



Australia Floating Production Technology Conference

14 November 2018 | Perth, Australia

Agenda
Abstracts

In cooperation with:



Norwegian Embassy

Agenda

Chair *Tore Moe, Energy Advisor - Australia, NORWEP*

09:30 **Registration & Coffee/Tea**

OPENING

10:00 **Welcome & Introduction**
Tore Moe, Oil & Gas Advisor – Australia, NORWEP

10:10 **Opening**
Paul Gulleik Larsen, Ambassador, Norwegian Embassy

10:25 **Key Note – Browse Development**
Daniel Bathe, Development Manager Browse, Woodside

10:40 **Lean Floater Design**
Dr. Rod Pinna, Lead Substructure Engineer, Aker Solutions

11:00 **Vendor Engagement, how can we make a difference to the project?**
Sigve Gjerstad, Sales Manager Oil & Gas Pumping Systems, Framo

11:20 **Remote operations and reduced manning with a digital eco system**
Øyvind Vigeland, Senior Manager - Business Development, Aibel

11:40 **Cost and weight effective, innovative design against DRAG Loads from Accidental Explosions**
Nicolas Salaün, Technical Lead Consulting, Gexcon

12:00 **Lunch and Exhibition**

13:00 **Optimal design of monoethylene glycol (MEG) systems for hydrate inhibition**
Marion Seiersten, Chief Scientist, IFE - Institute for Energy Technology

13:20 **Fire and Gas detection with automatic and calibrated inspection**
Geir Solem, Regional Manager Asia Pacific, Autronica Fire and Security

13:40 **Optimization of process system performance and availability through remote monitoring and NOV's GoConnect™**
Kristian Magnus Jensen, Director – HIT Wellstream Processing, NOV Completion & Production Solution

14:00	New Compact Gas Dehydration Technology Bjørn Kristian Neumann, CEO, Minox Technology
14:20	Future solutions for safety at sea Frode Grøvan, SVP Sales and Marketing, Norsafe
14:40	A smarter support system: The key to increased engineering and installation productivity, supporting low offshore manning Geir Seland, COO, Oglænd System
15:00	Afternoon Refreshments and Exhibition
15:30	Cylindrical floater for harsh environment Knut Bredahl, Head of Business Development, Sevan SSP
15:50	Intelligent Maintenance and minimized manning for offshore facilities Jon Klakeg, Senior Technical Advisor, ABB
16:10	Utilizing Intelligent Inspection Software During Operations Fergus Murray, Vice President - APAC, Axess Group
16:30	Sensor Based Holistic Hull Structure Monitoring Francois-Xavier Sireta, Technical Lead, Singapore, DNV GL
16:50	Closing remarks
17:00	Reception hosted by The Royal Norwegian Ambassador

Norwegian Energy Partners

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<http://norwep.com>

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Speaker

Jon Klakeg, Senior Technical Advisor

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- Holds a M.Sc. in Technical Cybernetics
- 30 years work experience within Oil & Gas industry.
- Standardization of deliveries to OGC industry for offshore fixed installations and FSU/FPSO
- Various positions within R&D, Project Management, Engineering for OGC upstream and midstream for approx 30 years.
- Background in Automation Systems design, Automation and Electrical integration and industrial SW development

Presentation Title

Intelligent Maintenance and minimized manning for offshore facilities

Abstract

ABB is the leading Automation and Power supplier. ABB is a pioneering technology leader that works closely with our customers to write the future of industrial digitalization and realize value.

The drive in the Oil and Gas Industry to reduce cost mean oil companies and FPSO contractors need to be more efficient and develop smarter approaches and solutions.

Through the use of digital solutions, productivity can be increased, manning reduced and over-spending can be curbed, leading to increased efficiency.

This session look at the use of intelligent maintenance philosophies to improve operations and maintenance of offshore facilities. By integrating process data, mechanical data and electrical date we are able to optimize the delivery of Automation and Electrical systems and minimize the cost for maintenance for Offshore facilities. We will use the data to predict the performance of the systems and avoid downtime of the facility. This will further enable centralized operation of the facility and use of expert functions from remote locations to enable reduce manning on the offshore facility.

