

Shaping up for energy efficient operations

The latest environmental challenges and regulations for IMCA members



Image: Ulstein Group/Per Erde Studio

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Getting the balance: skills and technology



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Editor's Welcome

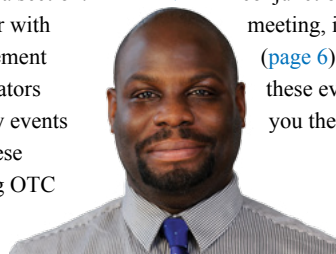
The first issue of *Making Waves* in 2016 is packed with news, features and updates on the latest projects our team are working on for the benefit of our membership.

Our focus article looks at the hot topics of energy efficiency and environmental issues (page 9). Against the backdrop of COP21 and the ever-increasing need to operate in an environmentally friendly manner, we look at the latest emissions regulations and explore some of the new fuel, hull shape and technological solutions which could help our members achieve more efficient operations.

Our world-wide feature (page 15) focuses on our Central & North America section. We have been working together with members to sustain our involvement in the region, influencing regulators and law makers. One of the key events where we intend to build on these relationships is the forthcoming OTC 2016 in Houston, which our Chief Executive, Allen Leatt,

and Technical Director, Richard Benzie will be attending.

There are a number of other important events in the coming months too, which we cover in this issue: Oceanology International, where IMCA will be hosting an ROV workshop (page 12), takes place on 15-17 March; IMCA's annual Contracts & Insurance Seminar takes place in London on 25 May (page 13); and we are running an IMCA Competence Seminar, in conjunction with the Asia-Pacific section meeting, in Hong Kong on 6 April (page 6). We hope to see you at one of these events soon – until then, we wish you the best for the year ahead.



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Making Waves Editor

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Making Waves is published quarterly to promote knowledge of matters affecting the offshore, marine and underwater engineering industry.

Ideas for articles of potential interest to a wide cross section of our members are welcome.

The views expressed on these pages are those of their respective authors and do not necessarily reflect the policies or positions of IMCA itself.

Send your contributions and ideas to makingwaves@imca-int.com

For details about advertising opportunities in *Making Waves*, please contact Paul Hopper at Ashridge Communications.
Tel: +44 (0)1442 870143 Email: ph1@ashridgecommunications.com

IMCA rigs up new core committee

All of IMCA's existing technical divisions actively participate in offshore lifting and rigging in some shape or form. As a result, it has been agreed by IMCA's Overall Management Committee that the Crane and Winch Operations Workgroup (CWOW) should now be incorporated into IMCA's existing structure as a core activity.

In its current form, CWOW is already one of IMCA's most proactive and technically respected workgroups. The guidance documentation developed and published by it is internationally accepted as industry good practice. In addition, it organises the technical programmes for the popular, and industry recognised, biannual IMCA Rope Forum. The workgroup frequently splits into specialist sub-workgroups to tackle the development and revision of this guidance. For example, such sub-groups are currently working on:

- New guidance on the use of fibre slings
- The revision of M 179 – *Guidance on the use of cable laid slings and grommets*
- The revision of M 187 – *Guidelines for lifting operations*

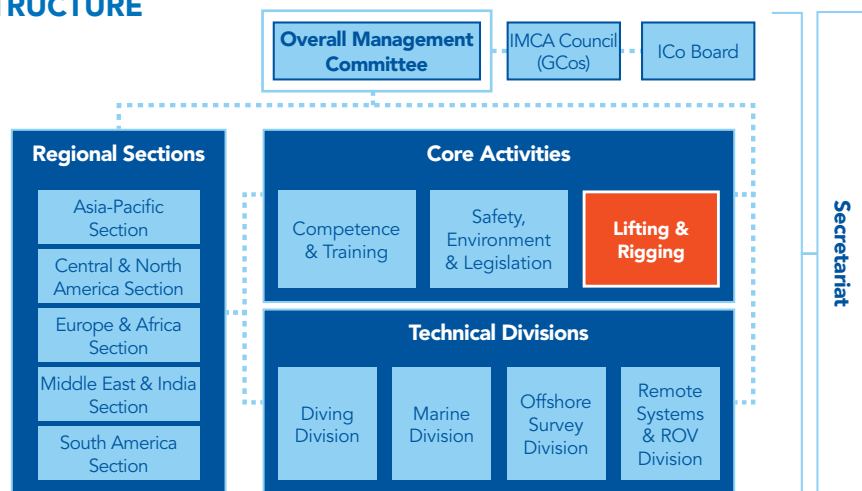
In December 2015, one of these sub-groups completed the revision of SEL 022/M 194 – *Guidance on wire rope integrity management for vessels in the offshore industry*.

The workgroup's new title as a core activity will be 'Lifting & Rigging'. It will sit within IMCA's management structure as shown (right).



Image: Heerema Marine Contractors

IMCA STRUCTURE



Documents update

You'll find details here of all the recent publications we've been working on. These have been published since the previous issue of *Making Waves*. We've also given a short overview of a few of the safety flashes and information notes issued. The full listing is available on our website by navigating to the relevant divisional page or by using the search function.

PUBLICATIONS

IMCA – *Competition law compliance policy*

IMCA SEL 022/M 194 – *Guidance on wire rope integrity management for vessels in the offshore industry*

IMCA M 230 – *Dynamic positioning station keeping incidents: incidents reported for 2013*

SAFETY FLASHES

Since the previous issue of *Making Waves*, IMCA has issued eight safety flashes covering 26 incidents. Dropped object near misses continue to occur, as do injuries during mooring and loading operations. The final safety flash of 2015 – Safety Flash 23/15 – was a new initiative; a useful summary of the safety flashes issued during 2015.

INFORMATION NOTES

IMCA SEL 01/16 – *Recent release of guidelines on cyber security onboard ships*

IMCA D 14/15 – *Fitness for purpose of closed bell diver emergency recovery hoists*

IMCA D 12/15 – *Medical examination of divers: Middle East & India initiative*

All the latest documents from IMCA are available online at www.imca-int.com



Your news in Making Waves

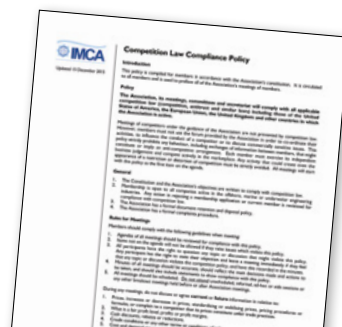
Feedback has shown us that our readers would like to hear more from you – our members. In addition to the stories about the work IMCA is up to on your behalf, we'd like to feature more articles from you about the projects you are working on and novel solutions you are employing to complete them. How are *you* helping to improve performance in the marine contracting industry?

