



## New Safety Requirements for Offshore Helicopters

Based on the recognition that better pre-flight knowledge would have avoided recent helicopter accidents, new Norwegian standards are introducing stringent safety requirements for all offshore helicopter operations and the UK is expected to follow suit.

**“ Now is the time to consider the options,” advises Anthony Gaffney, Real-Time Systems Divisional Director at Fugro GEOS.**

“Fugro GEOS has been providing essential information to helicopter operators for 25 years. We’re now able to offer a package for accurate, direct measurement of helideck motions, integrated in real-time with the key meteorological and oceanographic parameters. These are a must for the new standards - they’ll help to minimise aborted missions and maximise safety,” says Gaffney.

The advanced system satisfies the new emphasis on proper pre-flight assessments based on current and projected weather, and helideck information.

Analysis and interpolation of measured parameters forms an important part of the system. For example, bow or stern-mounted helidecks on ships can be particularly sensitive to the combination of the vessel heave and pitch, the latter amplified by the length of the ship. The problem is accentuated when the vessel’s ‘dynamic’ properties change due to heavy load

transfers, as in the latest generation of tanker-style floating production systems with onboard storage. Careful prediction of weather conditions is also key; logging general weather conditions forms the basis of such evaluations, together with information on more detailed parameters such as: air temperature and pressure, vessel heading and helideck heading.

To meet the standards fully, the Fugro GEOS Helideck Motion Monitoring System transmits the information arising to wherever required and in real-time. Measurements and

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## Bright Outlook for New Weather Windows

**Fugro GEOS has launched a completely revised version of the software support tool Weather Windows, for use in offshore and coastal projects and operations.**

Weather Windows was created some 10 years ago to quantify weather downtime and improve onsite logistics by calculating meteorological and oceanographic windows of opportunity for carrying out key field operations. Over the years it has become an invaluable operational planning tool and both major operators and independents have benefited directly, experiencing significant cost savings sometimes extending beyond the \$1m mark. Fugro GEOS has now launched a faster edition with added features, high speed access to data and state-of-the-art graphics, which promises to build on this impressive record.



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## Safety requirements continued...

evaluations may be viewed locally on board the installation via a Local Area Network (LAN) and remotely through a Wide Area Network (WAN), the latter providing flight crew access via the Internet.

The full Helideck Motion Monitoring System will need to be checked every three years but is expected to bring cost and time savings, with a dramatic reduction in the number of incomplete flights due to unfavourable conditions.

For more information contact Anthony Gaffney in our Swindon office.

### Safety Check

New standards in the Norwegian Continental Shelf now state that Helideck Motion Monitoring Systems will have to incorporate the following into a software package, accessible by pilots and all who need it.

| Real Time Monitoring Parameters:  | Meteorological and Oceanographic Measurements:   |
|---|--|
| <ul style="list-style-type: none"> <li>• Roll</li> <li>• Heave</li> <li>• Heave acceleration</li> <li>• Sway</li> </ul> | <ul style="list-style-type: none"> <li>• Pitch</li> <li>• Heave rate</li> <li>• Surge</li> <li>• Yaw</li> </ul>  |
|   | <ul style="list-style-type: none"> <li>• Wind speed and direction</li> <li>• Air temperature</li> <li>• Barometric pressure</li> <li>• Wave height and period</li> </ul> |

## Weather Windows continued...

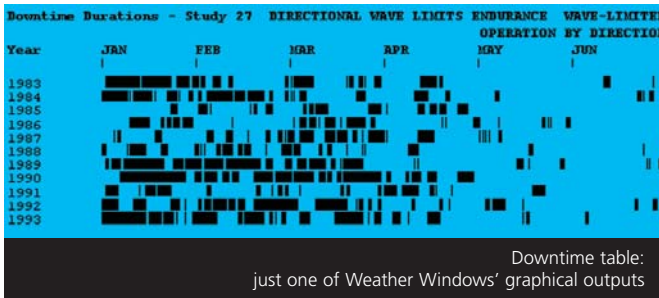
The software identifies, statistically, periods of time when the right environmental conditions (eg. wave height, current speed, wind speed, etc) needed for a particular on-site operation may be found. This is achieved by interrogating any relevant, long-term meteocean database. Weather Windows can import data directly from products such as Oceanor's World Waves, Oceanweather's regional hindcasts models and a variety of ASCII formats for added flexibility.

Examples of report modes include:

- Number of operational windows in any month
- Continuous hours available for a vessel to work on site
- Total hours needed for practical completion of any specific operation

In the new version, users can now check for compliance against a range of constraining environmental parameters. It is also able to differentiate between day and night operations and can allow for critical activities that need to be completed in one go, as opposed to piecemeal progress over a period.

These new software facilities will extend the use of Weather Windows, particularly in project planning, and make it more amenable to self-use by clients. However, for those requiring a total service Fugro GEOS will be pleased to continue to operate the system and provide configured results, together with interpretation of them. More information is available from Mark Calverley in our Swindon office or Graham Feld in our Houston office.



## Fugro GEOS Sets Quality and HSE Pace

As part of its continuing commitment to the highest levels of customer service, Fugro GEOS reports strong progress in quality and safety areas surrounding its client services.

