



**On the occasion of the official visit to Australia of
Mr. Jens Stoltenberg, Prime Minister of Norway**

The Royal Norwegian Embassy, Innovation Norway and
INTSOK – The Norwegian Oil and Gas Partners
have the honour to invite you to a

Safer and Cleaner Production Conference

On Thursday, 8 December 2011 from 8:30am at Parmelia Hilton Hotel, Perth

The Prime Minister of Norway will be present at the Closing Plenary at 4.15 p.m.

All delegates are cordially invited to mingling and refreshments
at the Outside Piazza directly after the Closing Plenary

RSVP:

INTSOK

Mrs Nikki E. Mooki

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by cob Thursday, 1 December 2011

Venue

Parmelia Hilton Perth Hotel

14 Mill Street

Perth

Australia

Program enclosed

No participation fee

Please confirm your participation for the Conference and/ or the Closing Plenary

On [INTSOK's website](http://www.intsok.com) or to nikki@intsok.com (name, name of company, title, e-mail)

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Safer & Cleaner Production Conference

8 DECEMBER 2011 | PERTH, AUSTRALIA

Supported by:



In cooperation with:



Safer & Cleaner Production

Conference program



| Thursday 8 December 2011 | Parmelia Hilton Hotel | Perth, Australia |

CHAIRMEN: **Mr. Håkon Skretting, Regional Director, INTSOK**
 Mr. Tore Moe, Oil and Gas Advisor Australia, INTSOK

07:45 Registration & coffee

OPENING SESSION

08:30 Welcome

Chairmen

08:35 Key note

Mr. Per Rune Henriksen, Deputy Minister / State Secretary, Ministry of Petroleum and Energy, Norway

08:50 Introduction to the Norwegian Oil and Gas Industry

Mr. Håkon Skretting, Regional Director, INTSOK

SESSION 1: DESIGN PHILOSOPHY AND RISK MANAGEMENT

09:00 Environmentally sound solutions for deep water gas field developments

Many Australian gas fields are located in deep water areas far offshore, demanding huge facilities in challenging environmental conditions. Based on decades of experiences from designing platforms for the North Sea, Aker Solutions offers safe and environmentally sound solutions to deal with these challenges.

The presentation will highlight some of the North Sea solutions relevant for application in Australian developments. Including examples from our design for Ichthys floaters and Browse TLP's.

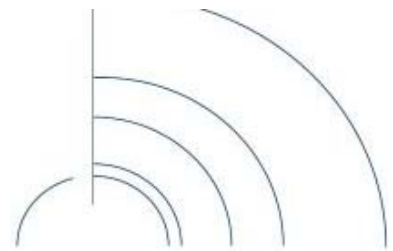
Mr. Henning Østvig, Senior Vice President, Front-End & Technology, Aker Solutions

09:15 Designing to ALARP in a Safety Case Regime: It's not rocket science, it's harder!

The aim of the presentation is to provoke thinking on how to reduce risk on offshore facilities to as low as reasonably practicable (ALARP) through design. The principles are simple, but delivery through design decision making is seriously challenging to achieve. Classical processes are premised on explicit criteria usually embedded in functional specifications and an array of well established standards. ALARP, by contrast, is not explicit. A range of risk controls need to be explored and implemented to the point that the benefit / penalty equation is in gross disproportion. Why is this so difficult? Is it a technical problem or is it a people problem? The presentation explores a simple design case involving flare radiation, in the setting of a typical project organisation, to demonstrate just how challenging ALARP can be. Effective solutions lie first in uncovering the problems.

Mr. Kim Buhler, Technical HSE and Risk Manager, Kvaerner

09:30 Coffee and tea break



10:00 Innovation redefines the LNG landscape

The global energy industry is exposed to two major development trends:

- *Ever increasing focus on environmental emissions*
- *Increasing price disparity between oil and natural gas.*

In the downstream area, three key developments are significant:

1. *The implementation of LNG as maritime fuel*
2. *The implementation of LNG in land transportation*
3. *The implementation of LNG in power production*

DNV has made a comparative study that demonstrates that LNG is the preferred solution on many cases, but that a more efficient supply infrastructure to end customer supplied from large scale and effective liquefaction and bulk transportation will boost the development and unlock a large new market for LNG

Mr. Paul Thomas, Deputy COO Asia Pacific Middle East, Det Norske Veritas (DNV)

10:15 Third party verification of critical software

Modern ships and rigs have advanced computer systems for dynamic positioning, power generation and distribution, and drilling operations. Software errors in these systems lead to delays and non-productive time, and compromise safety.

Marine Cybernetics performs third party testing and verification of control system software to detect and eliminate such errors and weaknesses using Hardware-In-the-Loop (HIL) testing technology.