Maybe you have a new service or development you think would interest our membership? Maybe you were able to use one of our guidelines to good effect? Maybe you think there is a topic which affects our membership that you are expert on? If so, we'd love to hear from you.

Guidelines for submitting stories for *Making Waves* can be found at: www.imca-int.com/makingwavesbrief

Competition Law Policy update

IMCA has updated its Competition Law Compliance Policy. The original document has served us well since December 2003, but the latest version tightens up certain language in line with current practice. As before, the IMCA policy will preface all our committee meetings and events.



See IMCA's updated Competition Law Compliance Policy at: www.imca-int.com/media/227801/imca_competition_law_compliance_policy.pdf



Chelsea's challenge

Chelsea Clarke (pictured left), our Receptionist & Office Administrator, will be taking on additional duties, such as producing minutes of meetings and safety flashes. This will help Chelsea build her administrative experience, in her first role since leaving university. Chelsea will learn from, and work with, Ann Barnatt, our long serving and dedicated Document Production Co-ordinator. This new team will ensure that all of our documentation and publications continue to be produced and issued to IMCA's usual high standard.

Welcome to our new members

IMCA is pleased to welcome the following new members (from 25 September 2015 – 18 January 2016)

- Aqueos Corporation
- Asakua Su Urunleri Insaat Sanayi Ve Dis Ticaret Limited Sirketi
- Caledonia Competence Limited
- Carsurin
- Charkin Maritime and Offshore Safety Limited
- China National Offshore Safety Alliance Marine Technical & Service Co Ltd
- Claymore Manning
- Constanta Maritime University
- Daewoo International Corporation
- Dropsafe (Newmar Ltd)
- EmGlobe Maritime Ltd
- FEMCO-MANAGEMENT LTD
- FEMCO-WEST Ltd
- Geoterra Sdn Bhd
- Hess Corporation
- Hurricane Geo Inspection Survey Sdn Bhd
- Install Academy
- Ocean Team Asia Pacific Ltd
- OCEANOS Commercial Diving School
- Overseas Marine Logistics
- Poseidon Offshore Safety & Health Ltd
- PT Offshore Services Indonesia
- PT Seascope Surveys Indonesia
- Ranger Offshore Inc
- RM Geometra Sdn Bhd
- Schwarz Corp Pty Ltd
- SEMCO Salvage and Towage Pte Ltd
- Shelf Subsea Pty Ltd
- Terasaki Electric Co Ltd
- TES Survey Equipment Services LLC
- TianJin Harbour Marine Engineering Co.,Ltd
- Tri-Element Technologies Pte Ltd

You can find out more about our members, old and new, at: www.imca-int.com/membership/membership-directory

Focus on competence of freelance survey personnel



IMCA's Offshore Survey committee has established a new workgroup, which aims to 'ensure freelance survey personnel can demonstrate their professional competence in a clear and consistent way'.

The workgroup considers there to currently be three main barriers to freelance personnel demonstrating competence:

- Lack of activity by personnel agencies on competence assessment;
- Lack of engagement by individual freelancers where opportunities for assessment exist;
- Lack of consistency by contractors in requesting agencies to provide evidence of competence.

To address these issues the workgroup has agreed a series of objectives for the rest of the year including:

- Discussing freelance personnel engagement and the IMCA competency framework with personnel agencies;
- Establishing a clear understanding of the barriers to competence scheme engagement;
- Developing guidelines for contractors.

Updates on the workgroup's progress will be covered in future issues of *Making Waves*.

Review of competence frameworks

The Competence & Training (C&T) Core Committee is embarking on a review of its guidance on competence assurance and assessment. IMCA covers close to sixty roles within its suite of competence frameworks across its four technical divisions: Marine, Diving, Remote Systems & ROV and Offshore Survey.

In the past, the divisions have reviewed the frameworks at different points in time. However, there is now a need to take all four frameworks forward together, providing clearer guidance on their application and implementation, ensuring key roles in the process are well defined and that language is consistent across the four divisions.

Competence events in 2016

The C&T committee will run three Competence & Training seminars in 2016. The events will consist of a mixture of presentations and roundtable discussions on competence and training related industry topics.

The seminars offer a forum for discussion of C&T strategies in the current environment. The three events are planned for:

- 6 April – Hong Kong
- 8 June – Rio de Janeiro, Brazil
- TBC September – Aberdeen, UK

To register, or for information, contact:
events@imca-int.com



Image: EUNAVFOR

Reduced threat in East African waters

The European Commission's Directorate-General for Mobility and Transport was the host for the 41st Stakeholder Advisory Group on Maritime Security (SAGMAS) meeting held in December 2015 in Brussels. The agenda covered a range of issues which included piracy, cyber security and security incident data collation and distribution.

High risk area reduced

One issue of particular note was covered by Christophe Goussot, a member of the European External Action Service (EEAS). He provided a briefing on the future of OP ATALANTA, the EU's counter-piracy operation in the East African region. He stated that the EU was reviewing the operation in light of the recently announced reduction of the industry designated High Risk Area (HRA) in the Indian Ocean. The EU was keen that the right balance was struck between adapting to a reduced threat and, at the same time, acknowledging that the threat remained real and would be responded to.

Mr Goussot revealed that it was likely that OP ATALANTA would be extended for a further two years, but that this might be with fewer naval assets to support the operation. IMCA Technical Adviser, Chris Baldwin, asked what impact was anticipated on the ability of EU naval forces to respond to calls from pirated vessels, which would then have to wait for support from naval forces. Mr Goussot agreed that this required further investigation.

As far as the Maritime Security Centre – Horn of Africa (MSCHOA) was concerned, the EU was fully intending to maintain and support its service.

More information can be found at:
www.mschoa.org/on-shore/home

IMO Update



Image: Flickr – Chris Bentley

Ballast water: are you ready?

Despite rumours late last year that the 12 month countdown had started for the entry into force of the Ballast Water Management Convention, at the time of going to print, the tonnage threshold has still not been met, so the countdown has not started.

Nevertheless, it could take only one more government signing up to the Convention to trigger the countdown. Although companies could have up to five years to comply, the treatment systems which will be required are expensive, and there is likely to be a last minute rush to get equipment fitted

and surveyed. There may be long waiting times for yard space and for flag state and classification society services. Ship operators should therefore be planning now how they will comply with the new ballast water treatment requirements.



Image: Ampelmann

SPS Code broadening?

