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The National Centre  
for Ocean Forecasting



# Applying Best Practice in the Use of Meteorological and Oceanographic Information for the Future Benefit of Offshore Operations

**Tuesday 25 November 2008**

**at**

**The Britannia Hotel, Bucksburn, Aberdeen, AB21 9LN**

The seminar is being organised and hosted by the Society for Underwater Technology in affiliation with the International Marine Contractors Association and The Institute of Marine Engineering Science and Technology IMarEST.

Advances in the use of Metocean Information in decision making – what is available, how to use it and what is really required.

The meeting will update the offshore industry on the increasing availability of Metocean information via “My Ocean” and related European Information resources.

The meeting will explore the application and utility of ocean forecasting and related marine information resources for subsea operations via a combination of demonstration and case studies and will seek to highlight future requirements.

## **Aims**

- Inform those planning, deploying or operating subsea assets regarding developments in ‘state of the art’ oceanographic observations and forecasts that may benefit their business activities and enhance day to day decision making;
- Help those who measure or model the ocean to better understand what oceanographic information will really benefit the subsea operator and to capture and understand the confidence limits which apply to any given activity;
- Promote dialogue amongst both end users of marine information and the marine science community;
- Promote awareness of ocean observing networks including European programmes to promote joint operational forecasting;
- Extend the capture of end user requirements within this growth area of the Energy sector;
- Instigate contact between the 2 communities above, to prime mutually beneficial partnering.

## **Who should attend?**

- Those involved with managing subsea operations and assets within the marine environment.
- Those requiring to plan and deliver projects requiring risk based decision making where “ocean weather” both on the surface and in particular below the water line can impact business ~ including HSE, project risk, marine operations and related contracting support services.

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## **PROGRAMME**

**0930 Registration and Coffee**

### **Chairman's Welcome and Introduction**

**1000 Dr Ralph Rayner** Deputy Director Ocean, US and Vice President IMarEST  
**Progress in understanding and forecasting the ocean environment**

This paper will provide an overview of the major international programmes, such as the Global Ocean Observing System, which aim to achieve routine operational capability to understand and forecast the ocean environment at a global and regional scale. It will describe the current status of these initiatives and the plans for their future development, set in the context of deliverables that can benefit safe and effective offshore operations. The paper will explore better linking these initiatives to offshore industry needs.

**1030 Ian Leggett** Head of Metocean Engineering Shell Exploration & Production In Europe  
**An Operators View ~ current good practice and future horizons**

This paper will provide an operators perspective on the current state of the art in the application of integrated Metocean information and expertise to inform offshore operations and planning within the European oil and gas sector and an insight into the priorities for enhanced utilisation of marine information over the next decade. The use of Metocean information through a project life cycle within Shell's offshore activities is described as a benchmark for good practice. The opportunities for integration and innovation in the application of Metocean information from both a company and joint industry perspective will be explored. Ian will also highlight the interface with HSE good practice in relation to recently published guidelines.

**1120 Robin Stephens** BMT ARGOSS - Senior Advisor, Oceanography and Meteorology  
**The Challenges of Providing a Commercial 'Fit for Purpose' Ocean Forecasting Service**

Ocean currents impact many aspects of offshore marine operations. Factors influencing local current conditions vary greatly between different offshore oil and gas provinces. This presentation draws on considerable practical experience in various offshore regions, and describes some of the practical 'challenges' associated with effective characterisation and forecasting of the dominant local ocean current processes. Attention is given to achieving 'fitness for purpose' in support of offshore operational decision making. Consideration is given to present and emergent technologies.