Key Learning Outcome

- ABB capabilities in Oil, Gas & Chemical industry
- Market trends for unmanned installations
- ABB Concepts used and Design criteria
- Available Technology

Speaker

Øyvind Vigeland, Senior Manager - Business Development

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Øyvind Vigeland holds a master degree in mechanical and chemical engineering from Norwegian University of Science and Technology. He has been with Aibel for 13 years, holding various positions within strategy, business development, tender management, studies and project management with main focus on Floating Production projects. Øyvind also spent 3 years in Singapore being responsible for implementation of Aibel's international strategy.

Presentation Title

Remote operations and reduced manning with a digital eco system

Abstract

In a competitive offshore market operators have put reduced life cycle cost of offshore oil and gas production high on the agenda. A key element in this, especially in high cost regions such as the North Sea and Australia, is increased focus on low or unmanned solutions, remote operations and the use of advanced digital solutions from a project execution and operations perspective.

The presentation will take the offshore contractor perspective and cover the challenges and opportunities both from a design and operations perspective in the context of the available and future potential in digital- solutions and eco systems. In this context recent experience from previous and ongoing projects such as the Johan Sverdrup P2 project and relevant studies for Equinor, Shell and Lundin Petroleum will be included for reference.

The presentation will include a contractor's view on the importance of a holistic perspective of the offshore industry value chain and aligned semantics in the digitalization's efforts to ensure the potential synergies and cost reductions can be achieved. Including the sharing of operational data and development of equipment with reliability and service intervals suited for low and unmanned operations.

Key Learning Outcome

Implementation of digital solutions in project execution and operations, Low- and un-manned offshore facilities.

Aker Solutions

Speaker

Rod Pinna, Lead Substructure Engineer

Rod.Pinna@akersolutions.com / ...

Dr Pinna has over 20 years of engineering experience in the design of offshore structures, having worked on the concept, FEED and the detailed design of new build offshore platforms and projects involving modifications to existing facilities. He has been a lead engineer or engineering manager of projects of all sizes, from concept to detailed design, with particular skills in the use of advanced structural analysis. His academic work has focused on the design of offshore structures and the behaviour of thin walled shells. He has been involved in the concept design of a number of unmanned facilities, including recent work on unmanned semi-submersibles.

Presentation Title

Lean Floater Design

Abstract

Current industry practices of prescriptive design and duplication of previous work on offshore oil and gas facilities have often caused relatively simple design requirements to be executed as large, maintenance-heavy, expensive platforms. The question of whether equipment is technically justified is rarely asked, and the potential benefits of minimized systems are rarely realised. By adopting lean design thinking, where all equipment must be technically justified as essential to operation before being included on the platform, the benefits are twofold. Firstly, personal safety is improved as less equipment is required to be maintained offshore, meaningless offshore man-hours. Secondly, significant cost savings can be achieved as less offshore equipment means smaller platforms. Previously, these approaches have been applied to the design of the topsides of fixed structures, however considerable opportunities exist to apply similar thinking to floating facilities. To do so requires consideration of the interaction of operational requirements, safety considerations, the requirements of classification societies and the use of new technology. This paper will outline concepts have been developed by Aker Solutions to delivery truly lean and potentially unmanned solutions for floating platforms.

Key Learning Outcome

- Differences in requirements between fixed and floating facilities
- Use of new technology and design approaches to enable Lean Floater Design

Autronica Fire and Security

Speaker

Geir Solem, Regional Manager Asia Pacific

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Geir holds a M.Sc. within Electronics and Instrumentation ensuring he knows how to approach the security aspect of a Fire and Gas detection system. He has been with Autronica focusing entirely on Fire and Gas detection for more than 10 years, and been involved in everything from sales and application to project management and commissioning activities. Even now in a more commercial position he still has a technical approach to his daily work, knowing that we cannot compromise on safety for such an important system.

Presentation Title

Fire and Gas detection with automatic and calibrated inspection

Abstract

AutronicaFire and Security is a leading innovator, manufacturer and supplier of Fire and Gas safety systems in the Oil and Gas industry. Autronica designs and manufactures interactive addressable systems with independent SIL-2 certification. With functions that give substantial installation, operational and lifecycle cost savings, Autronica is in front with the development.

All the devices in the AutoSafe Integrated Fire and Gas detection system contains advanced functionality for testing and diagnostic. Not only does every single detector daily perform a self-verification test, this is also a calibrated test. Besides limiting the need for manual testing it will also ensure your devices maintain their sensitivity. The presentation will focus on showing how the test can minimize manual testing, also by referring to a case study from a North Sea installation.