IMO is looking at the vessel standards for carrying larger numbers of 'Industrial Personnel' who are not working onboard. This work was originally focused on personnel transfer vessels for the offshore windfarm sector, but could also facilitate a more standardised approach for larger multipurpose offshore support vessels conducting 'walk to work' activities.

In January, IMCA participated in an IMO 'Experts Group' which examined some of the different options. IMCA has been encouraging IMO to find a solution that is compatible with the current rules for multipurpose OSVs. It seems

likely that IMO will decide that the SPS Code should be expanded to also cover larger OSVs when they are transporting or accommodating personnel who are not working onboard. Any changes will need to be carefully thought through, and IMCA has stressed the need to avoid disrupting existing arrangements for personnel with an active work role onboard. The next round of discussions will take place in May 2016.

Lifting stability

IMO has provisionally agreed new stability criteria for lifting operations. Lifting stability is already addressed through Class rules, but the IMO work will introduce a more standardised approach.

IMCA has been participating in this work to make sure that it reflects the main Class rules and gives sufficient flexibility to IMCA members, so as to be workable for different types of heavy lift vessels and lifting operations. The new IMO guidance will be included in the 2008 Intact Stability Code, and is expected to apply to new ships, and ships newly converted for lifting, from 1 January 2017.

New IMO Secretary-General



Image: Flickr – IMO

On 1 January 2016, Mr Kitack Lim of the Republic of Korea took over as Secretary-General of IMO. Mr Lim has extensive experience in developing and implementing maritime regulations both nationally and at IMO. His vision for IMO is one of strengthened partnerships – including those between governments and industry – and strengthened communication between the maritime industry and the general public. We wish Mr Lim well in his new role.

New IMO rules

A reminder about two upcoming changes, which take effect on 1 July 2016:

- **Atmospheric testing equipment**
All ships will be required to carry appropriate portable atmospheric testing instruments capable of measuring concentrations of oxygen, flammable gases or vapours, hydrogen sulphide and carbon monoxide, in enclosed spaces.
- **Container weighing**
Standard ISO containers must have their weight properly verified, before they will be accepted for loading onto a vessel. This could be done by either weighing the packed container (using certified and calibrated equipment) or using a calculated weight method (adding together the individual weights of the container and its contents). However, the new requirement does not apply to 'offshore' (DNV-style) containers.



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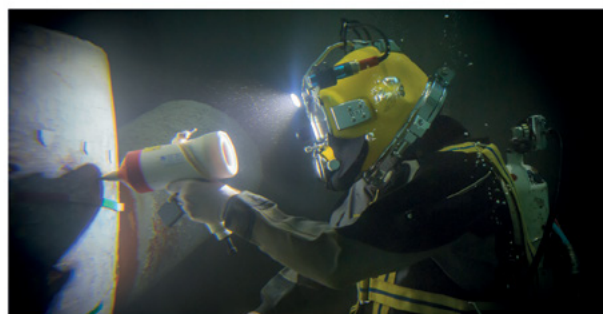
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SHAPING UP FOR ENERGY EFFICIENT OPERATIONS

The latest environmental challenges and regulations for IMCA members

Since the COP21 agreement, energy efficiency and the environment have been hotter topics than ever. Although shipping was not specifically mentioned in the agreement, pressure continues to grow on our industry to keep up in this time of change and demonstrate that it is 'doing its bit'. We focus on the immediate challenges facing IMCA members and look at some of the novel solutions.



Image: Harvey Gulf International Marine

Harvey Energy is the first vessel in North America to be powered primarily by liquefied natural gas (LNG). The pioneering OSV started operations in March 2015.

“A victory for all of the planet and future generations.”

JOHN KERRY
US Secretary of State

“It is a historic turning point.”

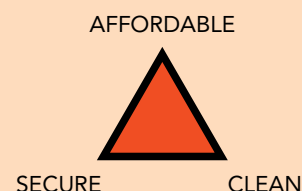
BARBARA HENDRICKS
German Environment Minister

As a CNN opinion columnist wrote after the successful close of the COP21 meeting of the UN Framework Convention on Climate Change in December, “It’s hard to overstate the importance of what happened in Paris: Ministers from 195 countries adopted by consensus a legally binding agreement to fight climate change. The Paris agreement aims to help the world abandon fossil fuels this century and, specifically, stop global warming “well below” 2 degrees Celsius and, if possible, below 1.5 degrees.

“The accord has been years, if not decades, in the making. It’s a bold signal to boardrooms and national capitals around the world.”

Shipping and aviation were not expressly mentioned in the agreement, but COP21 has given greater political impetus to reducing emissions from all industries, and the IMO

THE ENERGY TRILEMMA



must now take the necessary steps to make sure shipping continues to play its part. New legislative requirements are likely to emerge. However, against this backdrop, a number of recent environmental requirements for shipping are already being more rigorously enforced, and IMCA members must continue to meet client expectations as well as being seen to

Continued on page 10

SHAPING UP FOR ENERGY EFFICIENT OPERATIONS

Continued

act in a socially responsible way from an environmental perspective.

The often quoted energy trilemma (diagram page 9): clean vs secure vs affordable energy presents hard choices for IMCA member companies about how best to operate.

Reducing greenhouse gases

Marine emissions regulations to date have primarily been concerned with sulphur oxide (SO_x) and nitrogen oxide (NO_x). However, now that the debate is increasingly focused on emissions linked to global warming, such as greenhouse gases (GHG), there is no doubt that emissions regulation will continue to evolve.

Improving energy efficiency

Promotion and discussion of further technical and operational measures to reduce GHG emissions and enhance the energy efficiency of international shipping are continuing at IMO. This includes work to develop a database of vessel operational parameters which would be representative of energy efficiency. Ships over 5,000 GT will be required to submit annual reports to their flag state on their fuel usage and, for the first time, governments might be able to identify how much CO₂ is emitted by each vessel.

Whilst it is supportive of efforts to improve energy efficiency, IMCA, which represents its members at IMO, has stressed the particular challenges of quantifying the energy efficiency of specialised offshore and dynamically positioned vessels. How do you quantify the efficiency of a vessel that is not going to or from anywhere, but using power to stay on station? And what about

the safety critical aspects of reducing available power? There are also concerns over the practical difficulties of anonymising data submitted by very specialised vessels; and whether comparisons will then be made between certain designs, and different ship types.

Shape of the future

The industry is already rising to the challenge of improving energy efficiency and we are seeing new and innovative power generation – such as electric hybrid systems – and pioneering hull forms. For example, the Ulstein X-BOW® is designed to improve handling in rough seas and to lower fuel consumption by causing less hydrodynamic drag. The hull of the first X-STERN® vessel has already been delivered to Ulstein Verft in Norway. When complete, it will be used as an offshore wind service vessel.

