out continuous improvements to the internal control system.

NOFO reported one injury to personnel in 2017 and seven undesired incidents. In 2017, sick leave totalled approximately 3.2%, corresponding to approximately 270 working days. NOFO facilitates equal opportunities at work, and has incorporated policies aiming at eliminating gender inequality on issues such as salary, promotions and recruitment. At year-end, the Association had nine female employees and 25 male employees. As NOFO operates in a male-dominated industry, women are actively encouraged to apply for relevant vacancies. The Board of Directors is composed of five men and two women.

NOFO has its main office in Forus and a regional office in Hammerfest. NOFO also has activities at five bases and two depots located along the coast, from Rogaland in the south to Finnmark in the north. All NOFO’s premises comply with prevailing requirements and are suitable for the activities performed at the individual locations.

All vessel-based drills and joint drills managed by NOFO were completed according to plan in 2017.

NOFO formally established a working environment committee in 2017.

At the end of 2017, NOFO registered with the Confederation of Norwegian Enterprise (NHO) via membership of the Norwegian Oil and Gas Association. A local trade union for workers in industry and energy (IE) was established in NOFO during the year. Cooperation with the union is governed by legislation or agreements.

# GOVERNING BODIES

## The General Meeting

Three General Meetings were held in 2017.

At 31 December 2017, NOFO had 22 members, of which 18 are full members. The decline in the number of members is attributed to both business combinations/acquisitions and the fact that companies without an active portfolio have cancelled their membership of NOFO.

**Member Representative**

AS Norske Shell Stig Aune

Aker BP ASA Asbjørn Hide

Spirit Energy Toralf Kaland

ConocoPhillips Skandinavia AS Bjørn Saxvik

DEA Norge AS Jan Andreassen

Neptune Energy Eva Fagernes

Eni Norge AS Erik Bjørnbom

Faroe Petroleum Norge As Ingvild Anfinsen

Lundin Norway AS Axel Kelley

MOL Norge AS Bernt Natvig

OMV (Norge) AS Svein Olav Drangeid

Point Resources AS Laurits Hosar

Repsol Expl. Norge AS Øyvind Hebnes

Statoil Petroleum AS Hermod O. Johansen

TOTAL E&P NORGE AS Trond Bergan

VNG Norge AS Rolf Holmboe

Wellesley Petroleum AS Trond Gravem

Wintershall Norge ASA Randi Morvik

Associated members:

INEOS E&P Norge AS Lill-Gøril Seljelv

Edison Norge AS Kristin Greig King

Maersk Oil Norway AS Hans-Henrik Rønnau

Suncor Energy Norge AS Lorey K. Lund

## Board of Directors for NOFO

Four board meetings were held in 2017.

At 31 December 2017, the Board of Directors had the following composition:

**Company Representative Position**

Aker BP ASA Richard Miller Chairman of the Board

Spirit Energy Siri Nesbø Deputy Chair

Eni Norge AS Erik Bjørnbom Board member

Faroe Petroleum Norge AS Stein Arild Tonning Board member

Repsol Norge AS Espen Enge Board member

Statoil Petroleum AS Philippe F. Mathieu Board member

Wintershall AS Janne Lea Board member

# ORGANISATION

As of 31 December 2017, NOFO had 34 full-time employees. NOFO's organisational chart is provided below.

The General Meeting

The Board of Directors

The Norwegian Clean Seas Association for Operating Companies (NOFO)

Professional Forum

Economy Senior Consultant

Technical and R&D Preparedness Operating support

## Professional Forum

The Professional Forum is now formally established after the merger in 2016 of the former professional forum for operations and the professional forum for technological developments. This is reflected by a slightly higher participation rate from the companies than in the previous year. 2017 is the first entire year under the new mandate. The Professional Forum has made four recommendations during the year.

