

## SMi present its 3rd annual conference...

VG Hoatina

Marriott Regents Park Hotel, London, UK Providing you with a comprehensive insight into the latest near-shore and offshore technologies & projects

# 18th & 19th 15

## CARIBBEAN FLNG

#### 2015 CHAIRS:

- Leigh Bolton, Director, **Holmwood Consulting**
- Alex Forbes, Director, Forbes
  - Communications

#### **KEY SPEAKERS INCLUDE:**

- Krishnan Suthanthiran, President, **Kitsault Energy** Robert Shivers, Principal, Lone Star FLNG
  - Dave Stenning, President & COO, Sea NG
  - Joe Verghese, Technical Director and GM, Select, WorleyParsons Europe
  - Tom Haylock, Business Development Manager, Kanfa Group
  - Francis Ugboma, Senior Manager, Gasol
- David Haynes, Director & Principle Consultant, Penguin Consulting
- Lars Oderskaug, Chief Operating Officer, **Sevan Marine ASA**

#### PLUS TWO INTERACTIVE HALF-DAY PRE-CONFERENCE WORKSHOPS • TUESDAY 17TH FEBRUARY 2015

#### A: Examining the leading FLNG projects

8.30am - 12.30pm Hosted by: Brian Songhurst, Director LNG, ThyssenKrupp Uhde Energy & Power

on time and on budget

**BENEFITS OF ATTENDING:** 

market options

projects

tailor your own strategies

• Compare the 4 leading EPC projects so you can

advancements to ensure you are fully aware of

• Discover what the lenders need to finance your

• Enhance your legal knowledge to deliver projects

Increase your operational efficiency through

hearing from current EPC contractors

• Understand the recent technological

Discuss if the market is truly sustainable?



#### **B: FLNG Topsides Design**

1.30pm - 5.00pm Hosted by: David Haynes, Director & Principal Consultant, Penguin Energy Consultants



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## Floating LNG 2015 Day One | Wednesday 18th February 2015

- 8.30 Registration & Coffee
- 9.00 Chairman's Opening Remarks Leigh Bolton, Director, Holmwood Consulting

#### OFFSHORE FLNG

#### **OPENING ADDRESS**

- 9.10 Simplified, Cost Effective FLNG through de-Integration A FLNG concept is presented based on separation of functions into:
  - Spread moored FPSO for primary production/gas treatment, condensate handling
  - 3 x Liquefaction vessels based on standard Moss type LNG carriers
  - Optimization of N2 dual expansion liquefaction process
  - A storage/transfer jetty in sheltered water for loading conventional LNG tankers

#### Robert Shivers, Principal, Lone Star FLNG

#### 9.50 Cylindrical hull for FLNG applications

- Experience with the cylindrical hull from FPSOs and Drilling units
- Advantages of the cylindrical hull
- The cylindrical hull for FLNG
- Cargo containment system
- Liquefaction technology
- Offloading methods

Lars Oderskaug, Chief Operating Officer, Sevan Marine ASA

#### 10.30 Morning Coffee

#### **TOPSIDE DESIGN/ HULL CONCEPTS**

- 11.00 Securing Operational Performance of FLNG Seamless Integration of Topsides Technology, Process and Subsea Architecture
  - Overview of FLNG development architecture
  - Liquefaction technology matching with train capacity
  - Technology Risks and Residual Maturation requirements
  - Integrating subsea production system with FLNG topsides - subsea flow assurance challenges and implications for
  - design of topsides
  - production string operational threats
  - Risk Mitigation to assure operational integrity and high availability

Joe Verghese, Technical Director and GM, Select, WorleyParsons Europe

#### 11.40 Development of alternative offshore LNG Ship-to-Ship Transfer system

- Background on the development of offshore LNG offloading for FSRU's and FLNG's
- Basic principles of different LNG STS offloading configurations and their challenges
- Offloading systems deployed and under development: review of various concepts and technologies
- Proving the Reliability and Safety of offshore LNG transfer systems: TNO's experience from testing and qualification
   Bas Van Den Beemt, Business Development Manager, TNO

#### 12.20 Networking Lunch

- 1.40 Key Topsides Considerations and how they impact FLNG Project Return
  - The influence of legacy onshore LNG
  - How to optimise production in FLNG
  - Effects of technology selection on weight, space and cost
  - Tom Haylock, Business Development, KANFA Aragon

#### AFRICAN MARKET

- 2.20 Developments of FLNG in the African market
  - Africa's offshore on shore developments
  - Investment potential and opportunities
  - Demand drivers for the LNG & FLNG market
  - Project developments- FLNG and LNG terminals