Solutions such as Green DP® control, developed by Kongsberg, could aid the DP challenge; the system could lower fuel consumption and, as a result, CO₂ emissions, by as much as 20 percent. Alternative lower carbon fuels, such as LNG, are entering the shipping sector whilst diesel engines and energy recovery systems to reduce heat losses continue to evolve, improving efficiency too.

The principal tools IMO is using to promote efficiency are the Energy Efficiency Design Index (EEDI) and the Ship Energy Efficiency Management Plan (SEEMP). SEEMP, introduced as part of MARPOL Annex VI, requires all ships of 400 GT and above to be equipped with a ship specific plan for managing energy usage. Offshore support vessels are not yet included in the EEDI. However, the

“IMCA members must continue to meet client expectations as well as being seen to act in a socially responsible way from an environmental perspective.”

EMILY COMYN
Technical Adviser, IMCA

sector will be expected to contribute to GHG emission reductions. The effect of these regulatory initiatives and pressure to reduce GHG emissions will undoubtedly radically alter shipping.

Black carbon

After prolonged discussions, IMO has now agreed a definition of black carbon. Put simply, it is a distinct type of carbonaceous material, formed only in flames during the combustion of carbon-based fuels, with a unique combination of certain physical properties. These properties include how it absorbs visible light, its refractory and its insolubility in water and organic solvents.

Previous debate at IMO had considered the effects of black carbon emissions from shipping in the Arctic; now that a definition has been agreed it is likely that future discussions will also include the topics of emissions monitoring and possible emission controls.



Image: Nord Stream

The Great Belt Bridge in Denmark is fitted with 'sniffer' sensors to detect excess sulphur emissions.



Image: Ulstein Group/Per Erde Studio

Seven Viking incorporates the X-BOW® hull line design to reduce motion in transit and give increased stability in high waves of the North Sea.

Homing in on NO_x and SO_x

From 1 January 2016 the new Tier III emission limits for NO_x took effect in the North American and US Caribbean Emission Control Areas (ECAs). Tier III will generally be applicable to engines installed on ships with a keel laying date on or after the ECA NO_x implementation date, however there are additional requirements for non-identical replacement engines for other ships.

Unlike emission limits for SO_x which regulate fuel sulphur content, NO_x compliance is an engine certification issue. The reduced emission limit values from Tier II to Tier III will require either NO_x abatement technology – such as exhaust gas recirculation or selective catalytic reduction – or a shift to fuels which have low NO_x combustion characteristics, such as LNG or methanol.

Operators should understand that where an engine is to be certified as a dual fuel engine (for example, to operate on either diesel or LNG) then NO_x certification is based on oil operation. This means that the engine would either require NO_x abatement to meet Tier III or it would have to be certified as a gas only Tier III engine – and could then be certified as a Tier II dual fuel engine for use outside of an ECA NO_x.

Given recent high profile stories regarding engine emissions approvals in the automotive sector, there may be concerns over similar potential problems should the emissions approval of a marine engine ever be questioned during its service life. Operators can only buy engines on the basis that the certification

process has been properly managed and that the approval certificates provided with the engine are valid. We would expect that the lessons of the automotive industry have been learnt.

Detecting violations

Operators should be aware that detecting emissions violations and non-compliant fuel is easier than perhaps is generally realised. Almost all vessels adopting exhaust gas scrubbing are being provided with systems approved in accordance with the Scheme B approval route. This mandates continuous emissions monitoring, and SO_x emissions can be detected remotely using instruments carried by aircraft or installed at suitable fixed locations such as bridges over navigable water ways.

There are also portable fuel testing devices which can be brought onboard by port state control inspectors and used to sample fuel, providing immediate test results. As Tier III engines equipped with emissions abatement enter service there will be a greater adoption of NO_x emissions monitoring for control purposes and it is likely that Technical Files of Tier III engines will be subject to close scrutiny.

Magnitude of change

It is difficult to understate the magnitude of the technological change which shipping will see in the years ahead. New fuels, new forms of energy conversion, new hull forms and shorter product life cycles. The marine industry has favoured evolutionary technology progress but has entered a phase of revolutionary progress with



Image: Schiebel CAMCOPTER® S-100

'Remote sniffing drones' are drones like this, fitted with sensors. Coming soon to European waters?

an increasing acceleration of the rate of change.

The list of topics covered in this article is by no means exhaustive: we expect the momentum to move to more energy efficient operations to continue to gather steam in the months and years ahead. IMCA will, of course, continue to lobby on the important issues at IMO on behalf of its members to ensure the specialist requirements of the offshore industry are considered. As the seascape continues to change, we will keep you up to date with the latest developments and regulations in your region via briefing notes, by email, and further articles in *Making Waves*.

If you have questions about IMCA's involvement in environmental and legislative issues please contact: emily.comyn@imca-int.com

IMCA to host ROV workshop at Oceanology International 2016

The rise of 'ROV DP', the capability to hold an ROV stationary in the water column, has led to an increase in the sharing of ROV-mounted sensors, for ROV positioning, imaging and survey purposes. At Oceanology International 2016, IMCA is hosting a workshop where issues, arising from this shared use of sensors, will be discussed.



Oceanology International takes place on 15-17 March this year at ExCeL London. It is a major biennial event covering marine science and ocean technology. As a leading forum for knowledge sharing and networking, it is expected to attract considerable interest from the IMCA offshore survey and ROV communities.

This year's event will feature a new exhibitor lounge and the schedule of various parallel conference sessions offers diverse subject matter to interest a wide spectrum of attendees.

IMCA will be at OI16: we will have a presence on the exhibition floor (stand S220) in addition to running an ROV workshop.

About the workshop

The workshop will take place in Gallery Room 14 at ExCeL London from 13:30-17:00 on Wednesday 16 March. You will need to register in advance of the event (see below). OI16 delegates can attend the IMCA workshop for free.

The workshop will address the theme of *shared vehicle-borne sensors for ROV and offshore survey applications*. The

IMCA Remote Systems & ROV Division Management Committee

Chairman, Jim Mann of Fugro, and IMCA Offshore Survey Division Management Committee member, Sam Hanton of Proserv, will introduce and host the afternoon. Along with a number of other industry specialists, they will deliver presentations which:

- Set the scene on the use of 'dual purpose' sensors by ROVs;
- Illustrate the demands of the sensors for use in high resolution surveying applications;
- Consider the next generation of potential 'dual purpose' sensors to satisfy the needs of two users – ROV and survey.