Key Learning Outcome

- How to significantly reduce the need for manual testing for a Fire and Gas detection system
- How to ensure sensitivity is contained for all F&G detector

Axess Group

Speaker

Fergus Murray – Vice President - Asia Pacific

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Fergus Murray has been working in the oil and gas industry for 10 years. He has held operations and country manager roles and is now responsible for the Asia Pacific region for the Axess Group.

Presentation Title

Utilizing Intelligent Inspection Software During Operations

Abstract

The Axess Group has designed and developed its own proprietary inspection software - Axess Bridge™ - for the oil and gas industry. We saw the need to move away from traditional and manual spreadsheet methods, which are not only time consuming and laborious, but also paves the way for inaccuracies. Axess Bridge™ digitalizes all inputs, provides one central information hub, minimizes human error and subsequently boosts overall project efficiency and effectiveness.

The software, which has been designed by Axess' expert engineers for the specific purpose of inspection, is intuitive and relevant for inspection related projects. With all data centralized on cloud servers, users can access relevant information and facilitate remote benchmarking between different assets at anytime and anywhere – both online and offline.

Axess Bridge™ and its modules, span across lifting gear inspections, non-destructive testing, pressurized system inspections and material handling plans, to mention a few. Since the rollout of Axess Bridge™, we have seen monetary savings of up to 20% year on year, which is attributed to less time being needed for onsite inspections and reporting.

This paper will describe the ways Axess and our software, can enhance your operations and maintenance allowing it to be smarter, standardized and more economical. Clients references include Equinor (formerly Statoil), Teekay, Yinson Production, Transocean, Dolphin Drilling, Seadrill, Floatel

Key Learning Outcome

- How Axess' inspection software can be used to save time and cost during annual inspections
- How Axess' inspection software can add to productivity and standardize processes and reports

Speaker

Francois-Xavier Sireta, Technical Lead, DNVGL Singapore

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Francois-Xavier Sireta Graduated from Ecole Centrale de Marseille in 2006 and followed the master degrees' program for marine engineering from NTNU in Trondheim in 2005-2006. He worked at Bureau Veritas Paris as a research engineer in the R&D department for marine and offshore, focusing on the development of numerical tools and methodologies for hydro-structure interactions for floaters, including the dynamic vibration effects due to wave impact, whipping and springing. In 2014 joined DNVGL in Singapore as a technical lead in the offshore and marine services department, focusing on technical advisory services for naval architecture, mooring, as well as the development of new technologies in that field, using machine learning and other cutting edge technologies.

Presentation Title

Sensor Based Holistic Hull Structure Monitoring

Abstract

For offshore assets, operational safety and cost efficiency have become increasingly important, in a safety conscious environment and difficult market conditions. When it comes to hull structures, an optimised inspection and maintenance plan is the key to achieving safe and cost effective operations. Such plan can only be derived when one has a deep understanding of the main failing mechanisms in the structure and of the loads that it is facing. The most accurate way to understand how a hull responds to waves and have a picture of its condition, is to measure the structural response using sensors like strain gauges. By doing so, one is getting rid of all the usual assumptions on wave loads and structural response which are made in standard desktop analyses. The main drawback of using sensors is that only a limited number of them can be used so in most current implementations, the structural response is only monitored in a few selected areas.

DNV GL has developed a method to combine sensor data with a global 3D model of the hull structure, which allows the complete reconstruction of the structural response everywhere in the hull, based on the measurements from only a few sensors. This method relies on a technology called inverse-FE method which was adapted to the problem of a structure floating in waves. Using that technology, we can monitor the fatigue damage and extreme stresses in the whole hull in real time. From that new insight, an optimised inspection and maintenance plan can be developed and updated throughout the life of the structure, leading to safer and more cost-effective operations.

Key Learning Outcome

The development of this technology has given us a better understanding on how to optimise the sensors setups for structural monitoring and how a hull behaves in waves.

NOV Completion & Production Solution

Speaker

Kristian M Jensen, Director APT Hydrate Inhibition

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- 29 year with Norsk Hydro and Yara and 12 years with Aker solution/Fjords Processing and NOV
 - Wide international experience as project manager related to fertilizer, industrial gases, power generation, oil and gas, and as maintenance manager for large fertilizer plant
 - Working with gas projects located in APAC for the last 12 years (Pluto, Gorgon, Ichthys, Prelude, Petronas FLNG2)
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Presentation Title

Optimization of process system performance and availability through remote monitoring and NOV's GoConnect™

Abstract

NOV has a strong presence in Australia for our wellstream process technologies, being applied both onshore and offshore on key oil and gas production facilities.