Brian Songhurst, Director LNG, ThyssenKrupp Uhde Energy & Power

#### 3.00 Afternoon Tea

#### 3.30 LNG Regasification as a solution for the West African Gas Market

- Supply and Demand in the West African Gas Market
- Re-gasified LNG's viability as a source of supply
- Regasification project requirements: technical and financial

PANEL

DEBATE

- Update on current/prospective regasification projects
- Francis Ugboma, Senior Manager, LNG & Business Development, Gasol plc

#### 4.10 Offshore Vs Near-shore- How is FLNG developing

- Commercial assessments
- Project economics
- Gas markets trends

Derek Thomas, Director, Modular Systems, WindandSea Research

Joe Verghese, Technical Director and GM, Select, WorleyParsons Europe

4.50 Chairman's Closing Remarks and Close of Day One

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## Floating LNG 2015 Day Two | Thursday 19th February 2015

- 8.30 Registration & Coffee
- 9.00 Chairman's Opening Remarks Alex Forbes, Director, Forbes Communications

#### NEAR SHORE

#### **KEYNOTE ADDRESS**

- 9.10 Assessing the Commercial Viability of Near-Shore FLNGs
  - Target locations and technical implications
  - Gas Pre-Processing
  - Liquefaction Process
  - Hull shapes and tankage
  - Compression and power sources
  - Loading systems

Derek Thomas, Director, WindSea- Research

#### 9.50 Kitsault Energy- Where we stand today

- Recent developments of LNG export Terminal
- What are the future prospects for FLNG
- What are the advantages from the LNG corridor
- Future outlook and developments to expect in the next 5 years

Krishnan Suthanthiran, President, Kitsault Energy

#### 10.30 Morning Coffee

## 11.00 How Marine Compressed Natural Gas (CNG) can improve the profitability and flexibility of Floating LNG projects

- Marine CNG's complimentary role in a global FLNG strategy
- How Coselle® CNG ships provide a regional monetization/delivery option
- Early revenue opportunities with an early phased CNG solution
- Commercial update on Marine CNG projects David Stenning, President & COO, Sea NG Corporation

#### 11.40 FLNG - East Med Opportunities

- East Med is a new gas province with good deep water discoveries and prospects
- The regional market is small and there is a need to reach the Far East and European markets
- All export options are being considered but FLNG offers some distinct advantages
- All key players in the region have been considering FLNG and it is a matter of time before it happens

#### Charles Ellinas, CEO, ECP Cyprus Natural Hydrocarbons Company

#### 12.20 Networking Lunch

#### FINANCE AND ECONOMICS

#### 1.40 FLNG Project Execution Models and Risk

- FLNG is not onshore LNG what needs to change?
- Does the FPSO model work for FLNG?
- What are the potential Commercial mitigations?
   David Haynes, Principle Consultant, Penguin Consulting

#### 2.20 Risk Allocation in FLNG Project Contracts

- Analysis of typical project structures
- Typical risk allocation for offshore and onshore LNG projects
- Offshore and onshore liability, indemnity and insurance regimes
- Other key commercial and legal differences between offshore and onshore LNG liquefaction and regasification projects

Richard Tyler, Partner, Hogan Lovells LLP

#### 3.00 Afternoon Tea

#### 3.30 Addressing Financing Risk for Floating LNG Projects

• Commercial banking market appetite for floating LNG

- Project finance opportunities and risk mitigation
- Sources of finance for FLNG
- Latest trends in oil and gas project finance

Robert Clews, Head of Oil, Gas and Petrochemicals Project Finance Lending, Sumitomo Mitsui Banking Corporation Europe Ltd

- 4.10 Floating Solutions for LNG Re-gasification Terminals alternative business and contractual models
  - Current LNG re-gasification terminal market
  - Current business models and contractual arrangements being adopted around the world
  - Key issues and solutions- land-based VS offshore LNG re-gasification terminals

Nick Prowes, Partner, Norton Rose Fullbright

4.50 Chairman's Closing Remarks and Close of Day Two

Want to know how you can get involved? Interested in promoting your services to this market? Contact Julia Rotar on +44 (0)20 7827 6088 or email: jrotar@smi-online.co.uk



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#### Examining the leading FLNG projects

In association with:



#### Overview of workshop:

With 4 FLNG projects now in the EPC phase some 'golden threads' are starting to appear - both technically and commercially. The workshop will bring participants up to date on these projects and review these 'threads'. It will update on likely costs and schedules to enable possible FLNG users to evaluate the economics of this enabling technology and shortlist their options. It will also enable contractors and suppliers to identify possible opportunities in this expanding market.

