

esanda

Oil and gas training specialists

2019 COURSES

Istanbul 7 – 9 OCT

London 16 – 18 OCT

Kuala Lumpur 4 – 6 DEC



FSRU Project Development and Operation

Course Overview

The course provides a comprehensive overview of the FSRU industry addressing many of the technical, project specific and commercial issues associated with the use of FSRU regasification units.

Course instructor: Danny Van Schie

Danny is a versatile, multilingual, results-driven and commercially minded, chemical engineer (Fellow with the IChemE). With over 20 years' experience he has established a successful career in the oil, gas & chemical industry.

His core expertise is in Gas Processing and Conditioning, LNG (FLNG/FSRU), LPG and synthesis gas applications (Ammonia, Methanol, GTL, sour gas processing), from the concept stage through to construction & operation.

He was responsible for commercial and technical analysis of LNG and oil and gas opportunities with direct reports to the head of LNG trading of a large multinational in Geneva and the E&P manager in London. Danny was also responsible for setting the contracting philosophy and implementation of commercial, economical and technical strategies for a variety of projects. This role

involved development, origination, technical, operational, commercial due diligence on LNG project solutions including logistics and economics. He was also deeply involved in time managing stakeholders and interface management where he developed a strong understanding of the challenges associated with such projects.

During his career he has developed excellent contacts within the industry, including OEMs, process licensors, shipping companies/ owners and EPCM contractors.

Danny's experience includes managing small to large teams including discipline engineers, vendors & external contractors in a variety of disciplines and geography. He has efficiently managed, planned & designed a number of local and international projects in addition to upstream and midstream developments. These projects ranged from greenfield to brownfield expansions

The course is designed for

Technical, commercial and management staff who require a high level technical overview of the LNG industry and FSRU development

Personnel within the industry

Technical support staff entering the industry

Technical staff who want to expand their understanding of the industry

Students considering the industry as a career

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Course outline

Introduction to LNG – what is LNG

Some key facts about LNG, including physical properties, rich and lean LNG, composition ranges, safety and flammability

LNG Global Trade and alternative Commercial Models

Global Gas and LNG Trade
Development of LNG Trade
LNG Importing Countries
The Global FSRU Fleet
Gas Market Characteristics
The LNG Contract Chain
Sales and Purchase Agreements
FSRU Chartering

Technical fundamentals

LNG Properties and conversions
Heating Values, Wobbe, Interchangeability and market specifications

FSRU vs Land Based Import

CAPEX
Schedule
Permitting
Port Restrictions

Major FSRU Technology Choices

Regas Technology Selection
Boil-Off Gas Handling/
Reliquefaction

LNG Pump Selection
Topsides Layout Considerations

FSRU Cargo Containment Systems

Overview of liquefaction systems (membrane vs Moss vs SPB vs Type C)

LNG Transfer

Ship to Ship Transfer- side by side vs tandem
Hard Arms vs Cryogenic Hoses
HP Gas transfer vs hard arms and HP hoses
Custody Transfer, Metering and measurement
Small scale and bunkering

FSRU Mooring System Designs

Tower Yoke Systems
Spread Mooring
Offshore Island
Jetty Mooring
Gravity Based Regas structures

Marine Infrastructure Issues

Breakwater Design
Port Dredging
Tugs and Pilots

FSRU Designs

Newbuild vs Conversions
Shipyard Selection

Ship Designs (AtlanticMax, Q-max, Q-flex)

Floating Storage (FSU's)
Floating Regas (FRU's)
Floating Gas to Power
Niche FSRU Applications

FSRU Construction & Constructability

Long Lead Item Delivery
Typical Conversion Schedule
Typical Newbuild Schedule

FSRU CAPEX and OPEX

Factors Influencing CAPEX and OPEX
Typical OPEX Elements

FSRU Site Selection Considerations

Metocean
Water Depth
Water Temperature
Environmental Regulations

Introduction to LNG Safety

Historical Incidents and Lessons learned – material selection, layout, stratification, rapid phase transition, other

Safety in Design
Safety Code requirements

Introduction to Permitting and Environmental

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