

Achieving Reliable Subsea Systems

One-day Course

20th August 2014

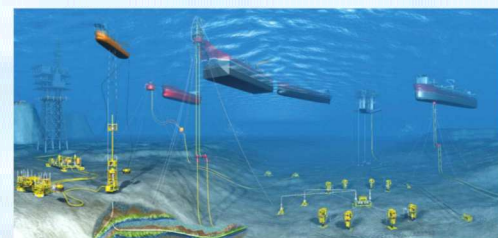
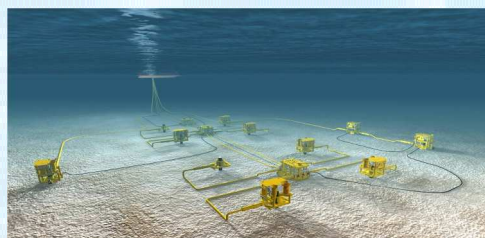
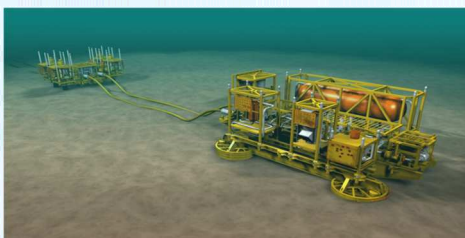
Parmelia Hilton Hotel (Fremantle Room)
Mill Street, Perth, Western Australia

Are you surprised by how often we experience unexpected subsea failures? Are you striving for higher subsea production system reliability? If so, then this is the course for you!

What the Course will Deliver:

- ◆ Overview of Subsea Reliability
- ◆ Framework for achieving reliability targets
- ◆ Interfaces with Subsea Integrity and Project Management
- ◆ Contracting Strategies for Reliability
- ◆ Key Decisions to be made
- ◆ Tools and Methods
- ◆ Industry Best Practice (New codes/stds.)
- ◆ What happens if you get it wrong
- ◆ Economic Benefits of getting it right
- ◆ Turning Lessons Learned into Improvements

Who would benefit from attending this course: Project Managers, Quality/Integrity Personnel, Reliability Specialists, Subsea Systems Engineers, Subsea Discipline/Package Engineers, Subsea Pipeline Engineers, Subsea Operations Personnel, Subsea Equipment Vendors



PROGRAMME— Achieving Reliable Subsea Systems

08:15 Registration

08:30 Welcome, Introduction Reliability Aims and Importance

Mike Theobald, Woodside Energy Ltd.

- ◆ What do we mean by Subsea Systems Reliability and why is it important?
- ◆ What causes Subsea Unreliability and where do we need to focus?
- ◆ How will this course help you improve Subsea Reliability?

08:50 Framework for Subsea Reliability and Technical Management

Karl Woods, Woodside Energy Ltd.

- ◆ Key terms and definitions
- ◆ Objectives of a reliability strategy
- ◆ Overview of API RP 17N Reliability Management Framework
- ◆ Organisational models to enhance reliability management capability

10:00 Coffee/Tea

10:15 Reality of Reliability

Ewan Rowell, Chevron

- ◆ Data collection, reduction and validity.
- ◆ Systemic failures. Failure when everything is done 'well'
- ◆ Effects of low reliability - examples
- ◆ Inertia of organisations, Hidden benefits of reliability,
- ◆ What is typically achieved, system
- ◆ Design—accommodation of Reality

11:15 Reliability Modelling (RAM) / Basic Probability Theory

Mark Mackenzie, K2 Technology Pty. Ltd.