Safe software – safe operations

- *Reducing risk for incidents and accidents*
- *Reducing risk for off-hire and non-productive time*
- *Securing safe and reliable operations*
- *Securing flawless startups*

Benefits of HIL testing

HIL testing enables thorough and efficient testing of control system software without risk to man, vessel, or equipment. This includes testing of safety critical software barriers that otherwise cannot be tested before they are needed. HIL testing is performed at a time and place that fits in with the vessel construction or operation, preferably at a lab facility.

Mr. Håvard Røsvik, International Sales Manager, Marine Cybernetics

10:30 Reduction of carbon emissions in the oil and gas industry

Xyntéo will present the new and holistic CDS methodology enabling business leaders to improve their understanding of where and why direct and indirect greenhouse gas emissions originate over the life cycle of a project. The new approach includes detailed mapping and linking of emissions and decisions. The last step in the analysis process is to model scenarios where key opportunities to reduce emissions are explored. The methodology is especially suitable for studying large and complex infrastructure projects, such as the development of oil and gas fields. Xyntéo is currently working on CDS projects in Norway as well as in Australia. The presentation will highlight some of the lessons learnt.

Mr. Ivar Valstad, Project Manager, Xyntéo



10:45 Tougher requirements challenge the industry - add energy provides improved solutions for blow-out and environmental control

Better environmental control and reduction of emissions to air and discharges to sea has become a key priority in oil and gas exploration and production, increasingly focused on by public, regulators and other stakeholders. add energy is a specialist that provides studies and advisory services as well as recognised software for improved environmental control for the upstream oil and gas activities.

Well control is a key to safe and clean operations. add energy is an internationally recognised expert provider of well risk management, blowout contingency plans and on-site well kill support if an accident happens. add energy was a key contributor of expertise in the kill operations of both the Montara blow out in the Timor Sea and the Macondo blow out in the Gulf of Mexico.

The add energy group, through its presence in both Norway and Western Australia, is working with local governments, oil companies and service industries. Through co-operation and by application of appropriate technologies and practices we help our customers to achieve the goal – a cleaner and safer industry.

add energy will present their capabilities, solutions and software in the above mentioned areas.

Mr. Stig H. Christiansen, CEO, add energy group as

11:00 Coffee and tea break

SESSION 2: CONSTRUCTION

11:30 Innovative fireproofing – safer operations

Challenge: Conventional Passive Fireproofing (PFP) of Structure, Flanges and Valves are time consuming and challenging to integrate in new build and even more difficult and costly to conduct on a hot installation. Malfunction of same represent a danger to personnel, property and environment.

Beerenberg Solution: Pre fabricated and removable solutions that reduces man-hour consumption and on site interface by more than 50%. Allow for regular inspections and eliminate the danger for malfunction. Competitive cost and superior Life Cycle Cost (LCC) has established these solutions as best practice on the NCS (Statoil.: Gjøa, Snøhvit, Ormen Lange)

Mr. Øistein Lillelien jr., Vice President, Business Development, Beerenberg Corp. AS

11:45 Wireless gas detection for Hydrocarbon leakage monitoring

GasSecure will present their new wireless infrared gas detector and their SafeWireless™ communication solution. The detectors operate with significantly lower power consumption than other detector units. This enables battery operation with 2 years battery life. In addition, the gas detection system is SIL2 rated, does not need recalibration and performs equally or better than traditional optical detectors. The detectors are ideal for fixed installation and as portable monitors. Higher detector coverage increases safety and ease of installation reduces system costs with 60-80%.

Mr. Knut Sandven, CEO, GasSecure



12:00 Visions for future subsea developments

FMC will discuss their vision for the future based on increasing use of Subsea Processing on how an all subsea solution represents a safer and cleaner solution for offshore field developments. The presentation will also present the similarities in environmental challenges between Western Australia and the Barents Sea. A review of the Gazprom Kirinskoye field development and its challenges and opportunities will be discussed as well as updates on the latest in Subsea processing from a global perspective.

Mr. Mike Robinson, Manager - Sales & Marketing Australia & New Zealand, Subsea Systems, FMC Technologies

12:15 Subsea compression increasing safety

Subsea processing and gas compression is a cost effective solution for gas fields requiring pressure boosting. In addition there are considerable benefits with respect to offshore safety through eliminating the need for offshore manning, helicopter transport and offshore supplies. Typical applications are gas fields with long tie-backs to onshore plants or to host platforms.

This presentation will describe the subsea technology developed for the subsea compression system, a short status on Ormen Lange pilot (a full scale 12,5 MW compression train under testing) and an introduction to the Åsgard Subsea compression system under construction.