Selected subjects for 2017 were:

* NOFO plans and dialogue with the Norwegian Environment Agency
* Modelling of measures to combat oil spills
* HF radar, project recommendation
* The Board of Directors’ audit of NOFO
* Half-yearly report KSAT
* Sharing satellite scenes
* Establishing future preparedness requirement
* Project proposal for in-situ burning (ISB)
* Oil spill separator container (OSSC)
* The Fatelce project
* Area division of vessel resources
* Status Oil-on-Water (OOW) - 2018
* Implementation of new equipment
* Transfer drill – report

The General Meeting

The Board of Directors

# ECONOMY

All NOFO’s revenue is generated from its members. In 2017, revenue totalled NOK 344 million, comprising NOK 283 million from membership fees, NOK 17 million from registration fees and other revenue of NOK 46 million. The financial statements have been closed with a deficit of NOK 17.8 million and a corresponding reduction in equity. The Association's equity remains strong.

Based on the reported requirements from the operating companies regarding system requirements for 2018, it will be necessary to increase NOFO’s capacity in order to meet the preparedness requirements.

There is a continuous focus on improvements to efficiency and measures to save costs. All planned activities were completed. Throughout the year, NOFO has faced challenges in keeping all booms in barrier 1 in an operational condition. Compensatory measures have been taken, in the form of new procurements and major repairs. In 2017, the Association invested a total of NOK 64 million, of which NOK 44 million was financed by loans and NOK 20 million was financed by the Association.

NOFO has prepared a long-term investment plan (SIP) to manage the long-term investment requirement based on the preparedness requirement reported by its members.

At 31 December 2017, NOFO had 18 members, with a net reduction of two members since 2016. Two new members have registered in 2017, and four companies have changed their status to associated member.

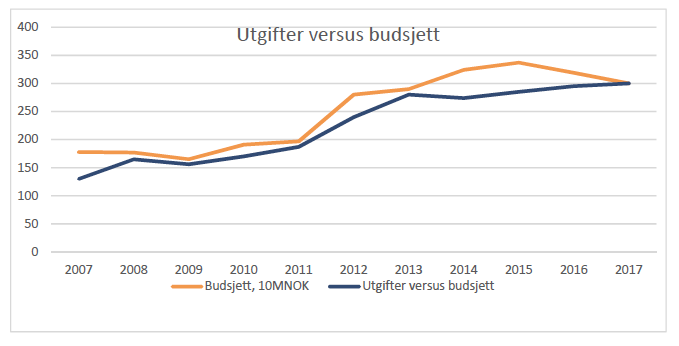
At 31 December 2017, NOFO had loan obligations totalling NOK 174 million. These comprise loans to finance oil spill response equipment and depots. The repayment profile is adapted to suit the estimated technical/economic life of the operating assets. NOFO has a robust liquidity with cash and cash equivalents at 31 December 2017 of NOK 45 million.

Activities are financed by membership fees. Financial risk is deemed to be low. NOFO’s exposure to market risk, credit risk and liquidity risk is also deemed low, despite the fact that the Association makes some purchases in USD and EUR. The financial statements have been prepared on the assumption of going concern, and provide a fair illustration of activities and profit/loss.

At the end of 2017, total capital amounted to NOK 423 million, compared to NOK 424 million at the end of 2016.

The equity ratio was 42.2% in 2017 and 46.3% in 2016.

The figures below illustrate the development in expenses compared with budget for the period 2007 to 2017.



Expenses versus budget

Budget, NOK 10 million Expenses versus budget

# NOFO's STRATEGY FOR THE PERIOD 2016-2020

The prevailing strategy for 2016-2020 was adopted by NOFO's General Meeting in February 2015.

To ensure professional ownership and close follow-up of the strategy, NOFO has organised the sub-targets as projects. Each of the 13 sub-targets has been assigned a Project Manager,

responsible for professional follow-up throughout the strategy period. The Project Managers will cooperate with other professionals within NOFO, representing both our members and other partners.

This ensures successful collaboration, exchange of experience and the correct focus in relation to the strategy. Follow-up by management is provided for at quarterly status meetings, and by means of six-monthly reports to NOFO's Board of Directors. In 2017, it was not deemed necessary to make any changes to the main target and sub-targets of the strategy. The strategy has been sustained throughout 2017.