NOV Wellstream Processing has developed the GoConnect™ digital service offering that aims to optimize process system performance and maintenance efforts. Through the use of sensors, instruments and controllers to monitor and collect data from the platform or vessel, we can characterise its behaviour and correlate this to operational conditions such as throughput and chemicals dosing. This enables our clients to reduce their operating costs and maximize system availability.

Our digital offering enhances the visibility of current and historical performance, reducing the need for offshore supervision as well as troubleshooting efforts. We can prevent failures from happening again by analysing data and system behaviour leading up to them, providing enhanced warnings or even prolonging the time for them to occur, thereby reducing unplanned downtime. It also provides relevant information of how tie-in of satellite fields will impact the performance of an existing facility – and aids to identify whether modifications will be needed to handle the additional production volumes.

Our GoConnect™ offering is a combination of a comprehensive selection of wellstream processing technologies and deep understanding of fluids behaviour from more than 40 years of experience, with NOV's track record of digitalization to solve actual issues. This differentiates our offering from remote monitoring initiatives by applying proven machine learning frameworks to detect patterns and traces from the captured data to provide the earliest possible detection of future issues.

Key Learning Outcome

- How to use modern digital technologies to optimize process system performance
- Potential for reduction of manning

Framo

Speaker

Sigve Gjerstad, Sales Manager Oil & Gas Pumping Systems

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Sigve Gjerstad holds the position as the Sales Manager Oil & Gas Pumping Systems. He joined Framo in 2001. Took the position as Development Manager in 2006 and became the Technical Manager in 2009, a position he held until he became the Sales Manager in 2018.

He holds a Bachelor of Mechanical Engineering Degree from University of Newcastle and a Master of Engineering from University of Cambridge.

Presentation Title

Vendor Engagement, how can we make a difference to the project?

Abstract

We have over the past decade seen an increase in engineering hours of 2 -3 times per ton topside. We are “drowning” in massive amounts of detailed company and project specifications, leaving no space for innovation, new thinking or supplier standardization. Everything is tailor made for each project driving engineering hours, endless clarifications and deviations without adding value to the project. Project execution models are fixed. Teams have become more specialized which leaves little room for multi-disciplinary thinking. Client – vendor relationships have become more distant and vendors have little chance of influencing system choices that could make a difference in the overall project execution phase and the total life cycle cost of the project

In order to turn this around, we need to work together in new ways and find partners across multiple disciplines. This means early key vendor engagement, working together with company and EPC contractors towards clearly defined and common goals. All to find good, long term and cost effective solutions for the field of the future. In this paper, Framo will share our experience and how our products and services can make a difference in your new projects. We will elaborate on how we have started working with clients in a long-term perspective using digitalization and product upgrades to enable normally unmanned facilities.

Key Learning Outcome

- Engagement of vendors and their knowhow in a project lifetime perspective
- System design philosophy, integration and operation involvement on a new level for normally unmanned installations

Speaker

Nicolas Salaün, Technical Lead Consulting

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Graduate from French Aerospace & Mechanics engineering school. Did additional specializations in Combustion, Deflagration & Detonation science (M.Sc.) and later on in Industrial Safety (M.Sc.). Worked as a safety engineer in the Oil & Gas in Technip for 7 years before moving to Gexcon in Norway 4 years ago, where he is now a Senior Safety Consultant for hazardous industries. He has worked lately upon building holistic approaches to perform safe design, in particular aligning the output from the safety studies along with the requested input to perform optimal mechanical design, for different types of loadings.

Presentation Title

Cost and weight effective, innovative design against DRAG Loads from Accidental Explosions

Abstract

Compliance with industrial standards for risk analysis ((NORSOK Z-013, 2010), (ISO 19901-3, 2010)) and safe design against accidental explosions is driving factors for development projects. Detailed input required for targeted design is easily available from CFD explosion analyses part of QRAs.

In an industrial explosion, objects are exposed to different types of loading. Smaller equipment is primarily affected by DRAG loads (the wind of the explosion). Design challenges often arise when small bore piping is defined as safety critical.