**1145 Florus Korbijn** Det Norske Veritas, Section for Marine Operations  
**Risk Management in Application of Metocean Forecasts for Marine Operations - The Alpha Factor**

Marine operations of a limited duration (less than 72 hours) are often defined as weather restricted and may be planned with environmental design conditions selected independent of statistical data, i.e. set by owner, operator, contractor etc. Start of a weather restricted operation is conditional to an acceptable weather forecast. In 1996 DNV introduced the factor "Alpha" ( $\alpha$ ) as an allowance for uncertainties in forecasted versus actual weather, to avoid unacceptable exceedance of the design weather conditions. On basis of developments in weather forecast services and in situ wave monitoring, DNV initiated a Joint Industry Project (JIP) to further study reliability of present weather forecasting services and to re-assess the  $\alpha$  - factor. Results, conclusions and discussions from the study will be presented.

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## **PROGRAMME Continued**

### **1210 Andrew Saulter National Centre For Ocean Forecasting UK Oceanographic forecasts - new model products and their practical application**

This talk will give an overview of ocean forecast data products that will become available through the MyOcean project, which commences in 2009. This information, which includes forecasts of current and sea temperature, has the potential to complement existing Metocean forecasts and provide the foundation for novel products. As with all new products users need to be aware of the practical limitations involved, and these will be described alongside examples of product usage.

### **1235 Peter Lai Saipem Engineering From Forecasting Waves to Forecasting Engineering Parameters for Marine Operations**

Dr Lai will give an overview of the methodology that Saipem UK has applied in forecasting the motion of the construction vessel with the Met Office UK's wave energy spectrum forecast. The application will be discussed. The technique has been further developed and applied in forecasting coupled-body dynamic behaviour and other engineering values, such as pipe bending moment during laying operation. The application will be presented. The limitation and further development will be addressed in this presentation.

### **1300 Buffet Lunch** (*opportunity to network amongst speakers and participants and to browse the small exhibition of speaker's and supporter's organisations*)

### **1400** The Event will include a **facilitated workshop session** in the afternoon following on from the invited presentations in the morning:

It is anticipated that 3 break out groups will be offered and a questionnaire issued in advance used to stimulate the discussion with a facilitator and reporter assisting - outcomes from breakout groups will be compiled into a short technical note describing recommendations/issues in the use of Metocean data for subsea projects (to be circulated to attendees).

#### **Group A: Operations Planning**

Good Practice and Gap Analysis. Issues including: Key parameters constraining operations; Availability of data and management\availability of site observations to aid planning; Dealing with uncertainty in operational planning.

#### **Group B: On-Site Forecasts**

Mapping Forecasting capabilities (GAP Analysis). Issues including: how is information managed across a project?; Aggregating and presenting multiple information sources (wind, wave, current) for effective decision making?; Understanding uncertainty in the forecast.

#### **Group C: Observations**

Testing Utility and Data Management. What observations are valuable and in what context (how are these used); Where are these required in space and over time?; Recommendations for managing observations through a field's development and to mutual benefit.

**The workshop will be followed by a Plenary Summing Session lead by a panel of Experts including the presenters who will provide a synopsis of the outcomes and recommended actions**

### **1515 Dr Ralph Rayner Chairman's Summary**

### **1545 Close**

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## REGISTRATION FORM

**THERE IS NO CHARGE FOR THIS EVENT.**

To register, complete the below form and send to SUT's Aberdeen office: SUT, Innovation Centre, Exploration Drive, Aberdeen Science and Energy Park, Bridge of Don, Aberdeen, AB23 8GX. Email: [michele.ross@sut.org](mailto:michele.ross@sut.org). Fax: + (0) 1224 820236. Tel: + (0)1224 823637

Please reserve me \_\_\_\_\_\* places at the "Subsea Asset Management and the Metocean Forecast" seminar, taking place at the Britannia Hotel, Bucksburn, Aberdeen

(\*Note: As space is limited, we may have to restrict places. SUT reserves the right to refuse registration applications.)

Name \_\_\_\_\_

Job Title \_\_\_\_\_

Company \_\_\_\_\_

Email \_\_\_\_\_

Tel No. \_\_\_\_\_ Fax No. \_\_\_\_\_

Address \_\_\_\_\_

Name \_\_\_\_\_

Job Title \_\_\_\_\_

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