Following the presentations there will be a facilitated discussion session, where attendees will have their say on the issues and the chance to offer their views on how best IMCA documentation may support progress in the field of 'dual purpose' sensors.

The workshop will provide an excellent opportunity to hear about advances within the industry, contribute your thoughts for the development of the topic, as well as being a useful networking forum. The room has the capacity for 80 delegates, and if previous workshops are a guide, you should arrive early to get a seat.

TOPICS AT OI 2016

Topics being covered during the parallel conference sessions are wide ranging. Here is a flavour of a few of the sessions which may interest IMCA members:

• Green shipping

This session will look at the technologies required to support green shipping and effectively monitor and manage the environmental impact of uptake and discharge of ballast water, fuel consumption, emissions control and waste management.

• Handling big data

This session will look at the latest technologies for managing, communicating and utilising large marine data sets – including the issues surrounding delivery of data in near real-time.

• Oil & gas: what's next for ageing offshore assets?

With a record decommissioning spend forecast for 2017, this conference strand will explore the market opportunities and examine the technology requirements for upcoming decommissioning projects. Topics for discussion include engineering skills, new technology, environmental surveys, logistical planning and purpose built equipment.



Register your place and find further details, as they become available in the lead up to the event, at: www.imca-int.com/events

Contracts & insurance seminar



On Wednesday 25 May 2016, IMCA will be hosting its annual Contracts & Insurance Seminar in London.

This year's event will focus on the deterioration in contracting terms in the post-Macondo and the post-\$100 barrel oil business environment. In particular, it will consider the risks for unlimited liability – for pollution, damage to work and consequential losses – and the impact on the marine contracting world. This new era is reflective of the changes in the 'CRINE' era twenty years ago, and the qualified shift in the allocation of liabilities is another milestone in the evolution of contracting terms. IMCA has been establishing a policy on this, which will be

launched at the seminar.

There will be a mix of presentations from industry experts – including those from leading law firms in the oil and gas sector – insurance experts, oil and gas companies, and IMCA members. The seminar will be followed by a drinks reception.

As further details become available in the lead up to the event you can find them at: www.imca-int.com/events

WORLD-WIDE EVENTS

The full listing of the events we are running and supporting can be seen at www.imca-int.com/events

● **IMCA events are highlighted below**

MARCH

- 9:** **South America Section Meeting**
Macaé – Brazil ●
- 15-17:** **Oceanology International**
London – UK
- 16:** **IMCA ROV Workshop (at Oceanology International)**
London – UK ●
- 22-25:** **OTC Asia**
Kuala Lumpur – Malaysia
- 29-31:** **China Maritime IOETEE**
Beijing – China

APRIL

- 6:** **Asia-Pacific Section Meeting & Competence Seminar**
Hong Kong ●
- 19-21:** **North Sea Offshore Cranes & Lifting Conference**
Aberdeen – UK
- 21:** **Central & North America Section Meeting**
Houston – USA ●

MAY

- TBC:** **Middle East & India Section Meeting**
Mumbai – India ●
- 2-5:** **OTC (Offshore Technology Conference)**
Houston – USA
- 4-5:** **All Energy**
Glasgow – UK
- 17-21:** **Santos Offshore**
São Paulo – Brazil
- 25:** **Contracts & Insurance Seminar: Contracting in the new era**
London – UK ●
- 25:** **London Social Reception (Following the Contracts & Insurance Seminar)**
London – UK ●
- 30-31:** **Dynamic Positioning Asia**
Singapore

Microsoft warns of cyber threat in Asia-Pacific region

Over 130 IMCA members packed the room for the Asia-Pacific Section meeting in Singapore on 21 January. In an insightful presentation from Pierre Noel, Microsoft Chief Security Officer Asia Pacific (pictured right), they were given a reality check on the topic of *cyber fraud in the maritime industry*. Sound bites from his presentation include:

- The mafia is investing in cyber crime activities and it is making more in cyber crime than drugs.
- Blackmail is now being used against companies with threats of cyber attack if they don't pay. The question as a business is, do you pay or not?
- Technology alone cannot address cyber security; behind every attack is a human being. As soon as you are online you can be attacked from anywhere and any country.

It was suggested to members that, not only



“The mafia are making more money from cyber crime than from selling drugs!”

PIERRE NOEL

Chief Security Officer Asia Pacific, Microsoft

should they have measures in place to prevent a cyber attack, but also a plan for how to react in the unlikely event that one happened.

See what your section is up to at: www.imca-int.com/events

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- Carrying out FMEA, FME(C)A
- Witnessing Proving, Annual Trials
- Carrying out Gap Analysis & Upgrades
- Carrying out Assurance audits
- Carrying out Incident Investigations
- Documentation (DP Ops Manual, Checklists)
- Witnessing FATs

Transportation & Installation Engineering Services

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WORLD-WIDE

IMCA members resolute in Central & North America

Just like their compatriots in other offshore oil and gas producing regions of the world, the downturn is being keenly felt by IMCA's members in the Central & North America (CNA) region. In this article we hear an IMCA member's views on one of the key issues and look at how IMCA is endeavouring to effect positive change in the region.

IMCA members in the CNA section have seen the challenging conditions of low oil prices first hand and have been making some tough decisions. Many have been taking action to adapt to current market conditions, making difficult but necessary business decisions and planning for better times ahead.

Member concern

IMCA member Alliance Marine Services is one such company, based in the hub of the Gulf of Mexico (GoM) offshore oil sector – Houston. Its President, John Lovell, highlights a concern he has for his company's area of the business.

"The fact that DP operators are being released in droves by GoM drilling and OSV contractors is a concern. The importance of knowing where this cadre of people goes to is a high priority. When things turn around, their qualifications and experience will once again be in demand. Inevitably some will find work in other areas and when we need them back, they may no longer be available, nor want to come back. Those who remain, but go into different work to pay their bills, will experience skill fade, so we need to figure out how we will be able to retain them and keep their experience and competence at an operational level.

