

# ANNUAL REPORT

PETROLEUM SAFETY AUTHORITY  
NORWAY

# 2017



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PART

**PART I. THE DIRECTOR GENERAL'S REPORT**

**Major challenges in 2017**

We have high health, safety and environmental standards in the petroleum industry, but recent years have also been marked by safety challenges and serious incidents. In 2016, we registered increasing pressure in the sector, large and fast-moving change processes and, notably, examples of collaboration failings. This development worried us. In 2017, we launched the main theme *Reversing the trend*. In this activity, we concentrated on three fundamental aspects of the Norwegian safety regime: collaboration, standardisation and robustness.

We are experiencing a trend in which technology, digitalisation, and the emergence of new concepts and modes of operation are important for securing continued sustainable growth. Such a trend presents new challenges. In order to achieve the desired outcome, the Authority's supervisory activities must be formulated to best meet future HSE challenges.

In 2017, we investigated fewer incidents than in 2016, but regrettably we had a fatal accident during the year. The accident on the Maersk Interceptor mobile facility in which one person died and one was seriously injured is one of five incidents we investigated in 2017. As an authority, we investigate in order to achieve clarity concerning what has happened, and to elucidate learning points with the aim of preventing similar accidents from recurring.

There was an increased focus on notifying censurable conditions, or whistleblowing, in trade and industry in general in 2017. In the

petroleum industry too, we are also seeing an increase in the number of whistleblowing reports to the PSA. Such reports concern, among other things, a mismatch between tasks and resources, poor employee participation, pressure on working time arrangements, a deficient reporting culture and issues within training and competence. We follow up all notifications that we receive.

The High North was the object of much attention in 2017 due to increased activity, exploration drilling and development of discoveries, but also based on discussions as to whether the industry has adequate knowledge of the HSE challenges in the Norwegian sector of the High North. With funding from the Ministry of Labour and Social Affairs and the Ministry of Foreign Affairs, we have initiated 19 different projects to illuminate various challenges and problems linked to safety within the working environment, drilling and wells, structural safety, ice and snow conditions, suitable facilities and risk factors in petroleum activities in the High North. The results from these projects will be presented at our Arctic Safety Conference to be held in Stavanger in 2018.

**The authorities' follow-up and the effect of our audits**

The HSE regime in the Norwegian petroleum activities is built on trust and openness between the three parties, and on respect for each other's roles and responsibilities. As a supervisory authority, we have an overriding responsibility to prepare and develop the regulations, and to monitor that the participants comply



with the HSE regulations in the petroleum activities. Our supervision is risk-based and is prioritised based upon the challenges we see in the industry, and where our input will have the greatest effect.

In 2017, we worked in a targeted fashion and in collaboration with other supervisory authorities to enhance work on the effects of our audits. It is difficult to measure the overall impact of our efforts but, from the feedback we receive, we have reason to believe that our governance helps to maintain and further develop safety in the activities. Our assessment is that the greatest effect is achieved through systematic efforts over several years, both for the supervisory authorities and the participants themselves.

In November 2016, the Ministry appointed a multipartite working group<sup>1</sup> to assess the status of health, safety and the environment in the Norwegian petroleum activities. We have participated in this work, and will follow up proposed measures, notably through the Safety Forum and the Regulatory Forum. The report from the multipartite working group will also be a solid starting point for a White Paper on HSE in the petroleum activities to be submitted to the Norwegian Parliament in spring 2018.

In the Trends in risk level in the petroleum activity (RNNP) project, in which the authorities, industry associations, trade unions and relevant research centres participate, trends in the petroleum industry are monitored through a series of safety and working environment indicators. RNNP is a mutually-agreed measurement of the risk level in the industry and tracks trends over time. The work on RNNP is anchored in the collaboration through the Safety Forum, which also functions as a reference group and primary collator of the results.

We use RNNP actively in prioritising risk-based supervision and as a basis for carrying out special studies. Figures from RNNP 2016 show a weak downward trend in a number of key areas. The main contribution to this is from well control incidents and hydrocarbon leaks.

In other areas such as barrier management, ships on collision courses and personal injuries, the RNNP figures for 2016 show a positive trend. The figures for 2017 are currently being collated and will be presented in April 2018.

#### Close monitoring

Goliat, which is an oil field in the Barents Sea, for which Eni is the operator, was once again high on the agenda in autumn 2017. As a supervisory authority, we have monitored Goliat in all phases of activities, from before submission of the PDO up to commissioning of the facility in 2016. In 2017, we conducted an audit of Goliat which detected circumstances that were not compliant with the regulations. At this time, Eni had halted production and was ordered to implement necessary measures to rectify the non-conformities before restarting production. In addition, Statoil, as a licensee in the Goliat production licence, was asked to give an account of the exercise of its supervisory responsibility.

In December 2017, we notified Eni that, as an authority, we considered the order to have been complied with and that Goliat could resume production. At the same time, we took the opportunity to stress that the authorities' verifications on board Goliat did not entail any approval of equipment or the safety situation. It is Eni, together with Statoil, which is responsible for safety on the facility. We will continue to monitor Goliat closely in the years ahead, through both audits and by monitoring previous findings.

#### Reversing the trend

In the period 2015-2016, we saw that the industry faced clear challenges. The positive safety trend had come to a halt, and in some areas turned in the wrong direction. The industry was under pressure and characterised by a downturn, cost-cutting and major change processes. Against this backdrop, we were concerned that these trends could be the beginning of a period of stagnation, reversal and deterioration in safety work. In order to get the trend back on track, in 2017 we launched the main theme: *Reversing the trend* with the PSA driving the initiative and

the industry enacting it.

We have given the work on the main theme for 2017 a high priority within three defined areas: collaboration, robustness and standardisation. Thematically, these areas are key components of the Norwegian petroleum regime that must be protected and enhanced.

**Collaboration:** During 2017, a series of supervisory activities were undertaken aimed at collaboration and employee participation. The key findings include evidence that the distance between decision-makers and those their decisions affect can be quite considerable. There is sometimes an unclear distinction between employee representatives and the safety delegate service in respect of involvement and participation. Some companies also lack governing documents showing how participation should occur, and which tasks and responsibilities the safety delegates should fulfil. It was also asserted that less time is reserved for safety work than previously and that safety representatives are involved in issues at too late a stage. A lack of regulatory competence and deficient training in relevant working environment factors in the safety domain were also detected in work on collaboration.

**Robustness:** One of the objectives of the main theme for 2017 was to investigate whether the trend in streamlining and cost reduction resulted in less robust solutions. Our activities in 2017 provided us with a better understanding of the concept of robustness and that robustness means quality along the entire chain of processes and operations. We observe that more companies are recognising the importance of employee participation for robust solutions.

**Standardisation:** The commitment to standardisation is about implementing new industry standards, updating existing standards and influencing the companies to use the industry standards. These were all in focus in 2017, through audits, talks, meetings and presentations. Clear disparities between companies were detected but the trend is nonetheless positive. Notably, the

<sup>1</sup> A multipartite working group was appointed by the Ministry of Labour and Social Affairs on 29 November 2016. The group consisted of affected parties and authorities. The working group's mandate was to discuss problems relating to HSE in the industry. A report by the multipartite working group on health, the working environment and safety in the petroleum activities was completed in the autumn of 2017.

backlog in updating standards has been considerably reduced, and we have registered a clear increase in the use of industry standards in preference to company-specific requirements.

Our overall assessment is that the main theme for 2017 has promoted debate and experience exchange and boosted knowledge about collaboration, the robustness of plans and the importance of using, establishing and updating industry standards. In our work on *Reversing the trend*, we have observed many good examples of restoring the industry to the path of continuous improvement. There remain challenges that need addressing however, so, although the main theme for 2017 has ended, collaboration, robustness and standardisation will be important topics going forward.

#### Main theme 2018

Safety is the mainstay of the Norwegian petroleum activities. The term "safety" covers a lot of ground, including major accidents, the working environment, emergency preparedness, security issues and the external environment. When we talk about safety work, this refers to efforts to prevent major accidents, undesirable incidents, injuries and illness. We believe that the parties have a shared responsibility to support the Norwegian collaborative model and strengthen the high level of safety that has been built up over many years. If we are to succeed, the value of safety should weigh heavily in all decisions. Accordingly, for 2018, we have launched the main theme: **Safety is a value choice**. We are encouraging broad debate on how the overarching concept of value should be understood, and the place safety has in this work.

If the industry and the companies are to succeed in raising the good level that the sector has achieved over many years, the companies will need to implement the right measures and challenge themselves. Which measures work? Which measures have good outcomes? What do they cost? What values do the participants have, and what values are on the line when making choices? The industry's most important task is to perform its activities prudently, and to protect against harm to people, the environment and material assets.

Our primary remit is to set the agenda and carry out monitoring to ensure that petroleum industry participants maintain high standards in health, safety, the environment and emergency preparedness, and thereby contribute to creating the greatest possible value for society. We will be putting the theme of "Safety is a value choice" on the agenda in multiple contexts in 2018. We expect the companies to do the same, on the initiative of their managers.

**Anne Myhrvold**  
*Director General Petroleum Safety Authority Norway*

*Petroleum Safety Authority Norway, 15 March 2018*



PART



## PART II. INTRODUCTION TO THE ORGANISATION AND KEY FI-

### Supervision and directorate

The Petroleum Safety Authority Norway (PSA) is an independent government supervisory body, responsible for safety, emergency preparedness and the working environment in the petroleum activities. The Authority was established through the Crown Prince Regent's Decree of 19 December 2003. The PSA reports to the Ministry of Labour and Social Affairs.

The supervision includes all follow-up activities carried out by the PSA in order to obtain a picture of the safety status of one or more participants in the petroleum industry. The PSA is responsible for technical and operational safety, emergency preparedness, security and the working environment throughout every phase of the activities. The PSA has been delegated the authority to make individual decisions in the form of consents, orders, coercive fines, the suspension of activities and exemptions. It is our responsibility to verify that the participants conduct their activities in accordance with the regulatory requirements and to be a driving force for continuous improvement of health, safety and the environment in the petroleum activities.

The PSA's remit encompasses petroleum activities on the Norwegian Continental Shelf (NCS), in addition to petroleum installations

and associated pipeline systems at Melkøya, Tjeldbergodden, Nyhamna, Kollsnes, Mongstad, Sture, Kårstø and Slagentangen.

The PSA's supervisory work must be system-oriented and risk-based, and it must supplement rather than replace the companies' monitoring of their own activities. There must be a balanced relationship between the PSA's high-risk/technological supervisory role and its working environment supervisory role.

In addition to being a supervisory agency, the PSA is also a key administrative organ with a remit as a directorate. The PSA acts as a technical advisor to the Ministry of Labour and Social Affairs and as an expert body in relation to the sector, other authorities and the general public. In recent years, we have seen an increase in the scope of the directorate remit. This is especially true for tasks such as professional advice to the Ministry, our role as an expert body in relation to the sector through, for example, the dissemination of facts and knowledge, and as a regulatory administrator. We expect the scope of directorate-related tasks to increase in the coming years. Provision will be made to ensure that this increase does not take place at the expense of our supervisory role.

The PSA is the coordinating agency for regulatory development and supervision of HSE in the Norwegian petroleum activities. The purpose of coordination and collaboration between authorities is to promote the most effective and consolidated HSE follow-up of the petroleum activities offshore and on land.

The coordination scheme for offshore activities comprises:

- The Petroleum Safety Authority Norway
- The Norwegian Environment Agency
- The Norwegian Board of Health

Supervision

- The Norwegian Radiation Protection

Authority

The coordination scheme for onshore facilities comprises:

- The Petroleum Safety Authority Norway
- The Norwegian Board of Health

Supervision

- The Norwegian Radiation Protection

Authority

- The Norwegian Communications

Authority

- The Norwegian Coastal Administration

- The Norwegian Industrial Safety

Organisation

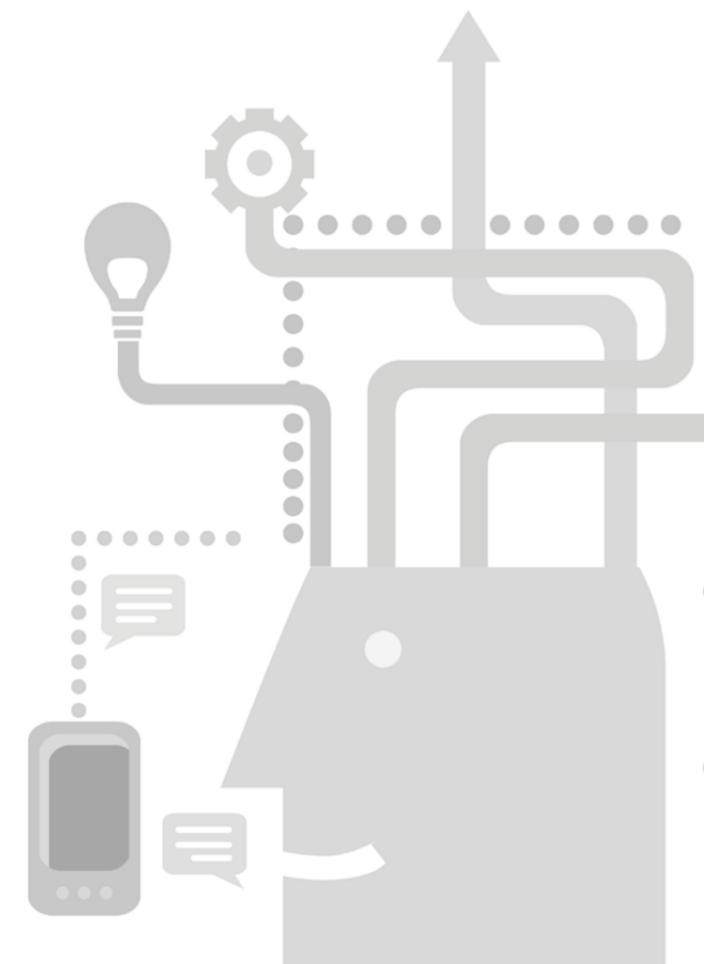
In planning and performing its supervision, the PSA is able to use expert assistance from other national agencies that have specialist expertise in relevant areas. The scheme is based on agreements between the PSA and the following agencies:

- The Norwegian Labour Inspection Authority
- The Directorate for Civil Protection (DSB)
- The Norwegian Coastal Administration
- The Civil Aviation Authority Norway
- The Norwegian Meteorological Institute
- The Norwegian Communications Authority
- NAV (Inclusive Working Life)
- The Norwegian Maritime Directorate
- The National Institute of Occupational Health (STAMI)
- The Norwegian Board of Health Supervision.

In addition, the PSA has cooperation agreements with the Norwegian Petroleum Directorate (NPD) and the police/prosecuting authority in investigating accidents in the activities.

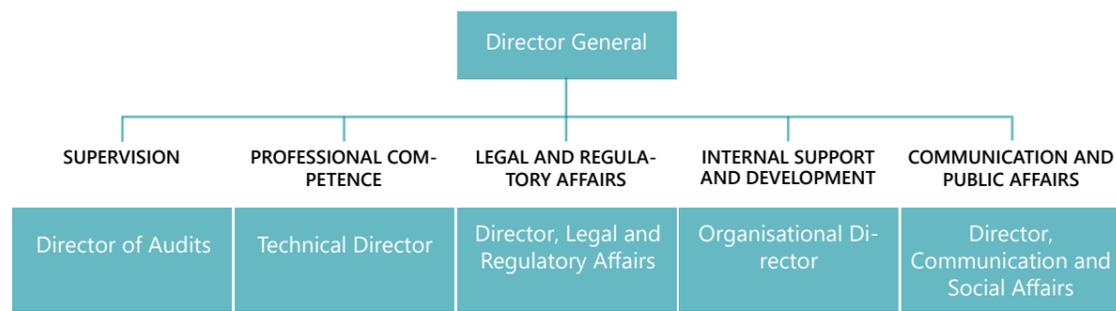


Petroleum Safety Authority Norway, Professor Olav Hanssens vei 10



# OUR AREA OF RESPONSIBILITY





OPERATIONAL UNITS – LEGAL AFFAIRS, TECHNICAL AREAS AND ADMINISTRATIVE UNITS

### ORGANISATION

The PSA is organised into the following areas: supervision, professional competence, legal and regulatory affairs, operations and development, as well as communication and public affairs. See the organisation chart above.

#### Senior management

The Director General of the PSA is Anne Myhrvold. In addition to the Director General, the senior management consists of six area directors.

#### Supervision

Six supervisory teams each monitor a group of participants in the industry. Each supervisory team is headed by a supervisory manager, who has product responsibility and formal decision-making powers. Contacts are appointed for each team. These act as fixed points of contact for the various participants.

#### Professional competence

The PSA's HSE competence is divided into six disciplines, each of which has a discipline leader who is responsible for personnel and competence development. The six disciplines are:

- Drilling and well technology
- Process integrity
- Structural safety
- Logistics and emergency preparedness
- Working environment
- HSE management

#### Legal and regulatory affairs

This unit helps to safeguard the legal quality of regulations, audit reports and other products where the formal basis must be clear and unambiguous. The unit also has responsibility for governance dialogue with the Ministry, reports to the Ministry, regulatory development, standardisation work and agreements with other authorities.

#### Communication and public affairs

This unit is responsible for media relations, operating the website and online and printed publications.

#### Internal support and development

The unit is responsible for internal operations and organisational development and consists of key support functions within finance, HR, document centre, internal security and ICT, in addition to a dedicated technical library for staff.

#### STAFF

At the end of 2017, the PSA had 175 employees, of whom 172 were full-time, 2 temporary and 1 office apprentice. The combined resource base amounts to 169 full-time equivalents for fulfilling the objectives defined for the responsible authority's monitoring of the industry's compliance with applicable regulatory conditions. 46% of the employees are women and 54% men.

### RESOURCE UTILISATION 2017

The PSA has established systems for internal resource management within the authority. All employees record their resource use for fixed categories of tasks on an hourly basis. The system is adapted to the authority's collective portfolio of tasks and government schemes for time off and flexitime. This gives us an overview of the total time spent on the various tasks that we perform. Our resource utilisation in 2017 is broken down into the following main areas:

#### Refundable tasks:

Including supervision and assistance tasks under the Norwegian Agency for Development Collaboration/Oil for Development programme.

**Other externally oriented activity:** Including directorate-related tasks, the provision of advice and the dissemination of information.

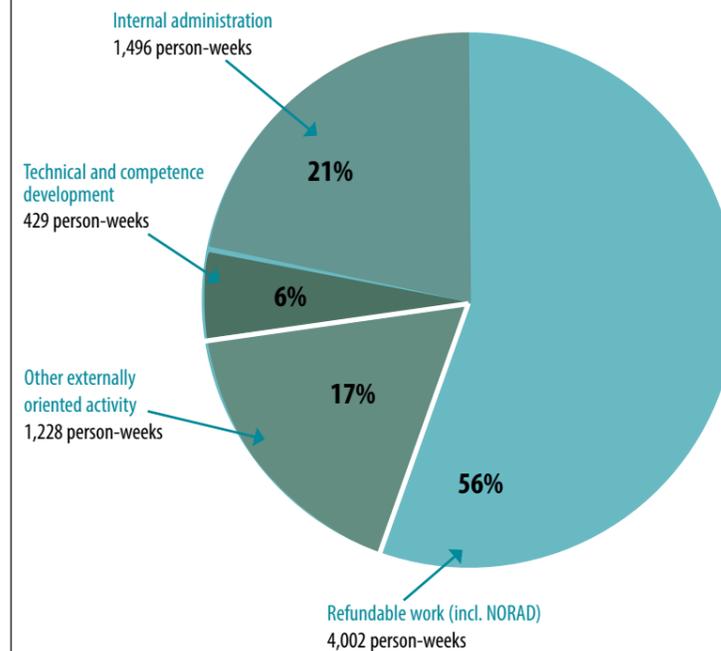
#### Technical and competence development:

Including project work, technical investigations and competence development.

