

Reversing the trend – Collaboration, Robustness and Standardization

2017 BSEE Standards Workshop, Houston May 5th 2017

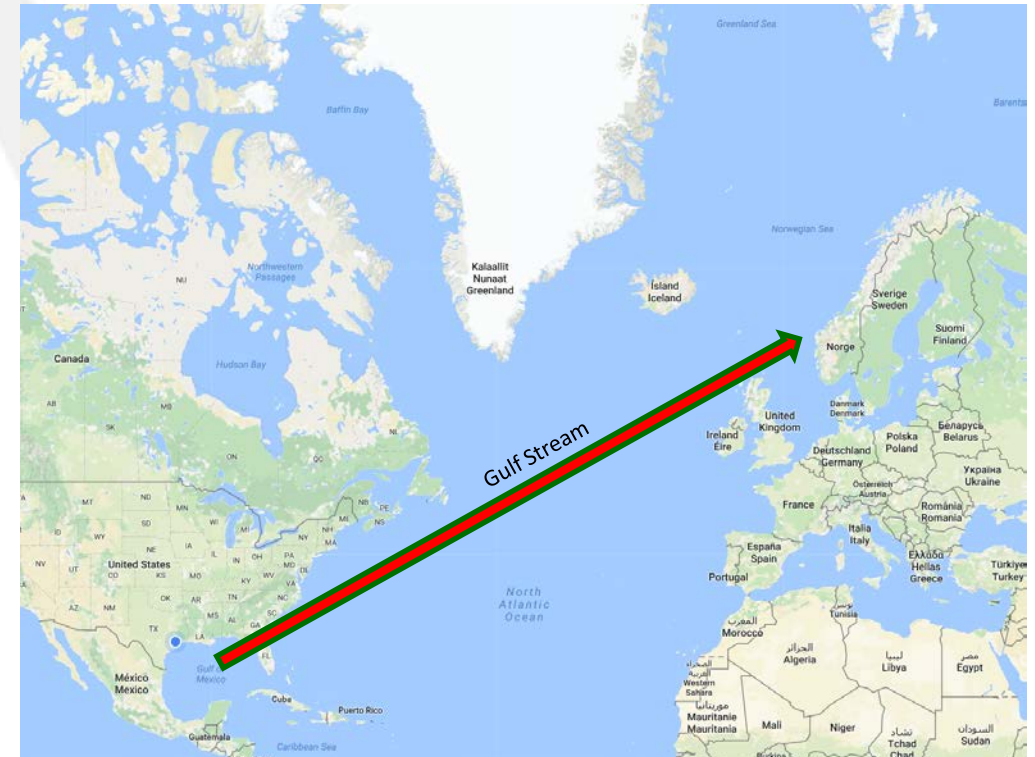
By

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Petroleum Safety Authority Norway