Although DRAG loads typically display large spatial variations, most of the contemporary assessments use a single Dimensioning Accidental Load (DAL) per area. Support requirements for piping and small pieces of equipment are derived from a single exceedance chart. Although practical and perhaps sufficiently detailed from a risk perspective, it under communicates the highly diversified nature of drag loading, disregards the large span in loads between areas, gives no guidance on what areas are exposed above average and if any preferential directional loading is observed. It doesn't give constructive recommendation when positioning drag sensitive units. All items are designed to the same standard including excessive conservatism in large areas.

The work explores solutions to improve DRAG reporting, especially how increasing spatial accuracy and directional dependency tackles these limitations and provides useful information for designing engineers. The outcome prevents excessive design load in low risk areas, reduce congestion level and weight.

Key Learning Outcome

How, in projects with high drag loads, an equivalently safe design can be achieved at lower constraints, weight and costs.

IFE - Institute for Energy Technology

Speaker

Marion Seiersten, Chief scientist / Deputy Department Head

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Work at IFE since 1996 in different positions. Major professional contribution: Regeneration of glycol used as hydrate inhibitor, internal corrosion of pipelines for oil and gas, and on application of titanium alloys. Responsible for the work on hydrate inhibitors at IFE.

Presentation Title

Optimal design of monoethylene glycol (MEG) systems for hydrate inhibition

Abstract

In deep water, long tiebacks to FPSOs require a flow assurance management strategy to avoid hydrate formation. For some of the projects that are now in the concept phase in Australia, this includes the use of monoethylene glycol (MEG). Continuous MEG injection in the production flowlines is likely to include processes to regenerate the MEG. The space required for MEG regeneration and storage can be considerable, and especially for offshore installations, there is a demand for solutions that can reduce the MEG volume. This presentation focuses on lessons learnt from existing MEG regeneration plants and how recent research can be utilised in the design of MEG systems. It will also discuss the possibility of reducing the MEG volume and the size of MEG regeneration systems by combining MEG and kinetic hydrate inhibitors (KHI).

The complexity of a MEG regeneration process is closely related to the salt content in the produced water and the chemicals that enter the MEG. A MEG regeneration plant that removes salts requires more attention and follow-up to avoid build-up of scale and handle accumulation of highly soluble salts. Preparedness by thorough analyses and testing of concepts and chemicals during the engineering phase is a key to smooth MEG regeneration.

For tie-ins where the subcooling requires the use of a thermodynamic hydrate inhibitor as MEG, it can be an option to combine it with Kinetic Hydrate Inhibitors (KHI) to reduce the volume. The presentation will discuss the challenges connected to regeneration of MEG that contains KHI.

Key Learning Outcome

Follow-up of MEG regeneration plants based on produced fluid composition and qualification of chemicals and concept. Possibilities for reducing MEG volumes by combining KHI and MEG.

Minox Technology

Speaker

Bjørn Kristian Neumann, CEO

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Bjørn has 23 years in the Oil & Gas industry. He worked as a service and commission engineer for 12 years, installing Gas turbine power plants offshore/onshore, water injection trains, gas export compressors. He has been a project and development manager of dynamic positioning systems and navigation systems to supply vessels and the Mega Yacht & Cruise ship industry

Presentation Title

New Compact Gas Dehydration Technology

Abstract

Minox Technology has invented a new compact way of natural gas dehydration, the Minox®DryGas. A large-scale test of the technology was conducted, in cooperation with Equinor (former Statoil), at K-Lab in Norway in 2017. Equinor now approves the technology for commercial use, TRL4.

The Minox®DryGas technology is based on years of experience with static mixers, in one or more stages, from other products developed by Minox Technology. It can replace the old, large and heavy contactor technology, for Gas Dehydration. The technology has major advantages at higher pressures, lower temperatures and where height, weight and space are constrained.

The presentation will demonstrate advantages of the Minox®DryGas technology compared to conventional technology. Extracts of the large-scale test results will be presented.

The new technology will contribute to smaller systems, easy to install at smaller, potentially unmanned installations. The technology is very flexible in layout and is therefore very well suited for brown-field installations. Can be installed as additional capacity or as enhancement for existing systems.

Next step in the development will be to transform it into a system for subsea installation.

This presentation will include test result simulations, real results from the large-scale test and experience from previous delivered systems for other similar applications.