**Internal administration:** Including management, strategy work, non-refundable planning, budgeting, organisational development and case processing linked to contracts and procurements, personnel/finance, ICT operations, building administration, internal security, document centre and library.

### RESOURCE USE PER MAIN AREA

The pie chart and table below show the resource utilisation broken down into specified main areas in a time series.



Year	Refundable tasks	Other externally oriented activities	Technical and competence development	Internal administration
2015	56%	15%	7%	22%
2016	55%	17%	6%	22%
2017	56%	17%	6%	21%

#### Refundable work

This category includes all planning and implementation of the PSA's refundable tasks carried out during 2017. Total resource utilisation amounted to 56% for 2017 (4,002 person-weeks). Activities in this category are described in more detail under the reports on the relevant performance targets. In connection with Norwegian aid work, we are contributors to the Norwegian Agency for Development Cooperation's Oil for Development programme.

## QUANTITATIVE MEASUREMENTS

The table below presents an overview of relevant activities and products over time, with a number of general remarks linked to the figures and their development:

**Audits/verifications:** The number of audits in 2017 was on a par with 2016.

**Notifications of order and orders:** In 2017, 11 notifications of order were made and 9 orders issued. The difference between the number of notifications and the number of orders issued may be due to which year they are registered in or, for example, that, following notification, the addressee has implemented what would have been the object of the order or administrative decision.

**Coercive fines/police reports and suspensions:** In 2017, we suspended Eni's right to resume production. We have traditionally not used coercive fines/police reports/suspensions as reactive instruments. However, we do work closely with the police, particularly in respect of serious incidents.

**Investigations:** The number of investigations varies from year to year for different reasons, and in 2017 we saw a fall from 2016 from 8 to 5 incidents. The severity of an incident is the most important criterion, but other factors may also determine whether we decide to conduct an investigation or whether we follow up the incident in some other way.

**Offshore days:** In 2017, there was an increase in the number of offshore days.

**Consents issued:** In 2017, the figures show an increase in the number of consents issued.

**Acknowledgement of Compliance (AoC) applications:** The number of AoC applications processed reflects the number of mobile facilities arriving on the NCS for the first time. The number of applications was unchanged between 2016 and 2017.

**Plans for Development and Operation/ Installation and Operation (PDO and PIO):** In 2017, we received 10 PDOs and processed 4 of them (the rest will be processed in 2018).

### Other externally oriented activity, including directorate-related tasks and information dissemination:

Directorate-related tasks largely consist of tasks linked to regulatory development and interpretation, participation in standardisation work and the provision of advice to the Ministry, as well as the facilitation of contact with national and international authorities. In 2017, this activity accounted for 17% (1,228 person-weeks) of the total resource utilisation within the PSA. This category also includes case processing of police cases, appeals, consultations and access requests.

CASES FOR PROCESSING:	2015	2016	2017
Police cases	3	5	10
Appeals	5	16	19
Consultations	97	102	82
Access requests	3,836	5,433	7,217

**Police cases:** In 2017, we received 10 police cases for processing. Some of these cases relate to the police's handling of investigations.

**Appeals:** In 2017, we processed 19 appeals. The vast majority of appeals we receive for processing concern access requests.

**Consultations:** In 2017, we received 82 consultation responses concerning proposals for new or amended regulations.

**Access requests: I:** In 2017, we received 1,083 access requests for 7,217 journal records. This is 1,784 more than in 2016.

### Technical and competence development

In order to monitor technological and knowledge-related developments within the petroleum activities and to maintain an up-to-date basis of expertise for our audits, the supervisory authority must also prioritise its own technical and competence development.

Knowledge development at agency level is achieved both by means of external support from R&D centres and consultants, and from internal technical investigation work. Individual professional development is considered to be important and is prioritised for the organisation's own employees through internal and external training and development activities.

Overall resource utilisation during technical and competence development (which is not covered by the sector charge scheme) was 6% in 2017 (429 person-weeks).

### Internal administration

This category covers governance and management (which is not covered by the sector charge scheme) within the PSA, including strategy work, budgeting, management, technical and team meetings, organisational development activities, collaboration with the safety delegate service, internal collaboration and administrative support activities.

Internal administration also covers case processing linked to contracts and procurements, personnel, finance, document centre and library. Overall resource utilisation in 2017 was 21% (1,496 person-weeks).

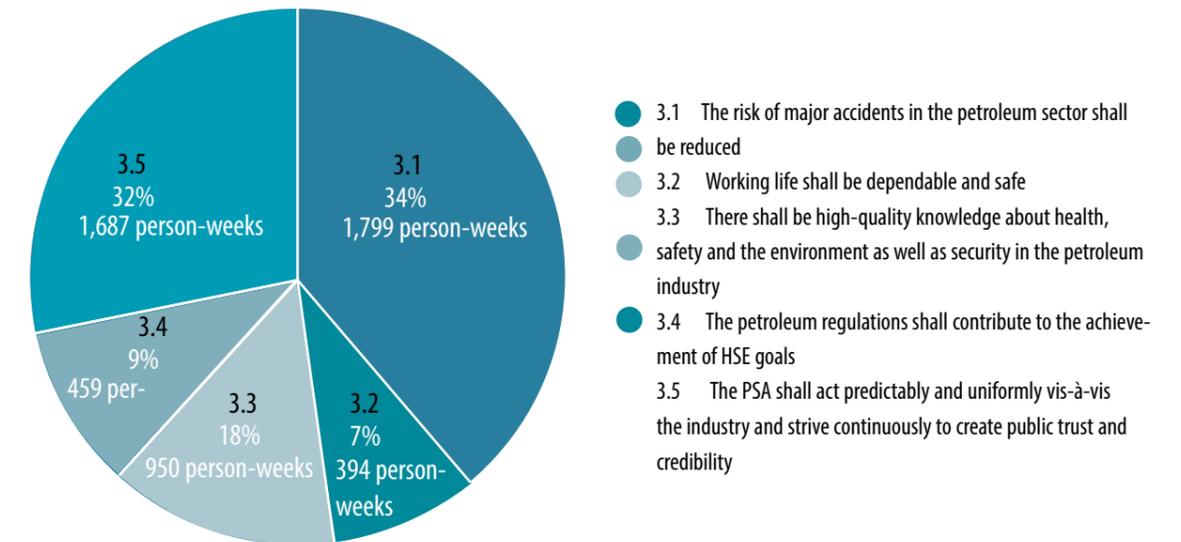
QUANTITATIVE MEASUREMENTS	2015	2016	2017
Number of audits/verifications	200	196	189
Number of notifications of order	1	5	11
Number of orders	1	6	9
Number of coercive fines, police reports and suspensions	0	0	1
Number of investigations	10	8	5
Number of offshore days	447	438	484
Number of consents issued	98	78	84
Number of applications for Acknowledgement of Compliance (AoC)	4	4	4
Number of Plans for Development and Operation (PDO) and Plans for Installation and Operation (PID)	5	4	4

The table presents an overview of relevant activities and products over time, with a number of general remarks linked to the figures and their development.



### RESOURCE UTILISATION PER PERFORMANCE TARGET

The pie chart below shows a breakdown of resource utilisation which can be linked to the performance targets in the letter of allocation. Resource utilisation that cannot be directly linked to at least one performance target is not included. Many of the tasks also contribute to several performance targets. The model below may give an oversimplified picture of the distribution between the performance targets because the activities often include elements of several performance targets.



- 3.1 The risk of major accidents in the petroleum sector shall be reduced
- 3.2 Working life shall be dependable and safe
- 3.3 There shall be high-quality knowledge about health, safety and the environment as well as security in the petroleum industry
- 3.4 The petroleum regulations shall contribute to the achievement of HSE goals
- 3.5 The PSA shall act predictably and uniformly vis-à-vis the industry and strive continuously to create public trust and credibility

### Resource utilisation per performance target in table form:

The table below gives an overview of resource utilisation broken down by the performance targets in the letter of allocation. The breakdown is shown in percentages and person-weeks. The breakdown is largely coincident with previous years.

Year	PERFORMANCE TARGETS									
	3.1		3.2		3.3		3.4		3.5	
	%	Man-weeks	%	Man-weeks	%	Man-weeks	%	Man-weeks	%	Man-weeks
2015	33	1,710	10	535	20	1,017	9	465	28	1,464
2016	39	1,977	9	464	14	696	10	507	28	1,437
2017	34	1,799	7	394	18	950	9	459	32	1,687

## KEY FIGURES FROM THE 2015-2017 ANNUAL FINANCIAL STATEMENTS

A presentation of selected key figures from 2015-2017 is given below with explanations.

Key figures	2015	2016	2017
Number of FTEs	168	166	170
Combined allocation, items 01-99	257,860,500	269,967,979	310,855,725
Utilisation ratio, items 01-29	94.6%	92.1%	92.9%
Operating expenses	274,538,314	279,247,659	291,813,170
Salary expenses as a proportion of operating expenses	71.1%	69.6%	68.9%
Salary expenses per FTE	1,164,695	1,174,139	1,179,643

**Number of full-time equivalents:** The PSA had a net increase of 2.9% in the number of full-time equivalents compared with 2016. This increase is due to the employment of new staff within increased follow-up of safety in the petroleum activities.

**Combined allocation, items 01-29:** Combined allocation for items 01-29 increased by NOK 39.9 million relative to the combined allocation in 2016. This is due primarily to appropriation increases linked to restructuring of budgeting, accounting and payment of pension premiums to the Norwegian Public Service Pension Fund (SPK) and increased follow-up of safety in the petroleum activities, notably in connection with means of evacuation.

**Utilisation ratio for items 01-29:** The utilisation ratio indicates the percentage of expenses under items 01-29 of the allocation, which increased from 92.1% to 92.9%.

**Operating expenses:** Operating expenses in 2017 rose by NOK 12.6 million (4.5%) over 2016, due primarily to increased payroll costs and increased costs relating to the performance of activities financed through fees/sector charges and within assignment and collaborative activity (Oil for Development).

**Salary expenses as a proportion of operating expenses:** Salary expenses as a proportion of operating expenses fell from 69.6% in 2016 to 68.9% in 2017.

**Salary expenses per full-time equivalent:** A comparison of salary expenses per full-time equivalent for 2016 and 2017 shows an increase of 0.5%, which equates to NOK 5,500 per FTE.

PART



## PART III. ACTIVITIES AND RESULTS FOR 2017

### Long-term goals and overall priorities from the allocation letter.

The Government's ambition is for the Norwegian petroleum industry to be a world leader in health, safety and the environment. Fundamentally, there is a high level of safety in the Norwegian petroleum industry. But this high level does not maintain itself. Continuous efforts are needed to prevent the safety level from declining over time and to ensure continuous improvement.

It is important for the PSA to strive to stay ahead of the challenges facing the petroleum sector, both in terms of identifying them and how it is expected they are followed up in the industry. We must place great emphasis on disseminating knowledge of risks and uncertainties. The supervision must be risk-based in that it focuses on those activities and factors where the risk of major accidents, injuries and occupational illness are considered greatest.

Based on the RNNP (Trends in risk level in the petroleum activity) results, experiences from audits, incidents and information about risk from different industry participants, we have been concerned about a negative trend in HSE. On this basis, in 2017 we launched the main theme *Reversing the trend* with three defined areas:

- Robustness
- Collaboration
- Standardisation

Thematically, these areas are key components of the Norwegian petroleum regime that it is important to protect and enhance. A summary of the work in each of the areas will be discussed

in more depth under the individual performance targets.

There is a lot of focus on cost levels in the Norwegian petroleum activities. Many industry participants have undertaken streamlining measures in the form of cost and manning reductions. In 2017, the PSA monitored that, in these processes, the companies were safeguarding the requirements for prudent activities and continuous improvement and ensuring a high level of HSE. The PSA also participates in preparing common guidelines for socio-economic analyses in the petroleum industry. This work is headed by the Ministry of Petroleum and Energy.

In 2017, it was decided to submit a new White Paper to the Norwegian Parliament on health, safety and the environment in the petroleum industry. The basis for the White Paper included a report that was prepared by a multipartite group in the same year. The Paper will be submitted to Parliament in 2018. And the PSA has an active role in this work.

It is essential that the PSA's supervisory activities are effective. Their effects can be described through both qualitative assessments and quantitative indicators. Measurement and assessment of the effects is first and foremost about learning and improvement of the supervision. This also provides important management information to the Ministry regarding whether we achieve our goals in an efficient way. In 2017, we developed our work on management parameters and impact assessment as discussed in more detail under 3.6.

This section presents a combined review of the results achieved and a qualitative assessment of activities, methods, results, findings, reactions and impacts of activities undertaken within the performance targets and themes which the PSA assessed as important in 2017.

### 3.1 The risk of major accidents in the petroleum sector shall be reduced

Major accidents are the most serious that can occur within the petroleum activities.

The RNNP (Trends in risk level in the petroleum activity) project monitors trends in the petroleum industry through a number of safety and working environment indicators. RNNP is an objective measure of the level of risk in the industry and measures trends over time. The work covers accident prevention in general, including the prevention of acute pollution (RNNP-AU).

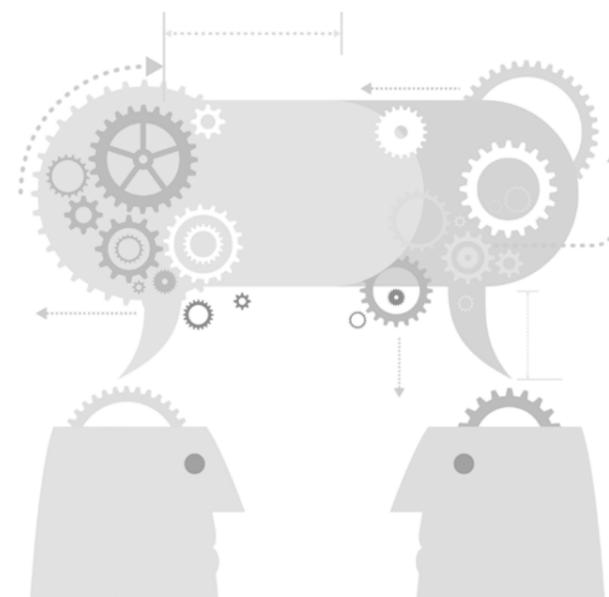
In recent years, the petroleum activities have been in a challenging period with extensive downsizing and restructuring. The RNNP figures for 2015 and 2016 have shown a negative trend in specific areas. There was a particular contribution from well control incidents and hydrocarbon leaks. In other areas such as barrier management, ships on collision courses and personal injuries, the RNNP figures for 2016 show a positive trend. The frequency of serious personal injuries on the NCS also showed a significant reduction in 2016 compared with the average of the preceding ten-year period.

From the RNNP survey questionnaire, it emerges that a greater percentage of employees on mobile facilities report high job demands and low job control. On production facilities, lower job control and a worse safety climate is reported. This can be seen in the context of the many change processes undertaken in the industry. The level of self-reported work accidents involving personal injury, health complaints and sickness absence was reasonably constant during the period. However, the results show that employees who have experienced reorganisation and downsizing report higher risks of injury, sickness absence, health complaints and a poorer safety climate and psycho-social working environment compared with employees who have not experienced such changes. The RNNP figures for 2017 are being prepared and will be ready in April 2018.

The number of investigations varies from year to year for different reasons. The severity of the incident is the most important criterion for initiating an investigation. Other factors, however, may also determine whether we decide to conduct an investigation, for example the potential for learning. The primary objective of an investigation is to learn lessons and pass on experience to the industry. Investigations are, moreover, an important aspect of our supervisory activity, and our investigation reports are published at [www.ptil.no](http://www.ptil.no). We investigated a total of five incidents in 2017:

- Lifting incident at Gullfaks B (7 March)
- Gas leak at Åsgard (10 March)
- Hydrocarbon leak at Gjøa (21 June)
- Hydrocarbon leak at Mongstad (24 October)
- Fatal accident on Maersk Interceptor (7 December)

In the event of a serious incident appearing to be in development, we will normally man the emergency preparedness centre. This is done primarily to monitor the participants' own handling of the incident, but also to share information with the company concerned, with



other authorities and the outside world. During 2017, we manned the emergency preparedness centre four times in response to: loss of stability of Songa Encourage, the hydrocarbon leak at Gjøa, fire at Sleipner A, and the fatal accident on Maersk Interceptor.

#### Close monitoring

In 2017, we monitored Goliat, which is an oilfield in the Barents Sea with Eni as its operator. We have monitored the field closely in all phases of activities, from before submission of the PDO up to commissioning of the facility in 2016. In 2017, we conducted an audit of Goliat which detected circumstances that were not in compliance with the regulations. Eni was ordered to implement necessary measures to rectify the non-conformities before restarting production. In addition, Statoil, as a licensee in the Goliat production licence, was asked to give an account of the exercise of its supervisory responsibility.

In December 2017, we notified Eni that, as an authority we considered the order to have been complied with and that Goliat could resume production. At the same time, we took the opportunity to stress that the authorities' verifications on board Goliat did not entail any approval of equipment or the safety situation. It is Eni, together with Statoil, which is responsible for safety on Goliat. We will continue to monitor Goliat closely in the years ahead, through both audits and follow-ups of previous findings.

Our audits of Statoil in 2017 have largely been focused on the company's own follow-up and own assessments of the outcomes of the changes that have been implemented. Risk management, employee participation and maintenance management have been key themes in this follow-up. We have addressed various parts of Statoil's organisation and challenged the company on the consequences of the changes, including HSE improvements. The outcome of our follow-up of Statoil has been increased knowledge within the PSA and within Statoil of the consequences of change and the importance of all changes contributing to the improvement of the HSE level. There has also been feedback from Statoil that our

audits contribute to tangible improvements to facilities and plant. This arises through notice of an audit causing a comprehensive review of the company's systems within the topic of interest.

#### Cost reductions and incidents in the Norwegian petroleum activities

In recent years, the petroleum industry has undergone major change and streamlining processes, which are still in progress. The changes have their basis in the need to reduce costs and streamline activities as a result of high cost levels, a fall in the oil price and uncertainty about the future oil and gas market. The rate of change is high, and many change processes are taking place simultaneously.

It has been important for the PSA to delineate whether there are correlations between cost-cutting and incidents, and the significance this may have for the participants. This knowledge will provide a foundation for future prioritisation of audits. Against this background, in 2017 we established the project: "Evaluation of possible relationships between cost reductions and incidents in the Norwegian petroleum activities". The project is being conducted by Proactima on behalf of the PSA. The results from the project are to be disseminated internally and externally and will be completed in early 2018.

#### Notification of censurable conditions and whistleblowing

In 2017, we expanded our efforts in respect of whistleblowing into a separate project. The background to the project was an increased focus on notifying censurable conditions, or whistleblowing, in business in general, but it was also informed by a new whistleblowing clause in the Working Environment Act of 1 July 2017, the purpose of which was to strengthen the protection of whistleblowers.

In recent years, there has been an increase in the number of whistleblowers and whistleblowing reports to the PSA. Nearly half of the reports come from trade unions or the safety delegate service, and 80% of the reports are linked to offshore activities. The largest number of reports

are within the organisational and psycho-social working environment (60%), followed by reports concerning technical safety (21%).