## Communication and public relations

In 2017, NOFO revised its communications plan, specifying the strategy and measures more clearly. This has been fully accepted by the management group and communicated to the rest of the organisation.

NOFO has signed a cooperation agreement with Gambit H&K regarding follow-up of communications in relation to the strategy and action plan.

At the International Oil Spill Conference (IOSC) in Los Angeles in May 2017, NOFO’s introductory film was awarded second place by the participants. This represents international acknowledgement of NOFO.

NOFO's website has been revised in 2017, with a new layout.

Issues and cases have been covered regularly on the Association's website. Furthermore, a slightly longer article on the use of drones and Maritime Broadband Radio (MBR) gained international attention. NOFO cooperates with the Norwegian Oil and Gas Association on matters of principal significance (policy).

## Plans

NOFO's most important task is to ensure that oil spill preparedness is at all times dimensioned in relation to the operating companies’ oil spill preparedness plans and related requirements. The objective is for the new set of plans to represent an “industry standard” in terms of planning and dimensioning of oil spill preparedness. In this context, NOFO and the operating companies have developed an online set of plans. The aim with the above is to:

* Ensure a uniform and quality-assured basis for analyses and plans and comparability of the operating companies’ preparedness requirement
* Verify NOFO's preparedness capacity
* Facilitate customised, flexible and cost-efficient preparedness systems that comply with the terms and conditions in the operating companies’ plans and permits.

# OIL SPILL RESPONSE ACTIONS

There were no calls to mobilise NOFO for participation in oil spill response actions in 2017. However, NOFO’s standby team was called upon several times in the year to verify status.

**OIL SPILL PREPAREDNESS**

ICS adaptation has been sustained in that all preparedness groups have completed the ICS 100 and 200 basic courses and two full-scale drills have been conducted together with Statoil and CoPNo.

Moreover, two NOFO employees have taken the “train the trainer” course for execution of ICS 300 training. As a result, we can now train our preparedness teams in ICS organisation.

The preparedness centre has been improved with the installation of new presentation walls allowing for optional presentation of information and presentations involving high-resolution information.

NOFO COP (Common Operational Picture) has been sustained together with the Norwegian Coastal Administration, and the tool has been in use as a main source for presentation of a situation overview during drills/action. In 2017, further services have been linked to the tool and COP has now been implemented as the map system for the preparedness centre.

The development of the decision-making support system to replace NORA was implemented in 2017. This is based on existing systems and has been allocated the working title of MIMIR.

Shift handover has been introduced with a fixed shift briefing session every Monday at 12.00. During shift handover, the status of all operative tools and overviews is reviewed.

In addition, drills have been held for the shift on Mondays along with several table-top drills with the operating companies.

A full-scale drill has been performed with governmental take-over together with AkerBP.

NOFO played a significant role during the Scope drill held by the Norwegian Coastal Administration, including participation in the NCA’s action management.

In addition, Operasjon has had project management of NOFO's ice and cold project and was NOFO’s representative at SARINOR.

## Oil spill preparedness – wildcat drilling

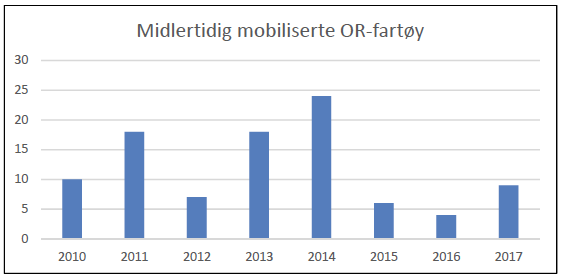
In 2017, preparedness was developed for 29 oil spill response plans related to exploration wells, compared with 26 in 2016. Nine of these plans required provisional mobilisation of oil spill preparedness resources to achieve the response times, compared with four wells in 2016.

10 oil spill response plans were verified in 2017 compared with six the year before. Nine of these related to wildcat projects and one related to development drilling.