Mr. Greg Ross, Vice President, Aker Subsea

12:30 Lunch

SESSION 3: SAFER AND CLEANER OFFSHORE OPERATION

13:30 IOR Technology and Integrated Operations -true contributors to Safe and optimum utilisation of the hydrocarbon resources in place

Insight into Framo Engineering's well proven subsea multiphase pump and compressor technology and its impact on production increase and reservoir recovery factors. The technology is supported by Framo's integrated 24/7 remote monitoring and operations system, which has proven to have a very good impact on equipment uptime and run-life and therefore constitutes yet another considerable contributor to the safe and economic production of oil and gas.

Mr. Jon Arve Sværen, Sales Director, Framo Engineering AS

13:45 Improved safety and optimised flaring using Dynamic Simulation

The use of dynamic process simulation is beneficial to many parts of the engineering phase, from project feasibility and conceptual design through to plant retrofits and process improvement projects. The Kongsberg Oil and Gas Technologies' Lifecycle Simulator concept aims to use a single dynamic process simulation model throughout the project life to help improve safety and optimise flaring during start-up as well as routine operations. Dynamic process simulators are being successfully utilised in various work processes such as verifying and rectifying facility start up procedures, control system logic and safety logic; verifying process design; training operators in normal and abnormal operations; and assisting real time operating decisions with online monitoring and predictive modelling capabilities to minimise production downtime and hence reduce flaring.

Mr. Shane McArdle, Project Manager, Kongsberg Oil & Gas Technologies



14:00 How can new telecom technology contribute to cleaner and safer oil & gas production?

The oil and gas industry is developing new operational methods (Integrated Operations) based on increased co-operation between offshore and shore-based teams. Using high capacity, resilient and low latency communication network connecting offshore platforms to shore, the O&G industry can gain enormous environmental and HSE benefits. Automated platforms, less people offshore, less requirements for transport and increased surveillance are some examples. Today, over 100 platforms are connected to a similar network in the North Sea, and the benefits can be documented.

Mr. Per Helge Svensson, Managing Director, Tampnet

14:15 Zero emission from FPSO's - environmental and economic benefits

Hamworthy has developed a novel approach to handle flare emissions and hydrocarbon losses from a oil and gas producing facility. The flare system is the main safety system on all hydrocarbon producing facility, but the visual flare is also a sign of wasted resources and pollution. On floaters with oil storage capabilities (FPSO's) the VOC (Volatile Organic Compounds) being vented from the oil storage tanks are also a main source of hydrocarbon releases. The basic idea behind this technology is that it should be possible to operate such a facility in a safe and efficient way with no flaring or VOC venting during normal production.

Mr. Bjørn E. Hartveit, Business Development Manager – Gas Recovery Systems, Hamworthy

14:30 Coffee & tea break

15:00 Hiload DP - Increased safety and regularity in offloading for direct export

- *Hiload DP independent of water depth and vessel type*
- *Provide DP capabilities to conventional vessels when attached (higher safety/higher regularity)*
- *No need for transfer terminals (less emission, fewer operations also less chance for accidents)*
- *State of the art equipment for oil monitoring system*
- *No need for mooring (less impact to seabed)*

Mr. Peder E. Farnen, CEO & President, Remora ASA

15:15 New generation fuel efficient vessels

In response to a marine operating environment where fuel efficiency and reduced carbon emissions are key industry challenges, DOF has introduced into service vessels incorporating new technology to reduce fuel consumption and emissions in three key areas.

LNG powered vessels are designed to provide LNG projects with a fuel efficient and low emission alternative for platform supply vessels.

Eco Drive bow designs reduce hull resistance and improve fuel efficiency by incorporating three different bow designs into one unique shape.

Hybrid power systems offer multiple main propulsion combinations to optimise efficiency and reduce fuel consumption and emissions.

Mr. Steve Brown, Executive Vice President Asia Pacific, DOF Subsea



15:30 Proactive response to oil spills

We see a clear division of response approach to oil spill accidents at sea. We may divide this in two categories. Reactive response and proactive response. The choice of response method is dependent on the preparedness scheme. Organisational model, division of responsibilities and availability of suitable equipment. To minimise oil spill effect on environment and to minimise operational recovery costs, - time of response is crucial. Implementation of "The Barrier Principle" is essential. Systems for detection and projection of floating oil, systems for effective communication and coordination of resources, availability of effective and reliable equipment and most importantly trained personnel.

Mr. Trond Helge Hansen, Executive Marketing Director, Norlense

15:45 Concluding remarks

16:00 Close of Conference

All delegates to relocate to Argyne Ballroom for plenary session

CLOSING PLENARY SESSION

16:15 The future of oil & gas and shipping & maritime offshore industries

Mr. Jens Stoltenberg, Prime Minister of Norway

16:45 Networking and refreshments

Contact INTSOK



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