#### Who should attend:

- Discuss the latest developments of the top 4 leading projects currently in construction
- Develop ideas on contracting strategies using examples Evaluate the different technologies and techniques
- used in storage and offloading and compare them · Review the costs of current and proposed
- developments in terms of CAPEX and OPEX and review the drivers
- Deliberate the commercial considerations to improve your own projects

#### Programme:

8.30 Registration

- 9.00 **Opening remarks**
- 9.10 Review of the 4 projects sanctioned
- 9.40 Review the other prospects in FEED & Feasibility status
- 10.10 Discuss current providers & their offerings using a SWOT
- 10.30 Morning Coffee
- 11.00 Capital costs and Operating costs (CAPEX & OPEX)
- 11.30 **Typical Schedules**
- 11.45 Commercial considerations e.a. leasing options
- 12.15 Conclusions and the way forward

#### 12.30 Workshop ends

#### About Brian Sonahurst:



Brian has an honours degree in chemical engineering from Imperial College, London and is a Fellow of the Institution of Chemical Engineers. He has had 45 years experience in the oil and gas industry working for engineering contractors, energy companies and specialist consultants.

He has held senior positions in engineering, projects and sales. He has led engineering and process design teams for offshore, subsea, gas processing, LNG, refinery and petrochemical facilities for various locations world-wide. He is currently Director of LNG within ThyssenKrupp Udhe Energy & Power, based in London and oversees a variety of LNG projects for both onshore and offshore applications. The offshore applications include floating LNG liquefaction units (F-LNG) and floating storage and regasification units (FSRU). He was previously Engineering Manager with MW Kellogg one of the world's leading contractors within the LNG industry and Facilities Manager with J Ray McDermott one of the world's leading offshore contractors.

#### About fieldcloud SAS:

ThyssenKrupp Uhde Energy & Power is a Professional Engineering Consultancy, formed in 2000. We add value to our clients operations through a responsive, flexible and impartial service tailored to their specific requirements. We work with blue-chip, international clients as well as smaller independent oil companies, delivering an integrated service for project evaluation and management, engineering and technical development, and final commissioning. We have undertaken over 50 LNG projects in the past 10 years half of which were FLNG.

HALF-DAY PRE-CONFERENCE WORKSHOP B **Tuesday 17th February 2015** Marriott Regents Park Hotel, London, UK 1.30pm - 5.00pm

#### **FLNG Topsides Design**

In association with:



#### Overview of workshop:

This workshop will overview the steps in producing LNG from raw well fluids to its entry to the LNG storage tanks. The first two sessions look at LNG liquefaction and will examine design issues and compare options The second two sessions look at safety and layout issues and how they come together into a coherent topsides desian.

#### Who should attend:

- Learn about LNG liquefaction options
- Understand the FLNG design process
- · Ensure the incorporation of safety within the design process
- Understand the interactions between the topsides

#### Programme:

- 1.30 Registration
- 2.00 Opening remarks

2.10	Lique	faction	Design

- What equipment options are there for liquefaction?
- What are the important issues in I iquefaction design?
- Where does any technology risk lie?
- 2.50 **Liquefaction Process Selection** 
  - What liquefaction processes are there?
    - Is one better than another?
    - How do I choose?
  - Afternoon tea
- 3.30 4.00
  - Safety in design
  - What safety issues are there?
  - How do I mitigate the risks?
- 4.40 Layout
  - What principles underlie layout?
  - Do I need modules?
  - How does the hull affect layout?
- 5.20 **Closing remarks**
- 5.30 Workshop close

#### About David Haynes



David has spent 29 years working in the gas and energy industries with the last 18 specialising in LNG. He started his career with British Gas (now BG Group) working on LNG projects worldwide. David then took up a

role developing a LNG consultancy business first with Advantica and then GL Noble Denton. His last 3 years with GL Noble Denton were mostly spent on FLNG projects and have included technology management of a FLNG preFEED, 6 due diligence assignments and 3 projects as an owner's engineer. These projects have ranged from the Americas, through west Africa to offshore Australia. David has been a frequent speaker at LNG events and has been a tutor on LNG and FLNG courses for 10 years. David now runs an independent consultancy company which specialises in LNG and FLNG.

#### **About Penguin Energy Consultants**

Penguin Energy Consultants is an independent, UK based, consultancy company working primarily in the technical aspects of the oil, gas and energy industries and specialising in LNG and FLNG. Due diligence, support to project developers and training/mentoring is also offered.

### **FLOATING LNG 2015**

Conference: 18th-19th, February, 2015, Marriott Regents Park Hotel, London, UK Workshop: Tuesday 17th February 2015

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