HOT TOPICS IN CNA

What are the topics IMCA has been busiest working on for its members?:

- USCG DP initiative
- Update of US diving regulations
- BSEE Well intervention for Marine and ROV

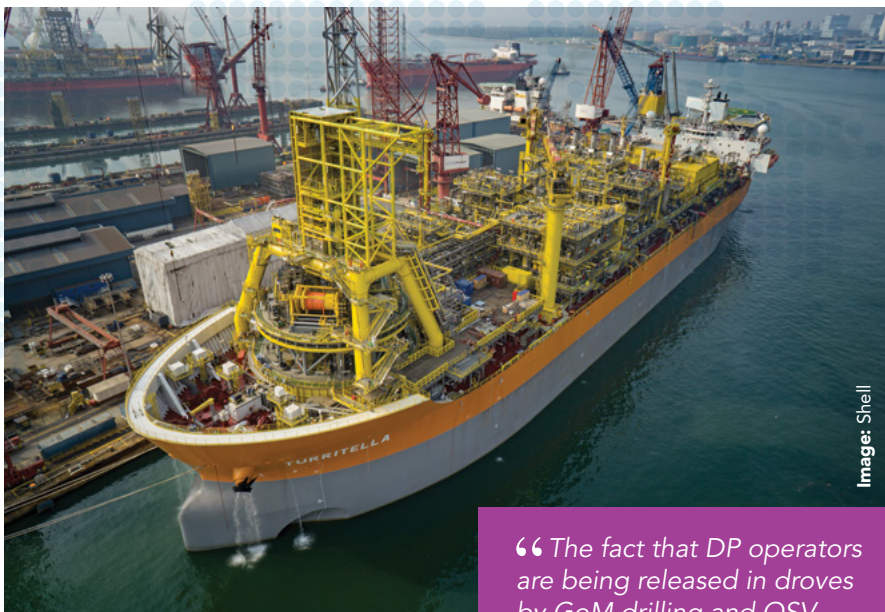


Image: Shell

A determined stance

"My hope though is that some good will eventually emerge from this new world we are living in. Despite all the market doom and gloom, 'life goes on' and GoM projects already sanctioned proceed apace. For example, SBM successfully installed its FPSO *Turritella* at the Stones Field for Shell early in January. This unit is manned with a US citizen marine crew supplied by ourselves here at Alliance Marine Services and features some records: the world's deepest production facility; the deepest FPSO; the world's deepest gas export line; and the first disconnectable FPSO with steel lazy wave risers."

Alliance Marine Services is not alone in thinking positively; under the CNA Section Chairmanship of Jerry Grishaber, of Harkand, and among his fellow committee representatives there is a determination to gain ownership of their agenda, make use of IMCA's ability to influence regulators and law makers at the highest levels, and effect positive change.

IMCA active for its members

In November 2015 IMCA's Chief Executive, Allen Leatt, hosted Admiral Paul Thomas USCG at a working lunch. Allen raised a number of issues with him connected with his role as Assistant Director of Prevention Policy, including how IMCA could more effectively provide its technical expertise to the development of US rule making. Allen stressed that contractors were very keen to collaborate with essential efforts to improve safety and

"The fact that DP operators are being released in droves by GoM drilling and OSV contractors is a concern."

JOHN LOVELL
Alliance Marine Services

environmental protection in the Gulf of Mexico.

In January 2016 IMCA continued the momentum, visiting members and trade bodies in Houston. The itinerary of this strategic trip included: agreement between IMCA and the Center for Offshore Safety (COS), for reciprocal membership of the respective organisations; forming links with the Offshore Operators Committee (OOC); and bringing together IMCA members from the region for the CNA section, and section sub-group, meetings.

Allen Leatt and IMCA's Technical Director, Richard Benzie, are looking forward to further strengthening ties with other organisations at OTC in Houston in May.

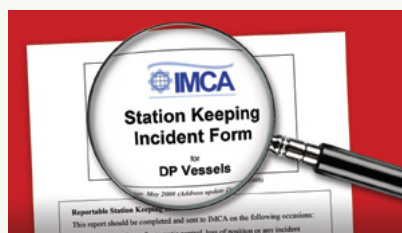
HOW TO GET INVOLVED

IMCA members can have their say about issues affecting their region at our regular section meetings.

The next CNA Section meeting – and round of specific SEL, Diving and ROV meetings – take place in Houston on 20-21 April. For more information please visit:

www.imca-int.com/events

Continued DP focus in 2016



In 2015 IMCA took a lead role in the review of IMO Circular 645 – *Guidelines for vessels with dynamic positioning systems*. This high level document provides guidance covering design and operation without the detail provided in industry guidance documents. Member participation was via a specific workgroup reporting to an IMO Correspondence group. There is still some work to be done on this document and its publication is expected during 2017.

IMCA made a concerted effort last year to bring its DP incident reports up to date. As a result, the annual reviews of DP incident reports for 2011, 2012 & 2013 were all published. The annual reviews of DP incidents reports for 2014 and 2015 will be published during the first half of 2016.

The IMCA DP incident reporting scheme will have a thorough review this year to ensure it provides the information required by members and becomes an even more effective tool for learning and reducing DP incidents. It is anticipated that the lessons learnt from received reports will be presented in a more user friendly format.

The now established IMCA DP-focused workgroup will have a major influence on the future DP associated work of the Association and is viewed as being key to the revision of the DP incident reporting scheme.

Three IMCA DP related guidelines will be revised and published in 2016. They provide essential guidance for the safe and efficient operation of DP vessels and are keenly anticipated by the DP community.

UPDATED DP DOCUMENTS FOR PUBLICATION IN 2016

IMCA M 103 – Guidelines for the design and operation of DP vessels

IMCA M 166 – Guidance on failure modes and effects analyses (FMEAs)

IMCA M 117 – The training and experience of key DP personnel

Members see the benefits of marine inspection resources

There has been a positive response to the latest version of IMCA's Common Marine Inspection Document (CMID) and the number of accredited vessel inspector (AVIs) is already approaching the 150 mark since the AVI scheme's launch last year. Jan Sloth Møller, Vetting Superintendent at IMCA member company A2SEA, explains how they are using the new resources and describes some of the benefits.

Until recently, there were no rules in relation to choosing an auditor for vessel inspections. There were a large number of IMCA CMID inspectors to choose from, but you couldn't be sure that you had chosen the right inspector for the job and for your specific vessel type.

A trusted partner

Inspections are vital to any vessel operator. Presenting a safe and reliable vessel to the client is crucial, both for the sake of the client, but also for the sake of the vessel owner. Hence, it is important that you can trust the observations and findings from the given inspection. It is not about the number of observations an inspector returns with; it is about the quality of them.

The quality of the observations is everything. That is why A2SEA has chosen only to work with accredited inspectors for all external IMCA audits. Using accredited inspectors for IMCA audits has multiple advantages to both the vessel owner, the client and the accredited inspector.

It is about higher quality and standardising the process for conducting vessel inspections. Moreover, in the long run, using accredited inspectors will create a frame of reference. It will make inspections comparable, as all audits will be carried out by inspectors who understand the principles of ISO 19011, upon which CMID is now based. Put differently, using accredited inspectors is a seal of approval to all parties involved.