## The Barents Sea

Developing preparedness for operations in the Barents Sea requires close follow-up throughout the year in order to realise the synergies available between the operating companies and to be able to adjust or reinforce as necessary and in time.

NOFO established quarterly coordination meetings between the operating companies active in the Barents Sea in 2012. This has proven a successful tool over the past five years and will be continued.



Provisionally mobilised OR vessels



Verification of oil spill response plans

10 oil spill response plans were verified in 2017 compared with six the year before.

## NOFO’s standby fleet

NOFO’s standby fleet is a common term to denote the vessels to which NOFO has access by agreement.

In 2017, NOFO’s standby fleet comprised:

* 27 OR vessels, of which 12 on standby
* 25 oil spill response vessels, barriers 1 and 2
* 26 oil spill response vessels, barriers 3 and 4 north
* 27 oil spill response vessels, barriers 3 and 4 south
* 9 oil spill response vessels from the Norwegian Society for Sea Rescue

The vessels have carried out drills, training and verification in accordance with the programme, totalling 54 drills.

In addition, NOFO has carried out drills and training with four OR vessels, totalling seven drills in connection with provisional mobilisation.

All the oil spill response vessels in NOFO's standby fleet have carried out drills and training together with the OR fleet.

The Tambar drill involved the simultaneous use of three OR vessels. The goal with the drill was to exercise sailing in formation, providing training for the offshore task force leader and communication between vessels and aircraft.

NOFO carried out transfer operations between coastal vessels and OR vessels, and between OR vessels and tankers. Transfer operations will continue in 2018.

## Coast and shore

### IUA – intermunicipal committee against acute pollution

To ensure documentable access to personnel and equipment for actions in the littoral zone, NOFO has signed an agreement with 21 IUAs along the coast, from Vest-Agder in the south to Finnmark in the north. NOFO exercised the first option period with start-up on 1 January 2017. This option period expires on 31 December 2019.

During the year, an oil spill response drill was held in interaction with IUA Helgeland and a table-top drill with IUA Vest-Finnmark. In addition, a contact meeting was held with IUA Nordmøre.

NOFO also took part in:

* a joint meeting with IUA Sunnmøre, IUA Romsdal and IUA Nordmøre
* the Norwegian Coastal Administration's action card seminar for IUA Sør-Trøndelag, IUA Romsdal, IUA Nordmøre, IUA Sunnmøre, IUA Nordfjord, IUA Sogn og Sunnfjord, IUA Bergen and IUA Haugesund.
* the annual meeting of IUA Vest-Agder
* The Norwegian Coastal Administration’s seminar for preparedness to combat acute pollution, to which all the IUAs in Norway were invited.

### IGSA – emergency shoreline task force

At year-end 2017, the IGSA team had 33 members. A total of three drills were held involving the IGSA. The focus area in all three drills was exercises in the cold and dark in cooperation with other NOFO oil spill preparedness resources. This includes cooperation with the coastal preparedness fleet (IGK or task force coast – fishing boats for emergency response along the coast) and NOFO’s specialised team. The drills were conducted in week 11 (beginning 12 March), week 42 (beginning 15 October) and week 46 (beginning 12 November) in the area surrounding Ingøya island and Forsøl.

In addition, training courses in the cold and ice were held for 20 persons from the IGSA team at the Norwegian Fire Protection Training Institute in Tjeldsund in week 9 (beginning 26 February).

During the drills in weeks 42 and 46, resources from both depots were mobilised at the same time and in interaction with other contractual resources, the IGSA and specialised task force. Some positive experience was gained from these drills.

The depots in Hasvik and Havøysund have provided equipment to all the drills for the IGSA and IGK and these deliveries were satisfactory.

Based on the experiences gained from the cold and ice drills, significant improvements and upgrades have been made to personal working clothing and protective equipment in 2017.