In the period 2015-2017, there appears to have been a trend towards more reports concerning a mismatch between tasks and resources, poor or deficient employee participation, pressure on working time arrangements, a deficient reporting culture and issues within training and competence. One common feature is that the majority of whistleblowing reports related to restructuring and streamlining processes. We take all whistleblowing reports seriously, and follow up with an audit if circumstances so dictate. We also conduct audits of the employer's duty to facilitate the right to notify concerns. In 2017, we improved our internal routines and training related to the handling of whistleblowing reports. We also arranged a seminar on whistleblowing in collaboration with the Norwegian Labour Inspection Authority, with a focus on raising awareness of the whistleblower role in the industry.

#### Risk of hydrocarbon leaks and well control incidents, including well plugging

Hydrocarbon leaks together with well control incidents and well plugging are key contributors to major accident risk in the Norwegian petroleum activities.

#### Hydrocarbon (HC) leaks:

In the "Hydrocarbon leak project", established in 2013 as a measure for reducing HC leaks, a best practice document, fact sheet and manuals were prepared. In 2017, the industry established a new project: "Revitalisation: Reduction of HC leaks on the Norwegian Continental Shelf". The project is led by the Norwegian Oil and Gas Association in collaboration with the industry, the trade unions and the PSA. The project's ambition is to help reduce the number of HC leaks with major accident potential. In 2017, we also performed audits based on this theme.

In addition to measures to prevent HC leaks, a lot of resources are being devoted to preventing leaks turning into large fires or explosions. Effective barrier functions are required, to detect

leaks, prevent ignition or explosion and limit the consequences if a fire or explosion does occur. A special emphasis is placed on controlling potential ignition sources. In 2017, 9 hydrocarbon leaks exceeding 0.1 kg/s were recorded on the NCS.

Over recent years, there have been a number of incidents where, for example, vibration in production plant has resulted in HC leaks. We will be following up this issue going forward in 2018.

The work has yielded **results** in the form of:

- Increased focus on reducing HC leaks.
- Increased knowledge of factors that may cause HC leaks.
- The companies are working more systematically to reduce HC leaks.

#### Well control and well integrity

Loss of well control represents a major accident risk during any drilling and well activity. A reduction in well incidents and increased focus on well integrity are important for reducing major accident risk on the NCS.

In 2010, the Norwegian Oil and Gas Association's Drilling Managers Forum (DMF) took the initiative to establish a working group with representatives of the drilling contractors through the Norwegian Shipowners' Association with the aim of contributing to a reduction in the number of well control incidents on the NCS. The PSA participates in the monthly meetings at which the companies share relevant information concerning well control incidents.

Through our audits in 2017, we saw a fall in the number of well control incidents. In general, the number of well control incidents per drilled well has been higher for exploration drilling than for production drilling, but the last two years stood out with zero incidents within exploration drilling. Following the Macondo accident in 2010, a Joint Industry Project (JIP) was initiated to monitor Blow Out Preventers (BOP) as barriers.



The aim of the project was to improve knowledge and identify requirements defined for BOPs in national and international standards, and how these requirements are met by operators, contractors and suppliers. In 2017, we followed up the project through meetings and participation in the International Association of Drilling Contractors (IADC) conference on well control.

In our work on well control, we have updated and extended our technical understanding of problems relating to well control, and detected direct and underlying causes of different well control incidents. Technical dialogue has also been established with the authorities of other countries concerning the challenges relating to well control and well integrity.

The work has yielded **results** in the form of:

- Increased focus on well control expertise, especially for personnel in supplier companies with a role in a well control situation.
- Knowledge development and experience transfer following well control incidents.
- Updated knowledge of technology of crucial importance for detecting imbalances in the well (well control situation).
- Updated knowledge on the development of best-practice standards/guidelines, notably in different managed pressure drilling (MPD) systems.
- The industry has acquired greater awareness of the reliability of BOP systems and is motivated to work further on this issue.

#### Plugging and abandonment (P&A)

Wells that are not properly plugged may present a risk for personnel, facilities and the environment. Leaks from such wells can cause blowouts, explosions, fire and pollution. It is therefore important for wells to be plugged so that leaks do not occur in the future. In order to reduce risk and avoid a plethora of old wells that will never be reused, the authorities have been concerned to make the number of temporarily abandoned wells as low as possible. On this basis, regulatory requirements have been introduced such that wells that are not in use must be permanently

plugged within a given timeframe.

In 2017, we conducted audits aimed at examining how the industry plans, executes and documents the plugging of wells on the NCS. The background to this activity was the extensive efforts undertaken by the industry to reduce costs and time when plugging. It is important for the PSA to reassure itself that new methods and equipment yield sufficiently robust solutions that meet the regulatory requirements. We have had meetings with companies which are developing new equipment and plugging methods, and meetings with operators which have completed major projects on other nations' shelves, and with the authorities in other countries. In addition, presentations have been made at seminars and conferences on the permanent plugging of wells. We have also participated as an observer in established plugging forums.

In 2017, we participated in a collaboration project with the Norwegian Environment Agency on the handling of drilling fluids and potential exposure to H<sub>2</sub>S and CO of personnel in connection with permanent plugging and abandonment (PP&A) of wells. Through the project, the two authorities gained knowledge of current practice and the challenges that well plugging presents in respect of the working environment, safety and the external environment. A report containing conclusions and further recommendations is in preparation for completion in 2018.

A lot of information has been acquired about work in progress among operators, contractors and suppliers to reduce the time and costs involved in well plugging. New solutions with fewer and new types of barriers are in development. For some of the new solutions, it is difficult to document the soundness of the barriers using traditional methods. Interaction with the authorities of other countries has given us a better picture of the common challenges. The industry has also had greater focus on regulatory compliance, and especially requirements for verification and documentation. In addition, work is under way to update NORSOK's standards in this area.

The work has yielded **results** in the form of:

- A good overview of what is in progress in the industry to reduce the costs of plugging.
- The industry has had greater focus on regulatory compliance, and especially requirements for verification and documentation.
- Preparation of relevant standards.

#### Robustness in planning and execution of drilling and well projects

The activity was based on the experiences of audits, investigations of well control incidents, whistleblowing reports and applications for consent of poor quality and robustness in the well design.

In 2017, we performed audits to discover whether the trend in the Norwegian petroleum activities was moving towards less robust well design in order to streamline well construction and reduce costs. We investigated whether risk in drilling and well activities is adequately identified and handled as part of the planning and execution phases.

The audit results show that the contractors are included in the planning and execution of drilling and well operations on the NCS. Practice varies between the operators on the extent to which they involve the subcontractors and listen to their inputs. Accordingly, weaknesses and risks were identified and handled to differing degrees in the planning processes. In 2017, we also received applications for consent that described well designs of insufficient robustness.

The work has yielded **results** in the form of:

- Increased knowledge in both the industry and the PSA of specific challenges involved in the planning and execution of drilling/well operations.
- Increased attention on key work processes and factors that we know are significant for safe operations and for avoiding well control incidents.

#### Risk awareness and prevention of deliberate attacks, including emergency preparedness

In our risk assessment for 2017, prevention of deliberate attacks, including security and emergency preparedness, were important areas to follow up.

We have performed a number of audits of the participants' compliance with security requirements. The audits covered physical security and ICT security along the entire logistics chain, where the PSA has carried out audits of supply bases, helicopter transport and offshore facilities.

We have also carried out competence-boosting initiatives internally and in partnership with the industry, including arranging a professional security seminar. We participate in standardisation projects in Standards Norway and the ISO covering security and civil protection. We also take part in a number of national and international forums around this topic. In audits of robust emergency preparedness, we have made clear what is expected of the companies in respect of proper training and instruction of the emergency preparedness personnel.

The result of this work is improved knowledge of the companies' compliance with emergency preparedness measures in respect of deliberate attacks, physical security, ICT security and cyber risk. However, we observe that the industry needs to work on achieving holistic systematic barrier management, and information about security risks must be improved. Sound security plans to counter deliberate attacks also need to be prepared.

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#### The ICT systems' robustness against operational errors and deliberate attacks

In the Traavik Committee (NOU 2016: 19: Collaboration for security) and the Lysne Committee (NOU 2015: 13: Digital vulnerabilities – Safe society), the need was emphasised to strengthen the follow-up of and efforts towards ICT security in relation to management and control systems in the oil and gas sector. Against this background, in 2017 we proposed a plan of action to strengthen our supervision in ICT security in the petroleum sector for the period 2018-2021.

The increasing use of digital technology makes the petroleum industry more vulnerable due to weaknesses in ICT systems and advanced digital threats. Both human error and equipment failures can cause disturbances to operational regularity and financial losses. Data hacking is increasing in scope, becoming more sophisticated and harder to protect against. In 2017, we conducted audits of all operators and rig owners concerning human, technological and operational factors in ICT security. The object was to verify that, in a period focused on streamlining processes, the participants are managing to maintain

robustness in their ICT systems.

The result of the ICT security audits of operators and rig owners has helped raise awareness of ICT challenges. We organised a seminar for the industry in which we discuss findings from the audits and shared experiences. The results from this series of audits are presented in external professional forums and to the relevant authorities.

Audits of robust emergency preparedness are revealing that data from control systems and industrial technology is becoming more accessible. In the main, the participants have relevant basic security in industrial process and security systems, and their managements are fully apprised of the work. We observe varying quality when it comes to training and exercises, suitability, redundancy, and analyses and plans.

The work has yielded **results** in the form of:

- Improved knowledge and established networks among owners/operators within ICT security activities.
- Experience exchange concerning ICT challenges in a seminar.

#### Facilities and installations in late life

Towards the end of their lives, when fields and facilities are approaching shutdown, it may be challenging to maintain safe operations. For a number of years, we have paid particular attention to the industry's work on ageing and operating life extension. The goal is to help to ensure that fields, facilities and installations in late life are operated prudently and in accordance with the regulations.

In 2017, we placed a particular focus on topics such as: planning and management of fields, the companies' maintenance management, drilling and well activities, planning, prioritisation and implementation of modifications.

We also participated as an observer in the Norwegian Oil and Gas Association's work on new guidelines for operating life extension. On this basis, we performed a series of audits of fields in late life in collaboration with other

member countries of the NSOAF (North Sea Offshore Authority Forum). We led the task of raising common issues based on the industry's challenges in relation to late life.

We also looked at the companies' systems for evaluating and monitoring technical condition, where the aim was to reach a common understanding of the challenges in maintenance management across the industry, based on knowledge from audits, RNNP data and other relevant sources. In 2017, we also received three applications for operating life extension for the Sigyn, Åsgard A and Oseberg øst facilities, which led to an increased focus on operational life and late life.

Through our activities in 2017 on facilities and installations in late life, we observe that the companies seek to operate facilities and fields as long as they are profitable. We often detect deficient planning for late life, for example in respect of competence and capacity. We note that proposals for technical improvements in the working environment area find it difficult to gain acceptance in late life if they do not also yield efficiency benefits. Some incidents in recent years can be attributed to late life, for example in the shape of inadequate maintenance and a lack of understanding of the interaction between old and new systems and equipment. The companies are aware that facility-specific competence and a robust organisation are key to safe late-life operations but they are not always conscious of the fact that this requires long-term planning to achieve.

The work has yielded **results** in the form of:

- Acquisition of new knowledge and further development of our understanding of how companies plan and manage in order to meet the challenges that arise during late life.
- Competence development internally in the PSA and externally in the industry regarding late life challenges.
- The companies have made improvements to systems and facilities in late life as a result of our audits.

### Barrier management

Barrier management involves systematically and continuously ensuring that the necessary barriers are in place to offer protection in failure, hazard and accident situations. This applies to technical, operational and organisational barriers. Effective barriers are important for reducing the likelihood of incidents and limiting their consequences. Monitoring of the companies' barrier management is a key RNNP indicator and is followed up in audits. Incident investigations show that failures and weaknesses in barriers are a pervasive causal factor.

In 2017, we conducted a number of audits covering the companies' barrier management involving different barrier elements. In recent years, barriers linked to well integrity, well control, hydrocarbon leaks, structures and marine system integrity have been particularly emphasised.

The barrier memorandum was updated in 2017, clarifying the interrelationship between technical, operational and organisational barrier elements, and presenting concrete examples of the operationalisation of different accident scenarios within various domains. A seminar was also held in 2017 at which the participants presented their views on barrier management.

Experiences from audits show that there has been a positive trend in establishing systems and methodologies for barrier management, especially as concerns the technical barriers. We note however that there are relatively large differences between the participants in terms of understanding and compliance with the regulatory requirements for barrier management. We also find that the companies lack understanding of the relationship between risk management and barrier management.

The industry has taken the initiative to improve their internal documentation in accordance with the requirements in the regulations and clarifications in the barrier memorandum.

During 2017, in audits of the follow-up of operational and organisational barrier elements, we described findings to a greater extent as regulatory non-conformities rather than as simply improvement points. This is an important signal to the industry on the significance of regulatory requirements. The feedback from the industry about the re-issuing of the barrier memorandum was positive.

The work has yielded **results** in the form of:

- Greater attention and improved knowledge about the barriers and barrier management internally and within the industry.
- As a follow-up to the barrier memorandum, the industry has been motivated to improve internal corporate documentation in compliance with the regulatory requirements and clarifications in the barrier memorandum.
- Enhancement of the regulations based on experiences from barrier audits.

### Corrosion under insulation – CUI

In 2017, corrosion under insulation (CUI) was high on our agenda. CUI has proved to be the cause of several incidents with major accident potential in recent years. CUI can occur on both black and stainless steel, and happens rapidly as a result of moisture, high temperatures on the process equipment and pipe systems, and in sea air. In most instances, CUI is a hidden problem since the actual corrosion is covered by the insulation. Accordingly, it is typically not discovered through general visual inspections, but requires either insulation removal or special inspection methods.

In 2017, we gave a number of talks about CUI at various seminars. CUI was also discussed as a separate topic at the Safety Forum, where the PSA was tasked with organising a seminar on this topic. A report has also been prepared

on: "Insulation solutions and safety challenges from a historical perspective" which focuses on the most commonly used insulation solutions through the years and on safety challenges linked to CUI. The result of this work is increased knowledge and a focus on CUI as a pivotal factor in incidents with major accident potential.

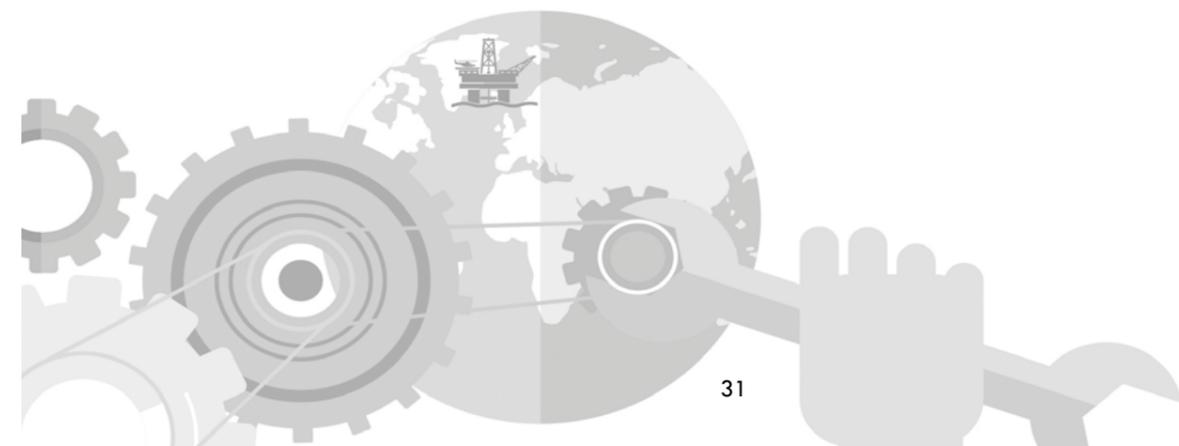
The work has yielded **results** in the form of:

- Improved awareness and knowledge of CUI problems in the industry.
- Better and more systematic prevention of CUI and prioritisation of preventive maintenance.

### Leaks from subsea facilities

A number of fields on the NCS are well past their original design life, and some of these fields have been developed using seabed solutions. Ageing facilities can have an increased likelihood of unintended acute spills. Over a number of years, technology has been developed for rapid detection of leaks from the seabed. The companies are responsible for continuously evaluating whether they have a system capable of detecting leaks from subsea facilities before these escalate into potential major accidents. In 2017, there were a number of acute spills from subsea facilities. We have performed both audits and investigations of this type of incident.

The result of these activities shows the importance of having control of the valve position on subsea facilities. There is a particular need to prioritise improvement of technology for detecting incidents in preference to visual detection of consequences. It is also important to establish barriers that can prevent smaller acute spills proceeding undetected and producing considerable amounts of pollution over time.



The work has yielded **results** in the form of:

- Closer collaboration with the Norwegian Environment Agency on leak detection so that the industry is faced with uniform handling of the requirements for leak detection.
- Increased knowledge and better, more systematic handling of leaks from subsea facilities.

#### Evacuation solutions

In 2005 defects were discovered in lifeboats on the NCS which necessitated enhancing knowledge of this area and improving the condition of the lifeboats. The PSA also received extra funding from the Ministry of Labour and Social Affairs in 2017 to reinforce audits in general and specifically those of evacuation solutions. It is the companies who must ensure that lifeboats on the NCS meet the regulatory requirement for safe evacuation, and our task is to supervise the companies' work.

The industry has worked actively to gain new knowledge as a basis for improving existing lifeboats and standards for constructing new freefall lifeboats. In 2017, we conducted audits of operators and shipowners in connection with evacuation to the sea from facilities equipped with lifeboats.

The result of this supervisory activity revealed that the companies have developed measures, both technical and operational, to improve and secure safe evacuation. We plan to perform follow-up audits of the companies to see if necessary measures are implemented following weaknesses or deficiencies detected in the evacuation solutions.

The work has yielded **results** in the form of:

- Improved attention on and awareness of the companies' responsibility to have safe evacuation solutions.
- Improved knowledge in the industry on the condition of the lifeboats.
- Better, more systematic prevention in the form of technical and operational measures to secure safe evacuation.

#### Events that could cause damage to the natural environment, especially in the High North

The PSA will contribute towards petroleum industry participants prioritising the prevention of incidents that are potentially harmful to the natural environment. Prevention of acute spills is followed up in audits, in the tripartite forums and in cooperation with other authorities based on results from the RNNP work and our audits. As petroleum activities continue to move northward, the companies need to develop the necessary knowledge to avoid harm to the natural environment, especially in the High North.

In 2017, through our work on RNNP-AU (acute pollution), we strengthened efforts within the prevention of well control incidents, the safety of subsea facilities and clarification of the safety implications of acute chemical spills. We also organised a seminar in which the RNNP-AU results were communicated to the industry, with a special emphasis on utilising available data and information, and following up results in audits. We also arranged for discussion and reflection around this topic internally and in various external forums, both nationally and internationally. In addition, we assessed standardisation work in cold climates and were in contact with the relevant centres of excellence within the High North.

We also worked on identifying protection methods and assessing suitable drilling facilities for use in the Barents Sea. In the work on assessing suitable drilling facilities in the High North, a report was prepared whose results and recommendations provide us with knowledge about uncertainties in drilling and especially year-round drilling in the Barents Sea.

In 2017, we acquired knowledge about drilling in karstified formations. This knowledge gives us a better foundation for following up the operators through PDOs and consent applications, and creates a common understanding of problems concerning the planning of drilling in areas of karstified rock.

The work has yielded **results** in the form of:

- Greater awareness and better use of RNNP-AU results.
- Improved collaboration between the PSA and the Norwegian Environment Agency on work in the High North.
- Knowledge development concerning the safety and working environment challenges of activities in the High North.
- Increased knowledge of the major accident risks linked to suitable drilling facilities and planning of drilling in areas of karstified rock.