“Using accredited inspectors is a seal of approval to all parties involved.”

JAN SLOTH MØLLER

Vetting Superintendent, A2SEA

Raising the bar together

As an addition to the decision made by A2SEA to solely use accredited inspectors, in 2015 we suggested to the member organisations of the Cross-Wind network that they use accredited auditors and inspectors – whenever possible – when conducting audits too. All members of the network agreed to this.

The Cross-Wind network consists of all leading Danish maritime operators within the offshore wind sector ranging from vessel operators to component manufacturers. This suggestion was made to establish a benchmark, making sure that inspections are carried out in a professional manner across the industry, setting somewhat of an industry standard. This marks a commitment to raising the bar in the industry, working together across organisations with the aim of maturing the business as a whole.

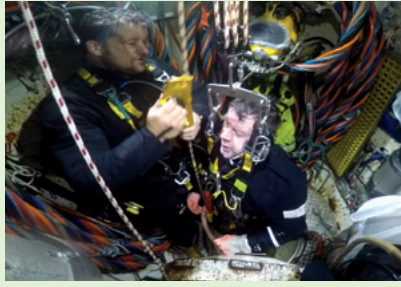
MORE ON CMID & AVIs

For in depth updates about CMID and the AVI scheme, course dates, interviews and opinions from key members of the user community see our quarterly CMID & AVI Update at:

www.imca-int.com/CMIDnews

Getting the balance right: offshore diver safety

Image: Harkand



Emergency diver recovery progress

The IMCA Emergency Diver Recovery Workgroup is making good progress with developing updated guidance on the emergency recovery of an incapacitated bell diver. The group's aim is to ensure that IMCA diving contractor members always have effective arrangements in place to rescue such divers in a safe and expedient manner. It is no easy task to recover an unconscious or injured diver quickly into a bell, administer life-saving emergency care if needed, and then transfer the casualty safely to a surface living chamber. Nevertheless, over the years a number of closed bell divers have been rescued by the preparedness, professionalism and skill of their colleagues.

Some of the issues that have stimulated most discussion amongst the workgroup include: the selection of appropriate emergency breathing gas sources; oxygen partial pressures in bail-outs; the initial actions of the rescue diver; bell flood-up arrangements; and medical best practice during the course of a bell diving emergency.

Saturation contractor members should note that the workgroup fully endorses the recommendations recently made in IMCA Information Note D 14/15 – *Fitness for purpose of closed bell diver emergency recovery hoists*.

When he presented at OSJ Subsea Conference in February, IMCA Technical Adviser, Peter Sieniewicz, talked about offshore diver safety. He looked at how diving systems and diver training have changed, and how getting the balance between skills and technology is important for the future.

The early days of the UK's offshore commercial diving industry in the late 1960s, were marred by the tragic loss of more than 50 divers. In order to be both sustainable in the long term and socially acceptable, the industry had to develop new safety strategies and constantly improve its technology and training.

Up until the late 1970s, diver training was very much based on a military model. However, as the offshore commercial diving industry developed and more data was fed back to the diver training schools, course content altered to reflect current industry practices. Training in skills such as surface decompression, the use of wet bells and hot water suits became commonplace.

The North Sea Piper Alpha disaster in 1988, where 167 workers died, marked another watershed moment for the oil & gas industry, with the establishment of the Health and Safety Executive's (HSE) Offshore Division and the creation of the Safety Case Regulations.

PLC controlled dive systems, using keyboards



and touch screen technology to operate the life support system, have been designed, developed and used in saturation diving for a number of years. The training was undertaken in-house by individual diving companies, using simulators which allow life support staff and supervisors to gain the necessary confidence, experience and competence with the technology, before using the system on live offshore operations. A key benefit of PLC controlled dive systems is that they can be used for refreshing individuals' emergency skills and for tailored scenario training in realistic, but simulated, conditions. This could not be done to the same degree in the past, when a traditional saturation diving system was in use.

Looking to the future

The future of dive system development will, however, undoubtedly be driven by economics rather than the pursuit of technology per se. The current economic climate suggests that the price of a new dive system will need to reduce and it is possible that a hybrid system will ultimately be designed which bridges the gap between a traditional dive system and one controlled by PLC. This would make it possible to take the best from both systems to create one very cost-effective innovation. The increased confidence in PLC technology within dive system design is a significant factor in this regard.

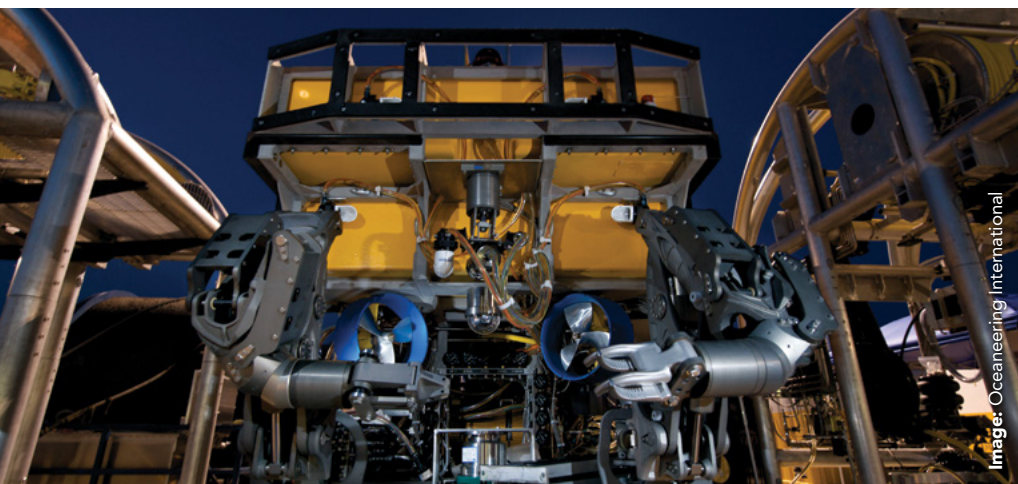
We must continue to maintain safety as our paramount objective in the offshore diving sector. In pursuit of this aim, focus is required to ensure the correct balance between technological innovation, human skills and the training required to accommodate and exploit these, and future, innovations. At the end of the day it is the people who operate the technology who stand to make the greatest contribution to the development and maintenance of a safety culture.