### Task force coast (IGK) Finnmark

At year-end, the IGK fleet in Finnmark had 26 fishing vessels. These vessels have been recruited from the municipalities of Hasvik, Hammerfest, Måsøy and Nordkapp. There is a relatively high “turnover” in vessels, so that NOFO recruitment to the fleet is a continuous process.

The IGK conducted eight drills with varying objectives and a special focus on drills in icy conditions and low temperatures, also in cooperation with the IGSA.

### Task force coast (IGK) South

At 31 December 2017, the IGK South had 27 oil spill response vessels participating. In addition, one further vessel is expected to join the fleet – a new building awaiting certification and preparation for the fleet. Phasing-in to the fleet will be in early 2018.

The vessels are located from Lofoten in the north to Måløy in the south. All except one of the contracted vessels took part in drills in 2017.

### The specialised task force

The specialised task force is made up of 61 persons as of 31 December 2017. The members of the specialised task force shall provide assistance in shoreline actions, and have functions such as staff consultant, on-scene commander and field commander.

A meeting of the specialised task force was held on Spitzbergen from 27 to 30 March 2017. 54 persons from the task force took part in the meeting. The main goal for the meeting was to organise shoreline oil spill response actions in icy and cold conditions. The sub-targets were:

1. Endurance in the cold (resource requirements, clothing, logistics)
2. Coordination and role training
3. Use of NOFO COP Oil spill response and StrandApp.

NOFO and the working committee (three persons from the specialised task force) received positive feedback from the participants with a view to the professional content and new knowledge gained.

Certain members of NOFO's specialised task force also took part in drills throughout the year, together with the Norwegian Coastal Administration, certain IUAs and the IGSA.

### World Wildlife Fund (WWF)

In 2017, the Norwegian WWF’s clean coast organisation (Ren Kyst!) carried out one (1) oil spill response course in Bergen. In addition, the organisation sent personnel to IUA Østfold’s intermunicipal management drill and subsequently one beach cleaning team (of 10 persons) during the SCOPE drill in Vestfold held by the Norwegian Coastal Administration.

In November, WWF’s clean coast organisation held a lecture on the organisation's preparedness at the Norwegian Coastal Administration's national preparedness seminar in Sandvika.

# REMOTE MEASUREMENT

NOFO has access to several platforms and sensors to detect oil spills. The most important media for NOFO are satellite and aerial surveillance by plane.

Satellite and aerial surveillance are also used operationally. Together with access to the oil spill drift model and environmental studies, this provides the fundamental data for detection of oil spills, and NOFO's operational concepts.

## Satellite surveillance

In 2005, as an element in detecting oil spills, NOFO signed an agreement with Kongsberg Satelittjeneste (KSAT) covering all fields with a frequency of approx. 1.5 per week. With effect from 1 October 2016, the frequency of this service was increased substantially to cover all fields once every 28 hours. The purpose of the agreement is to ensure detection and early notification of acute oil spills. In the event of detection, NOFO notifies the operating company. In order to provide such coverage, KSAT must process approximately 2,400 images every year. 2017 is the first full year of operations for the extended agreement with KSAT.

## Research into produced water

NOFO, KSAT and the Arctic University of Norway held a meeting in the early summer, aiming to focus on operationalisation of research results. For several years now, KSAT and the University have taken part in a joint research and development project with a focus on developing new methods for the detection, classification and characterisation of oil on water. Both organisations have taken part in oil-on-water drills (OPV) and data from these has played a central role in the University's R&D work.

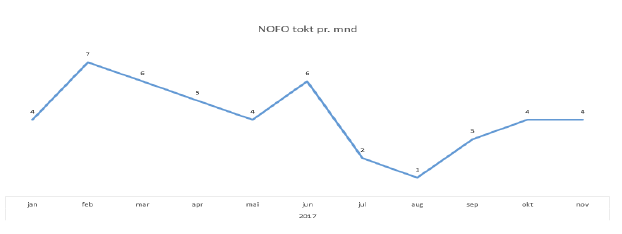
NOFO underlined the importance of further development and improvement of oil services, and requests an updated status of the R&D cooperation between the University and KSAT in addition to a presentation of plans for operationalisation of the R&D results and improvement of the oil detection service.