Key Learning Outcome

How to achieve a smaller, lower cost and more energy efficient natural gas dehydration system

Norsafe

Speaker

Frode Grøvan, SVP Sales and Marketing

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Mr. Frode Grøvan holds a Master of Science degree in Mechanical Engineering from NTNU and started his professional career at Aker Maritime/Aker Kværner MH in 1998 where he worked as a Structural Engineer. From 2002 he had several positions at MacGregor Hydramarine in Kristiansand, Norway and from 2011 he had the position as Director, Sales and Marketing, Cargotec, Offshore. Mr. Grøvan has also worked as a shipbroker in Pareto Shipbrokers until he finally started in Norsafe in 2017.

Presentation Title

Future solutions for safety at sea

Abstract

At the cutting edge of innovation, Norsafe has developed its first battery powered lifeboat to provide an environmentally friendly alternative to diesel propulsion. This work has been endorsed by the NMA, DNV-GL and ABS.

Using the shell of its popular GES- 45 freefall model with all its diesel components removed, Norsafe has installed two 25kWh battery packs contained in robust waterproof cases with their own fire extinguishing systems, electric motor and ventilation system with heat exchange.

With the electrification of the propulsion system for lifeboats, the main safety critical uncertainty has been removed. Electrical motors are remotely monitored and certainty of the condition is continuously documented. While increasing the safety level prior to evacuation and during the first phase of evacuation, the significant long-term cost savings achieved through its maintenance-free (95% reduction) design and CO2 free emissions, has proved to be incredibly popular especially with offshore operators.

The E-GES is a truly ground- breaking innovation – reducing maintenance costs and increasing safety.

Key Learning Outcome

Future solutions for safety at sea. How manufacturers like Norsafe help drive safety and green solutions.

Oglaend Systems

Speaker

Geir Seland, COO

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With nearly a decade as the Oglaend System COO, Geir Seland will explain how modular support solutions can create substantial value for oil & gas operators

Presentation Title

A smarter support system: The key to increased engineering and installation productivity, supporting low offshore manning

Abstract

MultiGrid® is an integrated support system concept for all main disciplines such as electrical, instrumentation, telecom, HVAC and piping.

MultiGrid® reduces the total system cost of an EPC project by up to 30 percent thanks to the reduction of coordination required between disciplines, greatly improved installation time and simplified future modification work. The system is modular, flexible and maintenance free, supporting minimum offshore manning. Once installed it can be modified using cold work, avoiding deferred production.

Our mission is to reduce weight, engineering and installation time and deliver a total system cost saving.

Key Learning Outcome

How multidiscipline support solutions enables; reduced weight, maintenance free, reduced engineering time, reduced installation time.

Sevan SSP

Speaker

Knut Bredahl, Head of Business Development

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Knut Bredahl was appointed Head of Business Development in 2017. Mr Bredahl has broad experiences from Sevan SSP's engineering department and as Country Manager Malaysia for Kanfa Group since joining Sevan SSP in 2012. Prior to Sevan SSP, Mr Bredahl held various positions within Aker Floating Production ASA, Aker Kværner Process Systems and Kværner Process Systems Asia Pacific Sdn Bhd. Mr Bredahl holds an MSc in Chemical Engineering from Norwegian University of Technology and Science

Presentation Title

Cylindrical floater for harsh environment

Abstract

Sevan SSP pioneered the cylindrical hull as a cost-effective alternative to traditional ship-shaped, turret moored designs. The geostationary design avoids the costly harsh environment turret while allowing large number of risers and simultaneously adds flexibility for future tie-ins.

With 11 units constructed, an efficient hull construction philosophy has been developed, ensuring reliable and predictable hull delivery and a proven and credible design. The cylinder is scalable to fit the specific project needs of storage and weight carrying capacity, and it inherently offers a construction process with highly repeatable building blocks. The hull can be constructed on land, barge or in a dry dock, and hence widens the list of potential construction sites.

The Sevan hull concept is currently under evaluation for FLNG services, and, through its geostationary design, as an FSO bridge linked to fixed installation. The excellent motion characteristics and high payload capacity makes the Sevan hull also attractive for floaters without or a minimum of storage requirements.

Finally, as the Sevan hull is unmanned, it inherently provides attractive features for an industry looking for reduced offshore manning.

Key Learning Outcome

The Sevan geostationary cylindrical hull offers lowered cost-efficient construction as well as operation, with potential for reduced manning. Performance feedback from 11 units built to date proves a hull with constructability and operational excellence. The Sevan hull is a flexible concept for floaters, both with and without storage requirements.



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