- ◆ Reliability models and how they relate to what we do
- ◆ Some commonly used reliability models
- ◆ Understand how the models work and when they are useful
- ◆ Models outputs
- ◆ What is required to build reliability models
- ◆ What is probability
- ◆ Why you need to know this
- ◆ Standard definitions used in reliability engineering
- ◆ Statistics and distributions to analysis reliability
- ◆ Limitations of calculation—Prediction no Perfection

12:30 Lunch

13:00 Tools and Techniques

Iain Moir, Vanguard Solutions Pty Ltd

- ◆ Reliability Tools and the Design Stages
- ◆ FMEA & FMECAS
- ◆ Event Trees (ETA) - Fault Tree Analysis (FTA)

13:45 Workshop

Karl Woods, Woodside Energy Ltd.; Mark Mackenzie, K2 Technology Pty Ltd.; and Iain Moir, Vanguard Solutions Pty Ltd

The class will be given a simple subsea system to actuate a valve. They will be then split into 3 groups, each group will tackle a specific task to analyse using different reliability tools eg. Fault Tree, RBD and ETA

14:30 Workshop presentations

14:45 Coffee/Tea

15:00 Economics of Reliability and Operability

Roland Fricke, Woodside Energy Ltd.

- ◆ Project Failure Statistics
- ◆ Economic Impact of Reliability & Availability
- ◆ Operability—Impact on Production Availability
- ◆ System Design to achieve desired Operability/Availability
- ◆ Impact of System Design - successful & not so successful examples

15:50 Contracting for Reliability— Workshop

Roland Fricke, Woodside Energy Ltd; Kevin Mullen, INTECSEA; and Ross Hendricks, FMC Technologies.

In this workshop we will explore the answers to some questions, including:

- ◆ How does Contracting Strategy affect Reliability?
- ◆ Impact of differing Contracting strategies - eg. Traditional vs EPCM vs Alliancing?
- ◆ The issues - what we can do about them?
- ◆ What does the Customer (Operator) want?
- ◆ What is the ideal Contracting strategy?
- ◆ Can we provide Contract incentives for Reliability?

17:00 Certification and Course Conclusion

SUT reserves the right to change/amend the programme as it see fit.

Supporting Companies Include:



INTECSEA
WorleyParsons Group



FMC Technologies



Registration Information

Achieving Reliable Subsea Systems Aug 2014

Should you require further information on this event, please contact Jennifer Maninin on j.maninin@sut.org Tel +61 8 9446 9903
To register, either e-mail the information required on the registration form to perthevents@sut.org or fax the completed form to +61 8 9446 9905

Registration Fees

SUT Members - \$400.00 + GST = \$440.00

Non Members - \$450.00 + GST = \$495.00

Fee includes - All refreshments, handout notes of the presentations & CD containing PDF versions of the presentations.

Preferred Payment Methods:

Credit Card: Visa, Mastercard, or AMEX* only. We cannot accept payment by any other card.

***Please note if paying by AMEX there will be a 2.75% surcharge.**

Cheque: Australian Dollar only, made payable to The Society for Underwater Technology

Send to, SUT, 5/5 Hasler Road, Osborne Park, Perth, WA 6017

Please make sure you reserve a place by e-mail or fax before sending payment.

Invoice: Please tick here to be invoiced

Joining Instructions:

Joining instructions will be e-mailed to the registered delegate (as shown on the registration form). All details of presenters and updates to the programme will be included in the joining instructions.

Transport During the Course:

Delegates are responsible for their own travel arrangements to and from the Parmelia Hilton Hotel.

Cancellations:

Refunds will be made on written cancellation received up to ten working days in advance of the event, but will be subject to a 15% handling charge. 50% will be deducted up to three working days in advance and 100% thereafter up to the start of the event. No refund will be given for non-attendance. Delegates may wish to nominate a substitute in their place.

Please tick box if you do not wish to receive further SUT information

Registration Form

Please e-mail details to Perthevents@sut.org or fax the completed form to +61 8 9446 9905

Please tick to indicate your preferred payment method: SUT Member No. _____

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Credit Card No: VISA, MASTERCARD or AMEX * _____ / _____ / _____ / _____

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Amount to be charged \$ _____ Signature _____