The University wishes to make use of other opportunities to collect multi-polarisation data with related ground truth, in addition to the oil-on-water drill 2018. Examples may be installations that regularly discharge produced water, and an increased focus on data collection for typical look-alikes, such as thin ice and algae growth.

## Aerial surveillance

Since 2011, NOFO has had a cooperation agreement with the Norwegian Coastal Administration and the Norwegian Coast Guard on the use of aerial surveillance. This service is provided by two aircraft, LN-KYV and LN-TRG, which are owned and operated by Sundt Air. The aircraft have the same technical equipment.

In 2017, NOFO had 96 exclusive hours of flight. This figure includes use of aircraft for 10 drills (OR vessels and IGK/IGSA drills).



*Tasks in which LN-KYV has participated in 2017:*

* General surveillance of the shelf (Sørfeltene, Vest, Haltenbanken and Barents)
* Verification of Maritime Broadband Radio, (MBR) on standby vessels
* Ice surveillance relating to search campaign in Barents Sea
* Drop of recently developed AIS buoys from LN-KYV – to verify drift properties and function
* Operative support for task force leader during OR vessel drills
* Operative support for shoreline task force leader during IGSA drills
* Operative support for offshore task force leader (ILS) during IGK drills
* Operative support during transfer drill between OR vessel and tanker

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## Maritime Broadband Radio (MBR)

MBR is a digital broadband. Use of the system allows all participating units in an oil spill response action to share images, video, audio, polygons for measuring the volume of oil etc. This provides a shared “Common Operational Picture” (COP). The digital broadband can be compared to a modem. Anything that can be sent via the Internet can also be sent via radio at a maximum transfer rate of 16 Mbits/s.

NOFO currently has 12 such devices. The MBR 179 system is installed on vessels on standby out on the continental shelf. The surveillance aircraft LN-KYV is also equipped with an MBR 179. The MBR systems (179) onboard the vessels on standby are regularly verified in contact with LN-KYV. The MBR systems have also been used during various vessel drills, proving the utility value of such tools.

MBR 144 was installed on two vessels for the ice and cold drill in the Barents Sea. Various tests of data streaming and file transfer were conducted. Moreover, MBR 144 was installed onboard the vessel North Barents during a provisional mobilisation for OMV in August.

In the autumn of 2018, NOFO initiated a project that involved charting the potential for building a network structure around the MBRs.

## Resources for local surveillance

**Aerostat:**

The aerostat is equipped with different types of cameras and transmitters, and is used for static surveillance of relevant areas. From an operational point of view, the aerostat plays an important role, allowing the task force leader to view the extent of oil slicks and areas in the oil slicks that indicate “combatable oil”.

In 2017, the aerostat has been used as a tool for remote measurement during 19 drills;

- five times in connection with OR vessel drills

- 11 times in connection with IGK/IGSA drills

- 3 times in connection with operator courses

**Drones:**

During the ice and cold drill in the Barents Sea, several tasks were performed using drones for local surveillance and documentation for the different trials held.

# DRILLS AND TRAINING

All planned activities were completed. These include standard vessel drills, full-scale drills, shoreline drills including drills in Arctic environments/icy waters. No oil-on-water drills were planned for 2017.

## Drills in weeks 37, 43 and 46 and Scope drill

Throughout the autumn of 2017, NOFO conducted full-scale drills with ConocoPhillips, Statoil and Aker BP.

A full-scale drill requires the physical mobilisation of personnel and materials.

The drill in week 37 was an ICS drill with CoPNo and their international support team. It took place in Tananger and NOFO participated, with a focus on operations, situation and plan/environment. This was the first drill where NOFO COP (Common Operating Picture) was used actively, with good results.