#### 3.2 Working conditions in the petroleum industry shall be safe and dependable

We place great emphasis on monitoring and ensuring that both individual participants and the industry as a whole promote a dependable and safe working life. This is achieved through audits and joint competence-boosting events with the active involvement of both the parties and the industry. Collaboration and employee participation also represent key aspects of achieving the objectives defined for this work. The companies must work systematically to prevent occupational illnesses, injuries and accidents, and at the same time combat crime and unprofessionalism at work.

#### At-risk workers should have a fully safe working environment

At-risk groups were one of our main priorities from 2007 to 2014. The focus on at-risk groups contributed towards a greater understanding of how working environment risk is unevenly distributed between groups of employees in the petroleum industry, and how the relationship between working environment risk and framework conditions for contractor groups, both onshore and offshore, can impact this risk. There are differences between how at-risk employees are monitored by individual companies and in different parts of the industry.

In 2017, we monitored at-risk groups along several dimensions. We looked at the risk of musculoskeletal disorders in campaign-organised maintenance. We conducted audits of noise for

groups subject to especially high noise exposure, and we looked at exposure to working environment factors associated with the handling of drilling mud. The management of chemicals, and especially benzene, was an important theme in many of our activities in 2017. We also followed up framework conditions in contracts and their significance for major accident and working environment risk.

On commission from the PSA, in 2016 IRIS (International Research Institute of Stavanger) performed an analysis of work-related musculoskeletal disorders. The results of the analysis showed an increase in self-reporting of total work-related musculoskeletal disorders, and in particular an increase in the reporting of neck, shoulder and arm pain. The analysis also showed a higher proportion of job-related neck complaints for those who had participated in a downsizing or restructuring process. The results applied to both onshore and offshore employees.

We have monitored the industry's work on preventing noise damage. Offshore facilities are characterised by heavy machinery, primarily rotating equipment in small spaces and a high density of pipes and valves. Noise and vibration are interrelated, but in the petroleum industry noise is usually the most critical factor. Our experience shows that noise exposure is generally lower at onshore installations than on offshore facilities. New technologies and new ways of designing facilities have also helped to reduce noise on more recent facilities. As a result, our experience is that noise is a greater problem on older facilities than on newer ones. The companies' use of the NORSOK S002 industrial standard, which covers working environment design, has also proved to yield good results within the area of noise. Over time, the industry has developed tools and a protection regime against noise that includes the use of advanced hearing protection and limits on exposure time.

Our experience is that the industry has largely accepted the importance of developing and improving practice for monitoring and

managing chemical health risk within, for example, benzene. There is a large degree of professional commitment and a number of audits indicate that this work is well instilled within management.

The work has yielded **results** in the form of:

- Increased awareness of the relationship between change processes and work-related musculoskeletal disorders.
- Knowledge acquisition, experience exchange and improved, more systematic prevention of exposure to the health risk of benzene, noise, vibration and chemicals.

#### Framework conditions in contracts

The importance of changes in framework conditions for major accident and working environment risk was a key theme in 2017, since there were major changes in the contracts within sectors such as cranes and lifting personnel, scaffolding, insulating and painting (SIP) contractors, drilling contractors and catering personnel. The follow-up of framework conditions on which contracts are based is especially important during a period of cost reductions.

In 2017, we performed audits of contractors on this theme. The intention was to identify possible consequences of changes in contracts and contribute to experience exchange. In these audits, we assessed whether cost savings have unintended negative consequences. We also followed up framework conditions in audit activities focused in particular on catering.

In 2016, we conducted an audit of a catering company that addressed capacity and competence. In 2017, we followed up this team in an audit. Changes in framework conditions were also a theme in a series of meetings involving verifications focused on the planning and execution of drilling and well operations. Our experiences in monitoring framework conditions in contracts was also a topic of meetings with other agencies, respectively the Norwegian Labour Inspection Authority and the UK's Health and Safety Executive.

Our audits revealed that new contracts within sectors such as cranes and lifting personnel, scaffolding, insulating and painting (SIP) contractors, drilling contractors and catering personnel are less predictable in terms of the volume of work. There are also challenges relating to working environment risk, weakened collaboration and reduced facility-specific competence.

The supervisory work identified non-conformities concerning the decision support for determining manning levels in catering. It was also revealed that drilling contractors are experiencing changes in framework conditions in the form of an increased focus on KPIs and progress. Our experience of the theme of framework conditions in contracts yields knowledge of problems that will be important in future follow-up.

The work has yielded **results** in the form of:

- Increased awareness in the companies in respect of their roles and responsibilities as concerns HSE, and the significance for this of the framework conditions.
- Visibility of the regulatory requirements concerning decision support in the event of changes in manning levels.
- Improved experience exchange and learning.

#### Employee participation

In recent years, we have experienced increased pressure on collaboration, especially in connection with the streamlining of activities and downsizing. The companies must facilitate genuine employee participation, and ensure that statutory schemes like the working environment committees (AMU) and safety delegate service are properly used in preventive HSE work. Collaboration was also one of the areas under the main theme of "Reversing the trend".



Collaboration has been followed up through a range of activities in 2017, in audits, in status meetings with the companies' management, in the Safety Forum, in meetings with trade unions, and the forum for coordinating senior safety delegates. A separate R&D project on facilitating employee participation in the petroleum activities and at large construction sites has also been initiated. The project is funded by the Ministry of Labour and Social Affairs and is being conducted in partnership with the Norwegian Labour Inspection Authority. Whistleblowing is an integrated theme of this project, and a special seminar on whistleblowing was organised in partnership with the Norwegian Labour Inspection Authority.

We have found a lot of disparity in how participation is organised in the companies. Key findings include:

- The distance between decision-makers and those their decisions affect can be quite considerable.
- There is unclear distinction between employee representatives and the safety delegate service in respect of involvement and participation.
- There is a lack of governing documents on how participation should proceed and which tasks and responsibilities fall to the safety delegates.
- There is too little time allocated to safety delegate work.
- The involvement of the safety delegate service in issues of importance to HSE comes too late.
- There is a lack of regulatory competence and training in relevant working environment factors.

The picture is however somewhat nuanced. Audits of employee participation in change processes show that some companies manage to have good processes with broad involvement. We also find good cooperation between management, the safety delegate service and safety representatives. Sufficient time is set aside, training is prioritised and proper risk assessments and analyses are performed in these change processes.

Collaboration and employee participation were

covered in the preparatory work for the HSE White Paper, where one of the conclusions was that, in some cases, there are indications that collaboration is under greater challenge now than previously, and that collaboration and participation must be put high on the agenda. The work is followed up in the Safety Forum by representatives from the parties who gather, discuss and compare experiences of collaboration with a view to learning and improvement.

The work has yielded **results** in the form of:

- Increased awareness and knowledge, both internally and within the industry, of employee participation, working environment committees, safety representatives and their roles and responsibilities.
- Better, more systematic organisation of employee participation.
- Establishment of a working group to gather, discuss and compare experiences of collaboration.

#### The working environment in cold climates should be fully safe

As petroleum activities continue to move northward, the companies need to develop the necessary knowledge to ensure a fully safe working environment in cold climates. We have paid extra attention to the working environment in cold climates through our previous main priority of the High North, but also as a result of exploration drilling and discovery development in this area. In parallel, there has been a lot of discussion about whether the industry has adequate knowledge of the HSE challenges in the High North.

For the period 2015-2019, with extra funding from the Ministry of Labour and Social Affairs and the Ministry of Foreign Affairs, we have initiated 19 different projects to illuminate various challenges and problems linked to safety within the working environment, drilling and wells, structural safety, ice and snow conditions. We have been a driving force in getting the industry to clarify the location-specific challenges in the High North, and we have acquired

more knowledge about these challenges so that the companies can handle them properly. The outcome of these projects will help improve understanding and knowledge of potential working environment risk in cold climates. This has also helped reinforce cooperation with other agencies on the effect of working in cold climates.

We have monitored the Goliat project in all phases of activity, from before submission of the PDO up to commissioning of the facility in 2016. In 2017, we conducted an audit of Goliat within the working environment domain which detected matters that were not compliant with the regulations. The company has invested considerable work in following up the non-conformities in order to resume production. The licensee's responsibilities were also clarified through this follow-up.

We have used Johan Castberg (a facility in the Barents Sea) as a reference for early-phase follow-up. We have done this through meetings with the project owner, the Norwegian Petroleum Directorate and through audits of the

project. The PDO application for Johan Castberg was received in December 2017, and the application will be processed in 2018. The follow-up of Johan Castberg has given us an opportunity to influence the project in its early phases, before all decisions have been made. This type of early-phase follow-up will be able to ensure sound processes for reducing working environment risk and robust solutions to contribute to prudent operations. This will also be a cost-effective means of pointing out deficiencies long before the PDO is submitted to the authorities.

The work has yielded **results** in the form of:

- Improved knowledge of the authorities' requirements, the importance of employee participation and management's attention to key challenges in the activities.
- Better, more systematic protection of the working environment in cold climates.
- Improved knowledge of the project at an early phase.



### Illegal pay and working conditions for foreign employees must be combated

Social dumping has previously been a priority for the PSA. Audits of pay and working conditions at specific onshore facilities in 2015 showed disagreement between the supervisory authorities and the companies concerning the types of employees and work concerned and the interpretation of regulations and tariffication. The Tariffs Committee response to the PSA's enquiry in 2016 did not clarify the difficulties of interpretation of collective agreements in this area. Most contracted and foreign workers are within the SIP professions, and at present there is no general tariff agreement for this group at onshore facilities. The PSA therefore has no authority to monitor the pay and working conditions for these groups.

We have nonetheless conducted audits of the SIP professions without focusing on social dumping. Topics for the audits have been management of the working environment and changes in framework conditions. We did not detect any trace of social dumping through these audits.

### 3.3 There shall be high-quality knowledge about health, safety and the environment as well as security in the petroleum industry

In our supervisory capacity, our aim is to contribute towards the development of the knowledge required for policy design and management of our own areas of responsibility. We shall contribute to the quality of the knowledge about working environment conditions and major accident risk in the sector, and this will include compiling, organising and using relevant R&D results. Below is a summary of selected knowledge-acquisition projects within the working environment, working conditions and occupational health and safety undertaken in 2017.

Figures from RNNP show clear correlations between organisational changes and downsizing and a high incidence of subjectively reported musculoskeletal disorders. In 2017, work was heavily influenced by streamlining, a high rate of change, downsizing processes and new work practices, entailing a requirement to obtain more knowledge of working environment risks. The object was to promote capacity for work, good

health and wellbeing in the industry by gathering, compiling and disseminating knowledge about exposure to working environment factors that can lead to extensive negative health outcomes such as musculoskeletal disorders and minor psychological distress, especially in relation to change and restructuring.

In 2017, we carried out audits in ergonomics and the psychosocial working environment. We participated in a seminar on the theme of the management of the risk of musculoskeletal disorders. We acquired and used information from RNNP, research and audits, and our cooperation with the Norwegian Labour Inspection Authority and the National Institute of Occupational Health on knowledge acquisition within this field.

Management of the risk of musculoskeletal disorders was a core aspect of the tasks comprised by ergonomics in 2017. Following participation in the seminar on this theme, we worked to raise the quality of ergonomic risk assessments.

Audit results show that certain groups, especially within catering, well service and maintenance have undergone relatively large changes in their work duties. We detected deficient ergonomic mapping and generally weak risk assessments, lacking research-based methods and assessments of total risk of musculoskeletal disorders at group level. This offers weak decision support for choosing measures and assessing risk in, for example, manning reductions and changed work duties.

A report from IRIS on musculoskeletal disorders, including an analysis of data from the RNNP survey questionnaire, was published. We also extracted risk profiles from the RNNP data within ergonomics/musculoskeletal disorders for use in planning next year's audits. A report on mechanical exposure at work as a cause of musculoskeletal disorders has been completed and we participated in a conference with other Nordic agencies on the theme of ergonomics and musculoskeletal disorders. A separate strategy has also been prepared for how to follow-up the psychosocial working environment in the industry.



The work has yielded **results** in the form of:

- Better, more systematic management of the risk of musculoskeletal disorders through concrete plans for ergonomic mapping and risk assessment of all facilities following audits.
- Competence courses and training within ergonomic risk assessment have contributed to improved knowledge.

#### Working hours

Petroleum activities on the NCS are characterised by round-the-clock activity with intensive shift arrangements involving long work sessions and extensive use of night work combined with varying lengths of time off. Night and shift work increases the risk of sleep deprivation, circadian rhythm disorders and reduced performance that can negatively affect safety. Following the working hour changes in the Working Environment Act from 2015, we have received a number of whistleblowing reports concerning working hours and the opportunities for rest and recuperation.

In 2017, we undertook a project on working hours. The objective was to assess trends over time in respect of working hours and shift arrangements for employees onshore and offshore. The project investigated the relationship between working hours schemes, health and safety for different groups in order to identify possible targeted measures. As part of the project, we reviewed recent summaries of knowledge, publications and articles about working hours schemes.

We have strengthened our collaboration with the Norwegian Labour Inspection Authority on the common understanding and processing of working hours applications in respect of changes in the Working Environment Act. The National Institute of Occupational Health provided professional assistance in this work.

We also participated in the reference group for SINTEF's "Working hours and health" project. Over the last year, this project was followed up by the project "Human performance when working in the High North". We also cooperated with the National Institute of Occupational Health on the technical evaluation of risk/prudence connected with working hours for scaffolding workers.

In 2017, we registered a fall in the number of applications for extended use of working hours or night work. This is probably connected with the new regulatory requirements that limit night work to what is necessary for prudent operations.

The work has yielded **results** in the form of:

- Improved cooperation between the Norwegian Labour Inspection Authority and the PSA in the processing of working hours applications, with expert assistance from the National Institute of Occupational Health.
- Increased attention to possible correlations between working hours schemes, health and safety.
- A fall in the number of applications for extended use of night work.
- Improved knowledge on the relationship between night work and undesirable incidents.

#### Follow-up of the High North

Using extra funding from the Ministry of Labour and Social Affairs and the Ministry of Foreign Affairs, we initiated 19 projects notably within the working environment and organisational HSE in cold climates in order to improve knowledge development in the High North. The projects are to form a basis for the PSA's follow-up within the working environment area and shall help to acquire the state of knowledge, identify knowledge gaps and organise future research. The work includes two R&D projects in collaboration with SINTEF and the National Institute of Occupational Health on "Human performance when working in the High North" and "The working environment in cold climates".

From the "Human performance when working in the High North" project, the laboratory test results and report from the survey questionnaire are available. The main conclusion is that the greatest problems are with hands and feet. In "The working environment in cold climates" project, a questionnaire for mapping different conditions has been prepared and construction of a cold laboratory is under way. The ISO standard "Petroleum and natural gas industries - Arctic operations - Working environment" was also published in 2017.

The work has yielded **results** in the form of:

- Improved knowledge and overview of activities in the High North and problems associated with working environment challenges such as performance in cold climates.
- A better basis for follow-up activities with the industry and processing of PDOs and applications for consent.

#### Triggering of fire water in the event of gas detection

The background to this theme is experience from audits showing different practices among operators in how to comply with the regulatory requirement in Section 37 of the Facilities Regulations concerning "fixed fire-fighting systems". The requirement is that fire water is triggered automatically on confirmed gas detection if this has an explosion-pressure-reducing effect. We observe that some operators have not implemented automatic triggering without being able to adequately document that this does not have an effect.

In 2017, we initiated a project with the aim of acquiring information and knowledge to identify the actual status of the different facilities in respect of any negative consequences of the requirement in the Facilities Regulations, and what is important in order to achieve a reduction in explosion pressure. Audits on this theme were also conducted.

In the project, we prepared an overview of how the requirement has been implemented on fixed facilities on the NCS. We also increased the level of knowledge in our centre of expertise concerning the requirement and what is important in order to achieve a reduction in explosion pressure. The knowledge acquired is used as a basis for audits on this theme.

The work has yielded **results** in the form of:

- Improved attention, knowledge and understanding concerning implementation of the requirement for automatic triggering of fire water, both internally and in the industry.

#### Waves on deck

Waves on deck received substantial attention following the accident on COSLInnovator in 2015, in which one person died and four were injured. The PSA investigated the incident and identified

uncertainties during the design and approval work, as well as inadequate knowledge and methods for dimensioning for horizontal wave strikes on the decks of mobile facilities. This incident led the industry to implement knowledge and methodological improvements, and the development of design engineering standards.

In 2017, we followed up this work through audits, meetings, participation in standards work, talks to the industry and through reviewing our incident database. Our incident database showed that 29 reported incidents on 17 platforms in the period 2000-2017 related to wave strikes on deck.

The work has yielded **results** in the form of:

- Improved knowledge of major accident and personnel risks caused by waves on deck.
- Extensive upgrading of the mobile facilities to withstand hundred-year strikes.
- Continued development of improved industry standards for analyses of waves on deck.

#### Digitalisation

Progress in digitalisation is advancing rapidly and will be important in the petroleum activities going forward. Digitalisation entails more integrated operations, a greater degree of remote control, automation, robotics, artificial intelligence and access to computing power that allows the analysis of big data volumes. This trend will contribute to more efficient work processes, the replacement of manual labour, better analyses and improved decision support that may have clear benefits for HSE. Equally, the trend may present challenges, notably concerning situational awareness, data security, troubleshooting and sabotage. The industry must therefore actively monitor changes in the risk picture ensuing from digitalisation.

The industry and the PSA have worked to acquire a knowledge overview of the HSE opportunities and challenges in digitalisation and its associated initiatives. We implemented a project within digitalisation with the aim of increasing understanding of development trends, evaluating how digitalisation influences risk and what safety benefits it may yield. The work resulted in a report prepared by IRIS on commission from us.

The report is based on relevant literature and document reviews, workshops and interviews with domain experts and informants in different companies in the petroleum industry.

The digitalisation project will help create a better understanding of development trends within digitalisation and possible consequences for humans, technology and organisation. The project has also made a significant contribution to the work of developing a strategy (the digitalisation strategy) for how the PSA should address digital changes in the industry.

The work has yielded **results** in the form of:

- Improved knowledge and understanding of development trends within digitalisation and potential consequences for humans, technology and organisation.
- Preparation of a strategy for how to address digital changes and contribute to better and more systematic protection.

#### Multipurpose vessels

In recent years, as a consequence of technology and innovation developments and increasing attention on cost-efficient solutions, we have seen new facility concepts such as simpler facilities and vessels with "Walk to Work" solutions, and a shelf where the use of vessels in petroleum activities has become more widespread. Although the preponderance of petroleum activities in the years ahead are expected to take place on and from traditional facilities, we are seeing a rising trend in activities from vessels. This has led to resource-intensive discussions between the industry and the authorities concerning the development of new concepts. It has also caused some uncertainty on the premises for regulation and supervision.

In 2016, on commission from the Ministry of Labour and Social Affairs, we prepared a report on the regulation, scope and use of multipurpose vessels in the Norwegian petroleum activities. The work continued in 2017 through the establishment by the Ministry of a multipartite working group to arrive at a common understanding of the physical and legal realities of using multipurpose vessels on the NCS.

The work was followed up in a White Paper to the Norwegian Parliament on health, safety and the environment in the petroleum activities and in the multipartite working group, and it will be able to contribute up-to-date and mutually agreed knowledge concerning the basis for future audits and regulatory development.

#### Sector guidance/socio-economic impact analyses

The purpose of sector guidance for socio-economic analyses is to help secure good decision support for the authorities' decision-making. Good decision support produces better balancing between resource utilisation, health, safety and the environment. Among other things, the sector guidance clarifies how to take account of major accident risk and pollution that may have a negative effect on environmental assets that it is difficult to place a value on.