Topics included in the presentation

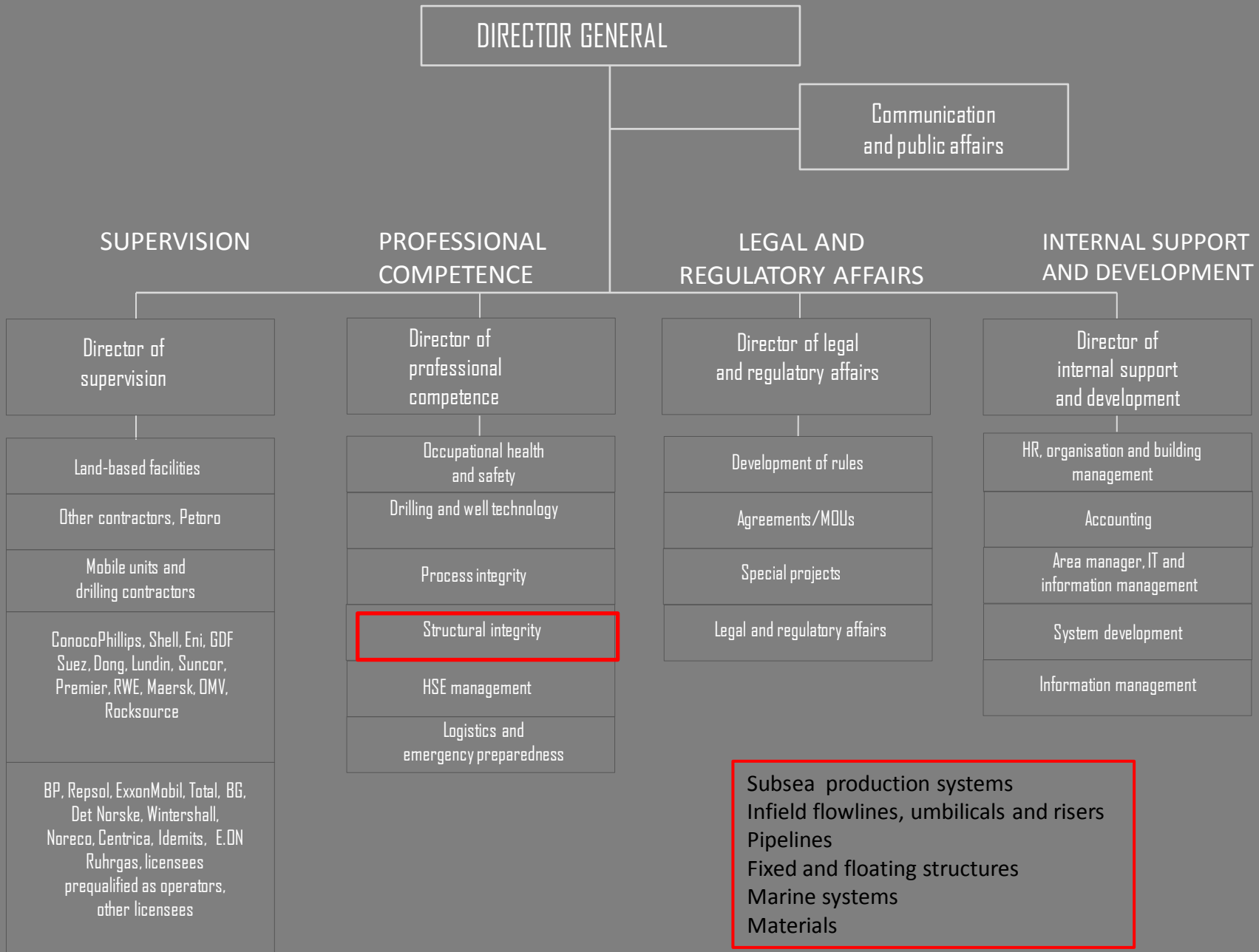
- Petroleum Safety Authority Norway (PSA)
- Reversing the trend
- Use of Standards in PSA's regulations
- Highlights from *Trends in risk level in the petroleum activities 2016 (RNNP)*



Petroleum Safety Authority (PSA)