In week 43, NOFO conducted a similar drill at Sandsli, Bergen, where CoPNo and NOFO joined forces with Statoil and their international support team to handle an incident. ICS was utilised for organisation and process, and the format for implementation of an action plan (IAP) utilised was adapted to the American ICS structure. NOFO COP was used as a presentation tool during this drill.

These two drills laid solid foundations for an evaluation of how NOFO can best operate with an operating company with ICS organisation and process, and how NOFO can best be integrated into such an organisation.

In week 46, we carried out a full-scale drill with AkerBP, starting in our own premises in Forus then moving on to AkerBP in Jåttåvågen. The drill continued there together with AkerBP, before the process of governmental takeover was carried out, with subsequent execution with the Norwegian Coastal Administration as action force leader. The drill was beneficial in relation to the interaction problems between NOFO and the operating company, and provided a solid basis for an audit of the guide for governmental takeover of an action.

All the full-scale drills this autumn were concluded without major forces in the field. Dewt was a simple “live” exercise during the drill for Statoil in week 43. It took place in Finnmark with the assistance of the local IUA and IGK.

## Oil spill response in cold climates

In 2017, three courses were held relating to oil spill response in icy and cold conditions, in addition to two drills in the cold and dark in Finnmark and one major drill conducted at 75 degrees north. The latter drill was executed in cooperation with Basec.

For the courses at the Fire Protection Training Institute, half of the task force in Finnmark, several IUAs, specialised task force members and others received training in conduct, tactics and safety involving combating oil in ice. The courses are now a normal part of NOFO’s course portfolio.

Drills in Finnmark have also been introduced as normal activities. In 2017, these were performed in the dark and along the ice edge in daylight, as before. One of the drills was cancelled due to strong winds.

The drill at 75 degrees north was carried out with two OR vessels and one tug vessel, in addition to aerial surveillance.

The drill also involved the use of Desmi booms, MOS Sweepers, dispersion systems, drones with system for ignition of oil, drones for surveillance, MBR, satellite coverage etc.

The drill allowed the establishment of a surveillance image of ice and oil, communications between units and communications to shore. A report was prepared after the drill.

## Courses

In 2017, NOFO had 245 course participants taking part in 14 courses. Our course portfolio comprises basic courses in oil spill response, basic courses in oil spill response for ship crews, remote measurement courses, dispersion courses and offshore task force leader courses provided by NOFO and the Norwegian Coastal Administration together.

Feedback from the course participants, relating to both content and execution, has been very positive. There has been an increase in the number of participants throughout 2017.

The professional content of courses is subject to continuous development, and NOFO carries out annual meetings for instructors.



Image: Practical dispersion trials carried out during the dispersion course in October 2017

# STATUS OF OIL SPILL RESPONSE EQUIPMENT

## Bases and depots

NOFO’s oil spill response equipment is stored in five bases along the coast and in two depots in Finnmark.

NOFO has agreements covering third-party operation of bases and depots. These cover inspection of all the equipment NOFO has installed at the different locations, in addition to necessary maintenance, mobilisation, participation in drills and duty schemes. Function tests and maintenance of the oil spill response equipment have been conducted according to plan.

## Equipment

Technical reviews have been carried out once again in 2017 of the oil booms, skimmers and oil recovery equipment in barriers 1 and 2 to establish the technical condition of the equipment. These reviews concluded that several of the booms were worn, had a short residual lifetime and should be replaced. There is also a need to upgrade several pieces of oil recovery equipment (transrec) to extend their lifetime by 10 years. This has been taken into account during the work on the Strategic Investment Plan, see below.

## Strategic Investment Plan (SIP) and procurement

Work on the SIP intensified in the early summer of 2017. The work became all the more relevant in connection with increased activity simultaneous with the expectations of major loss of oil spill response equipment in barriers 1 and 2, as it became evident that several components had a very limited lifetime.

This is a plan that illustrates the need for preparedness equipment over the next few years. The plan comprises changes in preparedness requirements and includes the need to replace old oil spill response equipment. The total result shows which procurements are necessary. In addition, technological developments and NOFO’s strategy were taken into account when selecting new oil spill response equipment.