The company recently achieved the new international standard for quality, ISO 9001:2000, in its main Singapore and Swindon offices well ahead of the transition deadline. Replacing ISO 9001:1994, it

focuses on achieving customer satisfaction through integrated management, infrastructure and production capabilities.

Fugro GEOS is also setting the pace in the HSE arena. As an active member of the British Safety Council (BSC), 2001 saw the company pick up a BSC National Safety Award and in the same year its HSE Management System was successfully audited by Shell Exploration and Production Company. In 2002, a similar audit carried out by Sarawak Shell Berhad (SSB) revealed Fugro GEOS' HSEMS to be at a superior level to many other contractors, a fact mirrored in their October 2003 audit.

Ralph Rayner, managing director of Fugro GEOS said, "ISO 9001:2000 is vital for any company wishing to stay at the forefront of

**"I have never seen such a comprehensive management system, high level of commitment and staff participation, particularly in a company the size of Fugro GEOS."**

*Billy Stidham, auditor for Shell Exploration and Production Company Inc.*

the supply chain. It means that we'll meet our customers' needs even more completely in the future. We are always looking at ways to improve QA and HSE standards as part of our delivery-in-full service, making us the supplier of choice for many of the industry's biggest names."



## Oceanor Signs New Contract to Monitor Sakhalin

Oceanor Seasystems Offshore Department (Sandnes, Norway), part of Fugro GEOS, has signed a major new contract worth 7.5m NOK (US\$1.1m) for the manufacture and delivery of CCTV and EMS (Environmental Monitoring Systems) with ABB AS, Automation Technologies Division, Norway.



Watching the waves: Sakhalin Island, Aniva Bay

Sakhalin Phase II is an integrated oil and gas development for Sakhalin Island, off Russia's Pacific coast. Oceanor has been awarded the contract to supply EMS and CCTV Systems for the project, alongside ABB who will develop and supply 18 telecommunication systems for the project's infrastructure.

Oceanor's EMS and CCTV systems are to be installed at several sites offshore and on the island, from platforms through to the processing facilities and oil terminals.

The CCTV Systems are based on a hybrid CCTV concept that enables viewing and control through the latest network and Internet solutions, delivered as streaming video, as well as through traditional analogue systems. Each Pan/Tilt Zoom camera station is designed specifically for installation in hazardous zones – Oceanor's Ex proof units are 4th generation and manufactured in AISI316 Stainless Steel for operation under severe climatic conditions.

**"For a project like Sakhalin Phase II, the latest state-of-the-art systems are essential for the creation of a safe operational environment and that's where we come in," said Arvid Massen, Fugro Oceanor Sandnes, Norway.**



Oceanor's state-of-the-art camera

The EMS systems include standard meteorological sensors and equipment as well as special instrumentation packages for measuring visibility and cloud height. At the two offshore locations, the wave height and period will be measured using laser technology.

As with the CCTV systems, the EMS data will be widely available through the client's Local Area Network (LAN) or Wide Area Network (WAN), to users on-site or at other geographic locations. The EMS package also includes computers and software for the display and easy interpretation of metocean data.

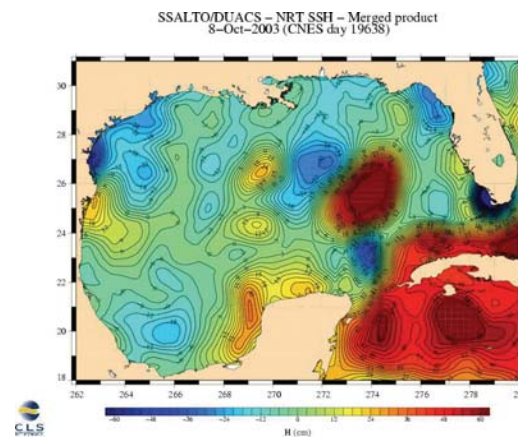
## CLS Earth Observation Strengthens Ocean Numerics

Hindcasting and forecasting of deepwater currents provides an important input into investment decisions for companies working within the world's oceans. In this highly specialist arena, Ocean Numerics has already set the pace by bringing together the complementary skills of Fugro GEOS with the Nansen Environmental and Remote Sensing Centre (NERSC) in a highly effective collaboration.

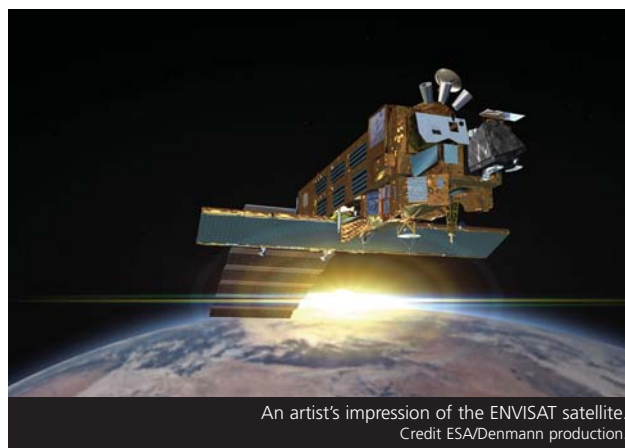
Since the start-up of Ocean Numerics in 2000, the two have proved highly complementary partners. The latter provides advanced capabilities in model-based simulations of circulation patterns (using advanced assimilation procedures) and the former contributes the practical wherewithal in ocean measurement and commercial service provision.