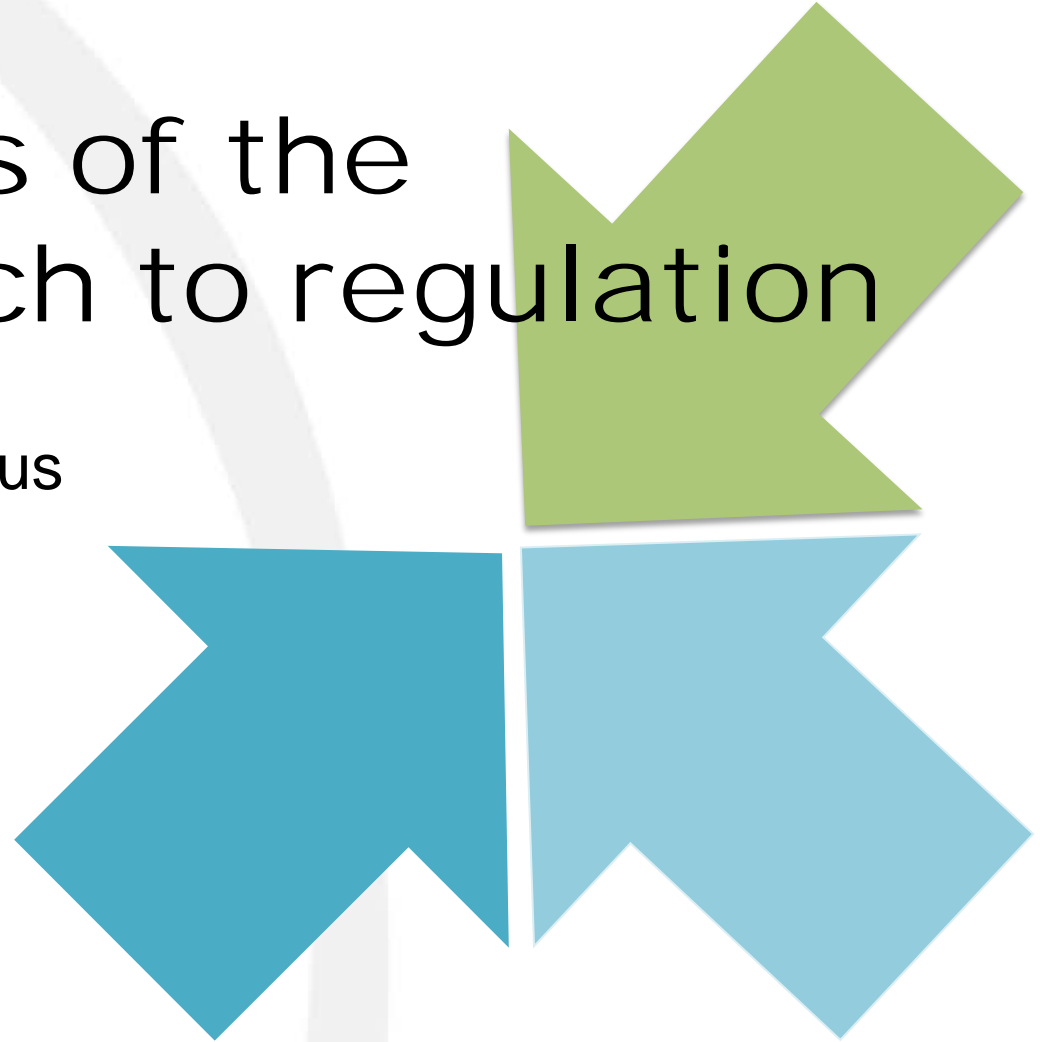
- Established in 1972 as part of the Norwegian Petroleum Directorate – Independent regulator from 2004
- Regulator for technical and operational safety, including emergency preparedness, and for the working environment in all phases of the petroleum activity
- Authority has been delegated for:
 - issue regulations for the petroleum sector as authorized by legislation
 - undertake overall safety assessments
 - take decisions on consents, sanctions and exemptions from regulatory requirements.
- Report to the Ministry of Labour and Social Affairs
- About 170 employees
- Collaborate with other HSE regulators nationally and internationally





Distinctive features of the Norwegian approach to regulation

- Ensuring that companies are conscious of their responsibilities.
- Tripartite collaboration between companies, unions and government.
- Trust and openness.



REVERSING THE TREND

MAIN FOCUS
2017

The industry is changing and being challenged. Pressures are growing. The past two years have been characterised by serious incidents and safety challenges.

This trend will be reversed in 2017 – with us as the driving force and industry as the implementer.

How will **your** company and **your** organisation contribute?



PETROLEUM SAFETY AUTHORITY
NORWAY

PTIL/PSA

Three **defined** areas



Collaboration

Collaboration between the various sides in the petroleum sector is under greater pressure, both between companies and unions and between them and the government. Such bi- and tripartite interaction occupies a key place in Norwegian safety efforts.

Consequences of a weakened cooperation could include a poorer basis for important decisions by company managements, and weaker entrenchment with employees of important choices for the way forward.