Before completion of SIP, an extraordinary General Meeting was held in August 2017 during which the decision was made to procure two conventional oil spill response systems in order to meet the preparedness requirement for the first half of 2017.

The report from the SIP was finalised prior to the second General Meeting (GF2/2017), showing there is a need for a major procurement of oil spill response systems in order to meet the preparedness requirement in coming years. During the second General Meeting, the decision was made to procure further oil spill response systems.

These include five high-speed systems, representing a different type of equipment better suited in conditions such as strong currents and when “hunting” for smaller oil spills.

The work on tender requests and evaluation of tenders started immediately after the meeting, and orders had been placed for the main share of the total procurement by November and December. The oil spill response equipment is scheduled for delivery in the first half of 2018.

In addition to the procurement of new equipment, a decision was also made during the second General Meeting to upgrade five oil recovery systems. These were ordered in November.

## Maintenance management and logistics

NOFO has developed and implemented a new management system to improve its management of maintenance for oil spill response equipment. This has been integrated into NOFO's other management systems and has been developed to incorporate important logistics functions in addition to the status of equipment and maintenance status. It ensures efficient utilisation of resources, and is a vital element in the foundations for NOFO’s work on the SIP (Strategic Investment Plan). As such, NOFO has improved its capacity to predict the requirement for replacements, new procurements and/or upgrades.

# TECHNOLOGICAL DEVELOPMENTS

There has been a major focus on execution and implementation of the majority of projects under the “oil spill response 2015” programme. Most of these projects have either been completed or terminated. Some of the projects are now at the stage of procurement and implementation for oil spill preparedness.

The ongoing procurement process also allows for the procurement of oil spill response equipment developed via NOFO's oil spill response programme.

# AGREEMENTS

NOFO must have compliant and documentable access to correct and sufficient resources in order to meet the requirements for oil spill preparedness. To achieve this, NOFO has signed agreements with a large number of enterprises. These ensure access to expert and sufficient resources.

The agreements cover a wide range from individual resources to major private and public partners.

The main share of operative oil spill preparedness has local roots. It also involves national and regional partners.

There is a continuous focus on the agreement portfolio to ensure the most optimal allocation of resources. This comprises both the number and type of resources.

## NOFO agreement and vessel agreement

The NOFO agreement and articles of association govern cooperation and areas of responsibility between NOFO and the operating companies. Experience has shown that the NOFO agreement functions as intended. The most recent version of the NOFO agreement and articles of association were unanimously adopted at NOFO's General Meeting in January 2017. The purpose of this audit was to allow for associated membership.

The vessel agreement functions as intended and provides NOFO with access to the number of OR vessels to be contributed by NOFO's members. The vessels meet the requirements laid down in the agreement.

## International cooperation

NOFO has also actively participated in international activities in 2017, particularly under the direction of the Global Response Network with related Operational Teams. From May 2017, NOFO took over as the chair of the GRN for a two-year period.

A delegation from NOFO attended the International Oil Spill Conference (IOSC) in Los Angeles in May.

Attendance involves representation in the Programme Committee, responsibility for parts of a technical demonstration, film festival (see communications) and acceptance and execution of four lectures during the conference. NOFO made a positive impression during the conference and gained major international recognition.

NOFO has had several bilateral meetings and cooperation in 2017. These relate in particular to the relationship with Oil Spill Response Limited (OSRL) and ECRC (Eastern Canada), the latter mainly related to oil spill response in Arctic regions (cold and ice).

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Forus, 20 March 2018

Richard Miller (Chairman) Siri Nesbø (Deputy Chair)

Aker BP Norge AS Spirit Energy

Janne Lea (Board member) Stein Tonning (Board member)

Wintershall Norge AS Faroe Petroleum Norge AS

Philippe F. Mathieu (Board member) Espen Enge (Board member)

Statoil Petroleum AS Repsol Norge AS

Erik Bjørnbom (Board member) Leif J. Kvamme (CEO)

Eni Norge AS NOFO