In preparing the guidance, it was important for the PSA to bring out the diversity of the HSE area and its associated uncertainties and complexity, so as not to make the guidance a limitation in terms of identifying a sound decision-making basis. This work is headed by the Ministry of Petroleum and Energy. In 2017, we participated in the work to prepare the sector guidance. We were in dialogue with different ministries and agencies concerning how socio-economic impact analyses should be understood and employed in the petroleum activities. We have also undertaken a number of competence-boosting initiatives within the PSA on this theme.

From previous work on problems relating to cost-benefit analyses of HSE measures and from the development of sector guidance, the PSA has found that there is little knowledge on this theme, either nationally or internationally. We find disparate understanding and knowledge of the use of socio-economic analyses in decisions on initiatives in a high-risk industry where major accidents are possible.

The work has yielded **results** in the form of:

- Improved knowledge and awareness of challenges in the use of socio-economic analyses.
- Internal competence development.
- Increased dialogue and collaboration with other ministries and agencies on the use and preparation of inter-disciplinary sector guidance for socioeconomic analyses.

#### Research and development (R&D)

A multidisciplinary R&D group was established internally within the PSA to assist with efforts to provide an overview of relevant activities, challenges and developments within our area of responsibility.

In 2017, we held meetings with the industry, the authorities at home and abroad and relevant R&D institutions in order to gain an overview of the development trends in the industry that will prove significant for safety and working environment risk. We also participated in the Ministry of Labour and Social Affairs' annual R&D meeting together with the National Institute of Occupational Health and the Norwegian Labour Inspection Authority, and we contributed input to the Ministry's R&D strategy. We also organised an innovation seminar in 2017 with a focus on a holistic approach to innovation in respect of safety, research and industrialisation.

In 2017, we assessed the possibility of establishing an in-house working group to investigate the extent to which HSE research produces results. This was also one of the recommendations in a report from the multipartite working group. In addition, we provided input and assistance to project assessments of the Research Council of Norway through the expert group in PETROMAKS HSE.

In 2015, we applied for funding from the Ministry of Labour and Social Affairs for a research project on the facilitation of employee participation. The project is a collaboration between the PSA, the Norwegian Labour Inspection Authority and the National Institute of Occupational Health, with a draft report being prepared by IRIS in partnership with FAFO.

The work has yielded **results** in the form of:

- Increased interdisciplinary participation on key themes relevant for research and development.
- Improved knowledge and better, more systematic assessment of whether research has yielded relevant outcomes through establishment of an in-house working group.



### 3.4 The petroleum regulations shall contribute to the achievement of HSE goals

In accordance with the Crown Prince Regent's Decree and the letter of allocation, the PSA is responsible for developing the comprehensive HSE regulations for the petroleum industry in close dialogue with the social partners and the Ministry. In this regard, the involvement of the partners through the Regulatory Forum is a fundamental prerequisite.

#### Regulatory Forum

Compliance and further development of the regulations is discussed in the Regulatory Forum in a way that provides us with important information about applicable framework conditions among the industry participants. As noted in the report of the multipartite working group on health, the working environment and safety in the petroleum activities, there is agreement and support among the parties that the regulatory regime as it currently exists is by and large sufficiently robust and withstands the vicissitudes and pressures created by downturns and upturns. Four meetings of the Regulatory Forum were held in 2017, one of them at the Norwegian Maritime Directorate with a tour on board the multipurpose vessel Normand Jarstein.

#### Follow-up of the multipartite working group report

The report from the multipartite working group refers to measures capable of strengthening the status of the regulatory regime and which it is agreed that the Regulatory Forum should follow up.

#### Night work

The regulation of night work must ensure that this work is limited to what is necessary and prudent, and proper risk assessments must be made for the planning and performance of night work. In the meeting of the Regulatory Forum in December 2017, a working group was established, consisting of representatives of the employees, the employers and the PSA, to delineate the issues and propose a methodology and mandate for future work.

#### Enhancement of training opportunities

The trend in the industry in recent years of a generational change, downsizing, new industry participants and so forth indicates a need for improved knowledge of the function-based regulations. The multipartite working group recommends that, in collaboration with the other partners, the PSA takes the initiative to assess the training opportunities established for the regulatory regime. The goal of the work will be to enhance the training opportunities and increase expertise in the regulatory regime in the industry. The work is anchored in the Regulatory Forum.

#### Handling of competence requirements

The working group also recommends that, under the auspices of the Regulatory Forum, the partners discuss and come up with a suitable way of organising and regulating competence requirements for personnel in the petroleum activities. In the meeting of the Regulatory Forum in December 2017, a need was expressed for more information about the issues involved in competence requirements and management. This will be followed up in 2018.

#### The balance between the regulations' use of functional and specification requirements

There is a variety of views among the partners in terms of the balance between the regulations' use of functional and specification requirements (clearer minimum requirements). The balance between these requirements can vary over time, and should therefore be the subject of ongoing assessments. The multipartite working group recommends that such assessments continue to be made through ongoing dialogue with the parties in the regulatory forum. In addition, work on general initiatives under the auspices of the Safety Forum is in progress in respect of whistleblowing, learning from incidents, experiences from collaboration, research/technology and the working environment.

#### Follow-up of measures identified in the report:

##### "Relocation of mobile facilities between continental shelves in the North Sea basin".

On commission from the Ministry, the PSA worked further on selected measures identified in the report: "Relocation of mobile facilities between

continental shelves in the North Sea basin", and submitted a summary report to the Ministry in October 2017. Two of the measures were implemented through changes in the regulations with effect from January 2018, and will contribute to a more equitable legal position for owners of mobile facilities and operators in respect of the operators' permanently positioned facilities.

#### Standardisation

The commitment to standardisation is about implementing new industry standards, updating existing standards and influencing the companies to use the industry standards. Through audits, talks, meetings and presentations, we have seen that the backlog in updating standards has been notably reduced, and we observe a clear increase in the use of industry standards at the expense of company-specific requirements. Our overall assessment is that the main theme for 2017, "Reversing the trend", has promoted debate and experience exchange and boosted knowledge about collaboration, the need for robust plans and the importance of using, establishing and updating industry standards.

#### EU/EEA-related activities

In 2017, we have followed up the harmonised EEA product regulations in close collaboration with other national and international authorities in Europe, both bilaterally and in network groups. We have started using guidance on market monitoring that covers products under EEA product law, and we acquired experience on using the guidance through both reactive and proactive supervision.

We also collaborated with the Norwegian Environment Agency, the Norwegian Labour Inspection Authority, the Norwegian Food Safety Authority and the Norwegian Directorate for Civil Protection on the documentation and prevention of chemical health hazards, particularly through work on implementing the EU's chemicals regulations: REACH and CLP. We were involved in a number of consultations in 2017 concerning changes to the REACH and CLP chemicals regulations, as well as the Product Regulations and the Biocides Regulations. We also participate in SKIM, the cooperative offshore chemicals forum, that consists of representatives of the companies in the indus-

try, the Norwegian Environment Agency and the PSA. In collaboration with the Norwegian Labour Inspection Authority and the National Institute of Occupational Health, we work on enhancing the EXPO exposure database that was launched by the National Institute of Occupational Health in 2017.

#### 3.5 The PSA shall create public trust and credibility

We are dependent on society, the industry and the parties having confidence in us. It is important that the participants involved have confidence that we treat information from their activities in a responsible manner, and demonstrate equal treatment and predictability in our proceedings and in performing activities within our area of professional responsibility. This means that we need to have systems that ensure consistent behaviour towards enterprises; that we uphold the requirements of impartiality and integrity; that we have the professional expertise that mirrors the industry's HSE challenges; and that we contribute information and knowledge dissemination to the industry.

Through the work of the tripartite working group, which in autumn 2017 delivered the report to the Ministry of Labour and Social Affairs on health, the working environment and safety in the petroleum activities, the PSA's trust and credibility have been discussed as part of the supervisory model and HSE regime in the petroleum activities. The main conclusions for this area are that the regime for monitoring HSE in the petroleum activities functions well by and large and should be continued. It is pointed out that the regime is conditional on the parties having mutual trust in and respect for each other's roles and responsibilities through:

- The companies' following up their responsibility for protecting and enhancing the level of safety
- The PSA being a strong and clear supervisory authority
- Bipartite and tripartite collaboration being strengthened and enhanced

Having these in place makes for sound preconditions for a systematic, risk-based supervision model with a trust-based approach. The purpose of our use of instruments, including reactive instruments, is to engage the participants' responsibilities and ensure compliance with the regulations. This means that in each case the PSA will evaluate the use of instruments and reactions in relation to the desired result and outcome. This is part of the ongoing assessment being made of the planning and execution of our remit. As a result of trends in recent years, the PSA has paid particular attention to assessing and using instruments and reactions.

#### Procedures and routines

We have established procedures, routines and governing documents in our case handling and in performing other tasks, including legal quality control and requirements for impartiality. To safeguard the trust of the general public, we ensure that internal circumstances within the organisation do not come into conflict with the PSA's social remit. Another important part of our work is to be clear and correct in our use of instruments and reactions in respect of the enterprises we supervise. Our governing document "Virkemiddelhåndboken" (The Instrument Manual) sets out the reactive instruments that we have at our disposal and how they are to be used in accordance with the requirements of the Public Administration Act.

#### Competence development

The PSA must have an overview of and knowledge about development trends in the industry and the challenges these may represent from an HSE perspective. In order to ensure the legitimacy and authority of the exercise of our supervisory role, we must have the competence and capacity to evaluate future development trends, their implications for our supervision, the use of reactive instruments and any need for regulatory development. Rapid changes and economic fluctuations present particular challenges and make it necessary to enhance competence in order to monitor a technological and complex industrial activity. For this reason, we need a broad spectrum of expertise within a variety of disciplines, and we are also dependent on employees possessing and

developing the necessary regulatory competence and understanding of roles.

We also have our own competence resource centre, which is responsible for courses and training activities. During 2017, we ran 30 courses with a range of thematic content. We also partner with the University of Stavanger (UiS) and other R&D enterprises to develop competence-oriented activities. Our employees also have the opportunity to participate in the practical master's degree in risk and safety management under the auspices of UiS.

#### Information and knowledge dissemination

Our website ptil.no is used strategically to disseminate information and knowledge to the industry at large. Its sitemap presents an overview of links to regulations, supervision, including all reports from audits and verifications, acknowledgements of compliance, consents, orders and circulars. The website also discusses key topics such as HSE governance and management, major accidents, the working environment and other relevant information about the PSA.

Our publication "Safety – Status and Signals" may be considered to be our annual summary for the industry and other stakeholders. In addition, we publish the report "Trends in risk level in the petroleum activity" (RNNP), and a supplementary magazine about safety: "Dialog". The purpose of this periodical is to promote debate surrounding a number of topical problems and challenges faced by the industry in relation to safety.

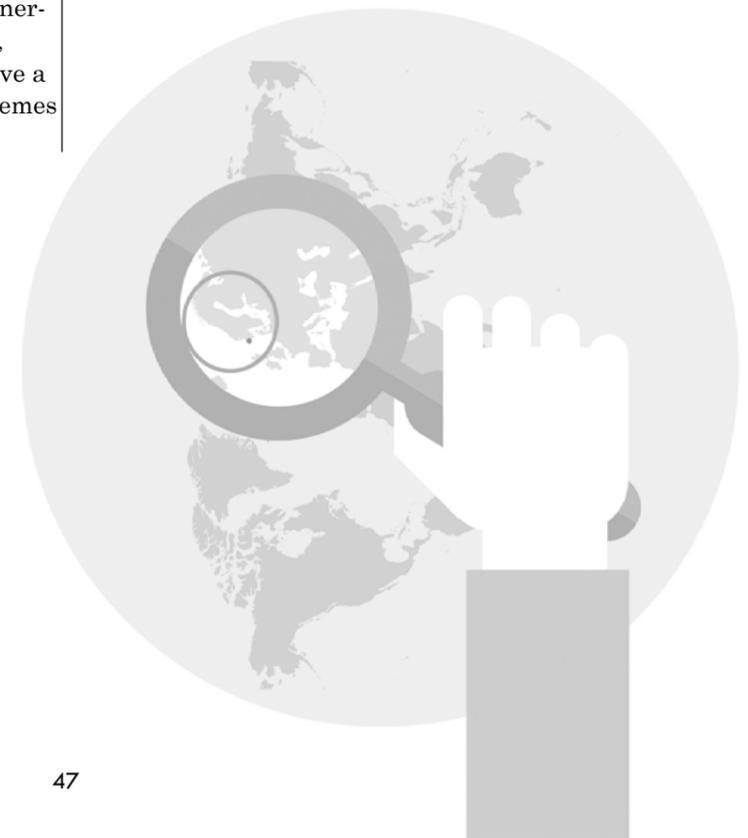
The work to develop online solutions and the publication of information are ongoing tasks which we believe to be vital in order to safeguard the need for transparency and predictability in the Authority's work. New solutions have also been adapted to meet new needs within the public sphere, e.g. through the PSA's presence on Facebook, Twitter and LinkedIn. The level of public interest in our activity is reflected through the number of requests for access to documents. In 2017, we received 1,083 access requests in 7,217 journal records. This is 1,784 more than in 2016.

To promote the exchange of knowledge in the HSE area and to disseminate information about our role as an authority and our activities and priorities, it is important for us to give talks and presentations in key strategic arenas. Many of our managers, specialists and other key individuals are in demand as speakers and instructors at conferences and courses in Norway and abroad.

In 2017, we organised a number of specialist seminars, some of them in collaboration with the Norwegian Labour Inspection Authority, the Norwegian Environment Agency, the Federation of Norwegian Industries, UiS and other key industry participants. Key themes of these seminars were:

- The working environment at a time of restructuring in the petroleum industry and shipbuilding
- Security for the petroleum industry
- Leak detection
- Corrosion under insulation (CUI)
- Barriers
- Risk awareness
- Notification of censurable conditions and the role of the authorities
- The Safety Forum's annual conference.
- Construction day
- RNNP-AU (acute pollution)
- Innovation seminar
- Follow-up of ICT audits
- Subcontractor day
- Senior executive conference

Technical seminars of this type create great synergies and contribute to professional networking, collaboration and experience exchange, and have a large impact on competence building on key themes within HSE and security.



### 3.6 Development of management parameters

The work on management parameters and assessment of their effects is an important aspect of learning and enhancing supervision. In addition, both the PSA and the Ministry need information about whether we are achieving our goals in an efficient manner as a basis for management and follow-up.

It is important that management parameters and methods are chosen to provide the most comprehensive picture possible of our goal achievement. In 2016/17, we worked in a targeted fashion on developing the tools we have in order to better evaluate the outcome of our activities.

Our assessment is that the management parameters proposed for the PSA should primarily be qualitative evaluations of individual activities and the entire portfolio of tasks associated with one goal, especially in terms of how these deliver the outcomes of:

- Increased knowledge/awareness
- Increased motivation
- Better, more systematic prevention

On the basis of our role, we establish targets for the annual focused activities based on the image we have of the risks in the petroleum activities. Our activities will, in most cases, have an effect on the companies we supervise and an indirect effect on the level of risk. It is primarily the companies' own activities that are able to affect the risk directly.

This accords with the core guidelines set out for the Authority's follow-up of activities. Among the fundamental principles are a function-based regulatory framework that holds the participants accountable, riskbased supervision that supplements the participants' own follow-up and an effective bipartite and tripartite collaboration. Below is a simplified results chain that comprises our activities directed at the petroleum industry.

We worked on developing the tools we have for assessing the outcome of our activities. We have a database for planning and follow-up of tasks, referred to as the planning tool. All tasks (both refundable and non-refundable) are entered into this system. Reporting in the planning tool is intended to reflect general progress, time spent and use of funds in relation to plans and budgets for the individual tasks. The planning tool is also used for non-conformity handling and for evaluating the status of tasks as they progress. Each individual task is also assessed in relation to: objective, desired outcome, result, outcome achieved and learning. Information from the planning tool is used for reporting results at different levels of the organisation and is aggregated for use in the PSA's annual report.

In 2017, we established a project named "The effect of supervisory activity" with the object of acquiring information from other agencies, the companies we supervise, and internally within the PSA on the work on effects and the assessment thereof. Within this project, we conducted an in-house workshop with audit leaders and specialists on our work on effects. This work resulted in good examples of audits that have been effective.

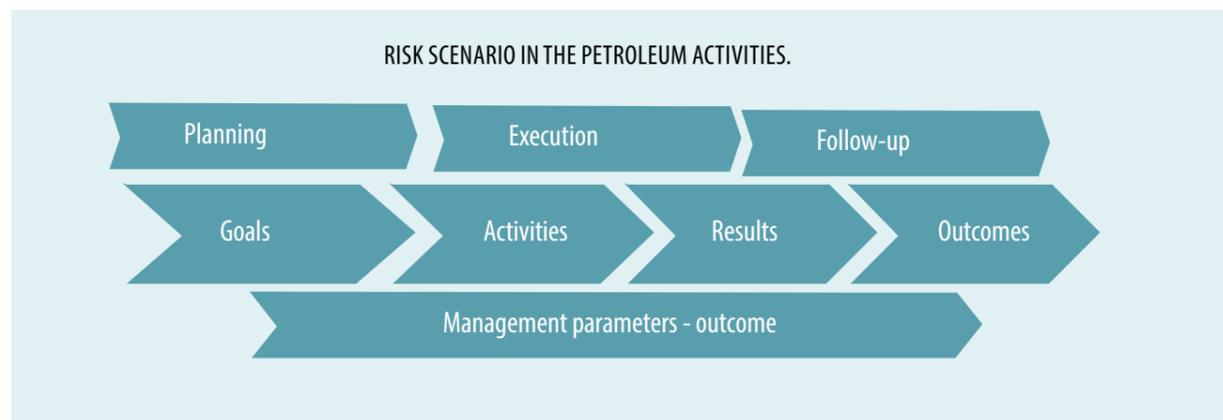
We also held a seminar in collaboration with other supervisory authorities (TSG)<sup>2</sup> concerning work on effects, at which the Norwegian Health Inspection Authority presented its four-year research project on supervisory activities and their potential effects. The Norwegian Health Inspection Authority's research project was also presented within the PSA internally in order to improve our knowledge and awareness on the work on effects.

This type of learning is an important precondition for improving and enhancing supervision.

In order to conclude that a measure has had an effect, we must be able to register a change in status in the company or in society more generally. Our experience is that systematic efforts over several years by the authorities and the participants themselves yield the best effect.

At the annual status meetings, the companies provide feedback that our audits have contributed in the form of knowledge development and increased awareness of key themes such as barrier management and at-risk groups. They also point out that information on our website, especially audit and investigation reports, are actively used for learning in the companies. It is always an effect of an audit that both the PSA and the company gain knowledge of non-conformities and improvement points relating to the theme of the audit. This is an aspect of our primary function as a supervisory body.

Our work is also intended to make a positive contribution to the HSE level. We aim to make a difference and to promote improvement. Having a positive effect can be achieved in many ways, but it must always be within the framework of the regulations and the Public Administration Act.



Model: Results chain

OUR ROLE

<sup>2</sup>TSG is a collaboration of supervisory agencies with representation from the Norwegian Food Safety Authority, the Norwegian Health Inspection Authority, the Norwegian Radiation Protection, the Norwegian Environment Agency, the Directorate for Civil Protection, the Norwegian Industrial Safety, the Norwegian Labour Inspection Authority and the PSA.