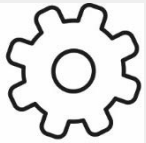
Three **defined** areas

Robustness

The industry is making major changes to cut costs and become more efficient.

We are worried that such optimisation will increasingly squeeze margins in technical facilities, operating systems and organisations. The end result could be reduced robustness.





Three **defined** areas

Standardisation

Norway's petroleum sector is among the leaders for standardisation and the use of standards.

Standards are an important part of the basic norms as the functional regulations are based. We will work closely with the industry to contribute to increased use and further development of good standards.





Standardisation: trends

- **Standardisation – industry level**
 - Increased pressure on cost-efficiency in standards. Technical content and level under challenge.
 - The danger exists of a growing backlog in updating Norsok standards.
- **Use of standards – company level**
 - The overall extent of internal company specifications has increased.
 - More use of internal company specifications instead of norms set by standards.



Management regulations Section 24 Use of recognised standards

- When the responsible party makes use of a standard recommended in the guidelines, the responsible party can normally assume that the regulatory requirements have been met.
- When other solutions than those recommended in the guidelines are used, the responsible party shall be able to document that the chosen solution fulfils the regulatory requirements.



PSA's references to standards for offshore petroleum activities

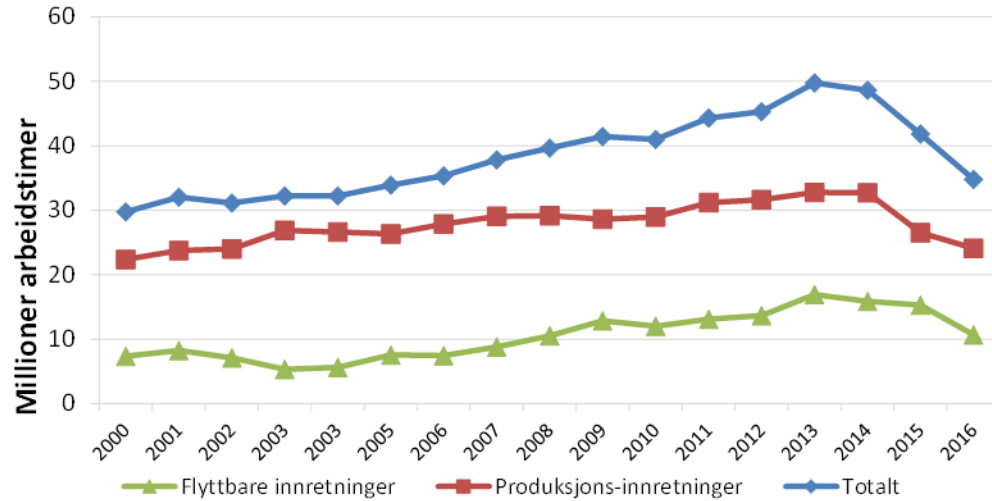
Standards referred to from PSA's guidelines to the regulations for offshore petroleum activities.	Number of standards
International Electrotechnical Commission (IEC)	11
International Organization for Standardization (ISO)	41
European Standard (EN)	19
NORSOK standards	48
Norwegian Standard (NS)	5
Norwegian Oil and Gas Association (NOROG)	6
The Norwegian Shipowners' Association (NR)	2
International Maritime Organization (IMO)	6
Nordtest (NT)	2
European Diving Technology Committee (EDTC)	1
DNV GL	21
The International Marine Contractors Association (IMCA)	1
American Petroleum Institute (API)	2
Totalt	165