Diver health issues raised

The Diver Health and Medical Issues Workgroup met in December 2015 in response to matters raised at a diving workshop during the 2015 IMCA Annual Seminar. The workgroup is intending to prepare practical guidance for IMCA members to help deal more effectively with the difficult-to-manage issues commonly encountered by managers of offshore diving projects all over the world. Questions under consideration include:

- How can we be sure that divers holding valid medicals really are fit to enter the water and do their work?
- What can be done about divers failing to declare pre-existing medical conditions?
- What can be done about the hidden use of prescribed or non-prescribed drugs by divers?
- How can we ensure that medical confidentiality does not prevent diving contractors from accessing essential information that they need to manage health and medical risks effectively?
- What can we do to improve the health and fitness of our divers?

Several ROV docs refreshed



A number of IMCA's ROV guidance documents are in the process of being updated in order to make sure they reflect the latest industry good practice. So, what is new, and what is coming next?

High voltage procedures

IMCA R 005 – *High voltage equipment – safety procedures for working on ROVs* will be re-issued shortly with guidelines that clarify the requirement for HV systems testing.

Course outlines & syllabi

IMCA R 002 – *Entry level requirements and basic introductory course outline for new ROV personnel* and R 010 – *Outline syllabi for ROV related training courses* are the first documents to be reviewed under the work programme of the IMCA ROV Training Steering Group. The documents will be re-issued together as they reference one another.

System testing

IMCA R 011 – *The initial and periodic examination, testing and certification of ROV handling systems* has been reviewed and will be re-issued soon. Work is in progress on a new piece of guidance (as a companion to R 011) on ROV system load testing and inspection. Its aim will be to provide guidance on testing the ROV system itself.

All IMCA's ROV documents can be found at: www.imca-int.com/rov

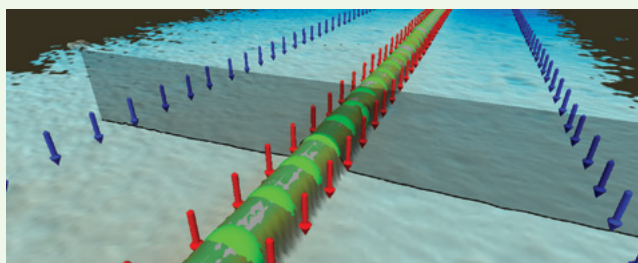


IMCA gains insight from member visit

In December, IMCA Technical Advisers, Chris Baldwin (pictured right) and Nick Hough, took the opportunity to visit IMCA ROV member, Saab Seaeye.

With the several pieces of IMCA ROV guidance currently under review, visits like this are essential for the IMCA team to keep up with the latest technologies and practices employed by the industry. The pair were shown Saab Seaeye's ROV development and construction processes by Technical Support Manager, Chris Henderson (pictured left).

Straight talking in Geilo



IMCA was invited this year, for the fifth time, to give a paper at the Seabed Mapping and Inspection Conference, which took place in Geilo, Norway on 10-12 February. This annual conference for offshore survey professionals is a respected forum for developing technologies and ideas. This year's paper was given on behalf of IMCA by Hans van Peet, of Heerema Marine Contractors. The subject was *An overview of technical challenges in out of straightness survey*. An IMCA workgroup, led by Mr van Peet, is currently developing a guidance document on out of straightness survey, which should be published later in 2016.

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SPOTLIGHT ON JERRY GRISHABER

Jerry Grishaber is General Manager of Project Execution at Harkand, based in Houston. He is IMCA's Central & North America (CNA) Section Chairman, a role he has performed since April 2012. In this interview he discusses his career path, IMCA's guidance and the current need for innovation in the industry.



Ascent to the marine industry

I didn't come up from a diving background but got into the industry through engineering. I got my degree in Engineering, with a Civil Specialty in Environmental Science, at Colorado School of Mines back in 1993. I started out working in the onshore industry, focusing on geotechnical and environmental engineering at Resource Geoscience Inc. in Colorado Springs. There, I worked as Project Manager and Engineer for eight years. Towards the end of my time there, a colleague and I considered doing a leveraged buyout. However, I was hesitant, as I always wanted to do a job in which I could travel internationally. I reached out to a couple of friends who had gone into the oil & gas industry, to find out what opportunities were available.

In December 2001, I received a call from Global Industries Ltd who asked if I was still interested in working internationally: within two weeks I was in Pointe-Noire in the Republic of the Congo. I worked for four years at Global Industries, starting as a Field Engineer and working my way up to Operations Manager, overseeing West Africa & The Mediterranean. I moved on to Helix (formerly Cal Dive International), where I was

a Project Manager; this allowed me to gain deep water experience. I continued to work my way up to Vice-President before the company sold-off their pipelay assets.

I took my current role of General Manager of Project Execution in North America & Africa at Harkand in 2014. I am responsible for the full project life cycle covering elements including business development, cost-estimating, project execution and liaison to the engineering and offshore management team.

Innovation necessary

Oil prices continue to overshadow the industry, however, from a different approach there is a growing concern regarding job security at the personnel level. This uncertainty is not just amongst the employees working on deck, but at board level in many affected organisations. People need to maintain their lifestyles through jobs and the uneasiness created will certainly create more risk for organisations.

Market conditions have not yet changed and organisations have cut all the 'fat' that they could. They are now starting to cut into the 'muscle', which greatly reduces the chances for an organisation to survive. There has to be a paradigm shift in order for the industry to

“We can't continue to solve our issues using the same methods: innovation will be born out of necessity”

emerge from the market turmoil. However, as we manage these intangible risks, I know we can't continue to solve our issues using the same methods. Therefore, I can definitively say that innovation will be born out of necessity.

IMCA the benchmark

The guidance that IMCA provides has always been a standard that many use as a benchmark. Harkand and several other companies have made the decision to execute work that adheres to IMCA guidelines. However, as these guidelines are not officially certified, there can be difficulty in how best to interpret and apply best practice. Additionally, international waters further complicate the matter, due to differing requirements. I think that if IMCA can help with clearer instruction on how best to interpret these guidelines, it would be most beneficial to IMCA members and similar organisations.

Ultimately, I'm glad to see IMCA has a good presence globally. In my role as Chairman for the Central & North America Section, I do my best to facilitate these international discussions, although it can be difficult as I still have commitments to my day job.

ABOUT HARKAND

Harkand provides subsea capabilities and services to the energy industry including multi-purpose and dive support vessels, ROVs, inspection, diving, survey, project management and engineering. Headquartered in London with operations bases in Aberdeen, Houston, Mexico, Nigeria and Ghana, Harkand aims to be a leading subsea IRM and light construction contractor globally.



Jerry has chaired the IMCA CNA Section since April 2012 and is pictured here giving the opening presentation at the IMCA Safety & Environment Seminar 2014 in Houston.

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