PART

IV

## PART IV. GOVERNANCE AND CONTROL WITHIN THE ORGANISATION 2017

Target and result management is the overriding management principle in the State. This section gives an account of how the PSA follows up this principle in its activities.

As part of the Government's ambition to have clear objectives and priorities, the Ministry, in collaboration with the PSA, has launched an initiative to reduce the number of performance targets and clarify them. In 2017, we continued work on specifying management parameters and reporting requirements that form the basis of both the letter of allocation and the annual report. Work on management parameters and evaluation of effects are important components of learning and improving supervision. In addition, both the PSA and the Ministry need information about whether we are achieving our goals in an effective manner. See part III: The year's activities and results for 2017, section 3.6 for more information.

### Risk management within the authority

Each year, we prepare a risk scenario which is submitted to the Ministry as a basis for the letter of allocation. The objective of this annual risk scenario is to give an account of the key risk factors for failing to achieve our performance targets, with associated measures. The risk scenario constitutes an important part of decision support for planning, prioritising and assessing what activities we conduct to facilitate the achievement of these goals. We identify risks that may prevent fulfilment of our goals and requirements which, in turn, create a basis for defining priorities and improvement measures. Some of the overarching risks will not be directly linked to a single performance target but will apply to several performance targets.

### Resource and task management

Performance targets and requirements concerning the achievement of results are set out in the annual letter of allocation. Based on these, and our knowledge of important developments in the industry, we define long-term strategies. Strategy work is adjusted in relation to guidelines provided in Government White Papers, and by the Ministry and provide a foundation for the activities to be planned and executed. These activities are given further definition through the annual planning process. The internal planning process results in the combined

activity plan. We have established a separate planning database that provides an overview of all planned activities in the coming year including staffing and budgets. Each individual activity is linked to at least one performance target. The activities and results are followed up by management on a quarterly basis and evaluated internally and through the governance dialogue. The PSA also has established systems for internal monitoring of resource use. All employees record their resource use for fixed categories of tasks on an hourly basis. Please refer to part II of the annual report for further details and a summary of resource use.

### Internal control

In accordance with the Regulations relating to systematic health, environmental and safety activities in enterprises (the Internal Control Regulations), enterprises are required to provide for systematic follow-up of the HSE regulatory requirements.

The PSA has established a system for systematic follow-up and enhancement of HSE in the Authority. The aim is to facilitate systematic follow-up and development of employees, managers and teams in accordance with the Authority's expressed ambitions for personal and organisational development. The PSA is a member of the Inclusive Working Life scheme and also has a number of health and well-being schemes in place, such as a keep-fit-at-work scheme, a mentoring scheme for new employees, and life-phase measures to ensure a high level of HSE in the organisation. We have a working environment committee (AMU) and a well-functioning safety delegate service. We will maintain a high focus on internal efficiency, skills development and quality, and we will also work to sustain the good working environment that already exists within the Authority.

In 2017, we worked on quality as a separate project in the PSA, focusing on roles, responsibility and compliance. In other respects, quality is integral to all our processes as part of a continuous improvement system. On this basis, we have established governing documents to provide guidance on work processes, planning, prioritisation and performance of activities.

The governance dialogue and the letter of allocation provide us with the guidelines that the PSA needs to fulfil its remit of setting the agenda and ensuring that participants in the petroleum activities maintain a high level of health, safety and environmental protection and emergency preparedness.

#### ADMINISTRATIVE GUIDELINES

##### Common guidelines

In 2017, the PSA implemented a number of measures for working systematically to utilise shared resources and increase productivity. Digitalisation of work processes and services (digital first choice) is a core instrument in this activity, along with reorganisation, process improvement and other use of technology. An annual resource allocation process in the PSA where resources are reallocated in accordance with task priorities. In 2017, the PSA also mapped administrative tasks and resources using an action list of improvement measures. The work resulted in reprioritisation of administrative resources to other more prioritised tasks.

Digitalisation of work processes and services (digital first choice) can help simplify our interface with the industry and the general public while providing benefits in internal case processing. The following projects were initiated in 2017:

##### Streamlining of electronic reporting solution from the petroleum industry to the PSA:

Solutions for the industry's reporting to the PSA, based on standard software shall be established. The technical solution and necessary software are in place. Work on reporting options is in progress. These are scheduled to be put into production in 2018.

##### Enhancement of the PSA's website (ptil.no)

Through its web presence, the PSA shall provide accurate and up-to-date information about which statutory requirements apply to HSE in the petroleum activities. The website shall be a trustworthy source of information on safety issues. In 2017, the PSA worked on developing a new solution to provide more accessible information and better search options for users, as well as simplified and better options for the PSA to publish information.

##### E-Access

During 2017, the PSA worked to implement new software for public records access, which will be available during 2018.

##### Digital mail for enterprises – DPV

The PSA is also working to introduce DPV (digital mail for enterprises), whereby digital mail can be sent and received to and from our case archive system via the Altinn system. The solution is scheduled to go live in 2018.

##### User surveys and user dialogue

As part of its efforts to simplify people's lives, the Government wants to strengthen contact between users and public administration. User surveys completed in 2017:

- Multipartite working group to examine HSE in the petroleum activities. The PSA participated in the group and the secretariat. A report from the multipartite group addressed the PSA's role as a competent authority and the regulatory regime. This work provided us as a supervisory agency with important feedback on our work.

- Annual status meetings with industry participants, which include feedback from the companies on the PSA's work. The PSA also held separate meetings with trade unions and with the forum for coordinating senior safety delegates in which feedback on our activities was a topic. In 2017, representatives from the different companies gave feedback on the PSA's supervision at a management workshop and an annual course on audit methodologies.

- The PSA receives regular updates on the use of our website and social media. The number of website visits is around 35-40,000 a month, and around 8,000 users subscribe to our newsletter. We have increased our targeting of social media, especially Facebook, and have in excess of 10,000 followers. We are presently working to develop a new website, based in part on feedback from key user groups.

We have regular contact with all participants in the petroleum industry, who provide us with important information. In 2017, we held meetings with other supervisory authorities to obtain information about their use of user surveys. Against this background, we are going to implement a project to test user surveys following auditing activities in the petroleum industry-

Annual evaluations of our investigations and collected supervisory activities are made during "Granskingsdagen" (Investigation Day) and "Revisjonsdagen" (Audit Day). The purpose of these evaluations is to highlight learning points and exchange experience in order to optimise follow-up and audit activities.

##### Civil protection and emergency preparedness

In 2017, the PSA participated in meetings with the NSM (the forum for physical security), PST (Contact Group for Terror Prevention) and the Norwegian armed forces/Directorate for Civil Protection (central overall defence forum) to receive an update of the strategic threat scenario, as well as access to classified information. We also participated as a player squad and liaison during the planning and execution of the Gemini 2017 exercise. Please also see performance target 3.1 for more information about safety and emergency preparedness linked to deliberate attacks and terrorism.

The PSA was also an observer to a number of emergency preparedness exercises on the theme of security incidents and criminal acts. The PSA participated in the Myndex exercise, together with the Norwegian Coastal Administration, the Ministry of Transport, the Ministry of Labour of Social Affairs and the Norwegian Environment Agency. The purpose of the exercise was to adjust the agencies' emergency preparedness organisation and demonstrate the cooperation between the agencies in hazard and accident situations.

The PSA is a member of two national standardisation committees and an international expert group in the ISO focused on security and civil protection. In addition to its own participation in expert groups, we support Standards Norway with funding for standardisation work within security and civil protection.

We have participated in a project on the use of cyber weapons in international policy and sabotage attacks on the Norwegian petroleum sector. The project is headed by the Norwegian Institute of International Affairs (NUPI) and has the objective of putting issues relating to cyber attacks on the Norwegian petroleum sector on the agenda. NUPI has shed light on how this threat relates to the international security policy picture and, in 2017, organised a seminar to discuss the use of cyber weapons in potential terrorist attacks on the Norwegian petroleum activities.

##### The requirement for apprentices in public sector enterprises

The Government has set a goal that public sector enterprises shall have at least one apprentice. In the period 2016-2018, the PSA had an apprentice in the office and administration section.

##### Follow-up by the Auditor General

The Regulations for financial management in the State with their associated Provisions relating to financial management in the State, together with applicable Finance instructions for the Petroleum Safety Authority Norway and Internal financial instructions provide general guidelines for the financial management and governance of the PSA. Based on these guidelines and the State accounting standards (the SRS), we have prepared detailed process and routine descriptions that form the basis of our financial management and internal control. Our budget allocations and financial statements, including cash accounts and business accounts that are based on the SRS, are audited annually by the Auditor General.





PART

V.



## PART V. OUTLOOK

Recent years have been challenging, and the industry has undertaken substantial restructuring and improvements. Through 2017, much changed. The decline in the level of activity flattened out, and there are signs of an upturn, despite disparities within the sector. Considerable cost and efficiency gains have been achieved, and the oil price has experienced a sustained rise. There is more optimism in the industry now than a year ago.

The future of oil and gas will revolve around renewal, simplification and improvement through such things as automation, remote control, digitalisation, standardisation of equipment and robotics. A focus on simpler operating solutions, more cost-efficient operations and new technologies may present challenges for regulations and their scope. We will work to develop the regulations in line with the policies defined for this activity while ensuring that the regulations do not prevent technological advances within a prudent framework.

### Reversing the trend

In 2017 we launched our main theme of *Reversing the trend* covering these areas: collaboration, robustness and standardisation. The main theme of 2017 received a lot of attention and provoked a wide-ranging debate in both the industry and society in general. This focus has undoubtedly led to increased awareness of the challenges in safety in the Norwegian petroleum activities. One year is a short period for synthesising such a large quantity of work. Nevertheless we think it is possible to approach a conclusion once we look at it from a distance. We will then be better able to assess the long-term effects of this activity. Meanwhile, we see a need to continue the work on improvement, both in general terms and within the three areas that we prioritised in *Reversing the trend*.

Digitalisation and ICT security as a major focus In 2017, we initiated a project in the PSA to develop requisite knowledge of digital technology. Among other things, the project assesses how digitalisation affects risk and what safety benefits the development promises. Digitalisation offers new opportunities and can solve many challenges, but it is also important to be aware that the introduction of new technologies, new processes and new ways of working presents new difficulties and new types of risk. The industry must therefore take care to look at digitalisation from an all-round perspective. They must have a good

overview of the consequences that the measures and changes they implement will have for HSE. New technologies and more integrated systems lead to greater complexity and increased vulnerability. Substantial efforts have been made by the industry to avoid ICT incidents. The threat scenario is in constant flux, and measures and barriers must reflect this. In 2018, we will therefore undertake a number of large projects within ICT security. This initiative will extend over several years in order to acquire as much knowledge as possible about these technological developments, and examine how they affect the risk scenario. This work will be performed by means of audits, collaboration with stakeholders in the activities and national entities within the ICT security domain.

### New energy forms

Climate change has become a key premise in oil policy and an important driver for a change of focus from petroleum to petroleum and renewable energy combined. Increased knowledge of climate change is leading to changes in requirements and framework conditions for the petroleum activities. A number of measures are relevant in order for the industry to adapt to these changes. Electrification using power from onshore, electrification from offshore wind, and carbon capture and storage are examples of such measures.

There is a large offshore renewable energy potential on the NCS. However, Norway is only at the start phase of potential developments in this area with, for example, Statoil's "Hywind" pilot project off Karmøy. Knowledge and experience accumulated over many years from oil and gas activities can be actively used in the development of new renewable energy sources. This development represents an important change of context for the PSA's follow-up of HSE, whereby the PSA is enhancing and strengthening its audit capacity and efforts in order to fulfil its role as a strong, focused supervisory agency.

### Multipurpose vessels

In recent years, as a consequence of technological advances and innovation and an increasing awareness of cost-efficient solutions, new facility concepts have appeared. One example is simpler facilities and vessels with "Walk to Work" (W2W) solutions. We are observing that future trends point to extended use of vessels in the petroleum activities. This has led to resource-intensive discussions between the industry and the authorities concerning the development of new concepts.

It has also caused some uncertainty around the premises for regulation and supervision.

In 2017, the Ministry of Labour of Social Affairs established a multipartite working group to arrive at a common understanding of the physical and legal realities of using multipurpose vessels on the NCS. The PSA will be following up this issue going forward in 2018.

### Timely risk scenario

An overarching conclusion in the report from the multipartite working group is that RNNP constitutes the most important foundation for a common understanding of and communication about the risk level in the petroleum industry. For more than 15 years, the PSA in conjunction with the industry, has developed RNNP as an annual risk scenario to describe trends in various factors within major accident risk and working environment risk. The work in the multipartite working group, media mentions, whistleblowing reports and discussions in the Norwegian Parliament show that there is a need for explanatory information about risk in order to arrive at a better mutual understanding of trends and challenges. The development and updating of a more timely risk scenario will be done in cooperation with stakeholders in the industry, the Safety Forum and academia.

### The Auditor General

In autumn 2017, the Auditor General began an audit of the PSA to assess whether our supervisory practice complied with Parliament's decisions and intentions. The general purpose of the Auditor General's work is to provide Parliament with relevant information about the implementation and outcomes of public initiatives. We take a positive view of the Auditor General's auditing and reviewing of our activities. As an auditing agency, we know that audits contribute to learning and offer opportunities for improvement. The audit is scheduled to be completed in autumn 2018.

### White Paper

In 2018, under the leadership of the Ministry of Labour and Social Affairs, we will contribute actively to the preparation of a new White Paper on HSE in the petroleum activities. The White Paper is based in part on the report from the multipartite working group.

The PSA expects that follow-up measures will be identified in the Paper as a result of Parliament's discussions, and will reserve adequate resources and time to follow up proposed measures. We will also work in a targeted fashion on following up the measures proposed in the report from the multipartite working group in the Regulatory Forum and the Safety Forum. We consider it most important to use the tripartite collaboration to discuss and determine the status of the present situation and potential challenges.

### Main theme 2018

For 2018 we are launching the main theme: **Safety is a value choice**. Safety is the mainstay of the Norwegian petroleum activities. Without a safe industry, assets are at risk. The sector is changing and increasingly picking new solutions, but the protection of human life and health must remain the first priority. The parties have a shared responsibility to support the Norwegian collaborative model and strengthen the high level of safety that has been built up over many years.

Our primary remit is to set the agenda and carry out monitoring to ensure that petroleum industry participants maintain high standards in health, safety, the environment and emergency preparedness, and thereby contribute to creating the greatest possible value for society. The ambition of being a world leader is demanding and only possible to achieve if the industry is aware of the long-term nature of its choices. We seek a broad debate on how the overarching concept of value should be understood, and the place safety has in this work. We hope and believe that the industry will be fully on board with these efforts. We will follow discussions closely and summarise the results in late November 2018.



PART

VI

PART VI. ANNUAL FINANCIAL STATEMENTS

**Purpose**

The Petroleum Safety Authority Norway (PSA) is responsible for setting the agenda and carrying out monitoring to ensure that players in the petroleum industry maintain a high level of health, safety and environment, in order to reduce the risk of major accidents, incidents and occupational injuries and illnesses. The authority's remit encompasses petroleum activities on the Norwegian Continental Shelf, in addition to petroleum installations and associated pipeline systems at Melkøya, Tjeldbergodden, Nyhamna, Kollsnes, Mongstad, Sture, Kårstø and Slagen-tangen.

Through its own supervisory activities and in collaboration with other authorities in the HSE area, the PSA shall help to ensure that petroleum and associated activities are monitored in a holistic way. The PSA shall also place great emphasis on disseminating knowledge about risks and monitoring to ensure that activities are carried out prudently and in accordance with applicable regulations. The PSA is based in Stavanger and had 175 employees at the end of 2017 (170 full-time equivalents<sup>3</sup>).

**Accounting policies**

The PSA is funded gross under the Norwegian national financing regime and its accounts are conducted under the accrued accounting method in compliance with governmental accounting standards. The PSA also reports to the central government accounts in accordance with the cash accounting principle.

**Policy changes**

With effect from 2017, the payment of sector charges is classified as debt collection. This means that income from sector charges will be recognised in accounting group 84 Taxes and charges, interest income and dividends etc. instead of accounting group 37 Fees etc. included as operating income. As a consequence of this reclassification, income from sector charges will be shown as a result-neutral entry recognised under the cash accounting principle in the income statement; see the accounting line Charges and fees directly to the State Treasury in the income statement.

Costs (with the exception of travel costs) connected with tasks financed by sector charges

were, until the restructuring (i.e. to the end of 2016), posted in accounting group 42 Consumption of purchased goods and services. These are now entered in accounting group 67 Purchase of external services; see accounting line Other operating expenses in the income statement and note 6 concerning Purchase of external services. There is no change in the use of accounting group in respect of travel expenses under sector-charge-financed tasks.

The accounts for 2017 have been adapted to the restructuring. It is a requirement under SRS3 concerning Changes in Principles, Changes in Estimates and Correction of Errors that, in the event of a change of accounting policy, comparison figures shall be prepared for the preceding year. The accounting figures for 2016 have therefore been recast in the accounts for 2017 in order to make these years comparable.

**Comments on the accounts and appropriation reporting**

**Appropriation reporting - Allocation**

The total allocation to the PSA was NOK 307.3 million. In addition, the PSA received a charge authorisation from the Ministry of Foreign Affairs of NOK 2.8 million for the project Risk planning in the High North and from the Ministry of Labour and Social Affairs of NOK 0.8 million for the R&D project on employee participation. Together with refunds from NAV and excess revenue authorities, the framework available to the PSA was NOK 313.9 million.

The PSA had a reduced expense on items 01 Operating expenses and 21 Special operating expenses of a total of NOK 16.1 million. The reduced expense on item 01 is due in part to unfilled posts for part of the year and lower costs for implementing projects and the fact that some projects have been delayed and their costs will therefore only accrue in 2018. Within the refundable audit activities financed in item 21, there was a need to reallocate resources to other non-refundable tasks. This meant that the capacity to perform major planned projects was somewhat reduced. Projects were also undertaken that proved less resource-intensive than originally planned and where reallocation of resources led to a temporal shift in planned tasks.

<sup>3</sup> A full-time equivalent is defined as one person working for one whole year in a full-time position. Number of FTEs in part VI of the annual report: The annual accounts may deviate from the number of FTEs previously stated in the annual report, since this is based on the number of FTEs at 31/12/2017.

The reduced expense for item 45 Major equipment purchases is due to an accumulated transfer of unused allocations from 2015 and 2016 to major procurements in 2018.

Revenues associated with the performance of audits shows that the PSA has added income on item 03 Supervision fees<sup>4</sup> of NOK 0.8 million and reduced income of NOK 5.0 million, on item 70 Petroleum Safety Authority Norway – Sector charge<sup>5</sup>. This reduced income must however be viewed in context with associated reduced expenses on items 01 and 21 linked to the performance of refundable projects.

#### Operating revenues

Total operating revenues rose by 4.5% to NOK 291.8 million in 2017. The share of Income from appropriations rose relative to 2016 and is due primarily to an increase in the operating appropriation linked to the follow-up of safety in the petroleum sector in general and to strengthen knowledge of petroleum activities in the High North.

The increase in Income from fees and Sales and rental income is due to a higher level of activity directed towards participants/enterprises in the petroleum industry, preferably through more audit hours being spent on the participants and well as an increase in our activity within assignment and collaborative activity relating to the Norwegian Agency for Development Cooperation's Oil for Development aid programme.

The PSA's appropriations in 2016 were strengthened to increase the follow-up of safety in the petroleum sector in general and to strengthen knowledge of petroleum activities in the High North. This increase in appropriations was continued in 2017. A number of High North projects have been initiated within the working environment and safety in cold climates. These projects are directed at groups in the petroleum industry and therefore contribute to higher income within the sector charge area in 2017 compared with 2016; see the accounting line Charges and fees directly to the State Treasury in the income statement. Compared with 2016, a somewhat higher level of activity (number of hours) was performed within fee and sector charge finance activities than originally planned.