PSA Structural Integrity Section – key standards

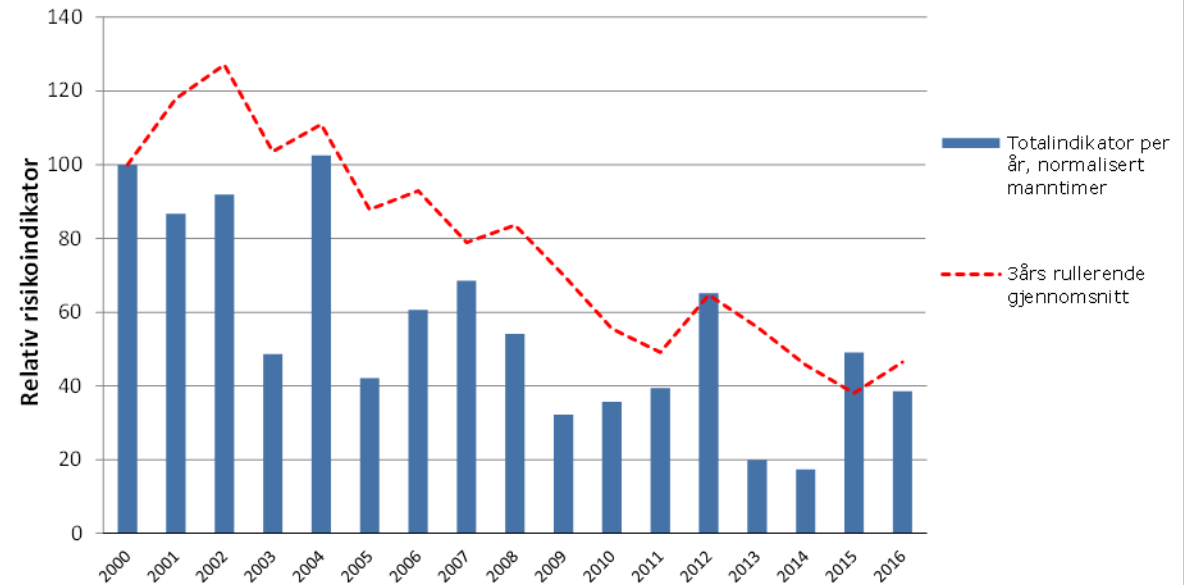
Subsea facilities	NORSOK U-001 ISO 13628 Design and operation of subsea production systems
Risers	DNV-OS-F201 Dynamic Risers API Spec 17J Specification for Unbonded Flexible Pipe
Pipeline	ISO 13623 Pipeline transportation systems DNV-OS-F101 Submarine Pipeline System
Structures	NORSOK N-001 Integrity of offshore structures + other N standards
Materials	NORSOK M-001 Materials selection + other M standards



Trends in Risk Level in the petroleum activity 2016



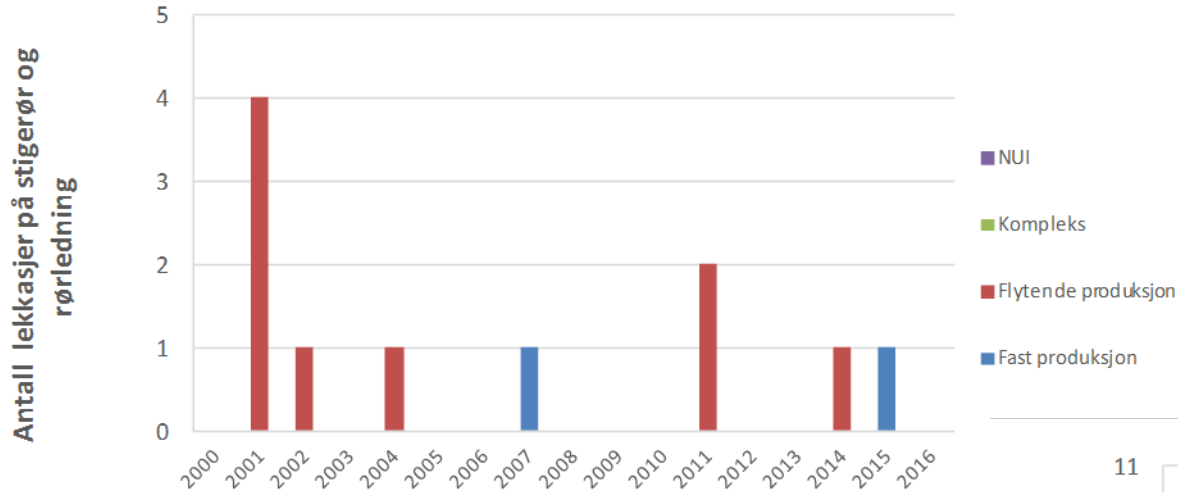
Trends in million working hours on MODUs (flyttbare innretninger) and production facilities (produksjons-innretninger).