The integrity and scope of this Ocean Numerics package is now consolidated even further by the recent announcement of CLS (Collecte Localisation Satellites) as a third partner bringing in strong expertise in satellite oceanography, especially in radar altimetry. Established in 1986, Toulouse-based CLS is a subsidiary of CNES (the French Space Agency) and IFREMER (the French Research Institute for Exploitation of the Sea). Its expertise in satellite altimetry will make an important contribution to the accuracy and reliability of the Ocean Numerics circulation models. It helps to differentiate the company from its rivals through the breadth of experience, skills and services now offered from a single source.

As a world-leader in satellite-based location, data collection and Earth observation systems, CLS is well known for the ARGOS system that it operates and promotes. The company also runs the DORIS high-precision satellite orbit determination and location system.



CLS sea surface height chart measuring dynamic ocean features in the Gulf of Mexico



An artist's impression of the ENVISAT satellite. Credit ESA/Denmann production.

## Company News and Contacts

### A message from the MD:

The Oceanology International Conference and Exhibition has punctuated the development of the metocean industry for several decades. In the two years that have passed since OI was first held at its new London venue much has happened in our industry.

For Fugro's global environmental and ocean sciences business this has been a particularly exciting period. During the last two years we have made several key acquisitions, forged links with key strategic partners and completed some key technical developments.

Our objective throughout has been to strengthen and broaden the capability we offer our clients. We have followed a strategy of developing an integrated metocean systems and services business that is able to deliver to a consistent high quality on a global basis.

The integration of Oceanor has established Fugro as a world-leading provider of ocean observation and forecasting systems to both public and private sector clients. Oceanor's skills have also complemented our metocean measurement and consultancy capability. To this can be added a move into the wider aquatic monitoring market through the provision of systems for freshwater and groundwater monitoring. This is a sector in which we expect to see substantial growth in the coming years.

The more recent acquisition of the Cape Town based Environmental and Metocean Division of Thales Geosolutions has further complemented existing measurement services and added to our geographical spread.

The last two years has also seen the continued development of Ocean Numerics. Ocean Numerics was launched in 2000 as a joint venture between Fugro GEOS and the Nansen Environmental and Remote Sensing Centre. Since that time the company has conducted a number of important ocean hindcast studies as well as researching state-of-the-art ocean forecasting technologies. At the end of 2003

Ocean Numerics acquired a further partner, Collecte Localisation Satellites (see Page 3). Ocean Numerics now links Fugro to two of the world's leading specialist organisations in the field of operational ocean modelling and satellite remote sensing.

Our technical development focus over the past two years has been the integration of metocean data acquisition, analysis and interpretation. In particular, we have concentrated on providing data systems that ensure total traceability of metocean information back to its origins as measured or modelled data sets.

This emphasis on quality control and traceability is at the heart of our operations. We aim to provide our customers with value for money, and the assurance that information meets the standard demanded by safety-critical operations in the marine environment. During the last six months all of our quality systems have been successfully transitioned to ISO 9001:2000 (see Page 2).

We also appreciate that our clients demand the highest possible HSE standards. Here again we have made much progress, including being the only metocean service provider to achieve the Level 3 HSE standards of Shell, one of our most exacting clients.

All of our business developments of the last two years have been driven by a focus on better satisfying the needs of our customers. I very much look forward to meeting you at Oceanology 2004 and to getting your feedback on how we can further improve our systems and services.

Ralph Rayner  
Managing Director



### UK Additions

Maxine Collins,  
**Divisional Administrator**

Jenny Gadd,  
**Operations Administrator**

Carley-Jane Jones,  
**Sales and Tendering Assistant**

Alex Keibel,  
**Oceanographer**

Steve Meloche,  
**Senior Forecaster**

Anne Morrow,  
**Operations Co-ordinator**

Neena Saith,  
**Meteorological Assistant**

Andrew Seekings,  
**Senior Forecaster**

Natalie Titcombe,  
**HR/Marketing Assistant**

Peter Wilks,  
**Sales and Tendering Co-ordinator**

### US Additions

Robert Alexander,  
**Warehouse Co-ordinator**

### UAE Additions

Keiran Marsh,  
**Marine Forecaster**

Johan Vlassenbroeck,  
**Marine Forecaster**

### Promotions

Dr Mark Calverley,  
**Consultancy Divisional Director**

Richard Davies,  
**UK Regional Director**

Alan Douglas,  
**Marine Forecasting Manager**

Anthony Gaffney,  
**Real-Time Systems  
Divisional Director**

Michael Quinnell,  
**UK Real-Time Systems  
Operational Manager**

Robin Stephens,  
**Ocean Numerics Director**

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### Events

March 16 -19 2004 **Oceanology International**  
See you at OI2004, Stand 518