#### Operating expenses

Total operating expenses in 2017 amounted to NOK 291.8 million, a increase of 4.5% over 2016.

Cost of goods, i.e. the purchase of goods and services for re-invoicing to the industry concerning activities within the fee scheme and assignment and collaborative activity, saw an increase over 2016. This is due primarily to higher assignment and collaborative activity levels, with an associated increase in costs involved in our own travel and purchase of consultancy services.

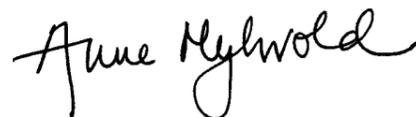
The increase in both Salary expenses and Other operating expenses must be seen in the context of increased appropriations for the follow-up of safety in the petroleum sector in general and to strengthen knowledge of petroleum activities in the High North. In this regard, the PSA has reinforced its manning within relevant specialisms and there has been an increase in the use of consultancy services relating to sector-charge activities.

#### Confirmation

The annual financial statements were prepared in accordance with the provisions concerning financial management within the public sector, the circular from the Ministry of Finance and instructions from the competent ministry. The financial statements give, in my assessment, a comprehensive picture of the PSA's disposable appropriations and of the reported expenses, revenues, assets and liabilities. The PSA is audited as a public administration body by the Office of the Auditor General. The audit report is expected to be available during the second quarter of 2018.

**Anne Myhrvold**

*Director General, Petroleum Safety Authority Norway*



*Petroleum Safety Authority Norway,  
15 March 2018*

#### Note regarding the principles for appropriation and account reporting

The PSA's annual financial statements were compiled in accordance with guidelines laid down in the provisions concerning financial management within the State. The annual financial statements comply with article 3.4.1 of the provisions, provisions laid down in the Ministry of Finance's circular R-115 of November 2016 and any additional requirements established by the competent ministry.

The appropriation and account reports were prepared based article 3.4.2 of the provisions – the fundamental principles for the annual financial statements:

- a) The financial statements follow the calendar year.
- b) The financial statements contain all reported expenditure and revenues for the financial year.
- c) Expenses and revenues are recognised in the financial statements as gross amounts.
- d) The financial statements were prepared in accordance with the cash accounting principle.

The appropriation and account reports were prepared in accordance with the same principles, but grouped according to a different chart of accounts. The principles correspond to the requirements of article 3.5 of the provisions concerning how enterprises must submit reports to the State accounts. The total lines "Net amount reported to the appropriation account" are identical in both reports.

The PSA is affiliated to the State's corporate account scheme in Norges Bank in accordance with the requirements laid down in article 3.7.1 of the provisions. PSA is a gross-budgeted organisation and thus receives no liquidity during the year, but has an overdraft facility through its own corporate account. The balance in the settlement account is reset at year-end.

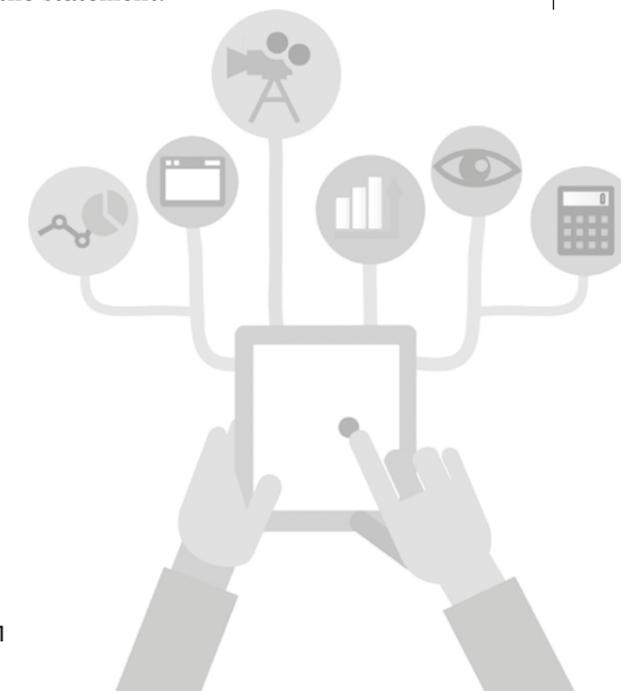
#### The appropriation report

The appropriation report consists of an upper part which contains the appropriation report, and a lower part which shows holdings listed for the PSA in the capital account. The appropriation report shows accounting figures which the PSA has reported to the State account. The entries are listed in accordance with the sections and items in the appropriation account that the PSA has at its disposal. The column entitled "Total allocation" shows what the PSA has been allocated in the letter of allocation for each State account (section/item). The report also presents all financial assets and obligations that the PSA is listed with in the State capital account.

Authorisations to charge another organisation's section/item (charge authorisations) that have been received are not shown in the total allocation column, but are explained in Note B to the appropriation statement. Expenses attributable to charge authorisations that have been received are posted and reported to the State account and shown in the column for accounting.

#### The account report

The account report consists of an upper part which shows what has been reported to the State account in accordance with a standard chart of accounts for State enterprises and a lower part which shows assets and liabilities included in the outstanding account with the State Treasury. The account reports show accounting figures that the PSA has reported to the State account in accordance with a standard chart of accounts for State enterprises. The PSA's corporate account with Norges Bank has an overdraft facility. The appropriations are not recognised as income and are therefore not shown as income in the statement.



<sup>4</sup> Fees are charged to enterprises in the petroleum industry when the audit is aimed at the individual participant or enterprise.

<sup>5</sup> Sector charges are charged for activities aimed at groups within the industry.

Presentation of appropriation report, 31/12/2017							
Expense section	Section name	Item	Item text	Note	Total allocation	Account 2017	Added expenses (-) and reduced expenses
0642	Petroleum Safety Authority Norway (see 3642)	01	Operating expenses	A, B	273,829,000	261,058,926	12,770,074
0642	Petroleum Safety Authority Norway (see 3642)	21	Special operating expenses	A, B	29,904,000	26,557,574	3,346,426
0642	Petroleum Safety Authority Norway (see 3642)	45	Major equipment procurement and maintenance	A, B	3,569,000	1,181,689	2,387,311
0118	Ministry of Foreign Affairs, Charge Authorisation 0118.70	70	Operating expenses	B		2,746,365	
0601	Ministry of Labour and Social Affairs, Charge Authorisation 0601.21	21	Operating expenses	B		662,250	
1633	Net scheme, State paid VAT	01	Operating expenses			8,582,032	
<i>Total expensed</i>					307,302,000	300,788,836	-
Income capital	Section name	Item	Item text		Total allocation	Account 2017	Added income and reduced income (-)
3642	Petroleum Safety Authority Norway (see 0642)	02	Assignment and collaborative activities		7,905,000	8,117,576	212,576
3642	Petroleum Safety Authority Norway (see 0642)	03	Supervision fees		66,980,000	67,742,769	762,769
3642	Petroleum Safety Authority Norway (see 0642)	06	Other payments received		0	189,033	189,033
3642	Petroleum Safety Authority Norway (see 0642)	07	Rental income, company cabin		0	39,900	39,900
5571	Sector charge under the Ministry of Labour and Social Affairs	70	Petroleum Safety Authority Norway - sector charge		99,040,000	93,997,634	-5,042,366
5309	Misc. revenues	29	Miscellaneous			217,924	
5700	The National Insurance scheme revenue	72	National Insurance contributions			24,606,135	
<i>Total income recognised</i>					173,925,000	194,910,971	-
<b>Net amount reported to the appropriation account</b>					<b>105,877,865</b>		
<b>Capital accounts</b>							
60087401	Norges Bank Capital account deposits					173,336,086	
60087402	Norges Bank Capital account payments					-279,348,533	
718006	Change in outstanding account with the State Treasury					134,581	
<i>Total reported</i>					0		
<b>Stocks reported to the capital account (31.12)</b>							
Account	Text				2017	2016	Change
718006	Outstanding account with the State Treasury				-8,020,693	-8,155,274	134,581

Note A Explanation of total allocation expenses			
Section and item	Transferred from previous year	This year's allocations	Total allocation
064201	10,944,000	262,885,000	273,829,000
064221	1,322,000	28,582,000	29,904,000
064245	1,969,000	1,600,000	3,569,000

**Note B Explanation of utilised authorisations and calculation of possible amount for carryforward to next year**

Section and item	064201	064221	064245	011870	060121
Keyword	<i>"may be used under item 21"</i>		<i>"may be carried forward"</i>		
Added expenses (-)/reduced expenses	12,770,074	3,346,426	2,387,311		
Expensed by others in accordance with issued charge authorisations	0	0	0		
Added expenses(-)/reduced expenses in accordance with issued charge authorisations	12,770,074	3,346,426	2,387,311	0	0
Added income/reduced income (-) in accordance with added income authorisation (adjusted to incl. VAT, if appropriate)	228,933	212,576	0	Not relevant	Not relevant
Reallocation from item 01 to 45 or to item 01/21 from next year's appropriation	0	0	0	Not relevant	Not relevant
Savings (-)	0	0	0	Not relevant	Not relevant
Total basis for transfer	12,999,007	3,559,002	2,387,311	Not relevant	Not relevant
Max. carryforward amount*	13,144,250	1,429,100	3,569,000		
Possible carryforward amount calculated by the organisation	12,999,007	1,429,100	2,387,311		

\*The maximum amount that can be carried forward is 5% of the year's appropriation under operating items 01-29, with the exception of item 24 or the sum of the previous two years' appropriations for items with the keywords "can be carried forward". See annual circular R-2 for more detailed information concerning the carryforward of unutilised appropriations.

**Explanation concerning the utilisation of budget authorisations**

**Charge authorisations received**  
The PSA has received a charge authorisation from the Ministry of Labour and Social Affairs for NOK 800,000 under section/item 0601.21 for performing the R&D project on employee participation and has used NOK 662,250 of this charge authorisation. The Ministry of Foreign Affairs has also issued the PSA with a charge authorisation of up to NOK 2,753,725 under section/item 0118.70. In respect of the project Risk planning in the High North. The PSA has used NOK 2,746,365 of the nominal value of this charge authorisation.

**The keywords "can be carried forward"**  
PSA's appropriation under section/item 0642.45 was issued with the keywords "can be carried forward". The PSA allows the amount to be included as part of the possible carryforward amount.

**Authority to exceed operating appropriations in return for corresponding added income**  
The PSA has authority to exceed the operating appropriation under section/item 0642.01 Operating expenses in return for corresponding added income under section/item 3642.06 Other payments received and 3642.07 Rental income from company cabin. Total additional income amounts to NOK 288,933. The amount is included in the calculation of the possible carryforward amount to next year.

PSA has authority to exceed the operating appropriation under section/item 0642.21 Special operating expenses in return for corresponding added income under section/item 3642.02 Assignment and collaborative activity. Total additional income amounts to NOK 212,576. The amount is included in the calculation of the possible carryforward amount to next year.

**Possible carryforward amount**  
The PSA is authorised to transfer up to 5% of the allocation for the entire item, see Letter of allocation 2017 - Budget authorisations 2017 for the Ministry and Labour Social Affairs subordinate enterprise division, provisions in in the appropriation regulations section 5 (3) 1 and the annual circular concerning carryforward appropriations (R-2).  
The PSA's unutilised appropriation under section/item 0642.01 amounts to NOK 12,999,007. Under the authorisations issued, the maximum carryforward amount is NOK 13,144,250. As the unused amount is below the carryforward amount threshold, the entire amount may be carried forward to the next budget year.  
Adjusted for additional income on section/item 3642.02, the PSA's unused appropriation on section/item 0642.21 amounts to NOK 3,559,002. In accordance with the authorisation to transfer up to 5% of this year's allocated funds, the potential amount transferable is NOK 1,429,100.  
The amount under section/item 0642.45 can be carried forward in its entirety, as the keywords "can be carried forward" are linked to the section/item.

## Presentation of the account report, 31/12/2017

	2017	2016
<b>Operating revenues reported to the appropriation account</b>		
Payments from fees	67,742,769	58,975,397
Income from grants and transfers	0	0
Sales and rental payments received	8,157,476	7,062,556
Other payments received	188,123	190,800
<i>Total payments received from operations</i>	76,088,368	66,228,753
<b>Operating expenses reported to the appropriation account</b>		
Payments for salary	199,929,956	167,057,142
Other payments for operations	90,991,265	87,699,127
<i>Total payments for operations</i>	290,921,221	254,756,268
<b>Net reported operating expenses</b>	<b>214,832,853</b>	<b>188,527,515</b>
<b>Investment and financial income reported to the appropriation account</b>		
Financial income received	910	122
<i>Total investment and financial income</i>	910	122
<b>Investment and financial expenses reported to the appropriation account</b>		
Payments for investments	1,282,487	646,323
Payment for the purchase of shares	0	0
Payment of financial expenses	3,096	879
<i>Total investment and financial expenses</i>	1,285,583	647,202
<b>Net reported investment and financial expenses</b>	<b>1,284,673</b>	<b>647,080</b>
<b>Debt collection and other transfers to the State</b>		
Payment of taxes, charges, fees, etc.	93,997,634	84,474,470
<i>Total debt collection and other transfers to the State</i>	93,997,634	84,474,470
<b>Grant administration and other transfers from the State</b>		
Payment of grants and benefits	0	0
<i>Total grant administration and other transfers from the State</i>	0	0
<b>Revenues and expenses reported under joint sections</b>		
Group life insurance account 1985 (ref. section 5309, income)	217,924	215,576
National Insurance contributions account 1986 (ref. section 5700, income)	24,606,135	20,901,218
Net recognition scheme for VAT account 1987 (see section 1633, expense)	8,582,032	7,867,326
<i>Total net reported expenses under joint sections</i>	-16,242,027	-13,249,467
<b>Net amount reported to the appropriation account</b>	<b>105,877,865</b>	<b>91,450,657</b>
<b>Summary of outstanding account with the State Treasury</b>		
<b>Assets and liabilities</b>	<b>2017</b>	<b>2016</b>
Receivables from employees	122,742	104,083
Other current receivables	30,292	48,762
Tax deductions payable	-8,089,931	-8,132,515
Outstanding public taxes and duties	-74,201	-66,115
Other debt	-9,596	-109,489
<b>Total outstanding account with the State Treasury</b>	<b>-8,020,693</b>	<b>-8,155,274</b>

### Policies for preparation of the activity account

The activity account was prepared in accordance with State accounting standards (SRS). Changes to principles and comparative figures In accordance with SRS 3, Changes in Principles, Changes in Estimates and Correction of Errors, the figures for last year must be recalculated in order to be comparable with the accounts presented for 2017.

### Reclassification of sector charges

With effect from the 2016 financial year, expenses attributable to activities financed through sector charges are recognised in accounting group 43 Consumption of purchased goods and services and accounting group 71 Costs and allowances for travel, subsistence, cars etc. Income is posted to accounting group 37 Fees etc. included as operating income.

With effect from the 2017 financial year, the use of accounts has been restructured so that income from sector charges is now recognised in accounting group 84 Taxes and charges, interest income and dividends etc. The expenses are recognised in accounting group 67 Purchase of external services and in accounting group 71 Costs and allowances for travel, subsistence, cars etc. The restructuring is due to the income appropriation being given in item 70 Income from sector charges and reclassified as debt collection. Income from sector charges will be shown as a result-neutral entry recognised under Debt collection and other transfers to the State posted in accordance with the cash accounting principle in the income statement.

The income statement, balance sheet and accompanying note for the preceding year (2016) are presented as comparison figures in accordance with this change in accounting policy.

### Accounting of pension premiums

With effect from 2017, a simplified model for payment of pension premiums to the Norwegian Public Service Pension Fund (SPK) has been introduced, under which the Petroleum Safety Authority Norway posts and pays the employer share (including national insurance contributions) and the member share. Through the appropriation for 2017, the Petroleum Safety Authority Norway is recompensed for increased charges

for pension premiums and national insurance contributions.

No comparative figures have been prepared for this change.

### Transaction-based income

Income is recognised in the income statement as it accrues. Transactions are recognised at the value of the fee at the time of the transaction. Sales of services are recognised as income as the services are provided.

### Income from appropriations

Income from appropriations is recognised in the income statement as the activities which the incomes are expected to finance are carried out, i.e. during the period when the costs are accruing (matching). The principle of matching was also used at year end in accordance with SRS 10 Income from appropriations.

The share of income from appropriations, etc. that is used to purchase intangible assets and depreciable assets recognised in the balance sheet is not recognised at the time of purchase, but set aside in the balance sheet on the accounting line "State financing of intangible assets and depreciable assets".

As the depreciation of intangible assets and depreciable assets is expensed, a corresponding amount from the provision for State financing of intangible assets and depreciable assets is recognised as income. The income recognised during the period from the provision is recognised in the income statement as income from appropriations. This means that expensed depreciation is included in the organisation's operating expenses without having any impact on the result.

### Expenses

Expenses concerning transaction-based income are expensed during the same period as the associated income.

Expenses financed through income from appropriations are expensed as the activities are carried out.

### Pensions

SRS 25 Ytelsler til ansatte (Benefits to employees) is based on a simplified accounting approach to pensions. No calculation or provision has

therefore been made for any surplus/deficit in the pension scheme which corresponds to NRS 6. The year's pension expense therefore corresponds to the annual premium to the Norwegian Public Service Pension Fund (SPK). See also note 3 for further information about the scheme.

#### Classification and valuation of fixed assets

Fixed assets are long-term, important assets which have been placed at the PSA's disposal. 'Long-term' means a useful life of three years or more. 'Important' means individual procurements (purchases) with a purchase cost of NOK 30,000 or more. Fixed assets are recognised in the balance sheet at their acquisition cost minus depreciation.

Office and IT equipment (PCs, servers, etc.) with a useful life of three years or more are recognised in the balance sheet as separate groups.

#### Classification and valuation of current assets and current liabilities

Current assets and current liabilities include items which fall due for payment within one year after the acquisition date. Other items are classified as fixed assets/non-current liabilities.

Current assets are valued at acquisition cost or fair value, whichever is lower. Current liabilities are recognised in the balance sheet at nominal amount at the time of take-up.

#### Receivables

Trade debtors and other receivables are recognised in the balance sheet at nominal value after the deduction of any provisions for bad debts. A provision is set aside for losses based on individual assessments of receivables.

#### State capital

State capital consists of contributed capital, settlements and State financing of intangible assets and depreciable assets in accordance with the updated SRS 1 Oppstillingsplaner for resultatregnskap og balanse (Layout plans for income statements and balance sheets). The section shows the total State financing of the PSA.

#### Settlements

For the PSA, which is a gross-budgeted organisation, the net amounts of all balance sheet items, with the exception of intangible assets and depreciable assets, are funded by settlement with the State Treasury. The PSA does not report its corporate accounts with Norges Bank as bank deposits. These corporate accounts are included in the settlement with the State Treasury.

#### State financing of intangible assets and depreciable assets

The capitalised value of intangible assets and depreciable assets has a counter-entry on the accounting line State financing of intangible assets and depreciable assets.

#### Cash flow analysis

No cash flow analysis has been prepared. Virtually identical information is presented in the account report as part of the annual financial statements.

#### State framework conditions

##### The self-insurer principle

The State operates as a self-insurer. No items have therefore been included in the balance sheet or income statement which attempt to reflect alternative net insurance costs or commitments.