Total risk indicator, production facilities, normalized against working hours, annual values and three-year rolling average.

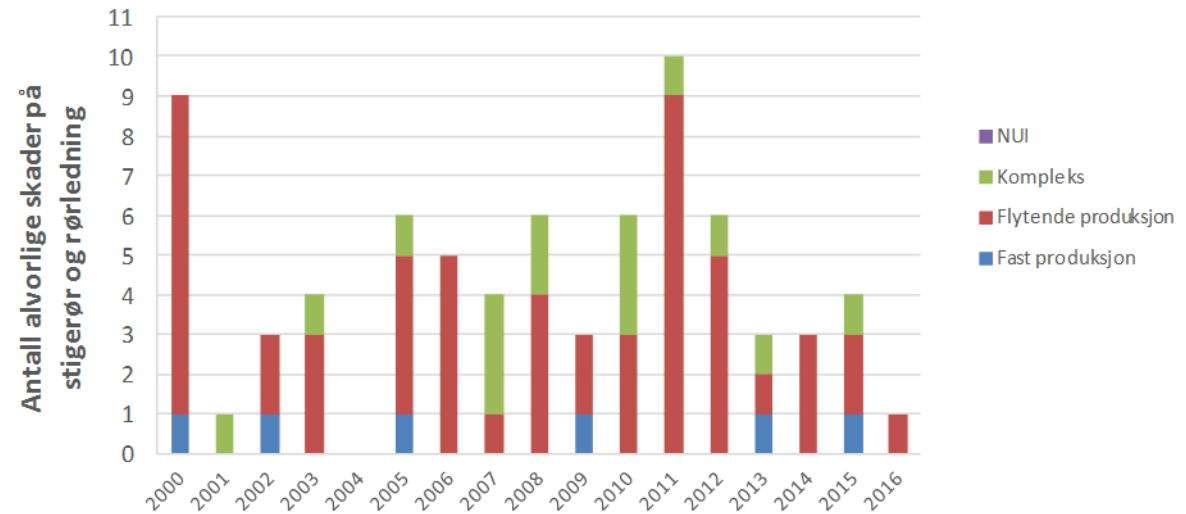


Trends in Risk Level for risers, pipelines and subsea production systems.



Translations:
 NUI = Normally not manned platform,
 Kompleks = cluster of platforms,
 Flytende produksjon = floating production units,
 Fast produksjon = fixed production platforms.

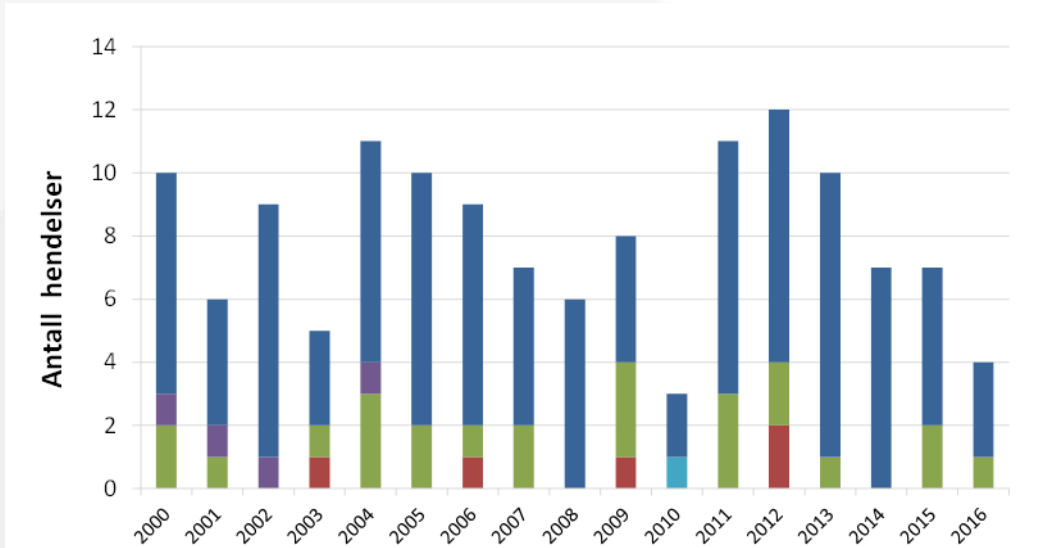
Number of leaks for riser & pipelines within the safety zone



Number of incidents involving serious damage to riser & pipelines within the safety zone.



Trends in Risk Level for structural integrity and marine systems.

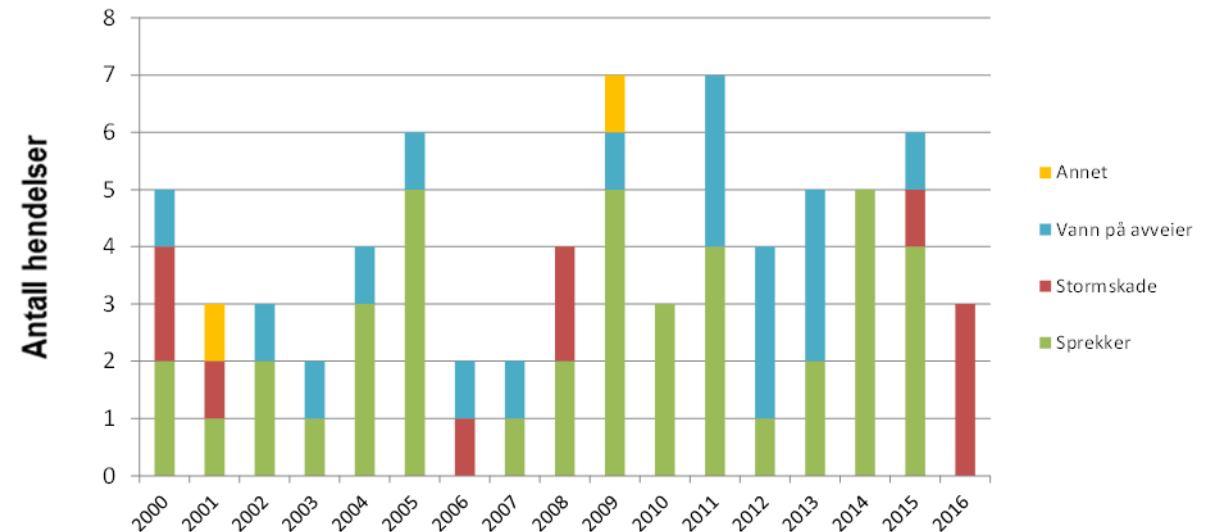


Number of serious incidents involving damage to structures and maritime systems.

■ Flyttbar
■ NUI
■ Kompleks
■ Flytende produksjon
■ Fast produksjon

Translations:
 Flyttbare = MODUs,
 NUI = Normally not manned platform,
 Kompleks = cluser of platforms
 Flytende produksjon = floating production units,
 Fast produksjon = fixed production platforms.

Translations:
 Annet = other
 Vann på avveier = stability and ballast failure
 Stormskader = damages caused by waves.
 Sprekker = fatigue cracks



Number of serious incidents involving damage to structures



Link to PSA's homepage:
http://www.ptil.no/?lang=en_US

Safety – status and signals - New issue

Read more about the background to the PSA's main issue for 2017. What is the position? What is needed to reverse the trend?

Read webzine

REVERSING THE TREND

Rules and regulations §

Supervision and agreements 👁

Main issue 2017 !

- News 📣
 - 03.05.2017
Audit at Ringhorne
- Audit reports 👁
 - 03.05.2017
Audit of Johan Sverdrup
- Consents ✓

Audit at Ringhorne

We have carried out an audit of ExxonMobil's management of emergency preparedness at Ringhorne.