##### State corporate account scheme

The PSA is covered by the State's corporate account scheme. Under this scheme, all incoming and outgoing payments are settled against PSA's settlement accounts with Norges Bank on a daily basis.

As a gross-budgeted organisation, the PSA is in receipt of no liquidity during the year. The PSA's corporate account with Norges Bank has an overdraft facility. For gross-budgeted organisations, the balance in the individual settlement account held with Norges Bank is reset upon transition to the new financial year.

#### Income statement

	Note	31/12/2017	31/12/2016
<b>Operating revenues</b>			
Income from appropriations	1	216,304,057	210,587,078
Income from grants and transfers	1	0	0
Income from fees	1	66,406,492	61,995,319
Sales and rental income	1	8,914,497	6,474,461
Other operating income	1	188,123	190,800
<i>Total operating revenues</i>		291,813,170	279,247,659
<b>Operating expenses</b>			
Cost of goods	2	9,971,225	7,799,013
Salary expenses	3	200,952,501	194,431,721
Depreciations of depreciable assets and intangible assets	4, 5	3,448,710	3,686,426
Impairments of depreciable assets and intangible assets	4, 5	0	0
Other operating expenses	6	77,438,548	73,329,742
<i>Total operating expenses</i>		291,810,984	279,246,902
<b>Operating profit/loss</b>		<b>2,186</b>	<b>757</b>
<b>Financial income and financial expenses</b>			
Financial income	7	910	122
Financial expenses	7	3,096	879
<i>Total financial income and financial expenses</i>		-2,186	-757
<b>Net income from the period's activities</b>		<b>0</b>	<b>0</b>
<b>Settlements and appropriations</b>			
Settlement with the State Treasury (gross-budgeted)	8	0	0
<i>Total settlements and appropriations</i>		0	0
<b>Debt collection and other transfers to the State</b>			
Charges and fees directly to the State Treasury		-93,997,634	-84,474,470
Settlement with the State Treasury, debt collection		93,997,634	84,474,470
<i>Total debt collection and other transfers to the State</i>		0	0
<b>Grant administration and other transfers from the State</b>			
Payment of grants to others		0	0
Settlement with the State Treasury, grant administration		0	0
<i>Total grant administration and other transfers from the State</i>		0	0

Balance sheet	Note	31/12/2017	31/12/2016
<b>ASSETS</b>			
<b>A. Fixed assets</b>			
<b>I Intangible assets</b>			
Software and similar rights	4	633,472	609,798
<i>Total intangible assets</i>		633,472	609,798
<b>II Depreciable assets</b>			
Plots, buildings and other real property	5	665,363	655,568
Machinery and transport	5	0	0
Movables, fixtures and equipment, tools, etc.	5	5,567,551	7,772,993
<i>Total depreciable assets</i>		6,232,914	8,428,561
<b>III Financial fixed assets</b>			
Other receivables	9	45,130,189	41,750,995
<i>Total financial fixed assets</i>		45,130,189	41,750,995
<b>Total fixed assets</b>		<b>51,996,575</b>	<b>50,789,354</b>
<b>B. Current assets</b>			
<b>I Stocks of goods and operating equipment</b>			
Stocks of goods and operating equipment		0	0
<i>Total stocks of goods and operating equipment</i>		0	0
<b>II Receivables</b>			
Trade debtors	10	852,967	1,891,976
Earned, uninvoiced income	11	13,022,522	12,863,122
Other receivables	12	1,274,651	1,171,703
<i>Total receivables</i>		15,150,140	15,926,800
<b>III Bank deposits, cash, etc.</b>			
Bank deposits		0	0
Cash and cash equivalents		0	0
<i>Total bank deposits, cash and cash equivalents</i>		0	0
<b>Total current assets</b>		<b>15,150,140</b>	<b>15,926,800</b>
<b>Total assets</b>		<b>67,146,716</b>	<b>66,716,154</b>

Balance sheet	Note	31/12/2017	31/12/2016
<b>STATE CAPITAL AND LIABILITIES</b>			
<b>C. State capital</b>			
<b>I Contributed capital</b>			
<i>Total contributed capital</i>		0	0
<b>II Settlements</b>			
Settled with the State Treasury (gross-budgeted)	8	24,242,423	22,134,733
<i>Total settlements</i>		24,242,423	22,134,733
<b>III State financing of intangible assets and depreciable assets</b>			
State financing of intangible assets and depreciable assets	4, 5	6,866,386	9,038,360
<i>Total State financing of intangible assets and depreciable assets</i>		6,866,386	9,038,360
<b>Total State capital</b>		<b>31,108,809</b>	<b>31,173,093</b>
<b>D. Liabilities</b>			
<b>I Provision for non-current commitments</b>			
Provisions for non-current commitments		0	0
<i>Total provision for non-current commitments</i>		0	0
<b>II Other non-current liabilities</b>			
Other non-current liabilities		0	0
<i>Total other non-current liabilities</i>		0	0
<b>III Current liabilities</b>			
Trade debtors		262,864	596,692
Tax deductions payable		8,089,931	8,132,515
Outstanding public taxes and duties		3,579,529	3,446,047
Provision for holiday pay		17,262,141	16,573,248
Other current liabilities	13	6,843,441	6,794,560
<i>Total current liabilities</i>		36,037,906	35,543,062
<b>Total liabilities</b>		<b>36,037,906</b>	<b>35,543,062</b>
<b>Total State capital and liabilities</b>		<b>67,146,716</b>	<b>66,716,154</b>

**Note 1 Operating income**

	31/12/2017	31/12/2016
<b>Income from appropriations</b>		
Income from appropriation from competent ministry	216,495,724	186,293,124
Income from appropriation from other ministries, charge authorisation	3,408,615	3,152,280
- gross amount utilised for investments in intangible assets and depreciable assets	-1,276,736	-652,074
- unused appropriation for investment purposes (items 30-49)	-2,393,062	-1,962,976
+ deferred income from provision linked to investments (depreciations)	3,448,710	3,686,426
+ deferred income from the provision related to investments (book value of non-current assets disposed)	0	0
+ income to cover pension expenses	0	27,128,881
- recognised operating appropriation linked to financial fixed assets	-3,379,194	-7,058,583
<b>Total income from appropriations</b>	<b>216,304,057</b>	<b>210,587,078</b>
<b>Income from grants and transfers</b>		
Grants/transfers	0	0
<b>Total income from grants and transfers</b>	<b>0</b>	<b>0</b>
<b>Income from fees</b>		
Fees, etc. - refund-entitled	66,406,492	61,995,319
<b>Total income from fees</b>	<b>66,406,492</b>	<b>61,995,319</b>
<b>Sales and rental income</b>		
Safety Forum	281,883	277,605
Income from assignment and collaborative activity	8,592,714	5,512,753
Other income	39,900	684,103
<b>Total sales and rental income</b>	<b>8,914,497</b>	<b>6,474,461</b>
<b>Other operating income</b>		
Profit from disposal of fixed assets	0	0
Other operating income	188,123	190,800
<b>Total other operating income</b>	<b>188,123</b>	<b>190,800</b>
<b>Total operating revenues</b>	<b>291,813,170</b>	<b>279,247,659</b>

**Basis for recognition of expense appropriation**

Section and item	The cash principle				The accruals principle
	Expense appropriation (total allocation)	Income appropriation	Reported income	Maximum calculated basis for income recognition	Recognised appropriation
064201	273,829,000			273,829,000	186,272,854
064221	29,904,000			29,904,000	26,653,870
064245	3,569,000			3,569,000	3,569,000
011870	2,753,725			2,753,725	2,746,365
060121	800,000			800,000	662,250
364202		7,905,000	8,117,576	-7,905,000	
364203		66,980,000	67,742,769	-66,980,000	
<b>Total</b>				<b>235,970,725</b>	<b>219,904,340</b>

**Note 2 Cost of goods**

	31/12/2017	31/12/2016
Consulting	3,130,537	1,515,953
Assistance from State enterprises	391,824	541,037
Travel expenses	6,443,347	5,732,783
Provision for accrued expenses	0	0
Other operating expenses	5,518	9,239
<b>Total cost of goods</b>	<b>9,971,225</b>	<b>7,799,013</b>

**Note 3 Salary expenses**

	31/12/2017	31/12/2016
Salary	141,648,345	131,386,043
Holiday pay	17,657,718	16,737,357
National Insurance contributions	24,731,775	23,949,056
Pensions expenses*	17,823,665	24,125,095
Sick-pay and other reimbursements (-)	-2,632,459	-3,550,506
Other benefits	1,723,457	1,784,677
<b>Total salary expenses</b>	<b>200,952,501</b>	<b>194,431,721</b>

**Number of full-time equivalents:** 170 166

\* More information concerning pension expenses

From 1 January 2017, the PSA pays pension premiums to the Norwegian Public Service Pension Fund (SPK). For 2017, the employer's share of the pension premium is 12%. The premium rate for 2016 is estimated by SPK to be 17.1%.

The PSA is covered by circular R-118 – Budgeting and accounting of pension premiums for State enterprises from 2017.

**Note 4 Intangible assets**

	Software and similar rights	Total
Acquisition cost 01/01/2017	6,097,213	6,097,213
Acquisitions in 2017	238,950	238,950
Disposals, acquisition cost 2017 (-)	0	0
From installations under construction to other group in 2017	0	0
<b>Total acquisition cost 31/12/2017</b>	<b>6,336,163</b>	<b>6,336,163</b>
Accumulated impairments 01/01/2017	0	0
Impairments in 2017	0	0
Accumulated depreciations 01/01/2017	5,487,414	5,487,414
Ordinary depreciations in 2017	215,276	215,276
Accumulated depreciations, disposals in 2017 (-)	0	0
<b>Balance sheet value 31/12/2017</b>	<b>633,472</b>	<b>633,472</b>

Depreciation rates (life) 5 years/straight line

**Note 5 Depreciable assets**

	Plots, buildings and other real property	Machinery and transport	Movables, fixtures and equipment, tools, etc.	Total
Acquisition cost 01/01/2017	750,933	93,236	23,682,948	24,527,117
Acquisitions in 2017	51,580	0	986,206	1,037,786
Disposals, acquisition cost 2017 (-)	0	0	0	0
From installations under construction to other group in 2017	0	0	0	0
<b>Total acquisition cost 31/12/2017</b>	<b>802,513</b>	<b>93,236</b>	<b>24,669,155</b>	<b>25,564,904</b>
Accumulated impairments 01/01/2017	0	0	0	0
Impairments in 2017	0	0	0	0
Accumulated depreciations 01/01/2017	95,365	93,236	15,909,955	16,098,556
Ordinary depreciations in 2017	41,785	0	3,191,649	3,233,434
Accumulated depreciations, disposals in 2017 (-)	0	0	0	0
<b>Balance sheet value 31/12/2017</b>	<b>665,363</b>	<b>0</b>	<b>5,567,551</b>	<b>6,232,914</b>

Depreciation rates (life)	10-60 years decomposed straight-line	3-15 year straight-line	3-15 year straight-line	
Disposal of depreciable assets in 2017:				
Sale price upon disposal of fixed assets	0	0	0	0
- Book value of fixed assets disposed of	0	0	0	0
= Accounting profit/loss	0	0	0	0

**Note 6 Other operating expenses**

	31/12/2017	31/12/2016
Rent	24,985,986	23,547,729
Maintenance and alterations to leased premises	0	0
Other expenses for operation of property and premises	6,898,821	5,935,033
Hire of machinery, equipment, etc.	2,489,924	2,178,081
Minor equipment purchases	396,611	352,062
Repair and maintenance of machinery, equipment, etc.	356,732	532,942
Purchase of external services	30,006,860	28,072,930
Travel and subsistence	5,059,848	5,203,266
Other operating expenses	7,243,767	7,507,698
<b>Total other operating expenses</b>	<b>77,438,548</b>	<b>73,329,742</b>

**Summary of annual rental amounts according to rental agreements\***

	Duration between one and five years	Duration > five years	Total
Rental agreements	0	24,986,000	24,986,000
Rental agreements linked to intangible assets	2,031,000	0	2,031,000
Rental agreements linked to depreciable assets	458,000	0	458,000
Other rental agreements	0	0	0
<b>Total rental agreements</b>			<b>27,475,000</b>

\*Only important rental agreements are specified.

**Note 7 Financial income and financial expenses**

	31/12/2017	31/12/2016
<b>Financial income</b>		
Interest income	182	122
Current gains (agio)	728	0
<b>Total financial income</b>	<b>910</b>	<b>122</b>
<b>Financial expenses</b>		
Interest expense	3,096	879
Foreign exchange losses (disagio)	0	0
<b>Total financial expenses</b>	<b>3,096</b>	<b>879</b>

**Note 8 Relationship between settled with the State Treasury and outstanding account with the State Treasury**

**A) Settled with the State Treasury**

	31/12/2017	31/12/2016	Change
Intangible assets, depreciable assets and financing thereof			
Intangible assets	633,472	609,798	23,674
Depreciable assets	6,232,914	8,428,561	-2,195,648
State financing of intangible assets and depreciable assets	-6,866,386	-9,038,360	2,171,974
<i>Total</i>	<b>0</b>	<b>0</b>	<b>0</b>
Financial fixed assets			
Other receivables	45,130,189	41,750,995	3,379,194
<i>Total</i>	<b>45,130,189</b>	<b>41,750,995</b>	<b>3,379,194</b>
Current assets			
Trade debtors	852,967	1,891,976	-1,039,009
Earned, uninvoyed income	13,022,522	12,863,122	159,401
Other receivables	1,274,651	1,171,703	102,949
<i>Total</i>	<b>15,150,140</b>	<b>15,926,800</b>	<b>-776,659</b>
Non-current commitments and liabilities			
Other non-current liabilities	0	0	0
<i>Total</i>	<b>0</b>	<b>0</b>	<b>0</b>
Current liabilities			
Trade debtors	-262,864	-596,692	333,827
Tax deductions payable	-8,089,931	-8,132,515	42,584
Outstanding public taxes and duties	-3,579,529	-3,446,047	-133,482
Provision for holiday pay	-17,262,141	-16,573,248	-688,893
Other current liabilities	-6,843,441	-6,794,560	-48,881
<i>Total</i>	<b>-36,037,906</b>	<b>-35,543,062</b>	<b>-494,845</b>
<b>Settled with the State Treasury</b>	<b>24,242,423</b>	<b>22,134,733</b>	<b>2,107,690</b>

**Reconciliation of change in settled with the State Treasury (congruence non-conformity)**

Corporate account, outgoing payments	-279,348,533
Corporate account, incoming payments	173,336,086
<i>Total net deduction from corporate account</i>	-106,012,446
+ Recognised income from appropriation (sub-accounts 1991 and 1992)	217,511,278
- Group life/National Insurance contributions (sub-accounts 1985 and 1986)	-24,824,059
+ Net scheme, State paid VAT (sub-account 1987)	8,596,338
- Reversed deferred income upon disposal of fixed assets, where the provision is not recognised in the income statement (sub-account 1996)	0
Correction of provision for holiday pay (employees moving to another State position)	-1,972
Debt collection, sector charges	-93,997,634
Other reconciliation items (specified)	-3,379,194
<i>Total difference between recognised and net deduction from corporate account</i>	-2,107,690
Net income from the period's activities before settlement with State Treasury	0
<b>Change in settled with the State Treasury</b>	<b>-2,107,690</b>

**Note 8 Relationship between settled with the State Treasury and outstanding account with the State Treasury**

**B) Difference between settled with State Treasury and outstanding account with State Treasury**

	31/12/2017 Specification of the posted settlement with the Treasury	31/12/2017 Specification of the reported o/s balance with the Treasury	Difference
Intangible assets, depreciable assets and financing thereof			
Intangible assets	633,472	0	633,472
Depreciable assets	6,232,914	0	6,232,914
State financing of intangible assets and depreciable assets	-6,866,386	0	-6,866,386
<i>Total</i>	<b>0</b>	<b>0</b>	<b>0</b>
Financial fixed assets			
Other receivables	45,130,189	0	45,130,189
<i>Total</i>	<b>45,130,189</b>	<b>0</b>	<b>45,130,189</b>
Current assets			
Trade debtors	852,967	0	852,967
Earned, uninvoyed income	13,022,522	0	13,022,522
Other receivables	1,274,651	153,034	1,121,617
<i>Total</i>	<b>15,150,140</b>	<b>153,034</b>	<b>14,997,106</b>
Non-current commitments and liabilities			
Other non-current liabilities	0	0	0
<i>Total</i>	<b>0</b>	<b>0</b>	<b>0</b>
Current liabilities			
Trade debtors	-262,864	0	-262,864
Tax deductions payable	-8,089,931	-8,089,931	0
Outstanding public taxes and duties	-3,579,529	-74,201	-3,505,328
Provision for holiday pay	-17,262,141	0	-17,262,141
Other current liabilities	-6,843,441	-9,596	-6,833,845
<i>Total</i>	<b>-36,037,906</b>	<b>-8,173,728</b>	<b>-27,864,179</b>
<b>Total</b>	<b>24,242,423</b>	<b>-8,020,693</b>	<b>32,263,117</b>

**Note 9 Other receivables**

	31/12/2017	31/12/2016
Financial fixed assets	45,130,189	41,750,995
<b>Total financial fixed assets</b>	<b>45,130,189</b>	<b>41,750,995</b>

Under the agreement concerning the leasing of premises applicable from 1 January 2013, PSA is required to pay a value added tax surcharge ('the surcharge') to compensate the lessor for the reduction in its right to deduct value added tax for construction costs. The surcharge is also intended to cover interest from the date on which the deduction for value added tax could have been obtained through until the date on which the surcharge is paid. The surcharge is considered to form part of the rent paid by PSA and is financed via an appropriation during the years in which the surcharge is paid.

In PSA's balance sheet, deposited amounts are classified as a non-current receivable in the form of prepaid rent which is accrued over a period of 20 years, corresponding to the term of the rental agreement. The matching principle (see SRS 10, article 5) is used in connection with this item and has a counter-entry on the accounting line "Settlement with State Treasury". The provision is dissolved in line with the expensing of prepaid rent at the rate of one twentieth share per year.

The basis for the surcharge amounts to NOK 56 million plus interest. As at 31/12/2017, the PSA has paid NOK 54,9 million and the outstanding VAT compensation amounts to NOK 10.3 million.

**Note 10 Trade debtors**

	31/12/2017	31/12/2016
Trade debtors at nominal value	852,967	1,891,976
Provision for bad debts (-)	0	0
<b>Total Trade debtors</b>	<b>852,967</b>	<b>1,891,976</b>

**Note 11 Earned, uninvoyed income**

<b>Earned, uninvoyed income (receivable)</b>	31/12/2017	31/12/2016
Assignment and collaborative activities	1,468,807	993,669
Supervisory activity - fees	11,553,715	11,869,452
<b>Total Earned, uninvoyed income</b>	<b>13,022,522</b>	<b>12,863,122</b>

**Note 12 Other current receivables**

	31/12/2017	31/12/2016
Prepaid salary	0	0
Travel advances	124,638	86,999
Personnel loans	0	19,050
Other receivables from employees	0	0
Prepaid lease	0	0
Other pre-paid expenses	568,203	483,843
Other receivables	581,811	581,811
<b>Total Other current receivables</b>	<b>1,274,651</b>	<b>1,171,703</b>

**Note 13 Other non-current liabilities**

	31/12/2017	31/12/2016
Salaries payable	3,642,706	3,812,066
Other debts to employees	3,195,483	2,825,208
Accrued expenses	0	45,900
Advance payments received	0	0
Deferred income, Safety Forum	3,356	108,889
Other current liabilities	1,896	2,496
<b>Total other current liabilities</b>	<b>6,843,441</b>	<b>6,794,560</b>

